



Integrating Green Purchasing Into Your Environmental Management System (EMS)

April 2005
EPA 742-R-05-001

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ORGANIZATION OF GREEN PURCHASING MODULE

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INTRODUCTION

The goal of this report is to help Federal facilities integrate green purchasing into their EMS. The intended audience includes those tasked with implementing an EMS, reducing environmental impacts, meeting green purchasing requirements and/or buying products and services in a Federal facility.

The Federal government is one of the largest purchasers in the world. In fiscal year 2002, Federal agencies spent more than \$250 billion for goods and services to support the activities of approximately 1.7 million employees in 60 agencies. In addition, Federal agencies spent another \$15 billion on small purchases via purchase cards.¹ Purchasing decisions can significantly influence the environmental

performance of Federal facilities. By including environmental considerations in Federal purchasing decisions, government procurement and contracting processes can be used to purchase products and services that reduce an organization's environmental impacts.

Since 1976, [requirements for green purchasing](#) have been incorporated into Federal regulations and Executive Order requirements,² with a goal of integrating environmental considerations into all stages of the Federal purchasing process. However, based on reporting by Federal agencies on their green purchasing activities, it is evident that Federal agencies are encountering challenges in fully implementing these requirements. Potential environmental costs and benefits associated with choosing one product or service over another may not be routinely factored into purchasing decisions. Different organizations within a facility may have differing perceptions of who is responsible for ensuring that the facility is buying green products and services.³ Environmental staff may be familiar with green purchasing requirements and benefits, but they may find it difficult to initiate facility or agency-wide purchase of green products without the cooperation and support of upper management and those responsible for the purchase and use of these products. Procurement personnel may be familiar with green purchasing requirements but hampered by a lack of requests for green products and services from the user community. Procurement personnel and product users also may not know how to locate green products and services to evaluate their performance and compare their environmental attributes. The EMS process creates an opportunity for environmental and procurement personnel to work together with product users to determine the most effective mechanisms to ensure that staff understands the economic and environmental benefits of green purchasing.

To reduce the Federal government's environmental footprint and improve the implementation of green purchasing and other greening the government initiatives, the President mandated that all appropriate Federal facilities implement Environmental Management Systems (EMS) by December, 2005.⁴ As a result, Federal facilities across the country now are endeavoring to

¹ Federal Procurement Data System, 2002 Report, < <http://www.fpdc.gov/fpdc/fpr2002.htm> >

² Green purchasing requirements include the Federal Acquisition Regulation (FAR) Parts 7, 11, 23; RCRA Section 6002; Section 9002 of the 2002 Farm Bill, Section 303 of the Energy Policy Act of 1992; Section 613 of the Clean Air Act, EO 13101, and EO 13123. See the Federal Green Purchasing Preference Program Requirements section of this module.

³ <<http://www.epa.gov/epp/documents/docother.htm>>

⁴ Section 401 (b) of Executive Order (EO) 13148, *Greening the Government Through Leadership in Environmental Management*. Text of EO 13148 is available at < <http://ceq.eh.doe.gov/nepa/regs/eos/eo13148.html> >

develop and implement EMS to improve their environmental performance. The goal of this report is to help Federal facilities integrate green purchasing into their EMS.⁵ The intended audiences include Federal facility staff tasked with implementing an EMS, reducing environmental impacts of facility activities, meeting green purchasing requirements and/or buying products and services in a Federal facility.

Federal organizations can take advantage of the increased emphasis on environmental performance and enhanced internal communication associated with an EMS to expand and encourage green purchasing. Procurement and contracting personnel can play an important role on EMS implementation teams. By using EMS procedures to establish green purchasing objectives and targets and develop operational controls to ensure that the environmental impacts of products and services are included in the criteria for procurement and contracting decisions, agencies can encourage implementation of an effective green purchasing program, reduce their organization's environmental footprint and encourage progress toward sustainable operations.

This report is organized around the 17 elements of an EMS that conforms to the International Organization for Standardization (ISO) 14001 (1996) Standard,⁶ because Federal agencies interviewed for this report indicated that they were either using the elements of ISO 14001 as the structure for their EMS or were familiar with these elements. As a result, ISO requirements are mentioned throughout. While ISO requirements are not mandatory for all EMS developers to follow, those who have chosen to use the ISO framework, as the majority of the 2500 Federal facilities creating EMSs have elected to do, will want to be aware of these requirements. To make the module easy to use, it is provided as an electronic document with both internal and external links.

Section 2, [Integrating Green Purchasing into Your EMS](#) is the core of the report and provides:

- Key information about the requirements associated with each element of ISO 14001;
- Practical guidance and potential language for integrating green purchasing into procedures for each ISO 14001 element; and
- Links to Federal facility examples for each element.

Section 3 provides links to additional information on the [genesis of this report](#), [EMS](#), [Federal green purchasing program requirements](#), [green product resources](#), and [green purchasing training resources](#). Contact information for Federal facility staff who participated in the development of this report is available in the [Acknowledgments](#). This document can be found on the web at <www.epa.gov/epp/ems.htm> Federal agencies are encouraged to contact U.S. standards development organizations in order to alert them to the need for standards to meet green purchasing and EMS goals. A partial list of US organizations can be found at www.ansi.org. Consistent with OMB Circular A-119, agencies are further encouraged to participate in the development of voluntary standards through such organizations.

⁵ Information on how to develop an EMS is available from: EPA <<http://www.epa.gov/ems>>, the Office of the Federal Environmental Executive (OFEE) <www.ofee.gov/ems/ems.htm>, and the Joint Service P2 Technical Library <<http://p2library.nfesc.navy.mil/ems/index.html>>

⁶ <<http://www.iso.org>>

2. INTEGRATING GREEN PURCHASING INTO YOUR EMS

By targeting enhanced green purchasing within the EMS, a facility or installation can comply with [Federal green purchasing legal and other requirements](#), raise awareness of procurement as a pollution prevention tool, and facilitate continual improvement in environmental performance through proactive green purchasing and contracting activities. The table below addresses the elements of ISO 14001 in the context of green purchasing and provides links to examples and success stories from Federal government organizations that support recommendations for integrating green purchasing into your EMS.

- ◆ Click on the name of the element to link to further information on the ISO 14001 (1996) requirements.
- ◆ Click on the name of a Federal agency or facility to link to examples of how this element has been successfully integrated into the organization’s EMS.
- ◆ Click here for a list of [acronyms](#) used in this module.

EMS Element (ISO 14001)	Green Purchasing Component	Federal Facility Examples
<p>4.2 Environmental Policy</p>	<p>A conforming Federal Facility Environmental Policy Statement can include green purchasing, by reference, in the commitments to compliance with legal and other requirements and prevention of pollution. An organization also may include a more direct green purchasing commitment, such as:</p> <p><i>[Facility] will consider environmental factors in all purchasing decisions and will give preference to those products and services designated by or recommended in Federal green purchasing preference programs, as well as those products and services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.</i></p>	<ul style="list-style-type: none"> ◆ US Department of Agriculture (USDA), Agricultural Research Service (ARS), Beltsville Area ◆ Department of the Interior (DOI), National Park Service (NPS) ◆ DOI, NPS, Intermountain Region ◆ DOI, NPS Concession Environmental Management Program (CoEMP) ◆ EPA Environmental Science Center (ESC) at Fort Meade, MD ◆ EPA Region 3 (Mid-Atlantic Region) ◆ National Aeronautics and Space Administration (NASA) ◆ Pentagon
<p>4.3.1 Environmental Aspects</p>	<p>The procedure to identify environmental aspects and significant impacts must be applied to procurement (purchasing) and contracting as activities you control or influence. Other activities also may have procurement-related aspects, such as the purchase of products or services that consume resources and/or generate wastes.</p> <p>Include procurement and contracting personnel and key purchasers on the EMS Cross Functional Team identifying and ranking aspects and impacts.</p>	<ul style="list-style-type: none"> ◆ DOI, NPS, Grand Canyon National Park ◆ DOI, NPS, Grand Canyon National Park, Xanterra Parks and Resorts ◆ DOI, NPS, CoEMP ◆ EPA Region 9 ◆ USDA, ARS, Beltsville Area ◆ Environmental Agency of Great Britain

EMS Element (ISO 14001)	Green Purchasing Component	Federal Facility Examples
	<p>Consider Including compliance with procurement-related legal and other requirements among the criteria for determining significance.</p>	
<p>4.3.2 Legal and Other Requirements</p>	<p>A conforming legal and other requirements procedure should identify all procurement-related laws, regulations, and Executive Orders. Any agency-specific procurement requirements, including your agency's <i>Affirmative Procurement Plan</i> and <i>Green Purchasing Strategic Plan</i>⁷ are considered "other requirements" and should be incorporated into any list or register of legal and other requirements for the EMS.</p>	<ul style="list-style-type: none"> ◆ DOD, U.S. Army, Ft. Lewis WA ◆ NASA ◆ USDA, ARS, Beltsville Area ◆ EPA, ESC, Fort Meade, MD ◆ DOI, NPS, CoEMP
<p>4.3.3 Objectives and Targets</p>	<p>Determine realistic green purchasing objectives for each appropriate significant aspect, based on the commitment to pollution prevention, legal and other requirements, significant aspects, and mission requirements. Consider targeting all purchases over a threshold amount, based on environmental impact and the amount of influence your facility has over the product or service provider(s) (See Environment Agency of Great Britain).</p> <p>Establish measurable green purchasing targets that can be accomplished within a reasonable timeframe.</p> <p>For example: Objective: Improve green purchasing practices. Targets:</p> <ul style="list-style-type: none"> • Provide green purchasing training to procurement staff. • Identify opportunities to purchase green products and services. • Consider requiring the use of FAR clause 52.223-10 in all relevant service contracts. • Create Green Purchasing SOPs for Buildings, Power, Electronics, Vehicle Fleets, Office 	<ul style="list-style-type: none"> ◆ DOI ◆ DOI, NPS, Cape Cod National Seashore (CACO) ◆ DOD, U.S. Army, Fort Lewis WA ◆ DOI, Fish and Wildlife Service, Bosque de Apache National Wildlife Refuge, NM ◆ DOI, NPS, CoEMP ◆ EPA ◆ EPA Region 1 ◆ EPA Region 10 ◆ California EPA ◆ The Environment Agency of Great Britain

⁷Section 6002 of the Resource Conservation and Recovery Act requires agencies to establish affirmative procurement programs to implement the buy recycled requirements of that section. EO 13101 repeats this requirement in section 402. Section 9002 of the Farm Security and Rural Investment Act requires agencies to establish affirmative procurement programs to implement the bio-based requirements of that section. The White House's Office of the Federal Environmental Executive strongly recommends that all Federal agencies create green purchasing plans which cover all their green purchasing activities. <<http://www.ofee.gov/gp/gplinks.html>>

EMS Element (ISO 14001)	Green Purchasing Component	Federal Facility Examples
	<p>Supplies, Copy Paper, Cleaning Products, Meetings, and Landscaping and provide management emphasis to these initiatives.</p> <ul style="list-style-type: none"> Conduct employee awareness training on the purchase and use of green products and services and participation in recycling programs. <p>Remember, objectives and targets are documented and reviewed and updated on an established schedule.</p>	
<p>4.3.4 Environmental Management Programs</p>	<p>Establish programs to pursue green purchasing objectives and targets and define a timeframe within which each should be achieved. Identify both human and financial resources to ensure that green purchasing programs are effective, as well as metrics to determine progress.</p> <p>Establish a procedure to review new and modified contracts and contract renewals to ensure the contract language includes requirements for green purchasing.⁸</p>	<ul style="list-style-type: none"> U.S. Postal Service EPA Region 1 EPA Region 5 EPA Region 9, APP EPA Region 9, EMP
<p>4.4.4 Structure and Responsibility</p>	<p>Include procurement and contracting personnel on the EMS Implementation Team. Designate staff responsible for green purchasing program management and establish reporting relationships within the program, with the EMS Manager and with top management.</p> <p>Assign staff to identify the products and services currently purchased to support your activities, who purchases them and how they are purchased. See the EPA ESC procurement summary in Appendix A.</p> <p>Assign responsibility and resources for Environmental Management Programs to achieve green purchasing objectives and targets.</p>	<ul style="list-style-type: none"> EPA, Region 1 EPA, Region 9 USDA, ARS, Beltsville Area DOD, U.S. Army, Ft. Lewis, WA DOI, NPS, CoEMP
<p>4.4.2 Training, Awareness and Competence</p>	<p>Identify procurement training needs based on significant aspects and legal and other requirements for Federal green purchasing preference programs. Train procurement and contracting staff and product users on green purchasing and encourage them to request goods and services that reduce environmental impacts and meet performance standards.</p> <p>Consider requiring that key procurement and contracting personnel take the Office of</p>	<ul style="list-style-type: none"> NASA USDA, ARS, Beltsville Area EPA Headquarters EPA Region 9 EPA, ESC. Fort Meade MD DOD, U.S. Army, Fort Lewis WA DOI, NPS, CoEMP

⁸ To access green purchasing contract language and specifications used by Federal agencies visit www.epa.gov/epp/database.htm

EMS Element (ISO 14001)	Green Purchasing Component	Federal Facility Examples
	<p>Personnel Management's "What is Green Purchasing, Anyway?" training course available at the Gov Online Learning Center web site: <www.golearn.gov>⁹ The DOD Green Procurement Strategy¹⁰ offers a list of green purchasing training resources.</p>	
<p>4.4.3 Communication</p>	<p>The Communication Procedure should include guidance on who is responsible for internal communication on significant aspects, including those related to green purchasing, as well as how, how often and to whom information will be disseminated.</p>	<ul style="list-style-type: none"> ◆ EPA Region 9 ◆ DOI, Intermountain Region ◆ DOI, NPS, Grand Canyon National Park ◆ DOI, NPS, CoEMP ◆ USDA, ARS, Beltsville Area
<p>4.4.5 Document Control</p>	<p>Document control procedures will apply to all green purchasing documentation, including Affirmative Procurement and EPP plans, specifications, purchase orders and contracts and lists of green products approved for purchase.</p> <p>Procedures and responsibilities for creation and modification of purchasing documents may be applicable.</p>	<ul style="list-style-type: none"> ◆ DOD, U.S. Army, Ft. Lewis WA ◆ DOI, NPS, Grand Canyon National Park ◆ DOI, NPS, CoEMP
<p>4.4.6 Operational Control</p>	<p>Ensure that all significant aspects related to green procurement are addressed by operational controls. Develop and implement control procedures to ensure that product users, specification writers and the procurement and contracting personnel include an evaluation of environmental considerations, along with price, performance and availability, in the criteria for purchasing decisions. Green contract language for more than 600 products and services is available at <www.epa.gov/epp/database.htm></p> <p>Operational control procedures should ensure that purchases of designated and mission-appropriate green products and services support the environmental policy, legal and other requirements and green purchasing objectives and targets.</p> <p>Communicate green purchasing procedures and requirements to suppliers and contractors,</p>	<ul style="list-style-type: none"> ◆ EPA Region 1 ◆ EPA ESC Ft. Meade MD ◆ USDA, ARS, Beltsville Area ◆ DOI, NPS, CoEMP

⁹ To register for the Green Purchasing course, log on with your email and password . Click on the *Full Catalog* button on the top navigation bar, then click on the *Free Catalog* category and select the *Legislatively Mandated and Agency Required Topics* category. Choose "What is Green Purchasing, Anyway?" (Course ID OPM008), by clicking on its title.

¹⁰ The Department of Defense **Green Procurement Strategy** can be accessed at <<http://www.ofee.gov/gp/gppstrat.pdf>>

EMS Element (ISO 14001)	Green Purchasing Component	Federal Facility Examples
	especially those that provide goods and services for activities that have significant environmental aspects.	
4.4.7 Emergency Response	<p>Emphasize the purchase of environmentally preferable products to reduce the potential for incidents requiring emergency response.</p> <p>Consider including green spill response material specifications in the Emergency Response Procedure.</p>	<ul style="list-style-type: none"> ◆ USDA, ARS, Beltsville Area
4.5.1 Monitoring and Measurement	<p>A conforming procedure will document what green purchasing data to collect and how to collect and manage the data related to significant environmental aspects and requirements for reporting on green purchasing.</p> <p>Per Federal green purchasing program requirements, monitor purchases of recycled content products, bio-based products, alternative fueled vehicles, alternative fuels, and non-ozone depleting products. Your organization may also want to monitor purchases of any other product or service that has a reduced impact on the environment when compared with competing products that serve the same purpose.</p> <p>When possible, measurements should quantify positive environmental impacts as well as progress toward meeting established green purchasing objectives and targets. For example, measure reductions in solid waste associated with purchases of environmentally preferable products, reductions in hazardous waste disposal associated with substitution of less toxic products, as well as reductions in energy and water use associated with products to increase efficiency.</p>	<ul style="list-style-type: none"> ◆ NASA ◆ DOD, U.S. Army, Ft. Lewis WA ◆ EPA, ESC, Ft. Meade MD ◆ EPA Region 9 ◆ USPS ◆ DOI, NPS, CoEMP ◆ OTHER RESOURCES <p>The paper calculator at http://www.ofee.gov/recycled/cal-index.htm > allows the user to compare the environmental impacts of papers made with different levels of postconsumer recycled content, ranging from 0% (i.e., virgin paper) to 100%.</p> <p>Greenhouse gas measurement tools are available at http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterToolsCalculators.html ></p> <p>The DOD Green Procurement Strategy includes a description of DOD Green Procurement Metrics http://www.ofee.gov/gp/gppstrat.pdf</p> <p>The ENERGYSTAR® Program offers a calculator to demonstrate how much new energy efficiency equipment you can purchase with anticipated energy savings at www.energystar.gov</p>
4.5.2 Corrective and	Designate responsibility for investigating and	<ul style="list-style-type: none"> ◆ EPA, ESC, Ft. Meade MD

EMS Element (ISO 14001)	Green Purchasing Component	Federal Facility Examples
Preventive Action	correcting findings of non conformance with the green purchasing EMS requirements, in accordance with facility corrective action procedures.	♦ DOD, U.S. Army, Ft. Lewis WA
4.5.3 Records	Identify green purchasing records, such as training, purchases of specific products, reports to management and government agencies and audits. Maintain these environmental records in accordance with facility EMS procedures.	♦ EPA ESC Ft. Meade MD
4.5.4 EMS Audit	Ensure that green purchasing EMS elements are included in the activities to be considered in either internal or external audits of the EMS.	♦ EPA ESC Ft. Meade MD
4.6 Management Review	<p>Ensure that progress toward achieving green purchasing objectives and targets and any green purchasing operational controls are discussed as part of the EMS Management Review.</p> <p>Ensure that the management review considers recommendations to improve facility green purchasing efforts.</p>	

ENVIRONMENTAL POLICY

ISO 14001 Element

Section 4.2 of the ISO 14001 Standard requires that Top Management define the organization’s environmental policy and ensure that it:

1. Is appropriate to the nature, scale and environmental impacts of the organization’s activities, products or services.
2. Includes a commitment to continual improvement and prevention of pollution.
3. Includes a commitment to comply with relevant environmental legislation and regulations, and with other requirements to which the organization subscribes.
4. Provides a framework for setting and reviewing environmental objectives and targets.
5. Is documented, implemented, maintained, and communicated to all employees.
6. Is available to the public.

Annex A.2 of 14001 notes that “top management” may consist of an individual or a group of individuals with executive responsibility for the organization.

Federal Facility Examples

Federal Agency/Facility	Environmental Policy
US Department of Agriculture (USDA), Agricultural Research Service (ARS), Beltsville Area	USDA’s ARS Beltsville Area operation already has implemented a separate EPP Policy in support of its EMS. BA Policy #03-04, Environmentally Preferable Products and Affirmative Procurement Policy, dated February 6, 2003 states: “It is the responsibility of all employees of the Beltsville Area to ensure that environmentally preferable products and services are actively pursued when purchasing. Green purchasing/affirmative procurement includes, but is not limited to, recycled-content products, biobased products, and energy-efficient products. This applies to all purchases including micro-purchases (less than \$2,500).”
Department of the Interior (DOI), National Park Service (NPS)	The National Park Service expects each park-level organization to adopt and implement an EMS according to guidance provided in <i>The National Park Service Park-level Model Environmental Management System</i> . This guidance document states that each facility shall develop and document a commitment statement affirming the facility’s intent to strive for exemplary environmental management. The statement must include a commitment to environmental leadership by “incorporating pollution prevention, waste reduction, best management practices, and environmentally preferable purchasing in all park management activities.” http://www.doi.gov/greening/NPS/The_Park_Level_Model_EMS_new.pdf
DOI, NPS, Intermountain Region	As part of their model EMS, each national park in the Region must develop a “green purchasing” park policy that expresses the Superintendent’s commitment to establishing criteria for “green” products and a directive to avoid hazardous products altogether.

Federal Agency/Facility	Environmental Policy
Department of the Interior (DOI), National Park Service (NPS), Concession Environmental Management Program (CoEMP)	Concession contracts issued by the NPS to businesses (concessioners) to provide visitor services, such as retail, food and lodging services, in the national parks, include a requirement to develop and implement an EMS. While NPS concessioners are not subject to EO and FAR requirements, the EMS policy requires that each concessioner provide a clear statement of the commitment to Best Management Practices in its operation, construction, maintenance, acquisition, provision of visitor services and other activities. The BMPs may include environmentally preferable purchasing and reduction in the purchase and use of hazardous substances.
Environmental Protection Agency (EPA), Environmental Science Center (ESC) at Fort Meade, MD	The EPA Environmental Science Center (ESC) at Fort Meade, MD issued an Environmental Policy statement that includes a commitment to consider environmental factors when making planning, purchasing, and operating decisions. ¹¹ This commitment is supported by the statement: <i>“We will adopt cost-effective practices that eliminate, minimize or mitigate environmental impacts and we will use environmentally preferred materials if those materials meet technical specifications.”</i>
Environmental Protection Agency (EPA), Region 3 (Mid-Atlantic Region)	EPA Region 3 (Mid-Atlantic Region) issued an Environmental Policy on September 16, 2003. This policy includes a commitment to <i>“Consider environmental impacts when making planning, purchasing and operating decisions.”</i>
National Aeronautics and Space Administration (NASA)	The NASA Environmental Management Policy (NPD 8800.16, April 6, 2000), Section 1 c, includes language directing consideration of environmental factors in selection of materials and processes. NASA Centers and other organizations are required to consider environmental factors throughout the life cycle of a program, including planning, development, execution, and disposition activities. Examples of environmental factors include the proposed use of hazardous materials, the potential for waste generation, and the overall environmental preferability of selected materials and processes. ¹²
Department of Defense (DOD)	The Pentagon’s Affirmative Procurement Plan includes the following: <i>“The Engineering & Technical Services Division (ETSD) and the Defense Facilities Contracting Office (DFCO) are committed to the implementation of a procurement program that ensures compliance with all applicable laws, executive orders, instructions and regulations for the acquisition of Environmentally Preferable and Energy-Efficient Products and Service (EPP). The intent of the program is to meet the Department of Defense policy on procurement of EPA-designated items. That policy states that 100% of such purchases will meet or exceed the guideline standards unless written justification is made part of the procurement file . . .”</i>

¹¹ ESC Environmental Policy Statement is included as Appendix 1 to the *ESC Environmental Management System Manual* <<http://www.epa.gov/region3/esc/ems/pdf/EMS%20Manual%20ESC%20EM-01-02.pdf>>

¹² < http://nodis3.gsfc.nasa.gov/main_lib.html >

ENVIRONMENTAL ASPECTS

ISO 14001 Element

Environmental Aspects are the components of a Federal facility’s activities, products, or services that can have an impact, beneficial or adverse, on the environment. Environmental impacts are the changes that take place in the environment as a result of the aspect. For example, stormwater runoff is an aspect; the resulting environmental impacts may include erosion and degradation of surface waters. Solid waste generation or disposal is an aspect with impacts including degradation of the land and air quality.

Section 4.3.1 of ISO 14001 requires that an organization establish and maintain procedures to identify the environmental aspects of its activities, products or services that it can control and over which it can be expected to have an influence. Aspects are identified to determine those that have or can have significant impacts on the environment. The Standard further requires that the organization ensure that the aspects determined to be significant are considered in setting environmental objectives.

Federal Facility Examples

Federal facilities have determined that procurement and contracting activities can have an impact on the environment. Many Federal facilities have defined all procurement activities as an environmental aspect or have defined procurement of specific products or services as aspects. In addition, compliance with procurement-related legal and other requirements and identification of the potential to reduce or eliminate environmental impacts through product substitution, new equipment or changes to contractual requirements may be included in the criteria used to determine the significance of environmental impacts. Examples of these approaches are included in the chart, below:

Federal Agency/Facility	Environmental Aspects
DOI, NPS, Grand Canyon National Park	Dr. Mary Ann McCloskey, Environmental Protection Specialist at the Grand Canyon noted that procurement was identified as a significant aspect during the EMS Team’s first aspect/impacts analysis. One of the team’s main concerns was the reduction of hazardous waste and the use and storage of hazardous materials. Dr. McCloskey noted, “The team felt that we needed to go to the source — procurement and reducing materials stored in the warehouse.” ¹³
DOI, NPS, Grand Canyon National Park, Xanterra Parks and Resorts	Xanterra Parks and Resorts, the concessioner providing some visitor services for the South Rim of Grand Canyon National Park, identified Recycled and Reused Materials Use as a significant environmental aspect for their EMS.
DOI, NPS, CoEMP	Environmental aspects of concessioners providing visitor services, such as retail, food and lodging, at National Parks include generation of solid waste, generation of hazardous waste, and purchasing activities.
EPA Region 9	Heather White of EPA Region 9 ¹⁴ noted that in determining the significance of their environmental aspects, Region 9 considered the life

¹³ Personal communication, Mary Ann McCloskey, February 4, 2004.

¹⁴ Personal communication, Heather White, November 6, 2003

Federal Agency/Facility	Environmental Aspects
	cycle of activities and services and their potential impact on the biosphere. Because Region 9 plans to use its EMS to move toward sustainability, they evaluated significance based on four system conditions derived from The Natural Step ¹⁵ , three of which address material use: SC#1 Material Use: Materials that originate from the Earth's crust (i.e. metals, petroleum products); SC#2 Material Use: Materials of a synthetic origin (i.e. manmade chemicals, plastics, and other synthetic products); SC#3 Material Use: Materials that originate from the biosphere (i.e. paper); and SC#4 Community/Employee Concerns: Issues of concern for the well-being of community stakeholders and/or our employees.
USDA, ARS, Beltsville Area	David Prevar from USDA, ARS, Beltsville Area states that green purchasing was among the criteria used to evaluate the significance of their environmental aspects. The aspects and impacts analysis allowed them to identify opportunities to create an alliance between their ongoing agricultural research and the use of biobased products in their day-to-day operations.

LEGAL AND OTHER REQUIREMENTS

ISO 14001 Element

Section 4.3.2 of ISO 14001 requires that an organization establish and maintain a procedure to identify and have access to legal and other requirements to which the organization subscribes that are applicable to the environmental aspects of its activities, products, or services.

The procedure for review of legal and other requirements should effectively identify all of the Federal green purchasing preference program legal and other requirements listed in the chart, below. In addition, local environmental requirements, such as recycling programs, are considered other requirements and should be included in the list or register of legal and other requirements for the EMS.

FEDERAL GREEN PURCHASING LEGAL AND OTHER REQUIREMENTS	
Product Category	Legal and Other Requirements
Recycled Content < http://www.epa.gov/cpg/about.htm >	Section 6002 of the <i>Resource Conservation and Recovery Act (RCRA)</i> ; <i>EO 13101, Greening the Government through Waste Prevention, Recycling and Federal Acquisition</i> ; Federal Acquisition Regulation (FAR), Parts 7, 11, 23.
Environmentally Preferable < http://www.epa.gov/epp >	EO 13101, <i>Greening the Government through Waste Prevention, Recycling and Federal Acquisition</i> ; FAR, Parts 7, 11, 23.

¹⁵ <<http://www.naturalstep.org/learn/principles.php>>

FEDERAL GREEN PURCHASING LEGAL AND OTHER REQUIREMENTS	
Product Category	Legal and Other Requirements
Energy efficient http://www.energystar.gov http://www.eere.energy.gov/femp/technologies/eeproducts.cfm	EO 13123, <i>Greening the Government through Efficient Energy Management</i> ; <i>Federal Acquisition</i> ; Federal Acquisition Regulations (FAR), Part 23; EO 13221, <i>Energy Efficient Standby Power Devices</i>
Biobased http://www.biobased.oce.usda.gov/public/index.cfm	Section 9002 of the <i>2002 Farm Security and Rural Investment Act</i> ; EO 13101, <i>Greening the Government through Waste Prevention, Recycling and Federal Acquisition</i>
Alternative fuels Fuel efficiency http://www.eere.energy.gov/vehiclesandfuels/ http://www.eere.energy.gov/EE/transportation.html	Section 303 of <i>The Energy Policy Act of 1992</i> (EPAAct); Executive Order 13149, <i>Greening the Government through Federal Fleet and Transportation Efficiency</i>
Non-ozone depleting substances http://www.epa.gov/ozone/snap/general/index.html	Section 613 of the <i>Clean Air Act</i>

Federal Facility Examples

Federal Agency/Facility	Legal and Other Requirements
DOD, U.S. Army, Ft. Lewis WA	The Fort Lewis WA Legal and Other Requirements Procedure requires Program Managers to “Maintain a list of the legal and other requirements that are applicable to your program(s); communicate this list to the EMS Management Representative. Monitor legal and other requirements applicable to your program(s) for new requirements and actual or proposed changes. Use pertinent information sources as needed.” The list of legal and other requirements includes Executive Orders that address green procurement requirements.
NASA	NASA includes its list of applicable legal requirements as an Appendix to its EMS Policy documentation. The list includes all relevant laws, regulations, and Executive Orders as well as NASA requirements including NPG 8830.1, Affirmative Procurement Plan for Environmentally Preferable Products. ¹⁶
USDA, ARS, Beltsville Area	The Agricultural Research Service’s Beltsville Area specifically calls out its Drivers for Affirmative Procurement stating, “Laws, regulations, and Executive Orders combine to provide the authority and requirements for Federal AP programs.” ¹⁷ The drivers cited include: the Resource Conservation and Recovery Act, Executive Order 13101, Comprehensive Procurement Guidelines, 40 CFR, Part 247, the Federal Acquisition Regulation, and Public Law 107-171 and OFPP Policy Letter 92-4.

¹⁶ http://nodis3.gsfc.nasa.gov/main_lib.html

¹⁷ USDA Beltsville Area, Agricultural Research Service. *A Guide to Green Purchasing*. (2003) pp. 2–6.

Federal Agency/Facility	Legal and Other Requirements
EPA, ESC, Fort Meade MD	ESC progress in meeting Executive Orders applicable to environmental management at Federal facilities included environmentally-preferable paper and recycling goals listed in E.O. 13101, "Greening the Government through Waste Prevention, Recycling, and Federal Acquisition," and E.O. 13148, "Greening the Government through Leadership in Environmental Management," as well as other applicable EPA directives. ¹⁸
DOI, NPS, CoEMP	Concession contracts issued by the NPS for visitor services such as retail, food and lodging, include a requirement to develop and implement an EMS. Each concessioner must describe how its staff will maintain knowledge of applicable laws and Best Management Practices (BMPs). Both NPS contracts and BMPs may include requirements for environmentally preferable purchasing and reduction in the purchase and use of hazardous substances.

OBJECTIVES AND TARGETS

ISO 14001 Element

Section 4.3.3 of ISO 14001 requires that an organization shall establish and maintain documented environmental objectives and targets at each relevant function and level within the organization. It further requires that when establishing these objectives, legal and other requirements, the significant environmental aspects, technological options and the financial and operational requirements of the business shall be considered. Further, the standard states that the views of interested parties shall be considered in the selection process. The objectives and targets shall be consistent with the organization's environmental policy and must include the commitment to pollution prevention.

Federal Facility Examples

These agencies have included a commitment to green purchasing in their Environmental Policy, identified procurement as a significant aspect and established formal, green purchasing objectives and targets.

Federal Agency/Facility	Objectives and Targets
DOI	DOI has included green purchasing goals in EMS implementation and environmental auditing at a variety of field sites. In the <i>Strategic Plan for Greening the Department of the Interior through Waste Prevention, Recycling and Federal Acquisition</i> ¹⁹ and in the Department's Annual Performance Plan, the focus is on increasing purchases of nine targeted products, which are viewed both as high priorities for wide-spread use as well as indicators of broader compliance with green purchase program objectives. The nine targeted products include: Re-refined engine lubricating oil, Reclaimed engine coolant, Retread tires, Copy paper

¹⁸ ESC. *The EPA Environmental Science Center Environmental Management System Results Summary From FY 03, First Year After Registration*. p. 4.

¹⁹ <http://www.doi.gov/greening/attachments/strat_plan.pdf>

Federal Agency/Facility	Objectives and Targets
	(recycled content and made without chlorine bleaching), Bathroom tissue (recycled content and made without chlorine bleaching), Paper towels (recycled content and made without chlorine bleaching), Plastic trash bags (recycled content), Carpeting (recycled content or refurbishable, and Biobased, biodegradable lubricating and hydraulic oils ²⁰
DOI, NPS, Cape Cod National Seashore (CACO)	<p>Cape Cod National Seashore (CACO) included the following Procurement and Purchasing Goal in their <i>EMS Environmental Goals and Action Plan for FY 04</i>:</p> <p>Goal I: Reduce wastes generated through improved procurement practices. A goal champion is assigned to oversee the following targets:</p> <ul style="list-style-type: none"> ◆ Develop Authorized Use List of products approved for purchase and use by park staff; ◆ Conduct employee awareness training on green products; and ◆ Create a Green Procurement SOP and provide management emphasis to this initiative.²¹
DOD, U.S. Army, Fort Lewis WA	<p>The Fort Lewis EMS is part of a larger Installation Sustainability Program. Current Fort Lewis EMS Objectives and Targets support Green Purchasing.</p> <p>Objective: Cycle all material use to achieve zero net waste by 2025.</p> <ul style="list-style-type: none"> ◆ Target: Change procurement practices to introduce only cyclable²² materials to Fort Lewis. ◆ Target: Achieve 100% cradle-to-cradle hazardous material management. ◆ Target: Achieve 40% reduction in waste stream leaving Fort Lewis by the end of calendar year 2005 <p>Objective: Reduce installation traffic congestion and traffic air emissions by 85% by 2025.</p> <ul style="list-style-type: none"> ◆ Target: Purchase 25 Neighborhood Electric Vehicles (NEV) for on post use by 2007. ◆ Target: 50% of the GSA fleet will be alternate fuel vehicles (CNG, Bio-Diesel, E-85) by 2007 <p>Objective: Sustain all activities on post using renewable energy sources and generate all electricity on post by 2025.</p> <ul style="list-style-type: none"> ◆ Target: Encourage innovative use of energy systems by developers. ◆ Target: Encourage acceptance and use of innovative energy systems ◆ Target: Generate 20% energy on post by 2008 ◆ Target: 25% of electricity from renewable sources by 2008
DOI, Fish and Wildlife Service, Bosque de Apache National Wildlife Refuge, NM	<p>The Fish and Wildlife Service's Bosque de Apache National Wildlife Refuge in New Mexico established the following EMS green procurement goals:</p> <ul style="list-style-type: none"> ◆ Use reduced mercury (e.g., "Green Tip" Phillips Alto brand) fluorescent lamps as new lamps are installed or replaced.

²⁰ Personal communication, Heather Davies, DOI, November 3, 2003.

²¹ Cape Cod National Seashore, *EMS Environmental Goals and Action Plan*, July, 2003.

²² At Fort Lewis, the term *cyclable* refers to items that are reused, made of recovered/recyclable material, made of renewable resources, or can be diverted into another beneficial use after its original intended use has been exhausted. To be classified as *cyclable*, the entire life cycle of product has to be considered from acquisition of raw materials, through manufacture, distribution, use and disposal.

Federal Agency/Facility	Objectives and Targets
	<ul style="list-style-type: none"> ◆ Conduct pilot study to evaluate use of bio-diesel fuel in vehicles and equipment at Refuge. ◆ Conduct pilot study to evaluate use of biobased lubricants and hydraulic fluid for vehicles and equipment. ◆ Conduct pilot study to evaluate use of “green” parts cleaning solvent at Mechanics Shop. ◆ Emphasize the use of “recycled and other “green” materials in all remodeling and new construction (e.g. Fire House office expansion, proposed new visitors center). ◆ Continue to work with the Friends of the Bosque to identify and sell environmentally preferable bookstore products such as organic cotton clothing and other materials. Work with the Friends of the Bosque to provide interpretive signage for products being sold. ◆ Review and revise if opportunities exist, current purchasing procedures to enhance centralized purchasing and/or approval process in order to reduce purchase of duplicate materials, minimize hazardous material stock, maintain hazardous materials inventories and MSDSs, and encourage environmentally preferable materials.²³
DOI, NPS, CoEMP	<p>Concession contracts issued by NPS for visitor services, including retail, food, and lodging, include a requirement to develop and implement an EMS. Each concessioner is required to identify environmental goals consistent with legal and other requirements and Best Management Practices. Each concessioner also must identify specific targets to achieve these goals, incorporating measurable results and schedules. Targets include environmentally preferable purchasing including organic and locally grown foods, green cleaners, energy- and water- efficient appliances, recycled content products, and reduced purchase and use of hazardous substances.</p>
EPA	<p>To reduce EPA’s environmental footprint by increasing and promoting recycling, reducing materials entering EPA’s waste stream, promoting and achieving increased and preferential use of materials with recycled content and emphasizing and increasing the purchase and use of environmentally preferable products. Specific goals in the following categories: green buildings, green janitorial/maintenance services, green copy paper/publications, green meetings, green office supplies, green electronics, green fleets, green landscaping, green power, and waste prevention can be reviewed at http://www.epa.gov/oppt/epp/pilot/13101%20goals.htm</p>
EPA, Region 1, New England	<p>EPA Region 1’s Green Team has established a goal of purchasing green substitutes for three high impact janitorial products.</p>
EPA, Region 5	<p>EPA Region 5 will reduce life-cycle environmental impacts associated with purchased office furnishings and equipment with a target of incorporating “green” specifications into market surveys and bid requirements for electronic equipment purchased post FY 2004. Text of the procedure, Appendix B.</p>
EPA Region 10	<p>EPA Region 10 has established objectives for energy use and hazardous waste reduction. Targets provide for staff to include Energy Star</p>

²³ Personal communication, Heather Davies, DOI, November 3, 2003.

Federal Agency/Facility	Objectives and Targets
	requirements in the special terms and conditions in 30% of all grants and contracts and use environmental factors, including Energy Star compliance, in determining which electronic equipment to purchase.
California EPA (State Example)	<p>In support of their EMS Environmental Policy, Cal EPA has established the following green purchasing goals, endorsed by top management of the Boards, Departments, and Offices of Cal/EPA:</p> <ul style="list-style-type: none"> ◆ Achieve gold or higher certification for headquarters building from United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Existing Building program by end of 2003. ◆ Procure 100% postconsumer content and process chlorine free printer/copier paper by early 2004. ◆ Formally adopt EPP, Energy, and Transportation policies supporting EMS Environmental Policy by early 2004. ◆ Fully comply with SABRC reporting requirements (California Statute) in paper categories by FY 2003/2004 and provide written explanations for noncompliance in other categories ◆ Adopt initial agency-wide electronic equipment procurement, use, and end-of-life management standards by 2004. ◆ Reduce greenhouse gas emissions by 20% by 2010 in partnership with the Sustainable Silicon Valley Initiative and continue participation in California Climate Action Registry. ◆ Divert 75% of our headquarters waste stream by 2010 with a future goal of zero waste.²⁴

Environment Agency of Great Britain

The Environment Agency of Great Britain has implemented an EMS and, since the Agency spends more than half of its budget on supplies and services, identified procurement as a significant aspect. Their Agency Environmental Procurement Strategy includes the following objectives and targets:

- ◆ Conduct Environmental Risk Assessments on all Contracts over £15K (approximately \$38K);
- ◆ Green all purchases that have large environmental and social impacts over which the Environment Agency has leverage;
- ◆ Conduct detailed environmental audits for the top 25 suppliers; and
- ◆ Conduct environmental telephone interviews of the top 500 suppliers.

The Agency conducted an Agency Environmental Risk Assessment which identified the following key procurement targets:

²⁴ Personal communication, P.K. Wohl, CIWMB, November 13, 2003.

Strategic Security		Strategic Critical	
Chemicals	£125K	Construction	£120M
Hardwood Groynes	£500K	Energy	£3.5M
Monitoring Instruments	£870K	Vehicles/Plant	£18M
Lab Consumables	£980K	IT Hardware	£15M
Tactical Acquisition		Tactical Profit	
100% PCW Paper	£320K	Consultancy	£70M
Furniture	£900K	Cartography	£1M
Eco Stationery	£990K	Software	£12M
LPG Fuel for Hybrids	£800K	FSC Softwood	£1M

Key suppliers must respond to the following questions:

- ◆ Does your organization have an environmental policy?
- ◆ Does your organization have anyone responsible for its environmental performance and management?
- ◆ Has your organization undertaken any assessment of the environmental impacts of operations?
- ◆ Has your organization set any targets for reducing environmental impacts?
- ◆ Does your organization produce any publicly available information on environmental performance?
- ◆ Does your organization have a system in place for managing environmental performance?

ENVIRONMENTAL MANAGEMENT PROGRAM

ISO 14001 Element

Section 4.3.4 of ISO 14001 requires that the organization establish and maintain programs for achieving its objectives and targets. These plans include the designation of responsibility for achieving the objective and meeting the target at each relevant function and level of the organization. The standard further requires that the plans define the means and time frame by which this is to be achieved. The standard also states that if a project relates to new development and new or modified activities, products, or services, programs shall be amended where relevant to ensure that environmental management applies to such projects.

Federal Facility Examples

Federal Agency/Facility	Environmental Management Programs
U.S. Postal Service (USPS)	Chapter 3 of the US Postal Service Handbook AS-552, Pollution Prevention Guide (August 1996) discusses the link between pollution prevention and purchasing, and provides guidance on participating in USPS's affirmative procurement program. It explains the concept of affirmative procurement and provides information sources for

Federal Agency/Facility	Environmental Management Programs
	<p>identifying products with recycled materials. The AS-552 Guide highlights USPS policy and “addresses goals and objectives that should go into facility plans and procedures. Official adoption of these at the facility level, either by reference to AS-552 or by restating them in a plan or SOP, is what becomes part of the EMS for the facility.”²⁵</p>
<p>EPA, Region 1</p>	<p>The EPA Region 1 Green Team focuses on the objectives and targets established by the Agency’s EMS. The Regional Administrator has allocated 0.05 FTE to each Green Team Member, thus Green Team participation is included in each member’s performance review. The Green Team is tasked with the following activities:</p> <ul style="list-style-type: none"> ◆ Continue to coordinate with the development of the EMS ◆ Launch a Green Cleaning Pilot Project ◆ Establish an Affirmative Purchasing Policy ◆ Take advantage of the BPA for an E-catalog and ordering system for Office Supplies ◆ Report on procurement of recycled content products ◆ Assist the purchasing department in addressing environmental issues.²⁶
<p>EPA, Region 5</p>	<p>Region 5 has established an Environmental Management Program to achieve documented objectives and targets for the purchase of electronic equipment. Elements of the EMP:</p> <p>Green specifications in requests for bids from vendors include</p> <ul style="list-style-type: none"> -Reduction in toxins (lead, mercury, cadmium, chromium), -Postconsumer recycled content. -Large plastic components are labeled and not painted or varnished. -No mechanical tools are required to remove batteries. -The use of non-separable connections is minimized. -IT representatives trained in green electronics -Identify products that have received certification by third party eco-label organizations, received a manufacturer’s internal self-certification, or have an eco-declaration. -Total cost of ownership will be used in the procurement decision. <p>See Appendix B.</p>
<p>EPA, Region 9</p>	<p>To meet their green purchasing objectives and targets, Region 9 has established a cross-functional Affirmative Procurement team including two Affirmative Procurement Coordinators, one from the Facilities Program Office and one from the Contracts Office, as well as staff from P2, Solid Waste and the EMS Team. The Team reviews current procurements and develops lists of products currently purchased, their environmental attributes (recycled content levels, energy and water efficiency, low VOC, etc.), and approximate annual purchases using budget and purchasing records. The Team meets to determine research needs and priorities. The Team will conduct research and</p>

²⁵ Personal communication, Ron Robbins, USPS, March, 2004.

²⁶ Personal communication, Rob Guillemin, Region 1, November, 2003.

Federal Agency/Facility	Environmental Management Programs
	develop vendor lists and specifications on priority products and services. ²⁷

Environmental Management Program (DRAFT May 27th)²⁸

EPA Region 9 also developed the following Environmental Management Program to designate responsibility and time frames for achieving its Environmentally Preferable Purchasing (EPP) objectives and targets. For additional information, visit their website:

<www.epa.gov/Region9/cross_pr/ems/objectives.html>

Waste - Environmental Preferable Purchasing (EPP)
EMP 5B-03

Dept: R9 EMS Team

Responsible Person: Heather White

Implementation Start Date: March 15, 2003

Objectives:

Study EPP priorities for FY04

Study best approach for inclusion of green meeting clause in all R9 contracts

Target:

Complete studies and plans by December 31, 2003

Strategy

Develop partnership with WasteWise (WW); study best areas / products to focus on; determine baseline; identify best approach for inclusion of green meeting clause in all contracts; work with PMD on green meeting language / policy; work with PMD to educate bank card holders on EPP.

²⁷ Region 9, *Affirmative Procurement Plan*, p. 6.

²⁸ Personal Communication, Heather White, EPA Region 9, November, 2003.

Actions to Achieve Objective and Target:	Target Date:	Completion
1) Create Waste Team	1) March 15th	1) March 1st
2) Meet with WasteWise and Affirmative Procurement to discuss common goals	2) March 20th	2) March 11th
3) Identify study plan and measurement methods	3) May 5th	3) May 22nd
4) Confirm approach with EMS Team & Advisory Committee	4) May 29th	4) May 29th
5) Meet with WasteWise and Affirmative Procurement to gather information on background	5) May 15th	5) April 23rd
6) Document EPP purchases to establish a baseline	6) June 2 nd –Sept.19th	6) Ongoing
7) Study which products will be priorities in FY04	7) May 7 th –Sept. 1st	7) Nov. 19 th
8) Study best way to incorporate green meeting language in all contracts	8) Aug. 20th	8) May 1 st –ongoing
9) Work with PMD and HQ to write green meeting language/policy for R9	9) Sept. 1st	9) May 1 st –ongoing
10) Work with PMD to research best way to educate bank card holders	10) July 15 th	10) July 17 th (mtg. with B. Bycsek)
11) Present EPP information/requirements at AO meeting	10) July 15 th	11) Sept. 10th
12) Present EPP information/requirements at bank card training	11) Aug. 29 th	12) On going–
13) Prepare study	11) Aug. 29 th	13)
14) Review EMP and revise as needed	12) Sept. 1 st	14)
	13) Sept. 1st	
	14) Sept 15th	

STRUCTURE AND RESPONSIBILITY

ISO 14001 Element

Section 4.4.1 of ISO 14001 requires that roles, responsibilities and authorities shall be defined, documented, and communicated to facilitate effective environmental management systems. Management must provide resources essential to implementation and control of the EMS. The organization’s top management must appoint a specific management representative who shall have the defined role, responsibility and authority to ensure that the EMS requirements are established, implemented and maintained in accordance with the standard and must report on the performance of the EMS to top management.

Federal Facility Examples

Government agencies wisely have included procurement and contracting personnel on their EMS Team. This allows the personnel with purchasing responsibilities for the organization to become aware of the potential for green purchasing solutions to pollution prevention challenges. It also is important to designate responsibility for pursuing and achieving each green purchasing objective and target.

Federal Agency/Facility	Structure and Responsibility
EPA Region 9	Region 9 has an Affirmative Procurement/EMS Team consisting of Affirmative Procurement Leads from Purchasing and Contracts as well as representatives from the Office of Pollution Prevention and Solid Waste and the EMS staff person responsible for EPP. Management has provided documented support for EPP, even if the costs are higher, and offers awards and recognition for EPP leadership.
EPA Region 1	Rob Guillemin of EPA Region 1 notes that “more communication needs to take place between the Green Team/EMS efforts and the purchasing department.” Originally, the head of the purchasing department was on the EPP subgroup but she was unable to attend meetings due to her hectic schedule. Consequently, full buy-in and coordination has yet to occur with the purchasing office. This is a major issue. Ideally, I would like to see a regular meeting schedule between members of the Green Team’s EPP group and the purchasing office to identify areas of concern and identify areas where the EPP group could bring their time and expertise. ²⁹
USDA, ARS, Beltsville Area	David Prevar notes, “The EMS at BA brings together all components of the research center into an alliance aimed at environmental protection. All employees and programs are directed to comply with affirmative procurement requirements, under a policy promulgated by the Area Director. The Biobased Products Program is integral with the Environmentally Preferable Products and Affirmative Procurement Program. In essence, all elements of the EMS involve green purchasing.”
DOD, U.S. Army, Ft. Lewis WA	Ft. Lewis found that staff lacked understanding of the Affirmative Procurement Program and how to effectively integrate it into the EMS. They also found that organizations and activities outside the environmental program were not taking responsibility for green procurement. ³⁰ To address this concern, an individual is appointed as the Program Management Team Lead for each objective.
DOI, NPS, CoEMP	The NPS Concession Environmental Management Program has emphasized that individuals responsible for purchasing should participate in the EMS. Concessioners have following through by appointing central purchasing representatives to EMS teams.

TRAINING, AWARENESS AND COMPETENCE

ISO 14001 Element

Section 4.4.2 of the ISO 14001 standard requires that the organization must identify training needs. It further requires that all personnel whose work may create a significant impact upon the environment receive the appropriate training. The organization shall further establish and maintain procedures to make its employees at each relevant function and level aware of: the importance of conformance with the environmental policy and procedures and with the requirements of the EMS; the significant environmental impacts, actual or potential, of their

²⁹ Personal communication, R. Guillemin, EPA Region1, November, 2003.

³⁰ Personal communication, H. Fleming, Ft. Lewis, November, 2003.

work activities and the environmental benefit of improved personal performance; their particular roles and responsibilities in achieving conformance including emergency response; and the potential consequences of departure from specified operating procedures. The standard further states that personnel performing the tasks that can cause significant environmental impact shall be competent on the basis of appropriate education, training, and experience.

Federal Facility Examples

Federal agencies traditionally have identified and implemented training to meet regulatory responsibilities. The EMS encourages evaluation of training responsibilities based on employee awareness of the environmental impacts of job performance, as well as knowledge of the organization’s significant impacts and objectives and targets.

Federal Agency/Facility	Training
NASA	Christel Van Arsdale, EMS Manager for NASA’s Ames Research Center says, “We are doing training across the Center to achieve our objectives of improved CPG compliance and promotion of the 100% recycled paper product.” Training is conducted for targeted groups as well as one-on-one with bank card holders. ³¹
USDA, ARS, Beltsville Area	To enforce the Beltsville Agricultural Research Center’s Affirmative Procurement Program, staff developed an online training program. This APP training assures that all BA government purchase card users are aware of and participate in the Program. Names of employees completing the training are monitored by the Safety, Occupational Health and Environmental staff to assure that everyone is “on board.” A manual detailing the program to serve as a reference for decision makers, such as procurement and contracting officials, has been developed and distributed. ³²
EPA Headquarters	To meet the stated goal of buying all office supplies through EPA’s tailored green online ordering system by 2005, EPA Headquarters has provided electronic and face-to-face training on how to use the online ordering system for all EPA credit card holders and office supply purchasers. ³³
EPA, Region 9	The Region 9 Affirmative Procurement Plan states, “The Solid Waste Program will provide training to PMD on environmentally preferable purchasing resources and guides to enable PMD to share research responsibilities beyond the first year of the program. In addition, both PMD Affirmative Procurement Coordinators and Solid Waste Program Staff will attend at least one outside training program on environmentally preferable purchasing annually to learn about new products and procurement practices. The Team will provide training to other procurement staff, purchase card holders, and program staff.” ³⁴
EPA, ESC, Fort Meade, MD	The Environmental Science Center’s Procedure for EPP includes in its scope a statement that “The ESC will train its staff to purchase goods

³¹ Personal communication, Christel Van Arsdale, Ames Research Center, November, 2003.

³² Personal communication, David Prevar, December, 2003.

³³ Personal communication, Holly Elwood, OPPT/EPP, July, 2004.

³⁴ EPA Region 9, Affirmative Procurement Plan. p. 6.

Federal Agency/Facility	Training
	and services that reduce impacts associated with ESC's identified significant environmental aspects. The ESC will communicate specific procedures and requirements to those suppliers and contractors that provide goods and services associated with significant environmental aspects." The Procedure also includes the following training commitment: "Members of the EMS Team will train all ESC staff who make purchases (all types of purchases, including contracts) on this procedure, EPA's EPP Goals, the resources covered in this procedure, and reporting of environmentally-preferable purchases to the EMS Team." ³⁵
DOD, U.S. Army, Fort Lewis, WA	The Fort Lewis Director of Contracting conducts a training course for all individuals designated as purchase card holders. The class includes a section on Affirmative Procurement requirements. ³⁶
DOI, NPS, CoEMP	NPS concession contracts for visitor services, including retail, food and lodging, include a requirement for EMS training. Each concessioner must describe the training program, including staff to be trained, training subjects, including environmentally preferable purchasing, frequency of training and how training will be documented.

COMMUNICATION

ISO 14001 Element

Section 4.4.3 of the ISO 14001 standard requires that: with regard to its environmental aspects and its EMS, the organization shall establish and maintain procedures for internal communication among the various levels and functions of the organization; receiving, documenting, and responding to relevant communication from external interested parties; and that it shall consider processes for external communication of its significant environmental aspects and record its decision.

Federal Facility Examples

Federal Agency/Facility	Communication
EPA Region 9	The Region 9 Affirmative Procurement Plan states: " The Affirmative Procurement Program will be publicized by the Affirmative Procurement Team through EMS, WasteWise, and Pollution Prevention speakers on environmentally preferable purchasing, and through affirmative procurement training for credit card holders and contracting officers. An electronic Affirmative Procurement Annual Report will be provided to the Region, and significant purchases will be publicized in electronic WasteWise Bulletins. Information on environmentally preferable purchasing practices or products tested will be shared by the Affirmative Procurement Team, as appropriate, with EPA headquarters, other EPA regions, and Region 9 stakeholders." ³⁷

³⁵ EPA ESC Draft Procedure ESC-EP08 September 9, 2003. p. 6.

³⁶ Personal communication, Harry Fleming, December, 2003.

³⁷ EPA Region 9, *Affirmative Procurement Plan*, Section III (C), p. 6-7.

Federal Agency/Facility	Communication
DOI, NPS Intermountain Region	The National Park Service Intermountain Region developed a Green Purchasing Program (GPP) based on quantifiable criteria for what a product must be to be “green.” Staff is trained in the use of an internet-based program that lists products that have been screened and organized by category for easy access. Special emphasis is given to GSA, JWOD, and DLA-listed products. The program also provides features for a user to screen new products. ³⁸
DOI, NPS Grand Canyon	At the Grand Canyon, green purchasing was the first initiative selected for implementation by the EMS Team. The Team is developing a pamphlet for park-wide distribution to visitors, staff, employees and concessionaires with information on recycled content products and how they can be purchased. ³⁹
DOI, NPS, CoEMP	NPS concession contracts for visitor services including retail, food and lodging, include a requirement that each concessioner describe how the environmental policy, goals, targets, responsibilities and procedures will be communicated throughout the concessioner’s organization. Each concessioner also must describe and implement a system for reporting environmental information to the Director.
USDA, ARS, Beltsville Area	The Beltsville <i>Guide to Affirmative Procurement</i> describes the promotion program for location employees and potential contractors or vendors: Familiarize all purchasers with APP requirements; Conduct workshops or training sessions to educate employees about their responsibilities under the APP; Distribute APP policies to all organizations along with APP training resources; Publish a list of local vendors of recycled content and biobased products that meet EPA’s CPG requirements or comply with USDA’s biobased product guidance; Publish articles in organizational newsletters; Update local operating instructions to include APP requirements; Seek volunteer organizations for limited trials of new products, get feedback on the cost and performance of the products, and publicize the results location wide; Consider using a facility construction or renovation project as a showcase for recycled-content and biobased building materials; Provide periodic updates through the e-mail system; Recognize outstanding efforts of personnel toward AP. ⁴⁰

DOCUMENT CONTROL

ISO 14001 Element

Section 4.4.5 of the ISO 14001 standard requires that procedures must be established and maintained for controlling documents required by the standard to ensure that: the documents can be located; the documents are periodically reviewed, revised as necessary, and approved for adequacy by the authorized personnel; the current versions of relevant documents are available at all locations where operations essential to the effective functioning of the system are performed; obsolete documents are promptly removed from all points of issue and use, or otherwise assured

³⁸ Personal communication, J.Craig Erickson, November, 2003.

³⁹ Dr. Mary Ann McCloskey, Personal Communication, November, 2003.

⁴⁰ DOI, ARS, Beltsville Area *Guide to Affirmative Procurement*. (January, 2003) Section 2.2.1.2, p. 12.

against unintended use; and any obsolete documents retained for legal and/or knowledge preservation purposes are properly identified.

Federal Facility Examples

This element ensures that documentation, including, for example, product specifications, purchase and contract documents, justification for the purchase of green products and/or lists of green products approved for purchase is readily available to product users and procurement and contracting personnel.

Federal Agency/Facility	Document Control
DOD, U.S. Army, Fort Lewis WA	At Fort Lewis, the EMS Implementation Team placed all EMS documentation, such as plans, manuals, procedures, and forms, onto the Public Works Intranet. No paper copies are maintained, and all changes are updated and communicated automatically. The Document Manager estimates that hundreds of labor hours and reams of paper have been saved through avoidance of annual document updates and changes. This approach has been so successful that other, non-environmental programs have adopted the EMS document control model within their programs.
DOI, NPS, Grand Canyon	Xanterra Parks and Resorts maintains the official copy of its EMS on the Company intranet site. Any paper copies printed from this site are designated unofficial copies.
DOI, NPS, CoEMP	Concession contracts issued by NPS for visitor services include a requirement for an EMS that includes a Document Control and Information Management System. Each concessioner should identify how it will manage environmental information including plans, permits, certifications, reports and correspondence. NPS recommends that concessioners maintain specifications for all products purchased, especially those that are environmentally preferable, and make these specifications readily available to employees responsible for purchasing.

OPERATIONAL CONTROL

ISO 14001 Element

Section 4.4.6 of the ISO 14001 Standard requires that operations and activities associated with the identified significant environmental aspects must be identified in line with policy, objectives, and targets. These operations and activities, including maintenance, must be planned in order to ensure that they are carried out under specified conditions by: establishing and maintaining documented procedures to cover situations where their absence could lead to deviations from the environmental policy and the objectives and targets, stipulating operating criteria in the procedures and establishing and maintaining procedures related to the identifiable significant environmental aspects of goods and services used by the organization, and communicating relevant procedures and requirements to suppliers and contractors.

Federal Facility Examples

Many organizations have established Operational Controls for green purchasing and contracting activities. These procedures include boilerplate contract language and product specifications to ensure that green purchasing activities are implemented.

Federal Agency/Facility	Operational Control
EPA Region 1	EPA Region 1 identified significant aspects including use of resources, use of energy, and air emissions. For three activities, Fleet Management, Environmentally Preferable Electronics and Environmentally Preferable Purchasing, Region 1 has established formal operational controls to ensure green purchasing. The Operational Control Procedure directs Managers to use environmental considerations as the basis for award, as appropriate. Fleet Management staff is directed to “select and procure fleet vehicles based on fuel efficiency, usage requirements and costs and national and regional policies.” Purchasers of electronic equipment are directed to purchase only Energy Star compliant computers and to purchase duplex printers for networks. Paper purchases are limited to 100% recycled content paper for printers and copiers. Recycled paper is required for business cards and name tags and recycled content for plaques and awards. These operational controls ensure that EPA New England’s staff has clear direction on how to carry out green purchasing activities that may control significant aspects and reduce or eliminate environmental impacts. The complete EPA Region 1 Operational Controls Procedure is included in Appendix B .
EPA Region 5	Region 5 established the following requirements for procurement of electronic equipment: Reduction in toxins: (lead, mercury, cadmium, chromium) Postconsumer recycled content Large plastic components are labeled Plastic components are not painted or varnished No mechanical tools are required to remove batteries The use of non-separable connections is minimized Processor can be upgraded Memory can be upgraded Storage devices can be upgraded Spare parts are available for at least 5 years after the end of production Total cost of ownership will be used in the procurement decision
EPA, ESC, Ft. Meade, MD	EPA’s Environmental Science Center at Fort Meade, MD has developed an Operational Control Procedure specific to the process of communicating with suppliers and contractors. The procedure is designed to help ESC staff purchase goods and services that reduce impacts associated with identified significant environmental aspects and to communicate information and/or requirements related to the identifiable significant environmental aspects of goods and services used by the ESC to suppliers and contractors in accordance with the requirements of the ESC Environmental Management System (EMS). ⁴¹ The procedure includes green purchasing criteria for specific products and services. For example, under Janitorial Services, contractors are directed to consult a

⁴¹ Environmental Science Center: ESC-EP08, *Environmentally-Preferable Purchases, Communicating with Suppliers and Contractors*, (DRAFT, September, 2003) p. 1.

Federal Agency/Facility	Operational Control
	<p>variety of resources, including Green Seal’s <i>Choose Green Report</i>, “General Purpose Cleaners,” March 1998, GSA’s <i>Environmental Products and Services Guide</i>: “Cleaning Products” and “Hardware Products: Miscellaneous” sections (and any other applicable sections). In addition, the Facility Manager is directed to consult the <i>Pennsylvania Green Building Operations and Maintenance Manual</i>, “Cleaning Procedures” section to identify additional environmentally-preferable janitorial practices to possibly include as clauses in future ESC janitorial services contracts. This manual incorporates ASTM’s Cleaning Stewardship for Community Buildings Standard.</p> <p>ESC’s procedure also includes the following boiler plate language required in all ESC contracts: “Each company offering a cost proposal should provide information on its environmental management system (EMS) and whether it is an EPA National Environmental Performance Track⁴² member to the ESC. The ESC will use this information as part of its selection criteria.”⁴³ The full text of ESC-EP08, Environmentally-Preferable Purchases, Communicating with Suppliers and Contractors, (DRAFT, September, 2003) may be found in Appendix B.</p>
<p>USDA, ARS, Beltsville Area</p>	<p>The Beltsville Area’s <i>Affirmative Procurement Guide</i> includes the following specific operational controls for procurement:</p> <ul style="list-style-type: none"> ◆ Contracts awarded by executive agencies after September 14, 1998 shall include provisions that obligate the contractor to comply with EO 13101 within the scope of their operations. ◆ When USDA completes the biobased product designation, every designated biobased product that is purchased will automatically become part of this AP program. ◆ If a purchaser finds that a biobased product is more preferable due to environmental attributes, technical performance, or price, it can be selected in place of a similar recycled-content product. ◆ Recycled-content products meeting EPA guidelines will always be purchased unless they are not available competitively within a reasonable period of time; at reasonable prices; or to meet reasonable performance standards in the specifications. A written determination by technical or requirements personnel of the performance standard’s reasonableness must be included with the justification. The technical and requirements personnel must base their determination on National Institute of Standards and Technology (NIST) guidelines, if available. If a product is more expensive, but has non-financial environmental or operational benefits, the purchaser is not required to claim the “reasonable price” exemption.⁴⁴
<p>Department of Defense (DOD)</p>	<p>The has incorporated green purchasing operational controls into contracts for custodial services and O & M as well as Design-Build Task Orders. Custodial contracts include requirements for an environmental stewardship plan, which includes an Affirmative Procurement program for</p>

⁴² EPA’s Performance Track program information <http://www.epa.gov/performance-track/program/ems.htm>

⁴³ *Ibid.*, Attachment 1.

⁴⁴ Beltsville Agricultural Center. *Guide to Affirmative Procurement*. (January, 2003) Section 2.2.1.2, pp. 6–9.

Federal Agency/Facility	Operational Control
	<p>EPP, use of products specified in the Comprehensive Procurement Guidelines (CPG), and a waste minimization and recycling program. The following specific requirements are included: “For the following product types, the Contractor shall use only products with the specified material contents or attributes:</p> <p>(1) Bathroom tissue - The bathroom tissue shall contain at least 100% recovered materials and 50% postconsumer content.</p> <p>(2) Toilet Seat Covers - Toilet seat covers shall contain at least 100% recovered materials and 50% postconsumer content.</p> <p>(3) Paper Towels - The paper towels shall contain at least 100% recovered materials and 40% postconsumer content.</p> <p>(4) General Purpose Industrial Wipes - The general purpose industrial wipes shall contain at least 100% recovered materials and 40% postconsumer content.</p> <p>(5) Plastic trash bags - Plastic trash bags shall contain at least 25% postconsumer content.</p> <p>Waste Collection Carts and Containers. Carts and containers used for the collection and/or storage of waste material shall be of noncombustible or flame resistant construction, shall be constructed of environmentally-preferable materials . . .</p> <p>O & M Contracts include requirements for energy efficiency, conformance to the APP, and meeting the goals and objectives stated in Executive Order 13101. Other contracts include the following language:</p> <p>The Contractor shall integrate the use [of] EPP into the selection process for all materials used in this contract. EPP are products that reduce effects on human health and the environment which consider raw material source, production, manufacturing, packaging, distribution, use of recovered materials, reuse of product, operation, maintenance, disposal, and recyclability. These attributes shall also be balanced with overriding goals of durability, cost effectiveness (based on life cycle cost analysis), and reliability. The Contractor shall comply with requirements of the comprehensive procurement guidelines . . .</p>
<p>DOI, NPS, CoEMP</p>	<p>The NPS Concession Environmental Management Program encourages concessioners to establish, document and maintain and train employees on procedures that should be followed regarding environmentally preferable purchasing.</p>

EMERGENCY PREPAREDNESS AND RESPONSE

ISO 14001 Element

Section 4.4.7 of ISO 14001 requires that an organization establish and maintain procedures to identify the potential for accidents and emergency situations, respond to accidents and emergency situations, and prevent and mitigate any associated environmental impacts. The procedure should be reviewed and revised if necessary, particularly after an occurrence of an accident or emergency situation. The procedure must be tested periodically where practical. This procedure must take into account both normal and abnormal operational conditions.

Federal Facility Examples

Federal Agency/Facility	Emergency Preparedness
USDA ARS Beltsville Area	David Prevar notes that, "On occasion, spills of petroleum products occur, despite our spill prevention plans. When this happens, spill kits that are made of environmentally friendly products are used for cleanup. If a larger spill occurs, environmentally friendly containment and absorbent materials are used. One of the absorbent products used is derived from recycled corn cobs. After use on a spill, the cleanup material, instead of being disposed of as hazardous waste, is picked up by a recycling plant for use as a higher BTU fuel. This is a prime example of how products are chosen for life cycle environmental attributes. Even the Radiation Safety Unit uses a biobased product, for surface contamination cleanups. Environmental preferability is part of the culture at BARC.

MONITORING AND MEASUREMENT

ISO 14001 Element

Section 4.5.1 of the ISO 14001 Standard requires that documented procedures be established and maintained to routinely monitor and measure key characteristics of operations and activities that can have a significant impact on the environment. Information should be recorded to track performance, relevant operational controls, and performance with the objectives and targets. Monitoring equipment must be calibrated, maintained, and records of this process must be retained. Furthermore, a documented procedure for periodically evaluating compliance with relevant environmental requirements must be established and maintained.

Federal agencies are required to submit annual reports on their green purchasing activities as described in the chart, below:

Green Purchasing Reporting Requirements	
Legal Requirement	Reporting Requirements
RCRA Section 6002 EO 13101	Annual report on: Purchases of EPA-designated recycled content products Progress in solid waste prevention, composting, and recycling Progress in purchasing environmentally preferable products Progress in purchasing biobased products other than fuels Policy or procedure for implementation of the Affirmative Procurement Program (APP) APP Training APP compliance audits Agency goals < http://www.ofee.gov/gp/rcra04.pdf >
Energy Policy Act of 1992 (EPAAct)	Annual alternative fuel vehicle (AFV) acquisition report < http://www.eere.energy.gov/vehiclesandfuels/epact/state/reporting.shtml >
Farm Security and Rural Investment Act of 2002	Requirements for reporting on purchases of designated biobased products to be determined
EO 13123	Annual implementation plan, energy scorecard, and energy management data report to the President and Congress < http://www.eere.energy.gov/femp/about/annual_report.cfm >

Federal Facility Examples

Federal Agency/Facility	Monitoring and Measurement
NASA	EMS staff at NASA's Ames Research Center tracks the use of 100% postconsumer, processed chlorine-free paper to measure progress toward achieving their goal of increasing use of this paper to 10% of total office paper purchases.
DOD, U.S. Army, Ft. Lewis WA	At Fort Lewis, when objectives and targets are identified, a set of metrics is also developed to measure achievement of the objective. The Program Team Manager for the objective is responsible for providing quarterly progress reports to the Organizational EMS Representative who then provides the information to Management.
EPA ESC Fort Meade MD	The ESC included the following measurement requirement in their EPP Procedure: Reporting/Measurement of ESC Environmentally-Preferable Purchases - Whenever a purchase of environmentally-preferable goods is made, the amount purchased (not cost data) should be reported to the EMS Team for inclusion in a spreadsheet or database that will keep track of ESC's annual "green" purchases. This information will help EPA determine its progress in meeting its EPP goals and can also be used in ESC's Annual Environmental Report.

<p>EPA Region 9</p>	<p>EPA Region 9's Affirmative Procurement Plan has been incorporated into their EMS. The APP states that PMD Affirmative Procurement Coordinators will have primary responsibility for overseeing program tracking. The Affirmative Procurement Team will be responsible for compiling and summarizing the information in an electronic Affirmative Procurement Annual Report which will include information on: Type of Product, Verified Recycled Content, Other Environmental Attributes, Total Cost, and any Affirmative Procurement Preference Costs. The Annual Report will also summarize the total dollar amount spent on Affirmative Procurement Products and the portion of the Affirmative Procurement Budget spent. The quantity and environmental characteristics of major purchases under this Plan will be tracked for annual reporting purposes. Purchases that go beyond the minimum requirements for environmentally preferable procurements also will also be tracked.</p>
<p>USPS</p>	<p>The Postal Service Northeast Region receives annual reports on purchases of retread tires and re-refined lubricating oil from each Vehicle Maintenance Facility.</p>
<p>DOI, NPS, CoEMP</p>	<p>NPS concession contracts for visitor services such as retail, food and lodging include a requirement that concessioners monitor and measure their environmental purchasing performance against established EMS goals and targets.</p>

NONCONFORMANCE AND CORRECTIVE AND PREVENTIVE ACTION

ISO 14001 Element

Section 4.5.2 ISO of the ISO 14001 Standard requires that an organization establish and maintain procedures for defining responsibility and authority for handling and investigating non-conformances, taking action to mitigate any impact caused and for initiating and completing corrective and preventive action. Any corrective or preventive action taken to eliminate the causes of actual and potential nonconformance shall be appropriate to the magnitude of the problems and commensurate with the environmental impact. The standard further states that the organization must implement and record any changes in the documented procedures resulting from corrective or preventive action.

Federal Facility Examples

Federal Agency/Facility	Nonconformance and Corrective Action
EPA ESC Ft. Meade, MD	EPA’s Environmental Science Center at Ft. Meade, MD has an objective and target for Paper Consumption which states that the ESC will “develop a strategy to reduce paper consumption while increasing the recycled content and the percentage of paper recycled.” During FY03, all of ESC ‘s copy paper was changed from 30% recycled-content to 100% recycled-content, process chlorine free paper. When the switch was first made, departmental representatives communicated many complaints that the paper jammed copiers and printers. In response, staff placed individual logs next to all the copiers and printers and people were asked to document when jams occurred. This data was used in conjunction with a “paper consultant” from Boise Cascade, who was able to work with the individual machine settings to reduce the number of jams experienced by ESC staff. ⁴⁵
DOD, U.S. Army, Ft. Lewis, WA	At Ft. Lewis, during an EMS Internal Audit, document control and operational procedures are reviewed. If an auditor finds that a given documented procedure is not being followed, a Preventive Corrective Action Report (PCAR) is written and the activity not adhering to the procedure has to conduct an investigation and recommend a corrective action. Once the root cause of the problem has been determined and a correction implemented, it is verified by the EMS Representative and the PCAR is closed out. ⁴⁶

⁴⁵ ESC

⁴⁶ H. Fleming, personal communication, November, 2003.

RECORDS

ISO 14001 Element

Section 4.5.3 of ISO 14001 states that procedures must be established and maintained for the identification, maintenance, and disposition of environmental records. The records must include training records, and results of audits and reviews. Records should be legible, identifiable, and easily traceable and protected against damage and loss. Records must be maintained to demonstrate compliance with the requirements of the standard and the EMS.

Federal Agency/Facility	Records
EPA ESC Ft. Meade, MD	ESC included requirements for records management in their Environmentally-Preferable Purchases Procedure. Written communications with ESC suppliers and contractors will be retained in the EMS records. When this procedure is reviewed, records will be maintained on suggested changes, including procedural changes or tools, and why the changes were or were not included. Data on ESC environmentally-preferable purchases also will be retained in the EMS records. ⁴⁷
DOI, NPS, CoEMP	Concession contracts issued by NPS for visitor services, including retail, food and lodging, include a requirement that, as part of their EMS, concessioners identify records maintained to comply with applicable laws and Best Management Practices. These include training records for environmentally preferable purchasing and receipts for purchases of environmentally preferable products.

ENVIRONMENTAL MANAGEMENT SYSTEM AUDITS

ISO 14001 Element

Per the requirements of Section 4.5.4 of ISO 14001, an organization shall establish and maintain a program(s) and procedures for periodic environmental management system audits to be carried out in order to: determine whether or not the EMS conforms to planned arrangements for environmental management, including the requirements of the standard and the EMS documentation; and determine whether the EMS has been properly implemented and maintained and to provide information on audit results to management.

Federal Agency/Facility	EMS Audits
EPA ESC Ft. Meade, MD	ESC includes requirements for annual review in its EPP Procedures. Specifically, the EMS Team will meet to review the procedure and EPA's EPP Goals. The EMS Team will discuss the procedure's effectiveness, whether it should be modified, and whether tools (e.g., web site or forms) should be developed to facilitate environmentally-preferable purchasing at ESC. To

⁴⁷ Environmental Science Center. ESC-EP08, Environmentally-Preferable Purchases, Communicating with Suppliers and Contractors, (DRAFT, September, 2003) p. 8.

	prepare for the discussion, the EMS Team should survey purchasers and meeting planners at the ESC to discuss the effectiveness of the procedure.
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MANAGEMENT REVIEW

ISO 14001 Element

Section 4.6 of ISO 14001 requires that top management periodically review the EMS to ensure its continual suitability, adequacy and effectiveness. The review process must ensure that all necessary information is collected for the evaluation. The review must be documented. The review will address possible needs for changes to the policy, objectives, and the EMS with consideration for EMS audit results, changing circumstances, and the commitment to continual improvement.

SECTION 3: BACKGROUND INFORMATION

GENESIS OF THIS REPORT

This report was developed by the EPA's Environmentally Preferable Purchasing Team in response to requests from, and in partnership with, stakeholders, including EPA's Federal Facilities Enforcement Office, Office of Policy, Economics and Innovation, Design for the Environment (DfE) Program, the White House Office of the Federal Environmental Executive, and several Federal facilities. The report is informed by information from multiple interviews with representatives of Federal facilities whose staff incorporated green purchasing into the elements of their EMS. The [Acknowledgements](#) page provides a list of those individuals whose input, knowledge and experience contributed to the value of this report.

DEFINITIONS AND ACRONYMS

Definitions <http://ceq.eh.doe.gov/nepa/regs/eos/eo13148.html>

Affirmative Procurement	A program to increase green purchasing activities in Federal agencies. AP Programs originally focused on the purchase of products manufactured from recovered/recycled materials; however, AP concepts have expanded to include other environmental considerations.
Biobased product	A commercial or industrial product (other than food or feed) that uses biological products or renewable domestic agricultural (plant, animal, and marine) or forestry materials.
Environmentally Preferable	Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

Acronyms

AFV	Alternate Fuel Vehicle
ARS	Agricultural Research Service
CPG	Comprehensive Procurement Guidelines
DOD	Department of Defense
DOI	Department of the Interior
EMS	Environmental Management Systems
EO	Executive Order
EPA	Environmental Protection Agency
ESC	Environmental Science Center
EPP	Environmentally Preferable Purchasing
FAR	Federal Acquisition Regulation
FEMP	Federal Energy Management Program
FWS	Fish and Wildlife Service
GSA	General Services Administration
ISO	International Organization for Standardization
JWOD	Javits Wagner O'Day Act
OFPP	Office of Federal Procurement Policy
OFEE	Office of the Federal Environmental Executive
NASA	National Aeronautics and Space Administration
NPS	National Park Service
RCRA	Resource Conservation and Recovery Act
RMAN	Recovered Material Advisory Notice
USDA	U.S. Department of Agriculture
USPS	U.S. Postal Service

What Is Green Purchasing?

Green Purchasing refers to the practice of preventing waste and pollution by considering environmental impacts, along with price, performance, and other traditional selection factors, when making purchasing decisions. Green purchasing often is included within the definition of pollution prevention, since the selection and use of green products can reduce both the quantity and toxicity of waste streams. All Federal procurement officials are required by the Federal Acquisition Regulation (FAR and Executive Order (EO)13101, *Greening the Government through Waste Prevention, Recycling and Federal Acquisition*, to assess and give preference to green products and services. Part 23 of the FAR addresses acquisition policies and procedures for protecting and improving the environment by controlling pollution, managing energy and water use in government facilities efficiently, using renewable energy and renewable energy technologies, and acquiring energy- and water-efficient products and services, environmentally preferable products, and products that use recovered materials.⁴⁸

EO 13101 requires agencies to consider the following factors in acquisition planning for all procurements and in the evaluation and award of contracts: “elimination of virgin material requirements; use of biobased products; use of recovered materials; reuse of product; life cycle cost; recyclability; use of environmentally preferable products; waste prevention (including toxicity reduction or elimination); and ultimate disposal.”⁴⁹

Federal green purchasing preference programs are designed to provide agencies with reliable product information to support and encourage their efforts to purchase green products and services. Currently, Federal green purchasing preference programs include:

- ◆ Products manufactured from recovered materials (Recycled content products),
- ◆ Environmentally preferable products
- ◆ Energy efficient products,
- ◆ Biobased products,
- ◆ Alternative fuels and fuel efficient vehicles,
- ◆ Non-ozone depleting substances, and
- ◆ Priority chemicals.

Federal Green Purchasing Program Requirements

To provide additional direction for purchasing decisions, EPA has developed guidance for Green Purchasing.⁵⁰ Section 503 (c) of EO 13101 directs Executive agencies to “use the principles and concepts in the EPA Guidance on Acquisition of Environmentally Preferable Products and Services . . . in identifying and purchasing environmentally preferable products and services” and to “modify their procurement programs as appropriate.”⁵¹ In addition, Section 23.704 of the FAR

⁴⁸ Access the full text of the *Federal Acquisition Regulation* at <http://www.arnet.gov/far/>

⁴⁹ EO 13101, Section 401

⁵⁰ Visit <www.epa.gov/oppt/epp>

⁵¹ Access the text of Executive Order 13101 and the FAR at <<http://www.epa.gov/epp/about/about.htm>>

requires agencies to “affirmatively implement” the objective of “obtaining products and services considered to be environmentally preferable (based on EPA-issued guidance).” EPA’s guiding principles are:

- ◆ Include environmental considerations as part of the normal purchasing process.
- ◆ Emphasize pollution prevention as part of the purchasing process.
- ◆ Examine multiple environmental attributes throughout the product or service’s life cycle.
- ◆ Compare environmental impacts when selecting products and services.
- ◆ Collect accurate and meaningful information about the environmental performance of products and services.

FEDERAL GREEN PURCHASING LEGAL AND OTHER REQUIREMENTS	
Product Category	Legal and Other Requirements
Recycled Content http://www.epa.gov/cpg/about.htm	Section 6002 of the <i>Resource Conservation and Recovery Act (RCRA)</i> ; EO 13101, <i>Greening the Government through Waste Prevention, Recycling and Federal Acquisition</i> ; Federal Acquisition Regulation (FAR), Parts 7, 11, 23.
Environmentally Preferable http://www.epa.gov/epp	EO 13101, <i>Greening the Government through Waste Prevention, Recycling and Federal Acquisition</i> ; FAR, Parts 7, 11, 23.
Energy efficient http://www.energystar.gov http://www.eere.energy.gov/femp/technologies/eeproducts.cfm	EO 13123, <i>Greening the Government through Efficient Energy Management</i> ; Federal Acquisition; Federal Acquisition Regulations (FAR), Part 23; EO 13221, <i>Energy Efficient Standby Power Devices</i>
Biobased http://www.biobased.oce.usda.gov/public/index.cfm	Section 9002 of the <i>2002 Farm Security and Rural Investment Act</i> , EO 13101, <i>Greening the Government through Waste Prevention, Recycling and Federal Acquisition</i>
Alternative fuels Fuel efficiency http://www.eere.energy.gov/vehiclesandfuels/epact/federal/ http://www.eere.energy.gov/EE/transportation.html	Section 303 of <i>The Energy Policy Act of 1992 (EPAct)</i> ; Executive Order 13149, <i>Greening the Government through Federal Fleet and Transportation Efficiency</i>
Non-ozone depleting substances http://www.epa.gov/ozone/snap/general/index.html	Section 613 of the <i>Clean Air Act</i>

Green Purchasing Training Resources

OFEE offers [green purchasing training](#) to contracting, environmental, and facilities staff. The training primarily addresses purchasing of recycled content, biobased, and environmentally preferable products and also touches on purchasing of energy efficient products. It discusses the legal framework underlying the green purchasing programs, the pertinent Federal Acquisition Regulation provisions, the common myths about green purchasing, the specifics of the green purchasing programs, Federal facility green purchasing examples, and product sources, including mandatory sources.

OFEE and the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) developed a green purchasing train-the-trainer program, which has been presented to more than 30 Federal agency environmental and procurement staff. The program consists of a [PowerPoint presentation](#) and an accompanying [script](#). In addition to addressing the units discussed in OFEE's green purchasing training, it discusses the types of training appropriate for different audiences, compliance, program implementation, and goals and metrics.

The Defense Logistics Agency offers *Buying Green: A Multi Functional Approach to Pollution Prevention*. To order the manual or obtain more information on training call (614)692-5969, 1-800-458-7903, or (269) 961-7046 or fax (269) 961-7055.

“*What is Green Purchasing, Anyway?*” is an online training course providing an introduction to the Federal green purchasing program for contracting personnel, purchase card holders, facility and fleet managers. The course is organized into modules and provides examples, resources, and reference web sites. Course duration ranges from 1 ½ hours for purchase card holders to approximately 2 ½ hours for contracting officers and contracting officer representatives. Completion of the course satisfies the Executive Order 13101 requirement that agencies provide training to contracting and program personnel. It is available on the Office of Personnel Management's Gov Online Learning Center located at www.golearn.gov.

To register for the Green purchasing course, log on with your email and password. Next, click on the *Full Catalog* button on the top navigation bar. Click on the *Free Catalog* category and select *Legislatively Mandated and Agency Required Topics*. Choose “*What is Green Purchasing, Anyway?*” (Course ID OPM008) by clicking on its title.

Please contact Dana Arnold at arnold.dana@ofee.gov if you would like to arrange for a green purchasing or train-the-trainer presentation.

For additional green purchasing training resources visit <<http://www.ofee.gov/gp/training.html>>

Green Purchasing Resources

- Environmentally Preferable Purchasing (EPP) information from EPA
<<http://www.epa.gov/epp>>
- EPA's EPP Database - Database of environmental information on products and services
<www.epa.gov/epp/database.htm>
- EPPnet listserv providing subscribers with quick access to information such as: availability of product specifications, vendors of particular products, pricing information, and strategies to achieve procurement goals
<<http://www.nerc.org/eppnet.html>>
- Green Purchasing tools and resources from OFEE
<<http://www.ofee.gov/gp/gp.htm>>
- Searchable database of vendors who sell or distribute CPG-designated products with recycled content.
<<http://www.epa.gov/cpg/database.htm>>
- Biobased Products Purchasing Program (Proposed 2003)
< http://www.biobased.oce.usda.gov/public/about_us.cfm>
- Energy efficient product information from the Federal Energy Management Program (FEMP)
<<http://www.eere.energy.gov/femp/technologies/eeproducts.cfm>>
- Technical assistance from FEMP
<<http://www.eere.energy.gov/femp/services/services.cfm>>
- Draft Federal Guide for Green Construction Specs
<<http://www.wbdg.org/design/index.php?cn=4.3.4&cx=1>>
- EPA's Green Building Site - <<http://www.epa.gov/opptintr/greenbuilding/>>
- EPA Green Meetings
<<http://www.epa.gov/oppt/greenmeetings/>>
- Ocean Blue Foundation for Green Meetings
< <http://bluegreenmeetings.org>>

- EPA's Green Power Partnership - Provides assistance and recognition to organizations that demonstrate environmental leadership by choosing green power.
<<http://www.epa.gov/greenpower/>>
- EPA's Greenscapes - Guidance on environmentally preferable landscaping
<<http://www.epa.gov/epaoswer/non-hw/green/howto.htm>>
- EPA's Smartway Transport Program - challenges companies shipping products and the truck and rail companies delivering these products, to improve the environmental performance of their freight operations.
<<http://www.epa.gov/smartway>>
- Federal Electronics Challenge - a voluntary partnership program that encourages Federal facilities and agencies to purchase greener electronic products, reduce impacts of electronic products during use, and manage obsolete electronics in an environmentally safe way.
<<http://www.federalelectronicchallenge.net/>>
- Significant New Alternative Policy (SNAP) Program
<<http://www.epa.gov/ozone/snap/lists/index.html>>

4. CONCLUSION

The Federal agencies who participated in the development of this report have incorporated green procurement into their EMS policy and procedures. This is appropriate, since procurement and contracting activities are responsible for as much as 25%⁵² of an agency's budget and act as the gatekeeper for products and services that have the potential to contribute to diverse environmental impacts. By using EMS procedures to identify procurement as an environmental aspect and initiate operational controls to address these environmental impacts, agencies can encourage the use of green products and the implementation of sustainable operations.

Thus, the EMS can increase and focus efforts of product users, and the procurement and contracting personnel who support them, to seek out green products and processes that can provide similar or better performance quality than those products or processes currently in use. For example, buying low emissions vehicles to improve air quality, or choosing renewable energy sources to reduce CO2 emissions and their contribution to climate change, or specifying Integrated Pest Management and green landscaping services to reduce the impacts of pesticides and fertilizers on local rivers lakes and streams all can help to reduce a facility's overall environmental impacts. Monitoring and measuring the purchase and use of green products documents progress toward improved environmental performance and facilitates compliance with reporting requirements. Since purchase agreements are of limited duration, expiring contracts can drive a system toward continuous improvement by compelling an organization to consider green purchasing opportunities with each new purchase or contract renewal.⁵³

Patty Wohl of California EPA sums up her agency's experience stating, "During this past year, we have experienced directly how EMS-based management increases the benefits of a green purchasing program by improving regulatory compliance and environmental performance; increasing efficiency; enhancing accountability; reducing costs; and enhancing morale through aligning actions with good intentions and formal commitments."

⁵² Federal Procurement Data System, 2002 Report, < <http://www.fpdc.gov/fpdc/fpr2002.htm> >

⁵³ Personal communication, Rob Guillemin, EPA Region 1, November, 2003.

ACKNOWLEDGMENTS

Development of this module has been a group effort, from beginning to end. The Environmental Protection Agency (EPA) would like to thank all of the agencies and individuals who shared lessons learned during the EMS implementation process, provided examples of successful incorporation of Green Procurement into their EMS, and/or provided valuable editorial comments.

Agencies and individuals whose expertise informed the contents of this report include:

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DISCLAIMER

This report provides an overview of recent Federal government initiatives that incorporate green procurement into an Environmental Management System (EMS). References to specific products and technologies do not constitute endorsement of or recommendation for use of these products by the U.S. Environmental Protection Agency (EPA). This report features representative Federal government activities in green procurement and EMS. It does not represent the efforts of every Federal government agency initiating an EMS and it does not describe every activity initiated by the agencies highlighted.

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Appendix A

Products and Services Purchased at ESC: Implementing Environmentally-Preferable Purchasing (EPP) Draft: 8/26/2003

Type of Purchase	Products and Services Purchased, Value of Products and Services	Current ESC Operational Controls for EPP and Communicating with Contractors and Suppliers	Barriers to EPP and Communicating with Contractors and Suppliers
Bank card purchase (small purchase)	<p>Consumable Lab Supplies (standards, reagents, disposable glassware and plasticware, compressed gases), Lab Systems (equipment calibration services, NIST references, laboratory equipment), Training (health services training), Analytical Services, Office Services (photocopying, labels and tags), Office Supplies (posters, stationery), Boat Supplies, Facility Supplies (hardware, recycling bins), Computer Supplies & Services (software, printers and printer supplies, computer hardware), Information Products (NTIS products), Barcoding Supplies, Travel/Meetings, Safety Supplies</p>	<p>Environmental attributes generally considered on an ad hoc basis.</p> <p>EMS target included strategy for addressing impacts related to paper consumption, which led ESC to purchase 100% recycled-content paper.</p>	Requirement to purchase from a variety of vendors
Purchase requisitions (PR)	<p>OPP: maintenance agreement, equipment, supplies</p> <p>Region III: capital equipment, onsite contractors, library records management, GIS support, COOP contractors</p> <p>Overall Facility: contract based services (performance-based contracts) include ESAT contract, capital equipment, records management, computer support, LAN support, hazardous waste management (EMSI), landscaping/lawn</p>	<p>In its contracts, ESC uses a lot of standard clauses provided by EPA headquarters that covers implementation of the "seegreening" Executive Orders - http://www.fedcenter.gov/programs/</p> <p>Contractor orientation to EMS for contractors working at ESC long-term.</p> <p>Contract for hazardous waste</p>	EMS/#regs

Type of Purchase	Products and Services Purchased, Value of Products and Services	Current ESC Operational Controls for EPP and Communicating with Contractors and Suppliers	Barriers to EPP and Communicating with Contractors and Suppliers
	maintenance, security system, operation & maintenance, janitorial/snow removal, mail, boats, telephone, library services; subcontracts include water conditioning, emergency generator, building automation system, fire sprinkler, fire pumps, BSC system, uninterruptible power supply (UPS), and fume hood certification.	disposal includes EPP language. Next contract for copiers will consider paper reduction benefits of digital copiers.	
Blanket Purchase Agreement (BPA) Note: BPAs are being used less often.	<p>OPP: BPA with Fisher for glassware and gloves, lab consumables (they receive a discount when using the BPA)</p> <p>ASQAB: BPA with Roberts Oxygen for gases and with Sigma-Aldrich (formerly Supelco) for chemical standards, internal standards, surrogate compounds, vials, syringes, etc.</p> <p>Overall Facility: maintenance agreements under BPAs, including those for copiers, fax machines, security systems, and fire systems.</p>		
Miscellaneous Obligation Documents (MODs)	<p>Overall Facility: utility purchases, FedEx, bank card authorizations.</p>		
Reimbursable Work Agreements (RWAs)	<p>Overall Facility: vehicle renting (and associated maintenance) from GSA, providing security services (guards).</p>		
Outside Contracts (B&F, SHEM)	<p>Overall Facility: telecommunications support, voicemail system, Pbranch Xchange, medical monitoring (through an interagency agreement - IAG)</p>		

APPENDIX B : Examples of Agency Procedures

Green Purchasing Operational Controls, EPA Region 1, New England

EPA-NE BOSTON OFFICE ENVIRONMENTAL OPERATING CONTROL

TITLE: Environmentally Preferable Procurement		
Document No: OC-2004-04	Prepared By: Jean Holbrook	Approved By: James Owens, Director OARM
	Date: 9/15/04	Date:

PURPOSE

The purpose of this operational control is to include environmental considerations in procurement decisions at the EPA-NE Boston Office.

POLICY COMMITMENT

- Meet or go beyond compliance with all applicable Federal, State, and local environmental laws and regulations.
- Prevent pollution before it is produced, reduce the amount of waste at our office, re-use and recycle whenever possible, and support pollution prevention by our customers and suppliers.

ACTIVITIES COVERED

General Office Work: Use of: Computers, Printers, faxes and copiers, Office supplies such as cartridges, clips, staplers, etc, Use of Paper; Report Generation; Record and File Storage

OPERATIONAL CONTROLS

1. Paper Procurement
 - a. 100% recycled content paper for printers and copiers (exceeds Federal requirements)
 - b. Recycled paper for business card and name tags (Procured by Purchase card holders)
 - c. Recycled content plaques and awards ((Procured by Purchase card holders)

2. Procurement Practices
 - a. Recycled content for external printing exceeds requirements (procured by Facilities through GPO)
 - b. GSA Advantage Purchasing (assists in identifying EPP products)
 - c. Desktop/Office Supply purchasing consolidated under Facilities for better control and reduced waste
 - d. Utilize FedBizOpps for electronic posting of Requirements and Synopsis (>\$100,000)
 - e. Grant terms and conditions include recycled content and EPP conditions (40 CFR part 30 and 31)

3. Electronics Procurement
 - a. Procurement of Electronic Equipment is described under the Operational Control Environmentally Preferable Electronics

RESPONSIBILITIES:	
Contracts and Procurement	<p><u>Manager:</u></p> <ul style="list-style-type: none"> • Acting as approval official, and overseeing contracting staff assures Purchase Requisitions conform to regulations and Regional policies • Assures Use of credit cards by Purchase Card holders conforms to regulations and Regional policies • Uses environmental considerations as basis for award as appropriate • Provides training and assistance to purchase card holders, which includes Green Purchasing • Encourages use of GSA Advantage paperless/paper minimizing purchasing • Maintains awareness of National and Regional requirements as well as opportunities to exceed requirements through OARM/MCP website, communication with Green Team, and other sources. • Communicates requirements and opportunities to staff. <p><u>Staff:</u></p> <ul style="list-style-type: none"> • Assures Purchase Requisitions conform to regulations and regional policies • Uses environmental considerations as basis for award as appropriate
Facilities	<p><u>Manager:</u> Incorporates national and Regional environmental policies in procurement decisions and oversees and directs staff in activities as follows:</p> <p><u>Customer Service purchasing specialist:</u></p> <ul style="list-style-type: none"> • Uses GSA Advantage • Initiates Purchase Requisitions for all office supplies (including 100% recycled content paper), incorporating national and Regional environmental policies (including EO 13101) • Communicates with Green Team leaders regarding national and Regional requirements as well as opportunities to exceed requirements <p><u>Regional Printing Officer:</u></p> <ul style="list-style-type: none"> • Contracts high volume copying externally through GPO. Reviews requests and classifies as routine copying or specialized. Routine work routed through GPO contract using recycled content paper (currently 80%) • For specialized print requests, jointly with Information Systems Desktop Publishing Team advises requestors regarding product design to optimize product for environmentally preferable production • Initiates Request for Quotation for Specialized print jobs through GPO incorporating environmental considerations • Coordinates with Communication Workgroup as appropriate
Information Services Group	<p><u>Managers of Computing Technology and Information Resources:</u> jointly oversee and direct staff in activities as follows:</p> <ul style="list-style-type: none"> • Technical support to equipment incorporating specialized considerations for use of recycled paper • Desktop Publishing Team assists requestors of specialized print products in product design and advises regarding product design to optimize product for environmentally preferable production; coordinates with Customer Service staff regarding contract requirements for external printing • Support to GSA Advantage paperless/paper-minimizing purchasing as required • <u>IS Staff:</u> Execute assigned job responsibilities consistent with these procedures
Grants Management	<p><u>Manager:</u> Oversees staff in processing grants</p> <p><u>Staff:</u> Includes Recycling and EPP terms and conditions</p>

Office	
Office of Regional Administrator	<p><u>Deputy Regional Administrator</u>: Supports programs Region wide</p> <p><u>Director of Public Affairs</u>: Directs staff in procurement of recycled content awards and plaques</p> <p><u>Staff</u>: Procures recycled content awards and plaques</p>
Other EPA-NE Offices	<p><u>Office Directors</u>: Support programs, ensure employee awareness and use.</p>
Green Team	<p><u>Team Members</u>:</p> <ul style="list-style-type: none"> • Assist in promoting employee awareness • Assist in disseminating Green Purchasing information and opportunities to purchasers, card holders and Contracts and Procurement staff

EPA-NE BEST PRACTICES: Environmentally beneficial practices implemented by individual offices

- Human Resources: Recommends contracted training firms provide any handouts 2-sided

REFERENCE(S): No specific references are defined for this control.

SIGNIFICANT ASPECTS: Use of Resources

MAINTENANCE PLAN(S) FOR THIS OPERATIONAL CONTROL: See Common Requirements for all Operational Controls.

ACTIONS TO BE TAKEN IF CONTROLS FAIL: See Common Requirements for All Operational Controls.

RECORD(S) No specific records are defined for this control.

COMPETENCE OF PERSONNEL RESPONSIBLE TO CARRY OUT THESE PROCEDURES: See Common Requirements for All Operational Controls.

Environmental Management Program, EPA Region 5

Environmental Management Program		
<p>A. Significant Environmental Aspect: Consumption of Toxic and Hazardous Chemical</p>	<p>B.Document Control Code: EMP-77-04-SAE-5A-001</p>	
	<p>C. Date: 11/21/03</p>	
<p>1. Objective (s): Reduce life-cycle environmental impacts associated with purchased office furnishings and equipment.</p>		
<p>2. Target(s): Incorporate “green” specifications into market surveys and bid requirements for electronic equipment purchased post FY 2004.</p>		
<p>3. Reason for Significance (of aspect):</p> <p>Electronic equipment contains toxic substances such as lead, mercury, hexavalent chromium, beryllium, and others.</p> <p>If plastic from electronic equipment is incinerated dioxins can be emitted.</p> <p>Indoor air quality</p> <p>Emission of volatile organic compounds</p>		
<p>4. Potential Environmental/Organizational Impacts:</p>		
<p>5. Legal and Other Requirements (Specify):</p> <p>Comprehensive Procurement Guidelines</p> <p>E.O. 13101</p>		
<p>6. Performance Indicators (measures of achievement):</p> <p>Compare pre FY 2004 bid specifications with post FY 2004 bid specifications.</p>		
<p>7. Program Description:</p> <p>“Green” specifications established for procurement requests include:</p> <p>Reduction in toxins:</p> <ul style="list-style-type: none"> ◆ Lead—purchase FPD versus CRTs ◆ mercury ◆ cadmium ◆ chromium <p>Postconsumer recycled content.</p> <p>Large plastic components are labeled.</p> <p>No mechanical tools are required to remove batteries.</p> <p>The use of non-separable connections is minimized.</p> <p>Plastic components are not painted or varnished.</p> <p>IT representatives (PC Docs) are trained on EPP and availability of “green” characteristics of electronic equipment.</p>		

<p>Include in market surveys information that will identify those products that have received certification by third party eco-label organizations, received a manufacturer's internal self-certification, or have an eco-declaration.</p> <p>Green specifications included in requests for bids from vendors.</p> <p>Quotes received from manufacturers/vendors include products that meet "green" specifications.</p> <p>Total cost of ownership will be used in the procurement decision.</p> <p>The Information Resource Management Steering Committee supports and promotes "green" activities for electronic equipment.</p>	
<p>8. Operational Controls: (see operational controls form, separate page)</p>	
<p>9. Budget (resources): Get information from Information Management Branch.</p>	
<p>10. Structure, Authorities, Responsibilities</p>	
<p>Tasks</p> <p>1. "Green" specifications developed.</p> <p>2. Work w/ electronic equipment manufacturers/vendors to determine availability.</p>	<p>Person Responsible</p> <p>1. Information Management Branch creates "green" specs with assistance from PC Docs.</p> <p>2. IMB/IRMSC works with manufacturers/vendors.</p>
<p>11. Records:</p>	<p>Person Responsible and Record Location:</p>
<p>12. Document(s):</p>	<p>Person Responsible and Record Location:</p>
<p>13. Competence of persons responsible on basis of training, education, or experience:</p>	
<p>Title</p>	<p>Competence</p>
<p>14. Other Program Elements:</p>	

EPA Environmental Science Center, Fort Meade, MD

ESC-EP08.01

Environmental Management System Procedure for:

Environmentally Preferable Purchasing (EPP), Communicating with Suppliers and Contractors

April 10, 2004

Issued by:

EMS Coordinator

ESC-EP08.01 Table of Contents

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1 Purpose

- To help Environmental Science Center staff (ESC) purchase goods and services that reduce impacts associated with ESC's identified significant environmental aspects.
- To communicate information and/or requirements related to the identifiable significant environmental aspects of goods and services used by the ESC to suppliers and contractors in accordance with the requirements of the ESC Environmental Management System (EMS).

2 Scope

The ESC will make available guidance and information on purchasing goods and services that reduce impacts associated with ESC's identified significant environmental aspects. The ESC will communicate specific procedures and requirements to those suppliers and contractors that provide goods and services associated with significant environmental aspects.

3 Definitions

EPP Goals - Environmentally Preferable Purchasing Goals (EPP): Executive Order 13101 mandate to purchase environmentally preferable supplies.

CPG - Comprehensive Procurement Guidelines for buying recycled-content products.

4 Procedure**4.1 Specific Procedure - FOCUS ON EPA's EPP GOALS**

The ESC will initially focus on the goods and services targeted through EPA's Environmentally Preferable Purchasing (EPP) Goals, designed to fulfill the Agency's responsibilities under Executive Order (E.O.) 13101, "Greening the Government through Waste Prevention, Recycling, and Federal Acquisition" These goods and services include building materials and design, janitorial and maintenance services, copy paper and publications, meetings, office supplies, electronics, fleets, landscaping, and power. Fleets and power are not addressed in this procedure because these purchases are coordinated by EPA HQ. (*See Attachment 2 for suggested websites where more information may be found on all of the EPP Goals listed here.*)

Building Materials and Design

The ESC already incorporates many environmentally-preferable building materials and design features, including natural lighting, low-water flush units, variable air volume fume hoods for lab spaces, energy-efficient bulbs, direct

digital control of mechanical systems, and recycled-content construction materials.

For all new construction at ESC, during the planning stages, agency representatives should investigate environmentally-preferable building materials and design strategies by gaining a familiarity with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) Program's Green Building Rating System™ for Existing Building Operations (LEED-EB) (or other applicable LEED standard) and by consulting with the contacts listed for the "Green Buildings" EPA EPP Goals.

Janitorial Services

The ESC currently purchases janitorial and snow removal services through a contract. To address ESC's identified significant environmental aspects, the contract now includes the following:

- a clause requiring the use of and acquisition of environmentally-preferable products and services as required by E.O. 13101 and Title 40 CFR, Part 27.
- a clause calling for the incorporation of integrated pest management (IPM) practices as outlined by the EPA/Army consent decree (December 2000) and associated MOU.
- E.O. 12902 is incorporated into the contract.

In all future contracts for janitorial services, the Facility Manager should incorporate the above clauses, as appropriate. In addition, agency representatives should investigate additional environmentally-preferable janitorial practices and cleaning products to include in the contracts. .

Maintenance Services

Purchases of facility operations and maintenance services for the ESC are made through contracts.

In future contracts, agency representatives should try to identify environmentally-preferable maintenance methods that the ESC could use to help EPA meet its EPP Goals.

Copy Paper and Publications

Facility management staff currently purchase 100-percent postconsumer, processed chlorine-free, recycled-content copy paper for the ESC.

When purchasing printing paper, letterhead, envelopes, color paper, and similar paper products, ESC bank card holders should obtain products that are as close to 100-percent recycled, 50-percent postconsumer content as possible. (See the *Office Supplies* section of this document.)

Meetings

When planning any type of meeting at the ESC, staff should consult EPA's Green Meetings website (see Attachment 2) for ideas and information on conducting an environmentally-preferable meeting.

Office Supplies

ESC bank card purchases of office supplies are to be made using EPA's agency-wide Blanket Purchase Agreement (BPA) green online ordering system, which should be ready in 2004. (See Attachment 2 for the user friendly e-catalog website.) This site makes available most, "green" office supplies, with a special emphasis on products that fulfill both the Comprehensive Procurement Guidelines (CPG) for buying recycled-content products and the Executive Order 13101 mandate to purchase environmentally-preferable supplies.

If office supplies are not available thru the BPA e-catalog, then alternate sources such as the GSA catalog ("green" supplies, preferably) or commercial vendors may be used.

Electronics

Currently, ESC ensures that its purchases of copiers, printers, and personal computers have the Energy Star rating or energy savings sleep mode built in.

ESC will continue to purchase Copiers, printers, and personal computers with the Energy Star rating or energy savings sleep mode built in and will also use these criteria when purchasing televisions and monitors, computer peripherals, audio equipment, VCRs, DVD players, cellular phones, wireless devices, and other types of electronic equipment.

In addition, an MOA between the ESC and the Computer Support Services group has been signed that ensures that all printers purchased for the ESC are to be capable of duplexing, if at all possible. (See Attachment 2 for the ESC EMS website where a copy of the MOA can be found.)

Landscaping

ESC purchases landscaping services through a contract. To address ESC's identified significant environmental aspects, the contract includes the following:

- requirement for IPM.
- requirement for compliance with EC 12856 (1993) Emergency and Community Right-to-Know Act of 1986 and the Pollution Prevention Act of 1990 (42 U.S.C. 13101-13109).
- incorporates the ESC Spill Prevention Plan, ESC Beneficial Landscaping Plan (Master Landscaping Plan), and the Fort Meade Landscaping Design Guidelines (June 1995).

ESC's grounds already include natural landscaping (expanded beyond the original master plan), bayscaping in the remaining area with native plants, sediment control ponds, and afforestation areas maintained per MDE requirements for 3 years after initial disturbance.

For future landscaping contracts, agency representatives should investigate additional environmentally-preferable landscaping methods that ESC could use to help EPA meet its EPP Goals.

4.2 Specific Procedure - BOILERPLATE LANGUAGE IN CONTRACTS

Where appropriate, the ESC will include boilerplate language in all of its contracts for goods and services. The boilerplate language will request information on a supplier's EMS and will note that this information will be used as part of the criteria for ESC's selection of a supplier (see Attachment 1).

4.3 Specific Procedure - EMS AWARENESS

Before onsite contractors, without fixed contracts, are allowed in the building, Facility Management will check to see if their work will be associated with any of the ESC's significant environmental aspects. Once onsite, the contractor is asked to read a fact sheet on the ESC's EMS policies (see attachment 3).

For vendors who supply products where the ESC has no control over their EMS operations, staff is encouraged to choose vendors and suppliers which will help the EPA meet its EPP Goals. One example is the use of the EPA's agency-wide Blanket Purchase Agreement (BPA) green online ordering system

4.4 Specific Procedure - EPP TRAINING

The ESC will make available guidance and information on purchasing goods and services that reduce impacts associated with ESC's identified significant environmental aspects.

4.5 Specific Procedure - REPORTING/MEASUREMENT OF ESC ENVIRONMENTALLY PREFERABLE PURCHASES

The ESC will follow the agency's requirements for reporting EPP purchases.

4.6 Specific Procedure - ANNUAL PROCEDURAL REVIEW

Annually, the EMS Team will meet to review this procedure and EPA's EPP Goals. Specifically, the EMS Team will discuss the procedure's effectiveness, whether it should be modified, and whether tools (e.g., web site or forms) should be developed to facilitate environmentally-preferable purchasing at ESC. To prepare for the discussion, the EMS Team should survey purchasers and meeting planners at the ESC to discuss the effectiveness of the procedure.

Examples of procedural modifications: a) expand the procedure to include additional products and services purchased at ESC (e.g., products associated with chemicals in ESC's TRI report); b) add language that specifies ESC staff are allowed to pay extra for environmentally-preferable products.

Examples of a tools: a) modify the ESC EMS web site to include environmental criteria that ESC staff could consult before making purchases or developing contracts.

4.7 Responsibilities

Individuals responsible for procurement of goods and services within the categories noted above and individuals planning meetings are responsible for ensuring their purchases reduce impacts associated with ESC's identified significant environmental aspects. Individuals identified by EPA as bank card holders will be responsible for reporting their environmentally-preferable purchases to the agency. Before onsite contractors, without fixed contracts, are allowed in the building, Facility Management will check to see if their work will be associated with any of the ESC's significant environmental aspects.

5 Documentation

When this procedure is reviewed, records will be maintained on suggested changes, including procedural changes or tools, and why the changes were or were not included.

Attachment 1 Boilerplate Language for All ESC Contracts

For all contracts, ESC purchasers should include the following boilerplate language:

- Each company offering a cost proposal should provide information on its environmental management system (EMS) (and whether it is an EPA National Environmental Performance Track member) to the ESC. The ESC will use this information as part of its selection criteria.
- ESC expects the contractor to understand and comply with ESC's EMS.

For an example, ESC purchasers are encouraged to review ESC's contract for hazardous waste disposal.

Attachment 2
Suggested Websites

EPP Goals

<http://www.epa.gov/greeningepa/p2/eppgoals.htm>

EPA's Green Meetings

<http://www.epa.gov/oppt/greenmeetings/>

Oceans Blue Foundation for Green Meetings

www.bluegreenmeetings.org

EPA's agency-wide Blanket Purchase Agreement (BPA) green online ordering system

<http://www.epasupplies.com/>

ESC EMS website (includes MOA)

<http://www.epa.gov/region03/esc/ems/index.htm>

Green Seal's *Choose Green Report*, "General Purpose Cleaners," March 1998

http://www.doi.gov/oepc/reports/cgr_clean.pdf

GSA's *Environmental Products and Services Guide*: (CPG Compliant and Other Recycled Content Products)

<http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8207&channelPage=/ep/channel/gsaOverview.jsp&channelId=-12972>

EPA's *CPG Supplier Database*

http://www.ergweb2.com/cpg/user/cpg_search.cfm

Database of Environmental Information for Products and Services

<http://yosemite.epa.gov/oppt/eppstand2.nsf/>

Energy Star web site

www.energystar.gov

Federal Electronics Challenge and Purchasing Guidelines

www.Federalelectronicschallenge.net

US Army Corps of Engineers: EPP Resources Link

<http://www.cecer.army.mil/sustdesign/EPPCleanProd.cfm>

Attachment 3
Fact Sheet for Onsite Contractors (without fixed contracts)

The ESC's Environmental Policy

It is the Environmental Science Center's (ESC) policy to integrate environmental stewardship into all our operations. We manage our organizations and our programs in a manner that protects the environment, the safety of our employees, and public health through our environmental management system (EMS). The EMS is designed to manage the environmental impacts that result from the operations at the facility. All of the operations conducted at this facility are considered within the scope of the EMS. The activities of all of the occupants of the facility are subject to the policies and procedures conform to the international standard ISO 14001 (1996), Environmental Management Systems - Specification With Guidance For Use.

The ESC attempts to prevent pollution before it is produced, reduce the amount of waste at our facility, re-use and recycle whenever possible, and support pollution prevention by our customers and suppliers. **Please consider this policy as you perform your tasks or operations in this facility and help us support our environmental goals.** Thank you!

Objectives and Targets for Electronics, EPA Region 10

Region 10 – Electronics Objectives	Targets	Date	Metric	Resources currently available for target	Additional resource requirements estimated for this task
Regional commitment to reduce electricity use by electronic devices and computers	Policy: Set policy to include energy efficiency as a factor in equipment purchases	Sept 04	policy written & approved	TBD	
Reduce by 25% Electricity Used by Electronic Devices and Computers	<p>Energy Star Equipment</p> <p>Ensure at least 50% of all electrical equipment purchased is Energy Star efficient.</p> <p>Include Energy Star requirements in the special terms and conditions in 30% of all grants and contracts.</p> <p>Make sure the Energy Star Stand-By Power function is enabled in 50% of eligible equipment</p>	<p>July 04</p> <p>Aug 04</p> <p>July 04</p>	<p>Energy Star certification per item</p> <p>Grant policy updated</p> <p>Software function enabled or not</p>	TBD	Data collection
Reduce generation of hazardous waste from batteries in electronic devices	Battery Management: Switch to rechargeable batteries. Monitor recharger(s) and batteries. Properly dispose of batteries via contract with disposal facility.	April 04	Number of batteries used. Records of batteries properly disposed of.	ongoing	
Reduce generation of solid waste by 50% from electronic devices and computer	Toner Cartridges: Recycle 100% toner cartridges via contract with recycling company	Dec 03	Number of cartridges recycled	ongoing	
	End-of-Life Management - Maintain management program to send end-or-life equipment to proper organizations, and when necessary to an approved recycler, demanufacturing or disposal facility.	Jan 04	Records of equipment surplus or sent for recycling/disposal		
	Purchasing: Include environmental factors in determining which electronic equipment to purchase. Purchase eco-labeled products whenever possible	Aug 04	Policy written and approved. Numbers of ecolabeled equipment purchased.		

Reduce generation of hazardous waste from electronic equipment	LCD Replacement: Replace CRTS with LCDs (Liquid Crystal Displays). Determine/make projections on amount of CRTS that can be replaced annually	April 04	Number of CRTs replaced	IRU	NOTE that this plan can only be implemented contingent on funding
	Use a recycling contractor that does not send un-processed, non-reuseable, non-repairable equipment overseas	Jan 04	Contract		
	Conduct annual physical on-site audits of all equipment processing and recycling facilities used	Sept 04	Audit records		

April 10, 2003 Mike Fagan (Initial)

Revised: