

Sustainable Acquisition – East Tennessee Technology Park's EMS Success Story

NNSA Summit
October 22, 2021



East Tennessee Technology Park (ETTP)

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- Historically: Manhattan Project uranium enrichment facilities
 - Produced enriched uranium for 40 years for defense and the commercial nuclear power industry
 - Ceased enrichment operations in 1987
- Contamination remained in buildings, soil, sediment, and groundwater
 - Demolition of all major facilities completed in 2020
 - Remediation and reindustrialization ongoing
- A portion turned over to the National Park Service
 - Manhattan Project National Historical Park
- UCOR, LLC, is the prime cleanup contractor for the DOE Oak Ridge Reservation
 - Adheres to Department of Energy regulations and mandates
 - Internal goals to exceed government regulations/standards wherever possible, reflected in Environmental Management System (EMS)

Completion of ETTP Cleanup

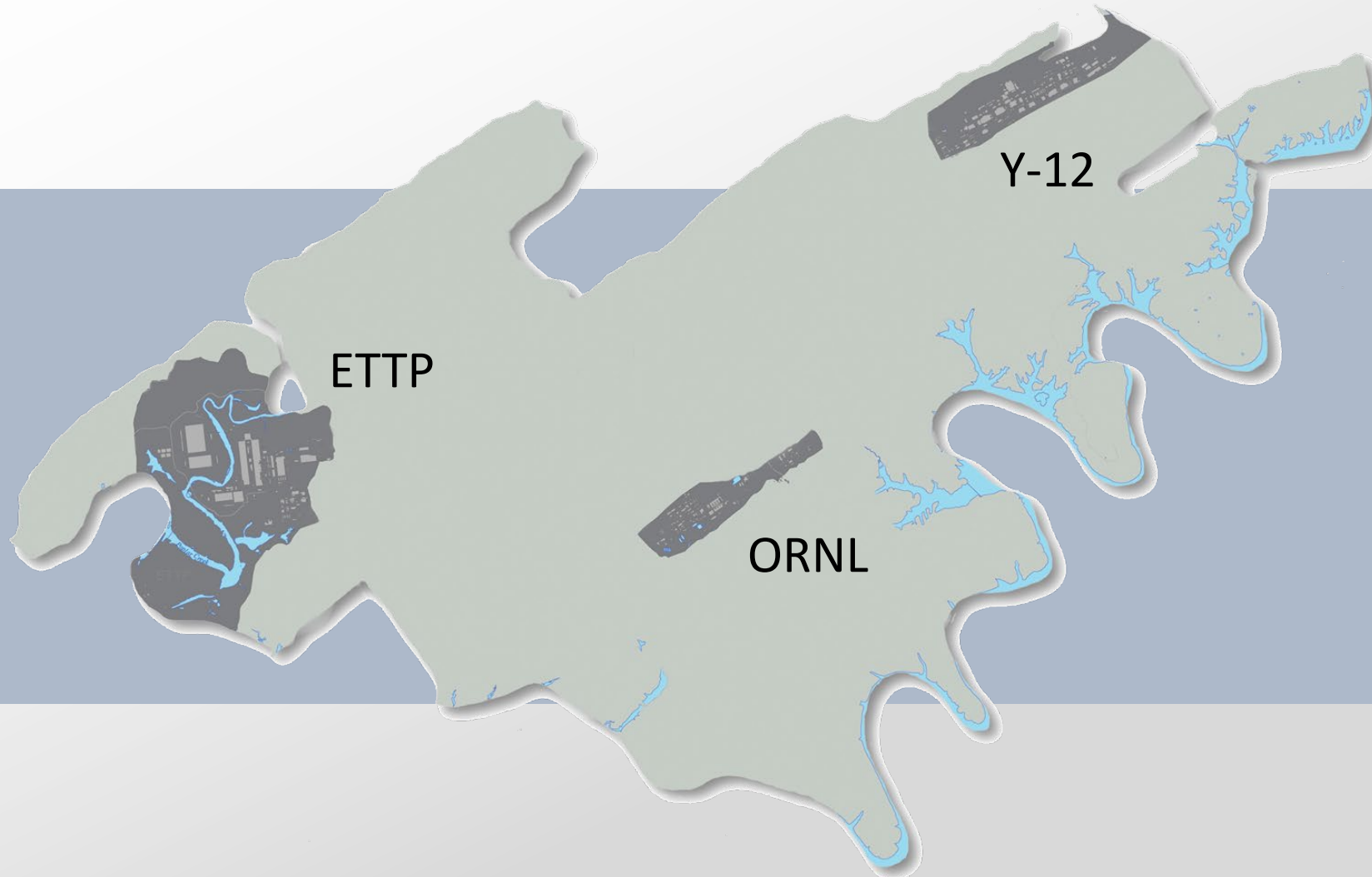
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East Tennessee Technology Park



Oak Ridge Reservation

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ETTP Activities and Services

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- Waste management
- Deactivation and demolition
- General maintenance
- Facility surveillance and maintenance
- DOE reindustrialization support

Mission: Accelerate cleanup and promote economic development by making DOE underutilized assets (e.g., buildings, land, equipment) available to the private sector for the establishment of self sustaining business.



ETTP EMS History

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- EMS implemented under DOE Order 450.1 – **December 2005**
- DOE Order 450.1A issued which required following “framework and elements” of ISO 14001 – **June 2008**
- Gap analysis and formal Implementation Plan submitted to DOE ORO – **November 2008**
- Major revisions made to EMS including environmental policy, procedures, training, and associated documentation – **November 2008 through March 2009**
- Independent Audit of EMS – **March 2009**
- Declaration of conformance to DOE Order 450.1A – **May 2009**
- DOE ORO conducts assessment of EMS – **June 2009**
- DOE ORO declares to DOE HQ that ISO 14001 EMS is fully implemented – **June 2009**
- Conformance declaration every three years with most recent on **July 2021**

- Broad framework for EMS flexibility and inclusion of sustainable acquisition
 - We are committed to incorporating sound environmental management, protection, and sustainability practices in all our work processes and activities through use of an EMS
 - We are committed to continually improve the environmental performance of our operations
 - Our commitment to protect and sustain human, natural, and cultural resources is inherent in our mission to complete environmental cleanup safely with reduced risks to the public, workers, and the environment

Environmental Aspects

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- ETTP significant environmental aspect - Pollution Prevention/ Waste Minimization - is inclusive of sustainable acquisition and affirmative procurement
- Multiple organizations, including procurement and contracting personnel, were involved in initial identification of aspects and impacts
- Compliance with procurement-related Legal & Other Requirements are included in criteria for determining significance

Legal & Other Requirements

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- Include procurement-related executive orders, laws, regulations, Department of Energy plans
 - Matrixed into schedule for EMS assessment planning and Assessment Lines of Inquiry
 - Reported in EMS Management Review



Objectives & Targets

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- Single company-level targets and multiple sets of project-specific environmental targets, with associated environmental management programs for implementation
- Sustainable acquisition in Environmental Objectives and Targets based on commitment to legal and other requirements, significant aspects, mission requirements
- Sustainable acquisition targets focus on
 - Minimizing consumption and making re-use the first source of supply
 - Seeking opportunities for improvement via assessment, oversight, and recognition/awards
 - Company and project communications

Example 1 Company Objectives/Targets

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OBJECTIVES	TARGETS	MANAGEMENT PLANS
2. Reduce or eliminate the acquisition, use, storage, generation and or release of toxic, hazardous, and radioactive materials, waste, and greenhouse gas emissions through acquisition of environmentally preferable products, conduct of operations, pollution prevention, and waste minimization and sustainable practices.	4. Exceed the DOE's fiscal year 2019 electronics stewardship performance measures for electronics: the percentage Electronic Product Environmental Assessment Tool (EPEAT)-registered electronics purchased, the percentage computers and monitors that are power managed, and the percentage electronics responsibly reused or recycled (KW – December 31, 2021)	<ol style="list-style-type: none">1. Purchase 100% of EPEAT Silver or Gold PC, monitors, laptops, and desktop computers and 100% EPEAT or certified Energy Star designation for servers (KW);2. Require useful life of electronic equipment to be at least 5 years, and reuse or recycle 100% of end-of-life electronics (KW);3. Purchase 100% computers and monitors that are power managed (KW);4. Purchase 100% remanufactured toner cartridges (KW).

Example 2 Company Objectives/Targets

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UCOR CY 2021 Company-level EMS Objectives, Targets, and Management Plans

OBJECTIVES	TARGETS	MANAGEMENT PLANS
3. Reduce degradation and depletion of environmental resources and potential impact of climate change through post-consumer material recycling, energy, fuel, and water promotion of renewable energy, and transfer for reuse valuable real estate assets.	9. In FY 2021, reduce and/or displace UCOR electric consumption at the ETTP site by 35% from FY 2020 (MM, September 30, 2021)	<ol style="list-style-type: none">1. Purchase 100% of EPEAT Silber or Gold PC, monitors, laptops, and desktop computers and 100% EPEAT or certified Energy Star designation for servers and televisions (KW, December 31, 2021);2. Relocate a significant number of the UCOR workforce that was residing at ETTP in 2020 to consolidate remaining ETTP staff for energy efficiencies (MM, March 31, 2021);3. Monitor energy sustainability progress and trends quarterly (KC, ongoing);4. Engage UCOR employees through communications to submit innovative pollution prevention / waste minimization project ideas having the potential to improve energy conservation (KC/DB, September 30, 2021).

Example Project Objective/Targets

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UCOR CY 2021 Company-level EMS Objectives, Targets, and Management Plans

OBJECTIVES	TARGETS	MANAGEMENT PLANS
2. Reduce or eliminate the acquisition, use, storage, generation and/or release of toxic, hazardous, and radioactive materials, waste, and greenhouse gas emissions through acquisition of environmentally preferable products, conduct of operations, removal/safe disposition actions, pollution prevention, and waste minimization and sustainable practices.	4. Participate in 2021 P2/Waste Minimization Awards Program (KD, September 30, 2021); 5. Ensure that recycled and/or bio-based products are being used by the project to the extent feasible (RF, December 31, 2021)	4. Submit at least one P2/Waste Minimization Award nomination (KD, September 30, 2021); 5. Evaluate at least one not-previously-purchased environmentally preferable product alternative and mentor project personnel on advantages of the benefits of use (KD, December 31, 2021); 6. Review and approve purchase requisitions to ensure proper bio-based and recycle codes, as appropriate, are applied (RF, December 31, 2021)

Monitoring & Measuring

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- Document green purchasing data to collect and manage the data related to the significant aspect and requirements for reporting
- Monitor, measure, and report purchases of recycled content, bio-based, alternative fuel vehicles, alternative fuels, non-ozone depleting products and other products or services with reduced environmental impact
- Trace EPP product procurement data biannually to assess program effectiveness and ensure accuracy of reporting data
- Perform P2 Program reviews to evaluate opportunities for improvement in sustainable acquisition
- Quantify the positive environmental impacts (reduced solid waste, reduced hazardous waste disposal, reduced energy and water usage, etc.) of individual EPPs and promote prioritization of procurement of highest positive impact product purchases

Affirmative Procurement Systems

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- Affirmative procurement integrated into organization's requisition system
- EPP Quick Reference Sheet lists EPP products routinely purchased
- E-procurement system lists products designated as green to assist requisitioner in searching for appropriate products
- Prioritize procurement of highest positive benefit products and services
 - Include DOE Priority Products List references on UCOR's EPP catalog listing
 - Quantify the positive environmental impacts (reduced solid waste, reduced hazardous waste disposal, reduced energy and water usage, etc.) of individual EPPs on UCOR's EPP catalog listing
- Products assigned codes for entry into e-procurement system and trending
- Environmental team reviews and approves all requisitions
- Procurement procedures include justification for non-green purchases, with scaled approvals based on cost

Website EPP Toolbox

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Environmentally Preferable Purchasing Toolbox

Recycled and Biobased Material Codes

Want step-by-step instructions on how to accurately enter the codes into Puridium? [See here](#)

Listings of categories and items and their recycled and biobased codes for entry on your purchasing documentation. The items are hyperlinked to the EPA Comprehensive Procurement Guidelines.

Recycled/Biobased Content Quick Reference sheet

A list of common office items that meet minimum recycled or biobased content.

EPA's Comprehensive Procurement Guidelines Product Supplier Directory

Search suppliers by category and state.

USDA BioPreferred® Catalog

Search by category and key word.

Energy Star Products

Energy efficient products.

WaterSense Products

Products that conserve water.

EPA's Electronic Product Environmental Assessment Tool (for computers and other electronics) (EPEAT)

An on-line tool to help select and compare various types of computer equipment.

SFTool.ecomedes.com

A streamlined sustainable product procurement tool for buyers, specifiers and vendors, where you can search over 150 categories and subcategories that represent over 5,700 brands and more than 300,000 products.

Products Coded for Procurement System Entry

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Code	Recycled Material Code/Product Description	
000	Not a 40 CFR 247 listed product.	
Construction Products		
100	Cement & Concrete	Containing Coal Fly Ash 0-40% by weight Cenospheres 10% by volume
101	Cement & Concrete	Containing GGBF Slag 25-50% by weight Silica Fume 5-10% dry weight basis
102	Latex Paint	Reprocessed Latex Paint: Consolidated PCRC & TRC 100% White, Off White, Pastels PCRC & TRC 20% Grey, Brown, Earth Tones, & Other Dark Colors PCRC & TRC 50-99%
105	Carpet (Polyester)	Containing Recovered Materials: Polyethylene, Terephthalate, or Resin PCRC

850	Recycled Content Product Not Otherwise Specified	Provide product name/description for your product containing recycled materials and use Code 850. [e.g. Erosion Eel (100% recycled tire content)] ;
880	Energy- and Water-Efficient Products	Energy Star®, FEMP-designated, Water Sense designated items.

Code	Biobased Code/ Product Description	
	Specified %'s for each product is the minimum biobased content requirement.	
000	Not a 7 CFR 3201 listed product (biobased).	
Cleaners/Solvents		
905	Adhesive & Mastic Removers	Removes tapes, glues, and mastics (plant-based esters such as soy and corn alcohol, etc.) (58%)
974	Asphalt and Tar Removers	Cleaning agents designed to remove asphalt or tar from equipment, roads or other surfaces (80%)
924	Bathroom & Spa Cleaners	Products that clean/prevent deposits on either a specific surface

E-Procurement System

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Quantity: 1.00

UM: EA

Unit Cost: 0.00

Extended Cost: 0.00

Commodity: MQBT

Commodity Name:

Bio Based Content Code: 922 ?

Bio Based Compliant?: No

Bio Based Reason:

Procurement Spec:

Submittals/Deliverables (Material Only): ☐ Yes ☐ No

NRTL Category:

Catalog:

Model Number:

Manufacturer:

Acquisition Level: LEVEL_1

Hazardous Material/Chemical:

RMC Code: ?

Other Inspections:

Mark/Tag: No

Line Item Shipping Schedule

There is no shipping schedule for this item.

Inspection	Assigned To.	Assigned Date.	Status.
There are no inspection records for this item.			

EPP Exemption Justification

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- P2 Coordinator approval is also needed for requisitions for products or services
 - \geq \$2500
 - Do not meet minimum requirements for the EPP category
- Exemption Justification Form for Recycled and Bio-based Content Designated Products

Sustainability via Contracts

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- Specify sustainable attributes in applicable product and service contracts via sustainability clauses
- Track and report on the value of those sustainability procurements
- Success Example – Xerox Contract
 - Imaging equipment is not leased; rather pay-by-the-click
 - This fee includes maintenance, toner, paper, etc.
 - Toner cartridges are remanufactured
 - All copiers and printers are Energy Star rated and EPEAT registered products
 - UCOR requested Xerox replace printers that were not Energy Star rated and in compliance with EPEAT
 - UCOR instituted a separate printer Virtual LAN (VLAN) network
 - Established so Xerox could monitor toner, paper, and needed maintenance to efficiently (time, energy, cost) attend to each machine

Electronics Purchasing

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- Desktop computers, notebook computers, computer monitors, televisions, servers, and other electronics are all Energy Star and EPEAT registered products
 - This was an internal goal for UCOR
 - Now UCOR is committed to 100% of electronics purchasing to be energy efficient
 - Ramped up from 10% compliance in 2012 to 100% compliance today
 - ETTP commitment has been recognized with multiple national awards (EPEAT, Green Electronics Council, EPA Federal Electronics Council) every year since 2012.



Electronics Recycling

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- Electronics are first salvaged for reuse
- Sent to Oak Ridge National Laboratory Property Sales
 - Either resold or sent on to an electronics recycler
- All batteries (containing lithium, mercury, silver ion, nickel/cadmium) are recycled through specialized universal waste recyclers



Power Management

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- Replacing noncompliant desktop computers, notebook computers, computer monitors, televisions, servers, and other electronics with Energy Star and EPEAT registered products
 - Generates 1,036,200 kWh less lifetime electricity consumption
 - *Equivalent to powering 82 U.S. houses for one year*
 - Eliminates 176.5 MT lifetime greenhouse gas emissions
 - *Equivalent to taking 127 cars off the road for a year*
 - Saves \$107,016 in costs
- Total cost savings since 2012: Over \$662,900

Internal Awards

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- UCOR P2 / Waste Minimization Internal Recognition Program
 - 8 categories, including the Acquisition and Procurement category, to recognize outstanding achievements by project to reuse and recycle, purchase products that are Energy Star, FEMP-designated, or WaterSense-designated, bio-based or recycled content environmentally preferable products, or non-ozone depleting products, Safety Choice labeled, or fuel efficient products
 - Five awards granted annually to project teams
 - Benefits of the 10 nominated projects in 2021
 - More than 58 MT of GHG emissions eliminated
 - More than 8,600 yd³ of waste avoided
 - 24,870,000 gallons of wastewater generation avoided
 - More than 33,000 miles of travel eliminated
 - An estimated 49,259 work hours saved
 - Over \$5,000,000 of cost avoidance/savings



- Distribute green purchasing awareness information at least once/month in company-wide communications, including company newsletter, safety forums, Plan of the Day notes, monitor messages
- Internal P2 website links to the EPP catalog, exemption form, and tools to identify items with green potential as well as to external sources of information on environmentally preferable products
- External webpage and company social media highlight P2 accomplishments, including sustainable acquisition efforts

Training

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- Video for requisitioners on the use of EPP e-procurement system
- External web-based EPP training opportunities
- EPP highlight tips and guidance routinely created and distributed to requisition team
- EPP requirements, emerging issues, and lessons learned reviewed in team meetings with EPP requisition approvers



Future ETPP Sustainable Acquisition

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- Evaluate opportunities for improvement in alternative fuel and alternative fuel vehicle procurement
- Continue to build data for quantification of positive benefits and prioritization of EPP purchases
- Include site-specific climate mitigation/resiliency measures and social justice considerations in EPP procurement decisions
- Participate in GreenBuy Award program
- Participate in Sustainable Climate Ready Sites Award program

Questions and Contact Information

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- For more information, contact

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On behalf of UCOR, LLC under contract to DOE Oak Ridge Environmental Management at the East Tennessee Technology Park, Oak Ridge National Laboratory, and Y-12 Sites

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