

Office of Resource Conservation and Recovery

FY **2022**
Accomplishments Report



Mission Statement

The mission of the Office of Resource Conservation and Recovery (ORCR) is to protect human health and the environment by promoting the conservation of resources, ensuring proper waste management, preventing harmful exposure, and overseeing the cleanup of land for productive use. We do this by establishing and implementing regulatory standards, incentive-based programs, and best practices in collaboration with communities, governments, businesses, and other organizations. ORCR implements the [Resource Conservation and Recovery Act \(RCRA\)](#).



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Director's Message

Dear colleagues and friends of the Office of Resource Conservation and Recovery,

This year was one of our busiest, and ORCR worked collaboratively alongside tribes, states, regions, other EPA offices, other federal agencies, and many external stakeholders! Without everyone's important contributions, we could not do the work necessary to protect human health and our natural resources.



FY22 was filled with many large accomplishments as well as new exciting initiatives! Our accomplishments included HOW we did our work, as well as WHAT programmatic goals we accomplished.

In the "HOW" category, here are some examples: After a couple years of COVID driven telework, we transitioned back to coming into the office, and moved from our former location in Virginia into EPA's historic buildings in Washington, DC. It was lovely to see friendly faces in-person again! EPA also created a new policy to allow staff with appropriate portfolios to apply for and be approved to work fully remotely, and at this time, about 20% of ORCR's workforce is fully remote! We held webinars and trainings to raise awareness among and seek input from partners who provided meaningful insight into our work. This input helped us tailor grant programs, develop strategies, influence compliance policies, bolster existing initiatives, and delve into new avenues of research. In our perpetual effort to have good data drive our programs, we continued to analyze current data and to create new data. We improved our communication techniques to ensure our messages reach the largest audience possible.

In the "WHAT" category, here are some examples: We developed completely new programs to improve recycling through creating strategies and implementing new grant programs. We're advancing the cleanup of and ongoing waste management on tribal lands. We are proving that corrective action redevelopment comes with multiple economic benefits. We are moving forward on multiple fronts at once to address decades of coal ash contamination. We met with many community representatives concerned with waste management issues, and we initiated several efforts to integrate environmental justice into all the work that we do.

I cannot capture in this short message everything we accomplished this year, but lucky for you, there are descriptions of our many accomplishments on the following pages. I hope you enjoy reading them!

As I reflect on the achievements of the past year, I am struck by the fact that so many of the environmental issues we are working to remedy are the result of historic behaviors and practices that created enormous challenges, and thankfully we are also working to prevent these kinds of behaviors and practices in the future. An ounce of prevention truly is worth a pound of cure in our field of work! We are striving to build a circular economy for all, to transform mindsets of communities and companies in the U.S. and around the world to: reduce the generation of waste, to switch to less impactful substances, to reuse and recycle what can't be reduced, to improve how we handle and dispose of wastes, to clean up contamination; and to do all that with a unwavering focus on the communities most impacted by waste management practices. We are truly changing the world for the better! Working together, we will continue with our office's mission to promote resource conservation, ensure proper waste management, prevent harmful exposure, and clean up land for productive use. I look forward to seeing what we accomplish this coming year!

Sincerely,

Carolyn Hoskinson



Executive Summary

Ensuring Proper Waste Management through e-Manifest

EPA's Office of Resource Conservation and Recovery (ORCR) has continued to improve data quality in the e-Manifest system and increase the number of users registered for e-Manifest. At the end of FY22, we added new e-Manifest system functionality, allowing regulators to request specific corrections from hazardous waste generators, transporters, and receiving facilities. Based on data we provided, the EPA Paper Processing Center (PPC) corrected over 200,000 manifests. Additionally, we began conceptualizing a "Roadmap to 100% Electronic Manifests," incentivizing partners toward adopting fully electronic documentation and reporting of manifests. We appointed six new and two former members to the Hazardous Waste e-Manifest System Advisory Board.

Providing Financial Support to Tribes

In collaboration with the American Indian Environmental Office (AIEO), ORCR funded about \$600,000 worth of projects aimed at implementing hazardous waste programs. We also initiated a new solid waste grant program in FY22 to provide financial support to tribal governments, tribal consortia, and other entities for proper solid waste management in Indian country. We received 18 strong proposals and expect to award seven to nine in FY23. In FY22, we led 11 webinars with topics ranging from recycling to developing waste codes and ordinances – totaling nearly 1,000 participants.



Issued Memorandum on the Open Burning and Open Detonation of Waste Explosives Under RCRA



In June 2022, in response to concerns raised by states and environmental and community groups, we issued a [memorandum](#) to communicate existing requirements and provide guidance to EPA regions, states, and territories for permitting open burn/open detonation (OB/OD) units under RCRA. We made clear that under the existing regulatory requirements, OB/OD facilities must evaluate – and re-evaluate—whether safe alternative technologies are able to treat their waste explosives. In addition, we provided implementation support and technical assistance to regions and states for several OB/OD facilities, including Clean Harbors Colfax in Louisiana, Holston Army Ammunition Plant in Tennessee, Indian Head Naval Surface Warfare Center in Maryland, and Andersen Air Force Base in Guam.

Engaged with Many Diverse Groups to Launch New Recycling and Infrastructure Work

The 2021 Bipartisan Infrastructure Law provides EPA with immense federal funding to develop and implement new initiatives to support communities and spur industry toward creating a circular economy for all. This funding supports implementation of EPA's Circular Economy Strategy Series and the Solid Waste Infrastructure for Recycling grant program authorized under the Save Our Seas 2.0 Act. The Bipartisan Infrastructure Law also authorizes a new Recycling Education and Outreach grant program, as well as Battery Collection Best Practices and Labeling Guidelines. We are now designing new grant programs and battery guidelines with meaningful input from a wide range of groups.



Cleaning Up Contaminated RCRA Facilities

ORCR led the national RCRA Corrective Action Program in directing and overseeing owner and operator cleanups at RCRA hazardous waste treatment, storage, and disposal facilities. In FY22, EPA continued to focus on groundwater assessment and cleanup, data management improvements, management of remediation waste, public participation in cleanups, as well as Ready for Anticipated Use (RAU) implementation. RCRA facility cleanups reduce risks to and help support redevelopment of surrounding communities.

In FY22, the Corrective Action Program made significant progress on the RCRA RAU Long-Term Performance Goal outlined in "EPA's FY22 – FY26 Strategic Plan." The five-year goal is to make 425 more RCRA corrective action facilities RAU-compliant by September 30, 2026. This year, the program surpassed its annual goal of 114 facilities and achieved RAU compliance at 124 facilities.



Published Part One of the Circular Economy Strategy Series

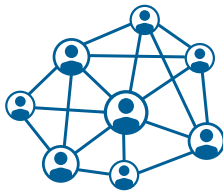
The Circular Economy Strategy Series outlines a transformative 10-year vision that embraces circularity and sustainable materials management and addresses climate change and environmental justice. EPA launched the National Recycling Strategy, the first part of the series, on the same day that President Biden signed the Bipartisan Infrastructure Law: November 15, 2021, America Recycles Day. The National Recycling Strategy—published in English and Spanish—highlights the actions needed from governments, industry, and others to modernize our recycling and waste management system.

Eighteen actions identified in the strategy are underway; 13 of which are EPA-led. Actions include creating a national map of existing recycling infrastructure, conducting a financial needs assessment related to recycling infrastructure in the United States, researching domestic and international circular economy policies, providing grants to support community recycling programs, and developing a recycling measurement guide for state, local, and tribal governments.



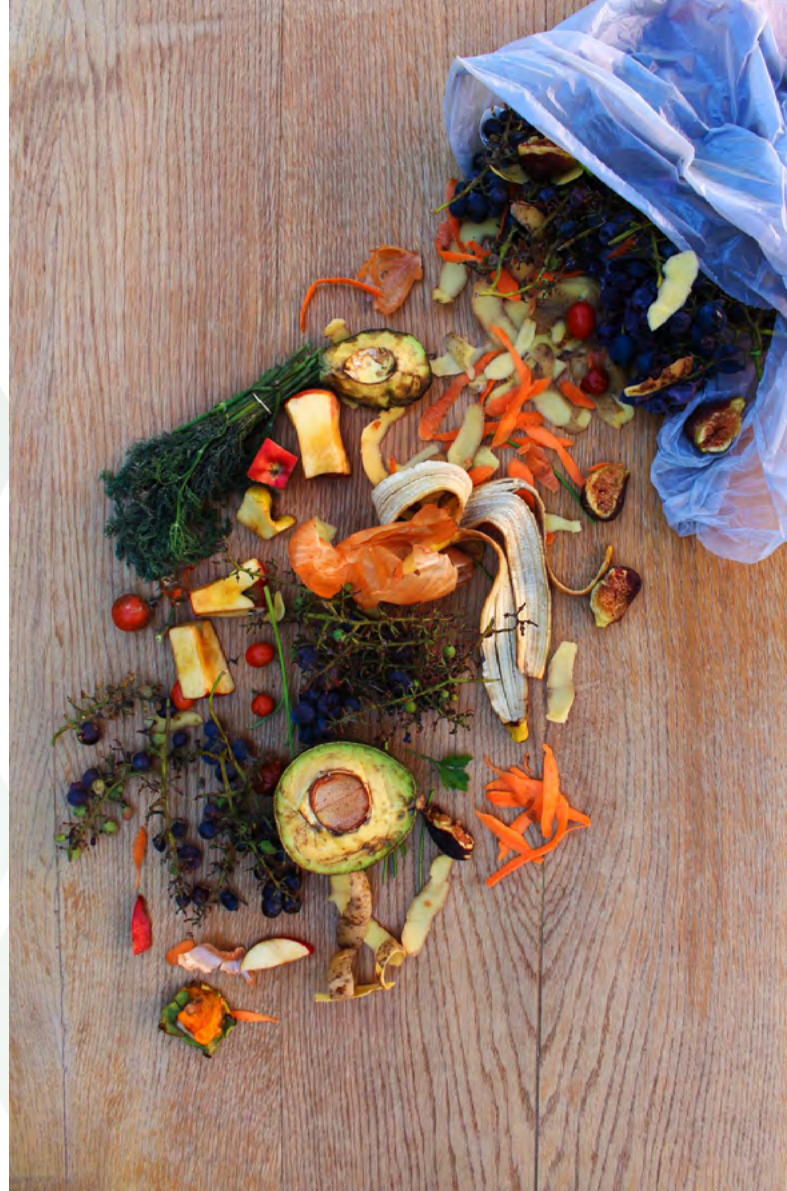
2,008
ENTITIES

requested updates about
National Recycling Strategy
activities and accomplishments



4,719

participants representing states, Tribal Nations,
local government, nongovernmental organizations,
and industry reached through meetings



Reducing Food Loss and Waste

In the Fall of 2021, we updated our interpretation of the 2030 food loss and waste reduction goal to align with the United Nations Sustainable Development Goal Target 12.3: cutting in half the amount of food leaving the human food supply chain. This replaced the original interpretation that aimed to cut in half the amount of food going to landfills and combustion facilities. In late 2021, ORCR and Office of Research and Development (ORD) held a meeting with state and local governments, nongovernmental organizations, industry, and academic partners to solicit input on 1) key actions EPA could take to help the U.S. achieve the 2030 Food Loss and Waste Reduction Goal and 2) research needs to help inform ORD's research planning. In early 2022, we announced the selection of 11 organizations to receive two million dollars to expand anaerobic digester capacity nationwide.

Creating Resilient Communities through All Hazards Waste Management Planning Tool Update

On August 10, 2022, ORCR publicly launched the latest version of our All Hazards Waste Management Planning (WMP) Tool (wasteplan.epa.gov). Using this tool, communities can enter information and obtain input on what waste streams they can expect after a disaster, and where these wastes can be managed. This is for both man-made disasters (i.e., chemical, biological, radiological) or natural (i.e., hurricane, tornado, flood). Waste management is an area of disaster response that can easily be overlooked until the community is faced with large debris piles after one occurs.

The tool also provides a platform for recording information like what sampling and analysis of the wastes may be required, waste management strategies, staging area locations, transportation issues, waste tracking and reporting, as well as community outreach and resource needs.



Developed Water Reuse Action Plan Sewer Ban Fact Sheets

As part of our participation in the “Water Reuse Action Plan,” we developed two fact sheets about the prohibition on disposing of hazardous waste pharmaceuticals down the drain by flushing or pouring down a sink. This prohibition, a component of the [2019 Hazardous Waste Pharmaceuticals Rule](#), is often referred to as the “sewer ban” and affects healthcare facilities and reverse distributors of all sizes in all states, territories, and Indian country. EPA wrote the first fact sheet as an [introductory fact sheet](#) for a broad audience. EPA wrote the [second fact sheet](#) for operators of publicly owned treatment works. Both fact sheets included questions and answers about the sewer ban.

EPA EPA'S BAN ON SEWERING PHARMACEUTICALS INTRODUCTORY FACT SHEET¹

Effective on August 21, 2019, EPA prohibited all healthcare facilities and reverse distributors from disposing of their hazardous waste pharmaceuticals down the drain (e.g., no flushing or pouring down a sink). This “[sewer ban](#)” is in effect at healthcare facilities and reverse distributors of all sizes in all states, territories, and Indian country. In addition to the sewer ban, EPA strongly discourages the sewer²ing of [any](#) pharmaceutical, with very few exceptions, by residents or by any type of facility.

What facilities are considered healthcare facilities that must comply with the sewer ban?

The definition of healthcare facility is very broad (see [Title 40 of the Code of Federal Regulations \(CFR\) section 266.500](#)). It includes:

1. Locations that are **typically referred to as healthcare facilities**, including hospitals, psychiatric hospitals, ambulatory surgical centers, health clinics, physicians' offices, optical and dental providers, chiropractors, long-term care facilities, ambulance services, etc.
2. Locations that provide **animal care**, such as veterinary clinics and veterinary hospitals.
3. Locations **not typically referred to as healthcare facilities**, such as pharmacies (retail pharmacies, mail-order pharmacies, long-term care pharmacies), retailers of pharmaceuticals (including retail vape shops), wholesale distributors, third-party logistics providers that serve as forward distributors, and military medical logistics facilities.



¹ The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

Published Drum Reconditioner Damage Case Report

On September 8, 2022, we published a [Drum Reconditioner Damage Case Report](#) that examines documented instances where incidents at drum reconditioning facilities caused significant and lasting damage to human health and the environment. **Of the total 181 drum reconditioning facilities identified by EPA, 86 had one or more reported damage cases, representing 47.5 percent of the industry.** Damages include fires; drum explosions; hazardous waste spills; improper storage of drums; employee injuries; air, water, or soil contamination; and various combinations of these incidents. This report also analyzes the regulatory and waste issues surrounding drum reconditioning facilities. Finally, this report notifies the public of the issue and engages interested parties early in the process of addressing these issues, particularly on methods to prevent future damage to human health and the environment from drum reconditioners.



Took Key Steps to Protect Groundwater from Coal Ash Contamination

This year, we took several actions to protect communities and hold facilities accountable for controlling and cleaning up the contamination created by decades of coal ash disposal. Coal combustion residuals (CCR or coal ash), a byproduct of burning coal in coal-fired power plants, contains contaminants like mercury, cadmium, and arsenic that without proper management can pollute waterways, groundwater, drinking water, and the air.

These actions advance the Agency's commitment to protecting groundwater from coal ash contamination and include: proposing decisions on requests for extensions to the current deadline for initiating closure of unlined CCR surface impoundments; putting several facilities on notice about their obligations to comply with CCR regulations; and describing future regulatory actions to ensure coal ash impoundments meet strong environmental and safety standards. EPA is committed to working with states to ensure robust protections for communities.



Published New Modules to Accompany Solid Waste Management Toolkit for Developing Countries

In FY22, we released a series of nine new online learning modules to accompany [EPA's Best Practices for Solid Waste Management: A Guide for Developing Countries](#). The new modules offer users an interactive way to explore specific solid waste management topics from this guide at their own pace.

The guide and modules present local and state decisionmakers in developing countries with best practices, information, and resources to address solid waste management challenges in their communities. ORCR's Solid Waste Management toolkit provides a comprehensive "one-stop shop" for decisionmakers, combining a guide document and interactive modules with electronic links to detailed information on critical solid waste management topics.

The guide is also available in Spanish and French with additional languages being added in FY23.



Want to learn about proper waste management from around the world?

Access EPA's online learning modules: Best Practices for Solid Waste Management



Working on the Safe International Management of Waste

We coordinated with a variety of U.S. constituents and other federal agencies to successfully represent U.S. interests at several Basel Convention meetings in FY22, including the Basel Convention's Conference of the Parties. Here countries decided they would control exports and imports of hazardous and non-hazardous electrical and electronic waste starting in January 2025.



ORCR aided in the development of technical guidelines on the environmentally sound management of plastic scrap and waste. Countries are eager to help inform negotiations to establish a global agreement to address plastic pollution in the coming years.

Despite the U.S. not yet ratifying the Convention, it offers an opportunity to help ensure the environmentally sound management of recycled materials traded with other countries. This would strengthen markets and facilitate more circular approaches to critical materials. For these reasons, EPA identified strengthening U.S. participation in the Basel Convention in the [National Recycling Strategy](#) published in November 2021.



A vertical photograph showing a yellow bulldozer with a large black blade, positioned on a massive pile of unsorted waste. The waste includes plastic bags, cardboard boxes, and other debris. The sky is overcast with soft, diffused light. The bulldozer is facing away from the camera, pushing the waste.

Using Data and Systems to Ensure Proper Waste Management

Published the e-Manifest Third Rule

[e-Manifest](#) facilitates the electronic transmission of the uniform manifest form, which accompanies shipments of hazardous waste. In FY22, ORCR published a Notice of Proposed Rulemaking (NPRM) in the “Federal Register.” In this proposed action, EPA considers how to incorporate hazardous waste export manifests and other manifest-related reports into the e-Manifest system. In addition, the NPRM proposes revisions to export and import shipment manifest and movement document requirements, including various aspects of the manifest form. Finally, the rule proposes several technical and conforming revisions, including changes related to manifesting polychlorinated biphenyl (PCB) waste. Learn more on [EPA’s Integrating e-Manifest with Exports and Other Manifest-Related Reports, PCB Manifest Amendments, and Technical Corrections](#) page.

Appointed New e-Manifest Advisory Board

On July 27, 2022, EPA appointed six new members to serve on the Hazardous Waste Electronic Manifest (e-Manifest) System Advisory Board. Additionally, two members were reappointed. Along with the Board chairperson (the EPA Administrator or his designee), these individuals comprise the nine-member e-Manifest Advisory Board.

Members of the e-Manifest Advisory Board generally serve terms of three years and provide recommendations on matters related to the operational activities, functions, policies, and regulations for the e-Manifest system. The selected experts ensure a diversity of geographic, economic, and cultural perspectives, and include the information technology sector, state agencies, and the regulated industry.





Continued e-Manifest Implementation and Outreach Through Over 50 Meetings

ORCR continued to maintain robust implementation and outreach efforts to e-Manifest users and constituents. In FY22, we continued to hold monthly public webinars and user calls focused on the implementation of the e-Manifest system. In total, ORCR held **over 50 user engagement meetings** this fiscal year. These outreach sessions with partners allowed state and industry users to test and provide valuable input on current and future system functionality. Frequent collaboration with information technology counterparts has given both industry and EPA invaluable feedback. This has afforded the Agency considerable buy-in from partners.

In Fall 2021, EPA hosted two virtual public meetings to discuss how to increase adoption of electronic manifests and solicit feedback from participants. The purpose of these public meetings was to increase adoption of electronic manifests, specifically discussing:

- Current electronic manifest functionality and workflow.
- Potential option allowing users to upload electronic signatures to EPA.
- Other potential options, including those that may require policy or regulatory changes.

EPA used these sessions to develop materials to discuss with the Advisory Board and public in a meeting scheduled for early FY23.

As discussed below, we also provided direct engagement and assistance to e-Manifest users in the system – responding to and resolving **nearly 1300 help desk tickets**. These tickets ranged from questions about account management to highly complex Resource Conservation and Recovery Act (RCRA) policy questions. ORCR also completed a refresh of its Site Manager fact sheet in May 2022 to reflect updates and respond to frequent questions such as how to best manage users and using the new “Quick Sign” feature.

Increased e-Manifest Data Quality and User Registration

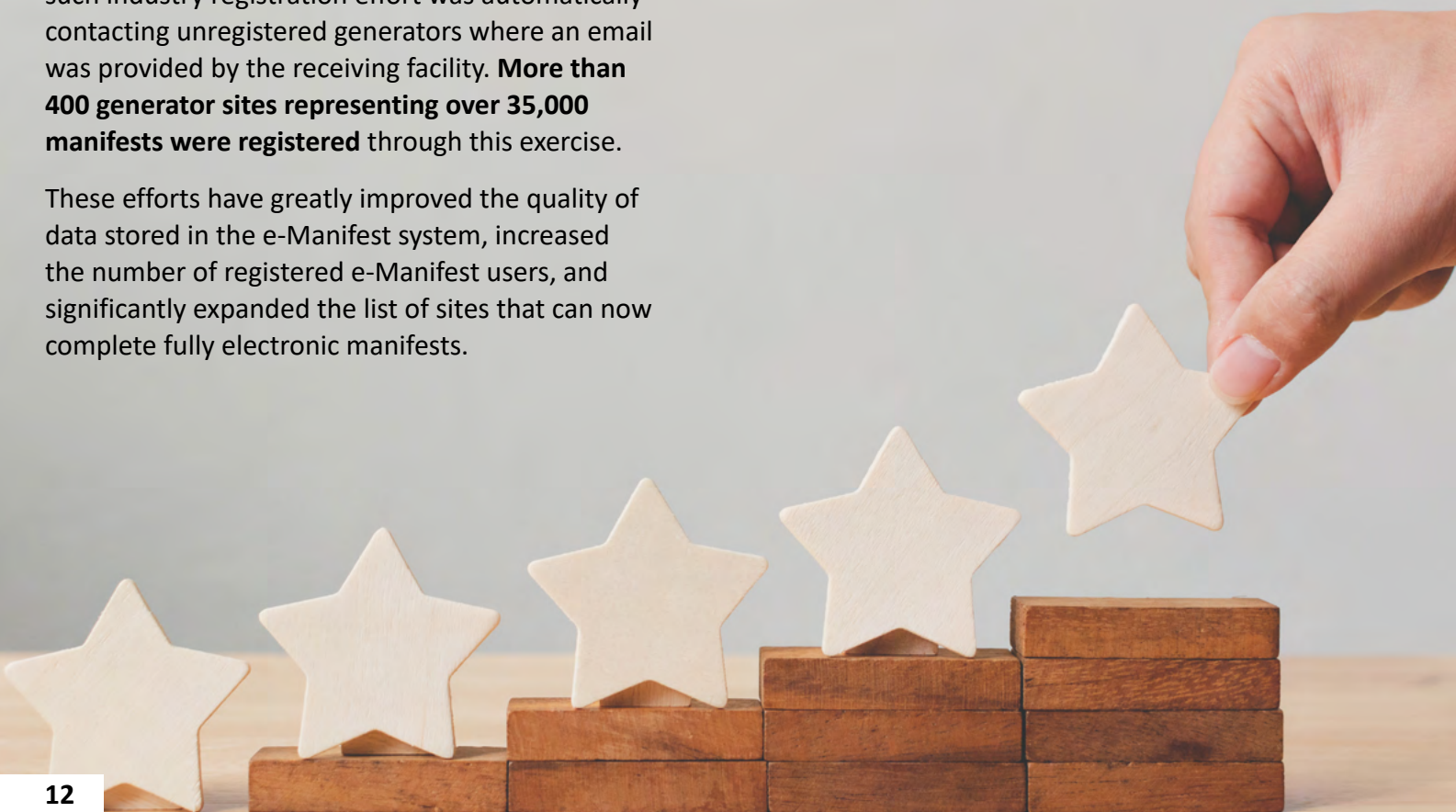
We continued to improve data quality in the e-Manifest system and increase the number of users registered for e-Manifest. In cooperation with our regions and state personnel, the e-Manifest data quality team completed several targeted outreach efforts to request corrections of inaccurate data uploaded to e-Manifest. Based on data provided by ORCR, the EPA Paper Processing Center (PPC) also began correcting manifests where the generator identification information was not uploaded accurately, **Correcting more than 200,000 manifests in FY22**. ORCR also released new e-Manifest system functionality at the end of FY22 that allows regulators to request specific corrections from hazardous waste generators, transporters, and receiving facilities.

User registration is a priority for ORCR. Increased user registration leads to improved manifest data quality and supports wider use of electronic manifests. ORCR industry registration efforts in FY22 resulted in **users at more than 16,000 generator sites signing up for e-Manifest access, which represent more than 400,000 manifests**. One such industry registration effort was automatically contacting unregistered generators where an email was provided by the receiving facility. **More than 400 generator sites representing over 35,000 manifests were registered** through this exercise.

These efforts have greatly improved the quality of data stored in the e-Manifest system, increased the number of registered e-Manifest users, and significantly expanded the list of sites that can now complete fully electronic manifests.

Roadmap to 100% Electronic Manifests - Virtual e-Manifest Advisory Board Meeting

During FY22, the ORCR e-Manifest Team completed a Background White Paper and Charge Questions as well as all other preparatory steps to convene the e-Manifest Advisory Board for a virtual public meeting on October 4-6, 2022. The purpose of the meeting was for EPA to seek the Board's consultation and recommendations regarding the e-Manifest system. As described above, the meeting theme was "*Roadmap to 100% Electronic Manifests*" and followed ORCR's public meetings, held in October and November 2021. ORCR used input from those meetings to develop policy and technical solutions to present to the Advisory Board for their input at the October 2022 Advisory Board meeting.



Improved e-Manifest Information Technology System

ORCR regularly develops additional information technology (IT) functionality for the e-Manifest system to improve user experience and increase system performance. In FY22, we **released 15 new groups of features**, as well as updated the underlying database technology to increase the speed and performance of the e-Manifest application.

To increase data quality and handler compliance, ORCR developed a feature for regulatory users to request corrections to manifests in RCRAInfo. This feature allows EPA and state partners to directly contact manifest handlers with specific issues and track completion status. In addition, we released functionality for the PPC to find, prioritize, and correct manifests. Industry and state users will also receive additional reports to track manifests in the correction process as well as tell who has changed manifests and when.

ORCR released a feature to allow Treatment, Storage, and Disposal Facilities (TSDFs) to email unregistered users using generator site information included on manifests. This new functionality also invites generator users to register with the system. As part of ORCR user registration efforts, these emails were then used to automatically assist generators with signing up for e-Manifest, resulting in **more than 400 new registered sites**.

We also integrated e-Manifest with the EPA accounting system managed by the Office of the Chief Financial Officer in FY22. This integration resolved a previous program audit finding and made financial management more efficient, increasing the ORCR staff time available to support users. In addition, ORCR was given new requirements via the Office of General Counsel on how to properly invoice various types of government facilities. In addition, the team delivered functionality to improve the look and clarity of information on invoices; assist the finance team in invoice corrections; correct electronic manifests; and provide industry additional system-to-system tools to interface their billing systems with e-Manifest.





Launched RCRAInfo Waste Import Export Tracking System Module and Trilateral Data Exchange

In January 2022, we launched the Waste Import Export Tracking System (WIETS) module in RCRAInfo. This effort modernized the old WIETS software, and its integration into RCRAInfo provides both EPA and industry users numerous benefits. Industry users can now use their existing accounts in the RCRAInfo Industry application (that are also used for Biennial Report and e-Manifest activities) to submit notices for their exporter sites. As a module within RCRAInfo, real-time access to RCRA registration data, such as handler activity information, streamlines the data collection process. This also improves the ability to validate submission data prior to signature. This reduces the times a submission is rejected due to the notice information mis-matching the site's registration information. **To date, over 2,000 notices have been received in the new system. This includes 1400 notices submitted by industry users from over 240 different exporters.**

We reached a significant milestone this year when the notice-data exchange with Mexico went live using the new Application Programming Interface (API) for electronically transmitting notice and consent between countries. This new data exchange technology platform was developed through a multi-year project facilitated by the Commission on Environmental Cooperation (CEC) project as a joint effort between Mexico, Canada, and the United States. It replaced an older data exchange technology with a more modern, robust, and maintainable approach using industry standards. This system makes it easier for each country to manage their implementation and integration with proprietary systems. Canada is committed to switching their systems to join the new API technology approach and already initiated bilateral testing. **Approximately 120 notices and determinations on those notices have been transmitted between Mexico and U.S. so far.**

Revamped Financial Assurance Module

In the Fall of 2021, we redesigned the Financial Assurance (FA) module in RCRAInfo, with significant collaboration between the FA design team comprised of state, regional and EPA headquarters constituents. Key features include a new overview page for a site to give a quick and concise message on its status toward the Financial Assurance Audit report; a document critical for tracking data quality in the FA module. We added multiple new data collection fields to help identify whether financial mechanism amounts were inclusive of the total amount across multiple facilities (in the case of companies with multiple locations) or the single facility's face-value amount. We added other usability enhancements across the module to assist states and regions in data entry and quickly identifying the most current data for a site.



Updated RCRA Online

Of note this year, we updated RCRA Online to identify superseded policy and guidance documents. This significant update enables the regulated community to identify when regulations and guidance documents have been superseded by new guidance and to quickly find the current regulatory documents.

Increased User Engagement

The RCRAInfo team continues to collaborate with a variety of regulatory and industry partners. State and regional users submit issues and feature requests to the RCRAInfo team directly. **Through the course of 2022, over 240 of these requests were resolved. Industry users submitted feedback and issue requests, over 1500 of which have been resolved by the team this year.** Often the resolution resulted with improvements to the RCRAInfo user interface making it easier for partners to navigate the system.

We also prioritized improving and developing new online user training courses. Mostly in the form of videos, these training exercises are available to RCRAInfo users, with a focus on those that target specific areas of the system and provide detailed step-by-step guidance on how to use and understand this feature. Throughout the year, **we released 16 new courses** covering data entry, e-Manifest, WIETS, and the Biennial Report - among other topics with over six hours of content.

The team also recognized that there was a lack of visibility into potential system maintenance windows. After a brief pilot stage, the new RCRAInfo system status page was officially launched. This site provides a central location for users to visit and keep informed on the status of the system as well as view prior uptime information. This also allows users to subscribe to alerts when maintenance or other issues impact certain areas of the application that are important to their business. This is something that could benefit e-Manifest API users or state data exchange customers. We now post message alerts from the tool onto the RCRAInfo login page when upcoming maintenance windows are approaching to give users additional warning.

Improved Data Access and Publishing

The push to provide not only better, but more overall ways to consume RCRAInfo data, continued to garner popularity this year. Usage of the Metabase platform **grew to over 550 users**. They collectively created around **1,500 different reports** for implementing programs. Users have taken this tool even further this year, combining data from different modules (e.g., e-Manifest and BR) to help perform QA/QC of 2021 Biennial Report submissions.

Mapping has become a top priority, so the data analysis team worked to deploy a map of active RCRA facilities embedded in RCRAInfo. We used the agency's ESRI Geoplatform, which was refreshed nightly. Each facility is displayed as a point on the map, and the data can be manipulated using a

variety of filters based on the site's RCRA activities. This can be combined with ESRI layers such as demographic information. The map is currently in a beta release and is scheduled to publish next fiscal year. In the PCB module, we developed a feature to collect latitude and longitude point coordinates for PCB facilities, as well as all existing facilities, that were geocoded to pre-populate the information. This provides regions with GIS point data for their sites in Metabase, and additional facility and PCB data will be added to RCRAInfo mapping products in the future.

RCRAInfo Web continues to be a valuable tool for interested parties to view and retrieve RCRAInfo data. We made multiple enhancements to how users search and download data from the site. In particular, we re-worked the e-Manifest module to provide increased performance with more up-to-date data than before.





Working on the 2021 Biennial Report

The 2021 Biennial Report data collection cycle began in January of 2022. Within this cycle, there are 49 (out of 58 total) states and territories that are using the RCRAInfo Biennial Report Industry application for managing their submissions. Louisiana, Mississippi, New York, and Pennsylvania all opted-in to using the software for the first time this year. Additionally, this year, we implemented a new feature (by user request) to provide sites a way to submit notifications to their regulating entities that they were exempt from submitting Biennial Reports during the cycle. Doing so allowed states to receive definitive records of this exemption and use them for reporting, rather than having no submissions from the sites. Without submission, specific sites will need to follow up in determining why they did not receive submissions. Throughout the cycle, the team has been working collaboratively with the regional coordinators and state implementers to assist with data quality and processing questions whenever they arose.

17,788	17,984,268	802	18,138,374	17,698	5,343,685	443	5,314,785
247	888,265	15	690,713	246	234,970	10	510,325
33	5,342	2	201	33	5,303	2	165
0	0	0	0	0	0	0	0
184	72,461	8	9,795	184	70,725	7	8,317
438	888,205	20	1,593,617	427	265,602	5	332,822
3,902	218,901	56	76,416	3,897	280,573	54	116,091
145	63,495	3	47,748	144	78,190	5	61,460
436	35,074	10	14,945	435	34,926	5	14,111
68	5,953	2	53	68	5,943	0	0
90	973	0	0	90	973	0	0
363	62,872	21	30,090	364	47,410	18	14,375
306	63,993	13	576	307	63,815	5	568
11	313	2	1	11	316	1	172
56	541,888	2	540,810	54	1,031	1	35
41	5,593	3	23,021	41	6,976	3	23,387
704	378,962	17	376,210	701	186,237	15	182,921
521	942,984	28	1,141,069	519	390,303	12	511,091
166	53,657	6	1,174	165	52,967	3	188
235	1,031,783	23	1,092,121	233	76,346	4	139,348
246	813,593	23	862,232	243	126,248	9	133,153
404	5,274,809	22	5,098,195	405	472,255	10	295,655
155	2,658	3	509	155	2,798	2	710
266	32,281	9	36,990	264	35,485	4	43,371
652	50,592	13	4,412	649	61,521	12	17,148
495	317,144	22	389,600	494	317,228	19	394,108
313	80,048	25	70,858	314	40,408	11	29,029
366	2,227,089	15	2,069,377	358	177,051	7	19,456
367	139,417	16	267,763	367	89,228	15	217,037



Providing Assistance to Tribal Governments for Waste Management

Providing Grants to Tribal Nations

This annual grant program provides financial assistance to tribal governments and tribal consortia for implementing hazardous waste programs, building capacity to improve regulatory compliance, and developing solutions to address the improper management of hazardous waste on tribal lands.

In FY22, in collaboration with the American Indian Environmental Office (AIEO), ORCR funded proposals from the following tribal nations:

- Saint Regis Mohawk Tribe,
- Rincon Band of Luiseño Indians,
- Anvik Tribal Council,
- Asa'carsarmiut Tribal Council,
- Native Village of Nunapitchuk, and
- Native Village of Kongiganak.

The projects, **totaling \$600,000**, will support the proper management of hazardous waste including implementation of an electronic hazardous waste tracking and inventory system, establishing a household hazardous waste collection center, community-wide education and outreach, backhaul of hazardous waste, and a strategic planning process for prioritizing needs and identifying cost-effective solutions for the management of hazardous waste.



Created a New Tribal Solid Waste Grant Opportunity



ORCR initiated a new solid waste grant program in FY22 to provide financial support to tribal governments, tribal consortia, and other entities for proper solid waste management in Indian country. EPA **received 18 strong proposals**. The proposals included activities to identify and characterize solid waste generation; evaluate ongoing waste management community concerns; develop outreach material; perform cost-of-service analysis; analyze facilities and operational practices; conduct feasibility studies for a solid waste operation or diversion strategy; provide education and outreach to the community; and train tribal staff. Based on the quality of proposals received, ORCR expects to make seven to nine awards from the FY22 applications, totaling \$700,000 in funding.

Consulted and Coordinated with Tribes

In support of EPA's commitment to engage in regular, meaningful, and robust consultation with tribal governments, in FY22, ORCR led the following consultation and coordination activities:

Consultation

- Revisions to Standards for the Open Burning/ Open Detonation of Waste Explosives Proposed Rulemaking

Coordination

- National Recycling Strategy
- National Academies Study on Electric Arc Furnace Slag activities
- Bipartisan Infrastructure Law: Solid Waste Infrastructure for Recycling and Recycling Education and Outreach grant opportunities
- Disaster Resiliency Companion Guide
- Permitting Updates Rule



Facilitated Three Matches through the National Tribal Waste Management Peer Matching Program

In collaboration with EPA regions and AIEO, we continued to manage the [National Tribal Waste Management Peer Matching Program](#), which provides technical and financial assistance to tribes and tribal consortia. Through this program, tribes, Alaska Native Villages, and tribal consortia assist one another in addressing waste management issues through a peer-to-peer mechanism. Peer matching can be an effective mechanism for tribes to promote best waste management practices, as well as to build sustainable waste management programs.

In FY22, ORCR facilitated three peer matches:

- **Santee Sioux Nation of Nebraska was matched with the Confederated Salish and Kootenai Tribes in Montana** to share information and resources that assisted the Tribe in the development of a solid waste code, illegal dumping, and developing public outreach materials. The Tribe plans to share the material with community members to provide education and outreach on illegal dumping and composting and their overall waste management program.
- **Kawerak, Inc. was matched with the Orutsararmiut Native Council** to provide information about recycling and how to engage with their Tribal Council and other entities within the town to gauge interest in partnering on future grant applications to fund a solid waste management improvement project.
- **Cherokee Nation of Oklahoma was matched with the Coyote Valley Band of Pomo** to share information around solid waste management, recycling programs, and hazardous waste management. In addition, Cherokee Nation shared various resources, including links to trainings, recordings, example flyers, brochures, and fact sheets.

Published Issue 13 of the “Tribal Waste Journal” about Managing Disaster Debris on Tribal Lands

ORCR prepared Issue 13 of the “Tribal Waste Journal” (TWJ) for publication in October 2022. Titled “Managing Disaster Debris on Tribal Lands,” this issue provides information and features success stories that will assist tribes with preparing for disasters, including how to identify, properly manage, and dispose of disaster debris, as well as how to minimize and prevent environmental impacts. Issue 13 also includes a resources section for general information as well as funding and technical assistance resources. The TWJ is one of the ways that ORCR supports tribes by amplifying their success stories, so other tribes have model programs and expert contacts. TWJs are provided as hard copies at meetings and workshops as well as available on the [Tribal Waste Management Program](#) website. Managing Disaster Debris on Tribal Lands



Managing Disaster Debris on Tribal Lands

EPA Regions provided technical assistance to 69 tribes in FY22. Some examples of assistance provided include review of codes and ordinances, provision of tribal waste management trainings, review of integrated waste management plans, developing outreach and education strategies, and planning household hazardous waste collection events. The Tribal Waste Management Technical Assistance Performance Measure is an internal performance measure, specifically to track the “Number of tribes where waste management program capacity has been improved through technical assistance provided by the EPA.

Continued to Host Monthly Tribal Waste Management Education and Outreach Webinars

ORCR coordinates and hosts the Tribal Waste Management Webinar Series. The focus of the webinar series is new and emerging tribal waste management topics. The monthly webinars provide an opportunity to amplify new programs being implemented by ORCR that impact tribes, to host discussions on topics of interest to tribes, and to provide a forum for tribes to share their success stories. Once each quarter, a webinar is led by the ORCR Office Director providing tribes the opportunity to directly interact with top management. **Two of the Office Director-led**

webinars were the most popular this year with over 100 participants each. The topics were 1) Environmental Justice and 2) Climate Resiliency and Adaptation. In FY22, **almost 1,000 people have participated in 11 webinars** with topics ranging from recycling to developing waste codes and ordinances.

To learn more about this webinar series, view past webinars, and sign up for tribal waste management updates, visit the [Tribal Waste Management Program Webinar Series](#) webpage.



Let's Talk About It: A Conversation With Tribes About Climate Change

Carolyn Hoskinson, Office Director, EPA, Office of Resource Conservation & Recovery

Scott Palmer, Economist, EPA, Office of Resource Conservation & Recovery

September 29, 2022

2



Visited Indian Country

We place a high value on appreciating the tribal perspective and understanding the unique solid and hazardous waste challenges on tribal lands. Site visits offer an opportunity to witness firsthand the environmental and program concerns tribes often express. ORCR staff and the ORCR Office Director resumed site visits with tribes for the first time since the pandemic began. These visits are designed to build relationships, learn about tribal successes, and better understand challenges faced by tribal nations.

This year ORCR visited the Choctaw Nation of Oklahoma and learned more about their impressive recycling program, data tracking, and culture. ORCR also learned about the unique challenges facing the Choctaw Nation such as issues related to having a large rural land base, community outreach, and military weapons disposal. In addition, ORCR staff visited the Walker River Paiute Tribe in Nevada where tribal staff shared their success in ending open burning and curbing illegal dumping. The trip also included a tour of the transfer station that currently has expansion plans, visits to composting sites, and a look at new equipment acquired with the Coronavirus Aid, Relief, and Economic Security Act funding. Staff also met in person with representatives of the Inter-Tribal Council of Nevada.

Provided Regional Tribal Support

In FY22, ORCR provided funding to Regions 5, 8, 9, and 10 in support of the Tribal Circuit Rider Program. The Tribal Circuit Riders provide technical assistance to tribes, offering education and outreach resources, training, and aiding in the development of building sustainable waste management programs on tribal lands.

ORCR also provided Region 9 funding to develop a tribal composting workshop. **Twenty-eight tribal environmental professionals participated in this two-day workshop.** Participants expressed that they had a clearer understanding of how to develop and improve composting programs within their communities.





Engaging with State Partners and Support for State Programs



Working with States and Other Partners

ORCR oversees the authorization of states to operate hazardous waste management programs in lieu of EPA and provides support for the distribution of hazardous waste grant funds to states. We support EPA-state interaction and participation of state partners in the development of hazardous and solid waste management policies, programs and initiatives, by administering the RCRA State Implementation Support Grant, which was awarded to the Association of State and Territorial Solid Waste Management Officials (ASTSWMO).

ORCR continued to strengthen its working relationship and opportunities for engagement with states through effective management of a cooperative agreement with ASTSWMO. Workshops, meetings, and conferences in FY22 were primarily virtual, though ASTSWMO held a successful in-person training in August of 2022. We were able to use funding already on the agreement to leverage an additional year of programming and engagement. In FY22, staff also worked tirelessly to put in place a new cooperative agreement for FY23-27.

Working on RCRA Authorization Support to EPA Regions and States

ORCR continued to support regions and states as they worked toward meeting internal FY22 regional performance goals for the Percentage of Recent Core Program RCRA Rules Authorized measure. The measure is designed to focus state and regional efforts on recent rules that are critical for core RCRA program implementation and more clearly demonstrate progress when states are newly authorized. We provided authorization datasets, guidance, and rule checklists, as well as technical assistance to regions and states to enable further authorization progress. We also started working with the regions to update and extend this performance measure to FY25.

Prioritizing and Organizing around Environmental Justice

ORCR continues to engage in activities to advance the principles of environmental justice (EJ) as part of EPA's renewed focus on environmental justice while protecting human health and the environment. Activities include projects featured in the "[Office of Land and Emergency Management \(OLEM\) EJ Action Plan](#)." The Plan contains **nine ORCR projects that address environmental justice challenges**. ORCR made significant progress on all the projects during FY22 and continues to work toward completion.

Established in FY22, the ORCR Environmental Justice Work Group (EJWG) oversees progress on a monthly basis and is made up of staff from each part of the program office. The EJWG meets on a biweekly basis to ensure the alignment of environmental justice considerations with cross-cutting RCRA programmatic issues. This broad representation and inclusion is a new approach for ORCR and represents the reprioritization of environmental justice considerations. EJWG efforts include:

- Providing Office coordination and support to finalize the "OLEM EJ Action Plan."
- Drafting a checklist of EJ considerations to assist staff with considering EJ as part of their daily workloads.
- Reviewing White House Environmental Justice Advisory Council (WHEJAC) recommendations.
- Advising management about the FY23 Environmental Justice and External Civil Rights Implementation Plan.
- Providing talking points on Justice40 (J40) and the Bipartisan Infrastructure Law (BIL) related activities.
- Participating in Agency-wide meetings on J40, BIL, WHEJAC and NEJAC to coordinate on Agency efforts in these areas.



Focused on Community Engagement and Technical Assistance

The ORCR EJ team implemented a contract vehicle to assist EPA regions and the public with meaningful Community Engagement and Technical Assistance (CETA), which includes translation services, community meeting support, creating technical documents in plain language, and risk communication. EPA conducted a regional needs analysis, and confirmed the need for additional community and technical support. EPA established the service delivery vehicle and a soft launch of the program in FY22. The team also initiated production of a brochure and accompanying website describing the services available and how they can be accessed. These deliverables will be available in the fall of 2022. The team also began to identify community-based organizations who may need CETA services in FY22, with a projected completion of Spring 2023.

Support State Activities to Address Environmental Justice Concerns

We formed and lead a regional workgroup to explore potential revisions of RCRA hazardous waste state grant terms and conditions to better prioritize and support state activities to address environmental justice concerns. The workgroup is considering options and developing language that would provide direction on including requirements and commitments in state grant workplans to incorporate environmental justice concerns. This workgroup is responsive to the current “EPA Strategic Plan,” which mandates commitments to address disproportionate impacts in all written agreements between EPA and states. EPA continues to engage with and inform states about our progress as we complete this work, expected in FY23.



Developing a “Good Governance Referral Toolkit”

ORCR is developing tools as part of a “Good Governance Referral Toolkit.” The toolkit includes a research and interview-based best practices document, an inter-office and multi-agency referral contact list, and a referral decision tree that will bridge the gaps of communication with appropriate parties on environmental concerns expressed by the community or learned about in the field that both do and do not fall within RCRA authorities for action. These tools will be piloted in FY23 as part of the Coal Combustion Residuals (CCR) outreach events and adjusted based on feedback from their use in the field.



Launched a RCRA Community of Practice for Environmental Justice

ORCR kicked off the monthly RCRA Community of Practice for Environmental Justice forum, which provides an opportunity for members to engage in discussions on a variety of topics to better understand challenges and identify solutions to prevent the recurrence of historical patterns of environmental injustice. **Members participated in eight meetings since January 2022** on topics about EJ in permitting, updates on EJSCREEN 2.0, perspectives on partnering, achieving equitable outreach, and small group discussions on meaningful engagement. Currently, **over 130 members have participated in the forum.** Membership is open to local community-based organizations, state regulators, industry, and federal employees who work on or advocate for environmental justice.



Creating a Methodology to Characterize the RCRA TSDF Universe

ORCR is developing a methodology to understand the demographic and economic characteristics of the communities in which RCRA TSDFs are located, and consulting with the Office of Environmental Justice on how to structure and perform the analysis. The results of the analysis were internally peer-reviewed by the regions, and additional consultations were conducted to focus on the accuracy of the results and location data, and on whether the analysis outcomes seem to be accurate based on the reviewers' knowledge of those areas' historic and current demographics.

A vertical photograph on the left side of the page. In the foreground, a wooden gavel with a dark handle and a light-colored head rests on a dark wooden sound block. The gavel is positioned diagonally. In the background, a person's hands are visible, one holding a pen and writing on a document. The scene is lit with warm, soft light, suggesting an office or courtroom environment.

Using Regulations, Permits, and Guidance to Ensure Proper Waste Management



Focusing on National RCRA Permitting Priorities

The RCRA Permit Integrity Team (PIT), consisting of EPA regions and headquarters, implements the “RCRA Permit Oversight Strategy.” Under the “Strategy,” the PIT identifies, prioritizes, and resolves top issues affecting RCRA permits or permitting programs nationally. In FY22, the team completed two priority projects:

- **Public Notice in Newspaper/Mail:** Published a “Federal Register” notice in December 2021 communicating EPA’s interpretation that modern electronic alternatives satisfy public and other notification under RCRA.
- **Waste Analysis Plans Compliant with Land Disposal Restrictions:** In April 2022, published the information bulletin: “Ensuring and Determining Compliance with Land Disposal Restrictions Through RCRA Permits, Waste Analysis Plans and Inspection Sampling Practices.”

More information on each of these projects is provided below.

In 2022, we launched a new cycle to identify and

select the next round of national RCRA permitting priorities. The team is considering feedback from regions and states to develop recommendations for the RCRA Managers to review as the FY23-24 priorities.

Helped States and Regions with Closure and Post-Closure Care through Software Rebuild

CostPro is EPA software that provides states and regions with a consistent, accurate, and rapid method of evaluating cost estimates for closure and post-closure care of RCRA TSDFs. State and regional practitioners expressed interest in a CostPro update due to compatibility issues with current operating systems and old cost data embedded in the software. Strong state interest led to CostPro’s identification as an FY20/21 National RCRA Permitting Priority. Based on the assessment performed as part of that permitting priority, ORCR invested in an update of CostPro and migrated the tool to RCRAInfo. In 2022, ORCR’s efforts focused on supporting collection of new cost data for hundreds of data elements embedded in CostPro as well as a ground-up rebuild of the software. ORCR anticipates rolling out the updated CostPro in Summer 2023.

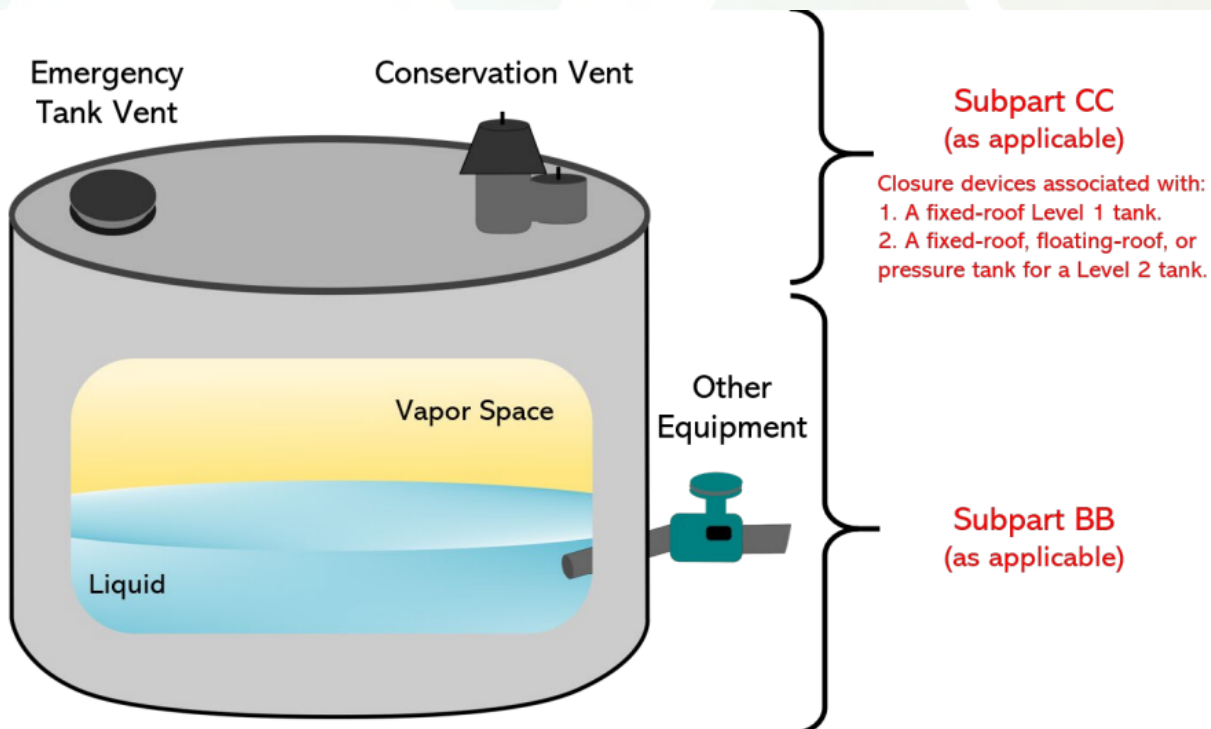
Co-hosted National RCRA Permit Writers and Inspector Workshop

Partnering with the Office of Enforcement and Compliance Assurance and ASTSWMO, ORCR hosted the second national permit writer and inspector workshop in May 2022. **Over 450 people attended.** The workshop goals included strengthening the relationship between those who write permits and those who enforce permits, better using feedback and input to improve permit enforceability, and assisting with compliance while protecting human health and the environment. At this second virtual workshop, inspectors and permit writers from states and EPA shared their experience, knowledge, tools, and ideas about cross-cutting issues, with the goal of promoting collaboration. The workshop featured topics on waste analysis plans in compliance with land disposal restrictions (LDRs) and on fostering collaboration between permit writers and inspectors. ORCR plans to host workshops once a year as part of a broader effort to provide a recurrent venue for permit writers and inspectors to meet virtually.

Issued Memorandum on Applicability of RCRA Organic Air Emission Standards to Equipment and Closure Devices

In response to recurring questions about the applicability of "[RCRA Organic Air Emission Standards to Equipment and Closure Devices](#)," ORCR published a final memorandum in December 2021. The memorandum clarifies whether certain devices located on top of covers are regulated as equipment (subject to Title 40, Code of Federal Regulations (CFR), parts 264/265 subpart BB) or as a closure device (subject to Title 40, CFR, parts 264/265 subpart CC).

To continue providing a better understanding of the applicability of RCRA Organic Air Emission Standards, ORCR began updating the 1998 "*RCRA Organic Air Emission Standards for TSDFs and Large Quantity Generators*" fact sheet. This document will provide an overview of the RCRA air regulations, their importance, applicability, and requirements for the regulated community and the general public. The draft fact sheet is undergoing its final review and is expected to publish by the first quarter of FY23.



Published Fifth Annual Summary of Hazardous Waste Incidents to Help Regulators

In Spring 2022, ORCR completed its fifth annual summary of incidents occurring at RCRA-permitted TSDFs and the Toxic Substances Control Act (TSCA) approved PCB commercial storage and disposal facilities. ORCR **collected 61 incident reports in 2021**, compiled the results into an easy-to-read format, and shared the information with RCRA program staff and managers in the states and EPA regions. By learning about the incidents, state and regional regulators increase their knowledge of how to identify and prevent potential hazards at facilities. ORCR will also use lessons learned from these incident reports to better inform policy, regulations, and program implementation initiatives to prevent future incidents and protect human health and the environment.



Developing Rulemaking to Revise Standards for the Open Burning/Open Detonation of Waste Explosives

In FY22, ORCR continued development of a rulemaking to propose amendments related to open burning/open detonation (OB/OD) of waste explosives. Currently, the existing regulations, established in 1980, only allow OB/OD for waste explosives where there is no other safe mode of treatment. Recent findings from the National Academies of Sciences, Engineering, and Medicine and EPA demonstrate that safe alternatives are now available for many explosive waste streams. Because there are safe alternatives in use today that capture and treat emissions prior to release, EPA is planning to revise regulations to promote the broader use of these alternatives, where applicable.

As part of the rulemaking, ORCR solicited input through a series of meetings held in March 2022 with state regulators, environmental/community groups, and OB/OD facilities. In addition, ORCR invited tribes to consult on the rulemaking and formally consulted with Choctaw Nation of Oklahoma about their concerns with OB/OD conducted at McAlester Army Ammunition Plant in Oklahoma. The OB/OD rulemaking team also visited Blue Grass Army Depot and Blue Grass Chemical Agent Destruction Pilot Plant in Kentucky and the National Aeronautics and Space Administration's Wallops Island Flight Facility in Virginia to observe open burning events at those facilities.



Issued Memo: Open Burning and Open Detonation of Waste Explosives Under RCRA

In June 2022, in response to concerns raised by states and environmental and community groups, we issued a memorandum titled “[Open Burning and Open Detonation \(OB/OD\) of Waste Explosives Under the Resource Conservation and Recovery Act \(RCRA\)](#)” to communicate existing requirements and provide guidance to EPA Regions, states, and territories for permitting OB/OD units under RCRA. The memo made clear that under the existing regulatory requirements, OB/OD facilities must evaluate – and re-evaluate—whether safe alternative technologies are able to treat their waste explosives. Where safe alternatives are available, facilities must use and develop those alternatives in lieu of OB/OD. As part of communicating this message, ORCR facilitated a senior leadership meeting in May 2022 between the Office of Land and Emergency Management (OLEM) and the Department of Defense (DoD) to discuss issues with respect to DoD’s OB/OD activities. In addition, ORCR provided implementation support and technical assistance to regions and states for several OB/OD facilities, including Clean Harbors Colfax in Louisiana, Holston Army Ammunition Plant in Tennessee, Indian Head Naval Surface Warfare Center in Maryland, and Andersen Air Force Base in Guam. ORCR continues to meet with DoD as part of its EPA-DoD OB/OD Workgroup to discuss OB/OD and implementation of alternatives.



Assessing Closure of Open Burning and Open Detonation (OB/OD) Facilities

Two-thirds of all RCRA OB/OD units are no longer operating and are closing. In FY22, ORCR continued several activities to assess the closure of these units, including the completion of **nine draft case studies and a draft report** summarizing these case studies, documenting site assessment procedures, and the extent of contamination. This includes kickout, closure/cleanup procedures, as well as the challenges and costs of seeking to clean close and clean up OB/OD facilities. In addition, ORCR collaborated with DoD to request updated information about the status of all 87 DoD closing or closed OB/OD facilities. EPA anticipates receiving this information soon. ORCR plans to use the results of the case studies and updated information from DoD to evaluate potential policy and guidance for closing RCRA OB/OD units.

Provided Energetic Waste Training

Permit writers for OB/OD facilities must understand how explosive waste streams interact with the environment to ensure permits provide greatest protection to human health and the environment. ORCR provided free and virtual training for regions and states on relevant topics. This included chemistry of explosives, lifecycle, manufacture, processing of energetics, classification, transport, storage, testing and evaluation, risk assessment, fate and transport, disposal of explosives, potential environmental impacts, field sampling, and analytical methods. **The three-day course was offered twice in April 2022 with attendance of approximately 50 state and EPA officials per session.** ORCR recorded the trainings and has made them available in the RCRA Training in the [Environmental Response Training Program](#) for future use by state and EPA permit writers.

Modernizing Public Notice

In response to state hazardous waste permitting programs raising concerns with using antiquated public notice methods in the RCRA permitting process, we took several steps to clarify and explore how to modernize public hearings and meetings, mailings, and newspaper notices. Specifically, EPA collected public comments via a “Federal Register” notice published in December 2021 on modern electronic alternatives for public notification on hazardous waste permitting and other notification under RCRA ([86 FR 71482](#)). Most commenters agreed with EPA’s interpretation that publications in online newspapers qualify as notice requirements. Following the comment period, EPA incorporated clarifications to its web areas about the acceptability of using virtual hearings, email for mailing lists, and online newspapers. In addition, most commenters were in favor of EPA clarifying additional alternatives in the federal regulations. ORCR is now planning to propose regulatory amendments in the Permitting Updates proposed rule. This change is in line with the regulation changes by the air and water permitting programs.

Working on Thermal Desorption Units (TDUs)

We continue to evaluate questions about the application of regulatory and permitting requirements under RCRA for certain recycling activities processing hazardous waste or hazardous secondary materials. This assessment focused on facilities that indirectly heat hazardous waste or hazardous secondary materials in TDUs, after which volatilized organics are condensed to produce certain recovered materials and products.



Providing RCRA Technical Assistance

We routinely respond to inquiries about hazardous waste management from state and regional partners (and other federal offices), the regulated community, and the general public, submitted to ORCR through email, calls, letters, and through ORCR's hazardous waste website. Since October 2021, ORCR has responded to over 50 inquiries, covering topics including hazardous waste identification, hazardous waste generator standards, RCRA financial assurance, organic air emission standards, used oil, incineration and thermal treatment, post closure care, the wastewater treatment unit exemption, hazardous secondary material and waste recycling, and the RCRA permitting process. This technical assistance also included coordinating with appropriate regional and state contacts when questions were about local environmental issues.

ORCR also provided more in-depth support related to several issues this year. A few noteworthy items were working with the National Fire Protection Association to formulate recommendations on how to safely dispose of fireworks, ongoing delisting consultation support to Region 7, and ongoing support to Region 5 about the manufacturing process unit exemption and subpart J applicability to particular process units. In the post closure space, ORCR developed new web content to assist practitioners in the implementation of post closure procedures by clarifying the flexibilities and requirements associated with the 1998 post closure rule. In the financial assurance space, ORCR continued to assist regions and states reviewing financial assurance instruments and cost estimates. ORCR also provided RCRA training support by maintaining the RCRA training website and the RCRA training listserv, which support RCRA tribal, federal, and state partners. In the generator space, ORCR released five compendia on hazardous waste generator topics, and published an FAQ document to assist implementation of emergency planning provisions of the regulations. In the hazardous secondary material recycling area, ORCR published an implementation guide to the definition of solid waste exclusion found at 40 CFR 261.4(a)(24) and provided training on the definition of solid waste program and legitimate recycling requirements to over 600 state and Regional RCRA inspectors and program staff.





Began Development of Permitting Updates Rule

In FY22, ORCR kicked off development of the Permitting Updates Proposed Rule after it was selected as one of the National RCRA Permitting Priorities. The proposed rule seeks to make regulatory amendments and various updates or clarifications - mainly in Title 40, Code of Federal Regulations, parts 264/265/270. Specifically, the rule seeks to codify established policies, reflect current information or standards, improve understanding of and compliance with regulations, and make technical corrections as well as other conforming changes to address inadvertent errors and remove obsolete references. The action may also solicit public input on topics about RCRA permitting to inform possible future agency actions. The proposed rule offers an exciting opportunity to correct well-known technical errors and make other improvements to permitting regulations. It is expected to publish in Summer 2023.

Established a RCRA Enforcement and Technical Assistance Contract

During Summer 2022, ORCR established a RCRA Enforcement and Technical Assistance (REPA) contract task order, with assistance from Region 4, to provide technical assistance to regional and state permitting programs. ORCR seeks to prioritize technical assistance for alternative technology (i.e., OB/OD) evaluations, regional backlog permits, EJ analyses, climate change assessments, financial assurance assessments, support for the RCRA model permit update, and assistance with combustion/thermal treatment permits.

Published Waste Analysis Plans Bulletin to Help with Compliance

In Spring 2022, ORCR published an information bulletin titled “[Ensuring and Determining Compliance with Land Disposal Restrictions Through RCRA Permits, Waste Analysis Plans and Inspection Sampling Practices](#)” to make RCRA permit writers, inspectors, and the regulated community aware of controls, conditions, and sampling practices to ensure and determine compliance with RCRA LDRs. The bulletin followed **EPA’s review of 57 hazardous waste treatment facility Waste Analysis Plans (WAPs) and examination of 14 facility LDR inspection sampling results**, which revealed insufficient LDR treatment verification sampling at many facilities and high LDR failure rates in treatment residues. These extensive LDR failures were likely caused by inadequate LDR treatment design and operation in RCRA permit controls, and/or insufficient WAP LDR treatment verification sampling. The document is based on existing regulatory requirements, longstanding guidance, and formal policy. It provides an overview of the basis of LDR requirements. It focuses on strategies that permit writers and facilities can use to improve RCRA permits and WAPs, as well as provides inspectors with tools to better determine compliance with LDRs.

Started Updating the RCRA Model Permit

As an FY22 national RCRA permitting priority, ORCR began efforts to update the 1988 National Model Permit for hazardous waste treatment, storage, and disposal facilities. The original model was developed early in the RCRA program, prior to the development of many regulations that now compose the program. Additionally, the RCRA permit conditions and language have been refined by permit writers and various experts as they witness and note the application and administration of program initiatives across a diverse field of RCRA-permit-holding facilities. Capturing these refinements and practical regulatory applications in updated permitting boilerplate is critical to ensuring effective permits and to maintaining the integrity of the RCRA Program.



Developed Financial Assurance Standard Operating Procedures

ORCR developed standard operating procedures (SOPs) for overseeing RCRA Subtitle C financial assurance mechanisms. The SOPs provide a robust framework and highlight existing guidance and resources to assist in financial assurance oversight. The “[Overseeing the Validity of Financial Assurance Mechanisms](#)” Memorandum and SOPs can be found in RCRAOnline. ORCR partnered with ASTSWMO to provide an introduction and review of the new SOPs during a webinar. It was **attended by over 200 practitioners**. The SOPs and the webinar addressed and closed-out corrective actions related to a 2017 Office of Inspector General (OIG) report: “Self-insurance for Companies with Multiple Cleanup Liabilities Presents Financial and Environmental Risks for EPA and the Public.”



Incorporating EJ and Climate Change into PCB Tools and Policy

Our PCB Cleanup and Disposal Program created two new workgroups to address program priorities for FY22. These include:

- **Environmental Justice in PCB Approvals** – In FY22, the EJ in PCB Approvals workgroup held numerous discussions and a presentation to implement EJ considerations during the PCB cleanup and approval process. Specifically, the workgroup conducted a regional survey to identify program needs, develop guidance, and eventually establish connections between the Agency’s EJ resources and the PCB permits writers. The workgroup also developed a paper summarizing the current EJ and community engagement practices, limitations, and resource needs of each region. These findings are the baseline for the best management practices guidance that the workgroup started. The workgroup will continue these efforts into FY23.
- **Climate Change Adaptation** – The Climate Adaptation workgroup accomplished several noteworthy achievements in FY22. The PCB Database now has a milestone for climate adaptation plans for PCB approvals, and a place to upload documentation of the plan. In addition, Region 10 shared a template Climate Adaptation plan as an example for other regions, and the workgroup made progress towards mapping PCB sites for climate change threats. Climate adaptation work focusing on PCBs will continue in FY23.

ORCR also completed work on the following internal and external tools to improve communication and compliance:

- The PCB annual reports for the calendar year 2021 were collected and compiled in a timely fashion, employing the follow-up process implemented in FY21.
- Region 10 and ORD continued investment in efforts to better understand the concentrations of inadvertent PCBs (iPCBs) in products, potential emission and migration of iPCBs out of products, and potential exposure pathways to users or other exposed populations. In August 2022, EPA published research on iPCBs in “Environment Science & Technology” based on ORCR-funded work titled [“Inadvertently Generated PCBs in Consumer Products: Concentrations, Fate and Transport, and Preliminary Exposure Assessment”](#).
- ORCR assisted with the PCB Q&A Manual workgroup to update the PCB Q&A Manual. The workgroup anticipates finalizing it in FY23.
- ORCR developed an internal SOP for issuing PCB approvals.



Proposed the PCB Rulemaking

We proposed the PCB Rulemaking on October 22, 2021 (86 FR 58730) and held a public webinar (available on EPA's "[Alternate PCB Extraction Methods and Amendments to PCB Cleanup and Disposal Regulations](#)" page) on November 2, 2021. The public comment period ended January 20, 2022. ORCR worked on responding to comments about the proposed rule. We also prepared a final rule that addresses several key issues related to implementing the PCB Cleanup and Disposal Program under TSCA. Specifically, ORCR proposed to expand the available options for extraction and determinative methods used to characterize and verify the cleanup of PCB waste under federal TSCA regulations (also referred to as the PCB regulations). These proposed changes are expected to greatly reduce the amount of solvent used in PCB extraction processes, which will conserve resources and reduce waste.

This rulemaking is included in ORCR's "Environmental Justice Action Plan." By proposing changes to streamline all PCB cleanups, disadvantaged communities are expected to benefit from quicker, more cost-effective, compliant cleanups. Specifically, adding explicit cleanup provisions under Section 761.61(b), will provide assurance that sites are properly remediated and enable compliance

assistance and enforcement. This action also proposed to add more flexible provisions to facilitate cleanup and protective disposal of waste generated by spills that occur during emergency situations (e.g., hurricanes and floods). This flexibility would allow EPA to respond quickly to catastrophic disasters, which often disproportionately impact communities facing environmental justice issues.

Additionally, ORCR proposed to amend the performance-based disposal option for PCB remediation waste by adding explicit cleanup provisions. This includes the requirement to notify EPA and follow specific sampling protocols, which would provide additional assurance that sites are remediated properly while enabling compliance and enforcement. EPA also proposed to remove the provision allowing PCB bulk product waste to be disposed of as roadbed material to improve protectiveness of human health and the environment. We also proposed other amendments to improve the implementation of the regulations, clarify ambiguity, and correct technical errors. As part of developing the rule, ORCR incorporated EJ into the public webinar for the proposed rulemaking. Additionally, we provided tribes the opportunity to consult with EPA on the rulemaking.

Worked on PCB Cleanup and Disposal Approvals

In FY22, ORCR's PCB team worked on several nationwide PCB cleanup and disposal approval renewals. In FY22, ORCR issued a modification of Environmental Protection Services' PCB Disposal Approval to incorporate corrective actions, including detecting and documenting the presence of any flammable gases inside each trailer during the startup phase visual inspection, and conducting daily visual inspections of the units to ensure that the equipment do not show any signs of leaks or failure. Read more on EPA's "[Nationwide Environmental Protection Services \(EPS\) PCB Alternative Disposal Approval and Notifications](#)" page.

In Fall 2021, the Utility Solid Waste Activities Group (USWAG) requested that additional members be added to [USWAG's nationwide risk-based PCB remediation waste disposal approvals](#). ORCR granted approvals to those additional members in FY22, containing the same terms and conditions as the existing USWAG approvals issued in FY20.

In FY22, ORCR also [granted renewed PCB Approval to Southwest Pipe Services](#) to use the decontamination procedures prescribed in the federal regulations at Title 40, Code of Federal Regulations, Section 761.79(c)(3) for the alternative PCB contamination source of pipeline condensate in natural gas.

Finally, ORCR granted a one-year extension to ecoSPEARS for the destruction of PCBs in contaminated solvent as self-implementing research and development for PCB disposal.

ORCR also assisted in alleviating regional permit backlog, specifically offering support to Region 10 for the renewal of Approval for the Perma-Fix NW facility. Perma-Fix NW had a PCB commercial storage approval that historically was combined with their WA State Dangerous Waste Permit (RCRA authorized program). We helped review the application for completeness. The facility is in the process of responding to requests for further information as part of its separate PCB commercial storage approval.

Additionally, we aided with an analysis conducted under Endangered Species Act (ESA) and National Historic Preservation Act (NHPA) for the Chemical Waste Management of the Northwest (CWMNW) facility. ORCR assisted R10 with the NHPA and ESA analyses and documented no concerns pertaining to the Acts. The approval for CWMNW is under development and is expected to be finalized by summer of 2023.





Supported the PCB Compliance Strategy

In FY22, ORCR provided technical and coordination support, as well as funding for the Office of Enforcement and Compliance Assurance's (OECA's) Office of Compliance mission contract to obtain support of dedicated inspectors to visit commercial PCB facilities. These inspectors assisted in ensuring compliance with EPA's PCB cleanup and disposal regulations and approvals issued under TSCA. Specifically, the contracted inspectors conducted technical assistance visits to 11 PCB commercial facilities, including incinerator, landfill, and storage facilities. They developed reports to help inform PCB permit writers and deter noncompliance. EPA headquarters and regional staff had the opportunity to accompany the inspectors on several of these technical assistance visits. Additionally, the contracted inspectors followed-up with facility owners or operators to ensure that noncompliance issues were addressed. ORCR plans to continue to fund the PCB inspectors in future years, as needed. ORCR and the Office of Compliance intend to use findings from the compliance assistance visits to inform future compliance and enforcement approaches.



**Preventing
Harmful Exposure
and Cleaning Up
Contaminated Land
for Productive Use**

Cleaning Up Contaminated RCRA Facilities

ORCR led the national RCRA Corrective Action Program in directing and overseeing owner and operator cleanups at RCRA hazardous waste treatment, storage, and disposal facilities. We provided technical, regulatory, and policy assistance to regions and states in overseeing cleanup of contaminated RCRA facilities. In FY22, EPA continued to focus on groundwater assessment and cleanup, data management improvements, management of remediation waste, public participation in cleanups, as well as Ready for Anticipated Use (RAU) implementation. RCRA facility cleanups reduce risks to surrounding communities and support communities by promoting continued economic use and redevelopment of these cleanups.

In FY22, the Corrective Action Program made significant progress on the RCRA RAU Long-Term Performance Goal outlined in “EPA’s FY22 – FY26 Strategic Plan.” The five-year goal is to make 425 more RCRA corrective action facilities RAU-compliant by September 30, 2026. This year, the program surpassed its annual goal of 114 facilities and achieved RAU compliance at 124 facilities. The impact of these results is the protection of communities from harmful exposures to contamination from RCRA hazardous waste facilities.

In FY22, the program met or surpassed all of its annual targets, achieving the following milestones for progress in cleanup at RCRA facilities:

55 Facilities

Construction of cleanup remedies was completed, meeting the target of 55.

66 Facilities

Attained cleanup performance standards, surpassing the target of 53.

124 Facilities

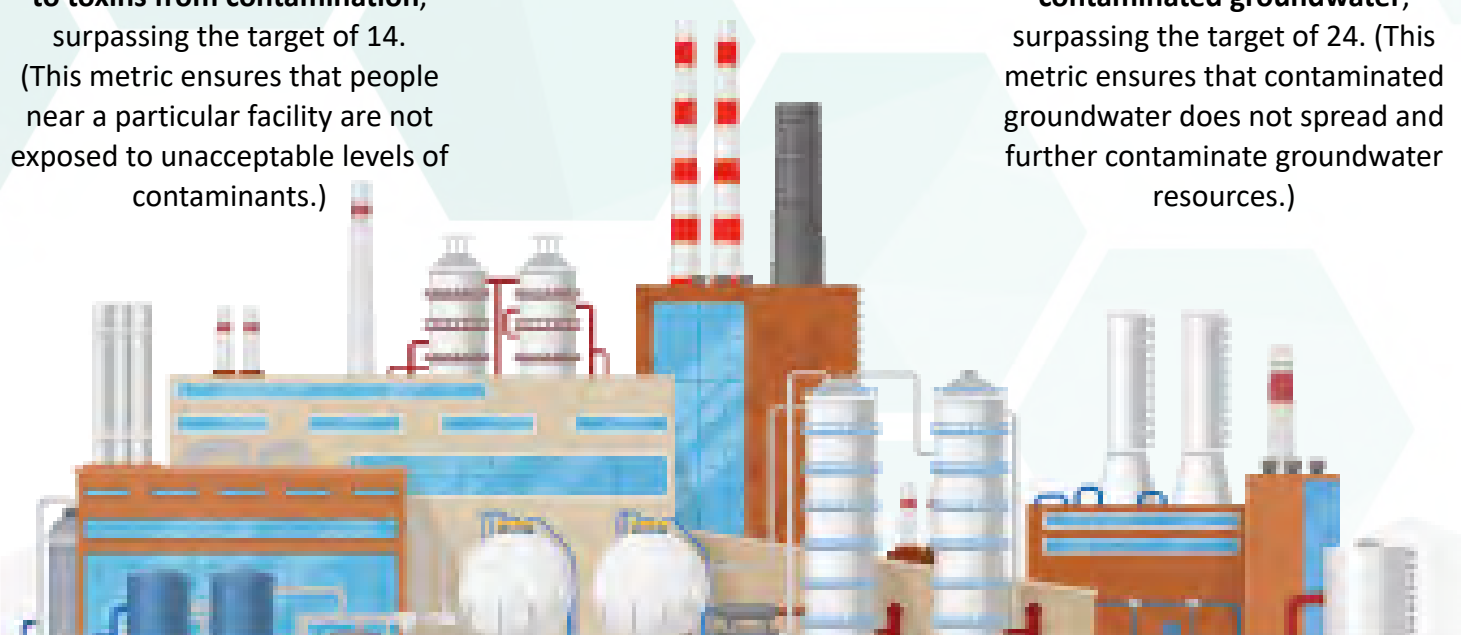
Achieved RAU, surpassing the target of 114.

41 Facilities

Met control of human exposures to toxins from contamination, surpassing the target of 14. (This metric ensures that people near a particular facility are not exposed to unacceptable levels of contaminants.)

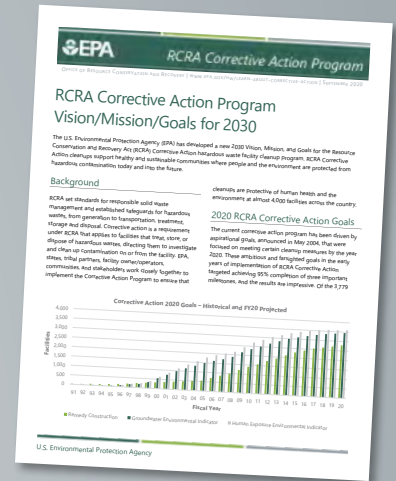
32 Facilities

Met control of migration of contaminated groundwater, surpassing the target of 24. (This metric ensures that contaminated groundwater does not spread and further contaminate groundwater resources.)



Working on 2030 Corrective Action Program Vision, Mission, and Goals

EPA released its [2030 Vision, Mission and Goals for the RCRA Corrective Action Program](#) in September 2020; Implementation began in FY21 and continued in FY22. This forward trajectory was developed with extensive input from a wide variety of partners including states, tribes, local government, and regulated industry parties. The 2030 Vision, Mission, and Goals provide direction, inspiration, and focus for the program's work through 2030.



The 2030 Goals are:

1

Through 2030, the RCRA Corrective Action Program will ensure that RCRA cleanups are initiated and completed efficiently and quickly. Commitments regarding the work planned and progress made will be visible to the public. An ambitious universe of cleanups will be identified for completion within this timeframe.

2

By 2030, the RCRA Corrective Action Program will eliminate or control adverse impacts beyond facility boundaries at RCRA corrective action facilities wherever practicable, and the program will focus attention on cleanups that will not meet this target.

3

By 2030, the RCRA Corrective Action Program will ensure or confirm that land within facility boundaries at RCRA Corrective Action facilities will be safe for continued use and reasonably foreseeable new uses wherever practicable. The program will focus attention on cleanups that will not meet this target.

4

By 2025, the RCRA Corrective Action Program will identify the key elements of effective long-term stewardship for corrective action cleanups. Regions and states will have approaches in place to ensure implementation of the key elements.

5

By 2022, program procedures will be in place to regularly adjust the universe of facilities in the cleanup pipeline to reflect current program priorities.

FY22 Progress toward 2030 Goals

As part of implementing the 2030 Vision, Mission and Goals, the Corrective Action Program launched a new national EPA workgroup for implementing Goals 1, 2, and 3. Two national workgroups launched in 2021 continued work on Goals 4 and 5 and achieved important milestones.

Goals 1, 2, 3 – Cleanup Progress and Completion

Ensuring that RCRA cleanups are conducted efficiently and completed quickly is of highest priority for protecting surrounding communities. The Goals 1, 2, 3 workgroup developed an initial draft with a performance plan for goal implementation. The major aim of these goals is to address cleanup progress and completion. The draft plan sets ambitious targets for completing cleanup milestones and overall cleanups plus addresses offsite and onsite cleanup activities. It also adds a focus on transparency, environmental justice, and climate resiliency. Next steps include engaging interested parties and finalizing the overall plan.

Goal 4 - Long-Term Stewardship

Ensuring that cleanups continue to protect communities into the future is critical where contamination may remain. An example of this kind of situation is minimally contaminated soil remaining under clean fill and a concrete parking structure. The Goal 4 Workgroup satisfied the first portion of the goal by completing program guidance that identifies the principal components of effective long-term stewardship. On June 27, 2022, the ORCR Office Director signed and EPA published a document, “*Key Elements of Effective Long-Term Stewardship for RCRA Corrective Action.*” The nine elements provide a general framework for regulators who are implementing processes to assure effective long-term stewardship at RCRA facilities. Next, the workgroup will identify and develop tools and procedures to support regional and state-level implementation of the elements.

Goal 5 – Adjust the Cleanup Universe to Reflect Program Priorities

The Goal 5 Workgroup completed a year-long pilot project that developed procedures for adding facilities to the Corrective Action Progress Track. The objective is to include additional facilities where corrective action work is occurring or impending, to ensure program oversight and proper attention. The Workgroup created a pilot protocol. Afterward, regional and state staff across the program developed nominations and worked them through the protocol. **By the end of FY22, 59 cleanup facilities were added to Progress Track, bringing the current total of facilities in the Corrective Action Program to 3,983.** Next steps are to assess the pilot program’s ability to implement regular procedures for additions going forward, and to develop a process for archiving appropriate facilities from Progress Track.



Assessing and Communicating Economic Benefits of RCRA Facility Cleanups

When [corrective action facilities](#) are successfully cleaned up, significant economic benefits are realized. This creates new opportunities for reuse and redevelopment. In September of 2022, the Agency published a [press release](#) announcing the results of the first study to assess the economic benefits occurring at RCRA facilities after cleanup. ORCR's analysis of 79 cleanups revealed that these facilities support a sizeable 1,028 on-site businesses. The **economic benefits include: \$39 billion in annual sales revenue; over 82,000 jobs; and \$7.9 billion in estimated annual employment income. Approximately 25 percent of the facilities in this study are located within communities with potential environmental justice concerns. As a result of the cleanup efforts, 7,900 jobs and over \$522 million in annual income was generated for these communities.**

Given that these 79 facilities represent a small subset of the nearly 4,000 RCRA facilities undergoing cleanup efforts, the total economic benefits of the RCRA Cleanup Program are much more notable nationwide. We also **developed [brief profiles](#) for more than 40 facilities** – showcasing the economic benefits that can be fostered through RCRA Corrective Action cleanups. Likewise, we launched a new [webpage](#) dedicated to redevelopment economics where the public can access the facility profiles and more information about the study.

Providing Technical and Policy Support to Facilitate Corrective Action Cleanups

We continue to provide technical and policy support to achieve cleanup progress at RCRA corrective action facilities that face barriers to completion. We also strive to stay informed of new scientific developments and technologies that successfully assist regions and states in addressing developing challenges at RCRA cleanups. This includes emerging contaminants and climate change implementation.





Addressing Climate Resiliency

Our Cleanup Program represented ORCR on both the OLEM and Agency-level Climate Change Adaptation Workgroups. In doing so, the program played an integral role in the development of the FY22 OLEM Climate Change Implementation Plan. The program also offered internal staff training, collaboration on climate vulnerability assessment procedures, and research about the best available climate impact data and modeling tools. We are currently drafting policy guidance that will address how climate impacts should be considered an integral part of all RCRA remedy selections. We also promote the use of more sustainable remediation practices where feasible via OLEM's partnership programs to encourage "Greener Cleanups" and the adoption of renewable energy as part of RCRA cleanups.

Addressing Barriers to the Completion of Cleanups

Our Optimization Program provides expert technical assistance to support regions and states overseeing particularly complex groundwater cleanups with barriers to cleanup completion. We collaborate with EPA's Office of Superfund Remediation and Technology Innovation. A major component of the Optimization Program is conducting site-specific technical assistance. This is where a team of independent experts conducts a systematic review of a facility of concern that is at any phase of the corrective action process. The main objective is to identify opportunities to ensure remedy protectiveness, technical effectiveness, and cost efficiency, while sponsoring progress toward site completion. This technical support is unique in that all parties involved (i.e., ORCR, regions, and other participants) contribute to the development of the final recommendations that are ultimately submitted to the regional project manager for consideration. **In FY22, five corrective action facilities from a total of four EPA Regions were reviewed** with new candidates currently being identified. Outcomes and implementation of the optimization reviews are shared with colleagues involved in corrective action, with lessons learned to be applied at other cleanups facing similar barriers.

Providing Site-Specific Technical Assistance

ORCR's corrective action technical and policy experts responded to numerous requests from regions, states, and other partners for support addressing technical or program policy issues. ORCR's Corrective Action Regional Liaisons coordinated support from various experts to work with regions and states to address issues. This included cleanup-milestones assessment and decision-making, appropriate remediation technologies, legacy and emerging contaminants, priority contaminants including poly- and perfluoroalkyl substances (PFAS) and lead (Pb), exposure pathways involving vapor intrusion, and technical issue resolution. In a similar effort to address guidance, enforcement, and financial questions and challenges, the program has a peer-support network, conducts monthly RCRA corrective action technical calls, and provides routine enforcement case support to regions and states.

Providing Cleanup Program Support

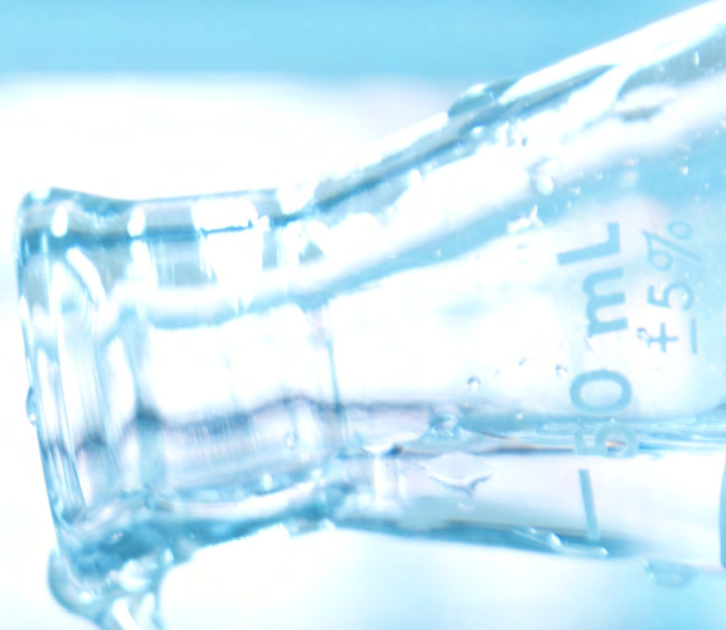
We lead monthly RCRA Corrective Action Technical Calls that connect regional and state program staff with experts who provide varying perspectives and experiences in the field of corrective action. Managers from EPA offices, regions, and states share and address issues experienced at corrective action facilities. Ongoing program efforts are also shared at this meeting. This includes environmental justice considerations, opportunities for community involvement, climate vulnerability mapping, electronic environmental data management, and development of regulatory steps to control contaminants of concern - such as Pb and PFAS.

We also represented the RCRA Corrective Action Program in the development of various OLEM cleanup policies. ORCR staff provide RCRA expertise and perspective, raise issues for decision, and communicate with regional staff management. This ensures awareness and transparency in the process. RCRA program input and recommendations are essential for ensuring that new OLEM cleanup policies are appropriate for the RCRA cleanup program.



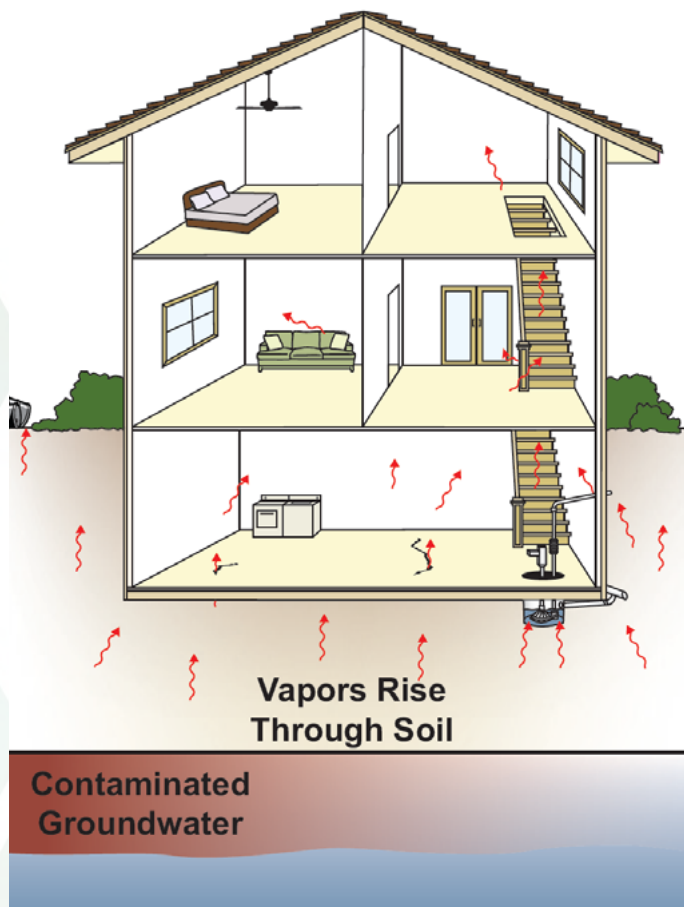
Continuing Research About Emerging and Legacy Contaminants

ORCR is actively involved in continuing research about the development of treatment strategies to address emerging and legacy contaminants of concern in groundwater and watershed systems. The overall objective is to eliminate these contaminants. They represent exposure pathways and unacceptable health risk at hazardous waste sites. The scientific findings are communicated to scientific- and community-level audiences at national and international (virtual) meetings. Additionally, these findings are presented to site-specific staff who make remediation decisions in the regions and states.




Addressing Exposures to Chemicals from Vapor Intrusion

In FY22, we led scientific research into improving the effectiveness of methods for detecting and mitigating exposure to chemicals through vapor intrusion into buildings. We identified improved methods using tracers, such as radon, and timing of sample collection to identify exposure risks more accurately. We developed evidence suggesting that installation of simple mitigation technologies may be more cost-effective and safer than continued testing. We also developed and hosted a full-day workshop on vapor intrusion at an international scientific conference. The workshop drew hundreds of participants who learned about techniques to use for improving cleanups and reducing chemical exposures to communities. We also presented our findings at a vapor intrusion science series and for an association addressing mitigation of vapor intrusion.



Supported a Soil Gas Community Pilot Project to Engage Communities

Corrective Action Program staff supported EPA's Office of Research and Development (ORD) initiation of a new pilot project testing an approach proposed by program staff to address chemical vapor intrusion into buildings from contaminated soil and groundwater. We collaborated in developing the scientific evidence behind the rationale for using a Soil Gas [Vapor] Safe Communities approach to cleanups. This approach offers more consistent and equivalent protection across all of those potentially exposed to vapor intrusion and provides protection at lower costs than traditional methods. The pilot project involves engaging community members in decision-making and occupants of buildings at potential risk for exposure in taking vapor measurements. These measurements can inform more rapid, collaborative risk-management decisions that are more protective and less costly than conventional approaches.



**Providing Guidance,
Regulatory Changes,
and Technical
Assistance to Ensure
Proper Waste
Management**

Finalized Hazardous Waste Generator Compendia to Help the Regulated Community

In FY22, we finalized the final five volumes of the [Hazardous Waste Generator Regulations Compendia](#). These volumes serve as user-friendly references to assist EPA, states, local governments, industrial facilities, and the public about regulatory issues in the federal hazardous waste generator program. The compendia assist EPA regions, states, and the regulated community in finding relevant EPA policy on specific generator topics more easily, by pulling together a collection of online resources, including relevant RCRAOnline memos, “Federal

Register” notices, and Code of Federal Regulations (CFR) language. The compendia volumes added in 2022 were titled: “Waste Determination and Point of Generation;” “Preparedness, Prevention, & Emergency Procedures and Personnel Training;” “Hazardous Waste Generators and the Mixture Rule;” “Spills and Releases of Hazardous Waste;” and “Counting Hazardous Waste and Generator Categories.” This brings the **total number of topics in the Compendium to 16.**



Published Quick Reference Guide FAQs to Assist First Responders

In April 2022, we issued a frequently asked questions [memorandum](#) with answers to questions about the Quick Reference Guide (QRG) requirements for large quantity generators of hazardous waste. The 2016 Generator Improvements Rule added these requirements to the hazardous waste regulations. The QRG consists of concise summaries detailing important information that first responders can use when responding to an incident (e.g., fire or spill) at locations that generate large amounts of hazardous waste. The FAQ memo provides helpful guidelines for the regulated community and co-regulators to improve implementation of the QRG provisions. This helps ensure that the most useful information is being provided to first responders to keep them safe and help them effectively respond to emergencies.



A 10-Step Blueprint for Managing Pharmaceutical Waste in US Healthcare Facilities



2022 Edition



Updated 10-Step Blueprint for Managing Pharmaceutical Waste

With assistance from OECA, the Hazardous Waste Pharmaceuticals Team updated the “[10-Step Blueprint for Managing Pharmaceutical Waste in U.S. Healthcare Facilities](#).” This document is a comprehensive guide that helps healthcare facilities, including hospitals, surgery centers, and urgent care facilities, understand the regulations. Consequently, using this guide, healthcare facilities will develop compliant, holistic, and cost-effective pharmaceutical waste management programs. The primary focus is to help healthcare facilities understand EPA’s hazardous waste regulations under RCRA as they apply to hazardous waste pharmaceuticals.

This was the first update since 2008 and reflects changes such as the [2019 Hazardous Waste Pharmaceuticals Rule](#), as well as a number of other applicable policy and regulatory changes. The Pharmaceuticals Team worked closely with the primary author, an industry expert, to ensure that information was presented in a way that is practical and understandable for healthcare Environmental, Health and Safety staff, including real-world examples and recommendations that account for actual policies and procedures.

EPA anticipates this update will allow the “10-Step Blueprint” to continue as a valuable compliance assistance tool used by both the regulated community and co-regulators in the states and regions.

Developed Water Reuse Action Plan Sewer Ban Fact Sheets

As part of our participation in the “Water Reuse Action Plan” the Pharmaceuticals Team developed two fact sheets about the prohibition on disposing of hazardous waste pharmaceuticals down the drain by flushing or pouring down a sink). This prohibition, a component of the [2019 Hazardous Waste Pharmaceuticals Rule](#), went into effect nationwide on August 21, 2019. Often referred to as the “sewer ban,” it is in effect at healthcare facilities and reverse distributors of all sizes in all states, territories, and Indian country. EPA wrote the first fact sheet as an [introductory fact sheet](#) for a broad audience. We wrote the [second fact sheet](#) for operators of publicly-owned treatment works. Both fact sheets included questions and answers about the sewer ban.

Published Lithium-Ion Battery Disposal and Recycling Stakeholder Workshop Report



We posted a [report](#) summarizing the valuable input from partners involved in end-of-life lithium battery management during the Fall 2021 Lithium-Ion Battery Disposal and Recycling Stakeholder Workshop. The workshop report captures attendee discussions on how to prevent fires through education, labeling, collection, and design. Additionally, we discuss how to increase the recycling of small/consumer lithium-ion batteries and large-format lithium-ion batteries.

Published Drum Reconditioner Damage Case Report

On September 8, 2022, we published a [Drum Reconditioner Damage Case Report](#) that examines documented instances where incidents at drum reconditioning facilities caused significant and lasting damage to human health and the environment. **Of the total 181 drum reconditioning facilities identified by EPA, 86 had one or more reported damage cases, representing 47.5 percent of the industry.** Damages include fires; drum explosions; hazardous waste spills; improper storage of drums; employee injuries; air, water, or soil contamination; and various combinations of these incidents. This report also analyzes the regulatory and waste issues surrounding drum reconditioning facilities. Finally, this report notifies the public of the issue and engages interested parties early in the process of addressing these issues, particularly on methods to prevent future damage to human health and the environment from drum reconditioners.



Published Non-Hazardous Secondary Materials Proposed Petition Response

In January 2022, [EPA proposed to deny a rulemaking petition](#) from a coalition of industry petitioners that requested revisions to the Non-Hazardous Secondary Materials (NHSM) regulations. The NHSM regulations establish standards and procedures for identifying whether non-hazardous secondary materials are solid wastes when used as fuels or ingredients in combustion units. Such a determination is important for ensuring that NHSM fuels are only burned in units that are appropriately designed to burn them.

In explaining the reasons to deny the petition in the “Federal Register” notice, we noted that the requested regulatory changes would negatively affect the NHSM program broadly. Overall, this would increase the levels of contaminants that could be burned in units that are not appropriately designed to burn them. This would potentially increase emissions, which would most likely disproportionately affect minority and low-income communities since the facilities in question are more frequently located in such areas.



Published Definition of Solid Waste Implementation Guide to Provide Greater Clarity

In August 2022, we published an [implementation guide](#) for the Definition of Solid Waste (DSW) exclusion found at Title 40, Code of Federal Regulations, Section 261.4(a)(24). The recycling exclusions promulgated under EPA's DSW rulemakings are intended to facilitate the legitimate reclamation of hazardous secondary materials to encourage resource conservation and materials recovery, while protecting human health and the environment. The conditions associated with the exclusion help ensure that materials are safely and legitimately recycled rather than discarded.

The litigation history around the DSW rulemakings, coupled with a state's ability to be more stringent than the federal requirements, has resulted in a complex national landscape for this exclusion, with different states adopting different versions of the rules. The implementation guide provides a plain-language explanation of how the different versions of this exclusion interact, with particular focus on interstate transport and import/export issues.

Presented Training on the Definition of Solid Waste and Hazardous Secondary Materials

We presented in-depth training on the DSW and Hazardous Secondary Materials (HSM) Recycling virtually at the Region 6 National Inspector/Enforcement Officer 2022 Training in April, **reaching over 300 state, regional, and EPA staff** and in person at the August 2022 Joint Hazardous Waste and Materials Management ASTSWMO training to state and EPA hazardous waste professionals. The training focused on identifying HSM, how HSMs are regulated under RCRA, and when an HSM is eligible for a recycling exclusion. EPA used examples and case studies to illustrate the most recent DSW exclusions, the concept of speculative accumulation, and the definition of legitimate recycling.





Preventing Harmful Exposure to Coal Ash Contamination

Conducting Outreach to CCR State Partners

We engaged in extensive CCR outreach with state partners. For example, staff presented at the annual ASTSWMO meeting and at many meetings with state directors and staff. Highlights from ORCR's CCR work with states in FY22 are below. EPA has approved three state CCR permit programs: in Oklahoma, Georgia and Texas.



Alabama

The state submitted an official package in December 2021. EPA is reviewing the application for completeness. EPA held calls with the state on technical issues at CCR facilities in Alabama.



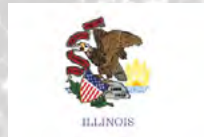
Arizona

EPA held calls with the state in FY22 and provided comments on the draft statutory changes that gave the state authority to create CCR regulations. The state is currently updating its regulations.



Florida

Region 4 and ORCR worked closely with Florida in FY22. An official package submittal is anticipated in FY23. EPA and the state addressed technical issues at CCR facilities in Florida.



Illinois

ORCR and Region 5 worked with the state during FY22. The state finalized its regulations in March 2021 and plans to submit an application to EPA in early 2023. EPA corresponded with the state on technical issues at CCR facilities.



Kansas

ORCR and Region 7 corresponded monthly with the state officials to discuss technical clarifications during the state's drafting of regulations. EPA deliberated with the state on technical issues at CCR facilities in Kansas.



Louisiana

ORCR and Region 6 collaborated during FY22 to assist the state with drafting its regulations.



Texas

The CCR permit program was approved in June 2021. Texas is now the third state with an approved program that operates in lieu of the federal CCR program. EPA corresponded with the state on technical issues at Texas CCR facilities.



Maryland

ORCR reviewed the draft state regulations and provided comments in early FY22.



Pennsylvania

Region 3 and ORCR met with the state in 2022 to begin reviewing draft regulations and provide support to the state as they work on their application for state CCR permitting program approval.



Michigan

The state submitted an official package in April 2020. ORCR and Region 5 staff continue to work with the state on its updated package by facilitating monthly calls. Of primary focus was discussion on technical issues encountered at CCR facilities in Michigan.



Virginia

Region 3 and ORCR met with the state in 2022 on technical issues about facilities in Virginia. The state is updating its CCR regulations based on federal regulatory changes.



North Dakota

The state submitted an official package in September 2020. ORCR and Region 8 staff continue to work with the state to provide technical and programmatic clarifications.



West Virginia

ORCR and Region 3 met with the state in FY22 and provided input on public participation and the incorporation by reference date to the state. EPA and the state discussed technical issues at CCR facilities in West Virginia.



Ohio

ORCR and Region 5 officiated monthly calls with the state during FY22 as the state drafts CCR regulations.



Wisconsin

Region 5 and ORCR continue to have monthly calls with the state as the state adopted CCR regulations and is preparing an application package to submit in FY23. Wyoming- The state updated its regulations and plans to submit a package to EPA in FY23. EPA met with the state on technical issues at CCR facilities in Wyoming.

Took Key Steps to Protect Groundwater from Coal Ash Contamination

This year, we took several actions to protect communities and hold facilities accountable for controlling and cleaning up the contamination created by decades of coal ash disposal. Coal combustion residuals (CCR or coal ash), a byproduct of burning coal in coal-fired power plants, contains contaminants like mercury, cadmium, and arsenic that without proper management can pollute waterways, groundwater, drinking water, and the air.

These actions advance the Agency's commitment to protecting groundwater from coal ash contamination and include: proposing decisions on requests for extensions to the current deadline for initiating closure of unlined CCR surface impoundments; putting several facilities on notice about their obligations to comply with CCR regulations; and describing future regulatory actions to ensure coal ash impoundments meet strong environmental and safety standards. EPA is committed to working with states to ensure robust protections for communities.

Addressed Requests for Extensions to CCR Surface Impoundment Closure Deadlines

We received and [reviewed 57 applications from CCR facilities requesting deadline extensions](#) and determined 52 were complete, four were incomplete, and one was ineligible for an extension. Of the 52 complete applications, EPA conducted technical analyses and proposed determinations on six applications in FY22, with more determinations planned for FY23.

We **proposed to deny three requests for deadline extensions** after identifying several potential deficiencies with groundwater monitoring, cleanup, and closure activities. This includes a lack of monitoring wells, improper monitoring techniques, faulty identification of other sources of groundwater contamination, and insufficient evaluations of clean-up technologies. Any one of these could prevent adequate groundwater cleanup. EPA proposed three conditional approvals that require the facilities fix groundwater monitoring and corrective action issues.

Bringing Facilities into Compliance

In FY22, we worked with the states, EPA Regions, and OECA to assess facility compliance with CCR rule provisions.

EPA notified facilities of their compliance obligations where the Agency had information concerning the possible presence of issues that impact health and the environment. Concerns outlined in separate letters include improper groundwater monitoring, insufficient cleanup information, improper closure of surface impoundments that have ash in contact with groundwater, and the regulation of inactive surface impoundments.



Promoting Solid Waste Management Domestically and Internationally

Transitioned to Waste Import/Export Tracking System (WIETS)

From October through December 2021, we received **160 export notices and 176 import notices** in the previous Waste Import and Export Tracking System (WIETS) that was discontinued December 31, 2021. During that time, staff **reviewed and fully processed 354 export notices and 249 import notices in the WIETS system** in preparation of its discontinuation. ORCR staff transitioned to the new WIETS module integrated into RCRAInfo in January of 2022.

The WIETS application is now used to process, track, and manage all U.S. exports and imports of RCRA hazardous waste that are subject to the prior informed consent (PIC) process. Since the launch of the WIETS application, **we have received 1,175 export notices and 811 import notices and have reviewed and processed 960 export notices and 721 import notices, issuing responses to U.S. exporters, U.S. importers, U.S. receiving facilities, and foreign countries.**

With WIETS integrated into RCRAInfo, we will continue to leverage the e-Manifest application to the extent practical.

Released Modules to Accompany Solid Waste Management Toolkit for Developing Countries

In FY22, we released a series of nine new online learning modules to accompany EPA's [Best Practices for Solid Waste Management: A Guide for Developing Countries](#). The new modules offer users an interactive way to explore specific solid waste management topics from this guide at their own pace.

The guide and modules present local and state decisionmakers in developing countries with best practices, information, and resources to address solid waste management challenges in their communities. Our Solid Waste Management toolkit provides a comprehensive “one-stop shop” for decisionmakers, combining a guide document and interactive modules with electronic links to detailed information on critical solid waste management topics.

The guide is also available in Spanish and French to reach a broader audience. Additional Vietnamese, Thai, and Indonesian translations will be released in the coming months. Supplemental tools and additional translations of the guide and modules will be developed in FY23 to continue building on the toolkit.



Want to learn about proper waste management from around the world?

New! EPA has released learning modules to highlight best practices in global solid waste management

Learn about:

- | | |
|---|---|
|  Governance |  Collection and Transportation |
|  Stakeholder Engagement |  Organics |
|  Characterization |  Recycling |
|  Prevention and Minimization |  Disposal |
| |  Energy Recovery |



Access EPA's online learning modules: Best Practices for Solid Waste Management



Visit EPA's website to access the modules and learn more



Ensuring the Safe Management of Waste Through the Basel and Minamata Conventions

We coordinated with a variety of U.S. constituents and other federal agencies to successfully represent U.S. interests at several Basel Convention meetings in FY22 including the Basel Convention's Conference of the Parties. Here countries decided they would control exports and imports of hazardous and non-hazardous electrical and electronic waste starting in January 2025.

We also represented the U.S. in the Basel Expert Working Group on Review of Annexes. Currently, they are considering proposals to change the Convention's definition of waste and classification of hazardous waste. ORCR staff aided in the development of technical guidelines on the environmentally sound management of plastic scrap and waste. Countries are eager to help inform negotiations to establish a global agreement to address plastic pollution in the coming years.

As the Basel Convention continues to evolve and increasingly impact the U.S., ORCR experienced renewed interest in U.S. ratification from interested parties representing the recycling, waste management, and electronics manufacturing sectors. The U.S. has not yet ratified the Convention. Despite that, ratification offers an opportunity to help ensure the environmentally sound

management of recycled materials traded with other countries. This would strengthen markets and facilitate more circular approaches to critical materials. For these reasons, EPA identified strengthening U.S. participation in the Basel Convention, including exploring options to enable U.S. ratification, as an action in EPA's National Recycling Strategy - published in November 2021.



We also continue to play a major role in the update of technical guidelines for the environmentally sound management of mercury waste. These guidelines are critical to the implementation of another international treaty, the Minamata Convention on Mercury.

We participated in the U.S. delegation to the Conference of Parties meeting (COP-4.2) of the Minamata Convention on Mercury, held March 2022, in Bali, Indonesia. The ORCR delegate represents the U.S. on technical expert groups for both mercury waste thresholds and mercury releases. On mercury waste thresholds, a new definition for mining tailings was adopted after years of international negotiations. On mercury releases, ORCR collaborated with colleagues at EPA and the State Department to obtain final technical amendments into the adopted guidance on inventories of mercury releases to land and water.



Working with the Commission on Environmental Cooperation (CEC)

We continue to work with counterparts in Environment and Climate Change Canada, as well as Mexico's Secretariat of Environment and Natural Resources (SEMARNAT). This work is made official under the CEC "Project Trilateral Data Exchange System on the Import and Export of Hazardous Waste – Maintenance, Implementation, Testing and Launch of US-Mexico API (Application Programming Interface) Exchange in Production." The group's goal is to transition the original node-based Notice and Consent Electronic Data Exchange (NCEDE) to a more-efficient, API-based NCEDE. The EPA has now achieved the successful and fully operational electronic exchange of notices between Mexico and U.S. using the API-based U.S.-Mexico exchange in production. Likewise, EPA is currently testing out a similar API-based U.S.-Canada exchange in preproduction.

Launched All Hazards Waste Management Planning Tool to Help Create Resilient Communities

On August 10, 2022, we publicly launched the latest version of our [All Hazards Waste Management Planning \(WMP\) Tool](https://wasteplan.epa.gov) (wasteplan.epa.gov).

This interactive online tool assists users in developing pre-incident waste management plans. It walks a user through the process of developing a robust plan for managing waste after a disaster. This is for both man-made disasters (i.e., chemical, biological, radiological) or natural (i.e., hurricane, tornado, flood). Waste management is an area of disaster response that can easily be overlooked until the community is faced with large debris piles after a disaster.

Using this tool, communities can enter information and obtain input on what waste streams they can expect after a disaster, and where these wastes can be managed. The tool also provides a platform

for recording information like what sampling and analysis of the wastes may be required, waste management strategies, staging area locations, transportation issues, waste tracking and reporting, as well as community outreach and resource needs.

The WMP Tool will become the central platform for integration with a series of related EPA tools, linking to them or directly importing the information into the user's plan. The latest version is fully integrated with Office of Research and Development's (ORD) I-WASTE Tool as well as the [Disaster Debris Recovery Tool](#). This tool has been presented in several webinars, including the U.S. EPA Research Webinar; view the slides below:



The screenshot shows a webinar slide from the U.S. Environmental Protection Agency (EPA) Office of Research and Development. The slide is titled "Emergency Response Research Webinar Series" and "Pre-incident Planning for CBRN Waste Management". The date and time are "July 13, 2022 from 2:00 to 3:00 pm ET". The slide includes instructions for asking questions, webinar support, and audio controls. A certificate of attendance is also mentioned. The slide features a background image of a waste management site and the EPA logo.

U.S. EPA Research Webinar:
[Pre-Incident Planning for CBRN Waste Management](#)

Work has already begun on the next update, which will include features such as the ability for users to upload files into their plan, improved information on waste volumes and additional potential waste streams, as well as the ability to share plans among users.

Promoting the Conservation of Resources and More Broadly, Building a Circular Economy



Transforming Waste Management and Building a Circular Economy

Congressional commitment to reinventing and reinvesting in recycling is embodied in new legislation, new initiatives, and unprecedented funding. This support drives and shapes our vision and path toward a circular economy. First, we are undertaking ambitious work authorized under the December 2020 Save Our Seas 2.0 Act. Enacted to address the threat of plastic pollution and support grants to invest in recycling, Save Our Seas 2.0 set the stage by defining a circular economy. Then, in November 2021, Congress passed the Infrastructure, Investment and Jobs Act—also referred to as the Bipartisan Infrastructure Law—to provide historic funding to develop and implement the vision reflected in EPA’s Circular Economy Strategy Series.

Recapturing Waste as a Resource

Material processing and waste affects people and the environment at many levels. About half of total global greenhouse gas emissions result from the extraction and processing of materials, fuels, and food. Greenhouse gas emissions from plastics production alone are expected to double by 2060. Locally, communities—particularly those with environmental justice concerns—experience the environmental and human health impacts of waste more than others.

One important way to tackle these problems is through recycling. Yet, 50 years after the introduction of the recycling symbol on the first Earth Day, the U.S. recycling system has not kept pace with the new types of materials, products, and waste generated. And EPA understands that recycling alone will not be enough to solve the climate crisis, environmental injustice, or pollution. Meeting these challenges requires a transformative vision coupled with bold action. Our economy must transition to a more sustainable, circular approach focused on reducing and reusing materials, redesigning materials to be less resource intensive, and recapturing “waste” as a resource to manufacture new materials and products. We recognize that this transition must be grounded in social and environmental equity. And, we have already made significant progress toward achieving a circular economy for all.



National Recycling Strategy

Part One of a Series on Building a Circular Economy for All



November 15, 2021

Published Part One of the Circular Economy Strategy Series

The [Circular Economy Strategy Series](#) outlines a transformative 10-year vision that embraces circularity and sustainable materials management and addresses climate change and environmental justice. We launched the [National Recycling Strategy](#), the first part of the series, on the same day that President Biden signed the Bipartisan Infrastructure Law: November 15, 2021, America Recycles Day. The National Recycling Strategy—published in English and Spanish—highlights the actions needed from governments, industry, and others to modernize our recycling and waste management system.

Developed Comprehensive Information on Strategies to Reduce Plastic Waste

At least 14 million tons of plastic end up in oceans every year, threatening coastal ecosystems, affecting our communities, and harming marine life. The plastics crisis demands innovation and incentives to transform material design, use, and disposal.

The 2020 Save Our Seas 2.0 Act is the most comprehensive legislation ever passed to address the issue. It mandates EPA collaborate with key partners to identify innovative uses for plastic waste, recommendations for overcoming barriers to recycling, incentives to create new end-use markets for recycled plastics, and opportunities to minimize new plastic waste. The Act also authorizes EPA to create and administer the new Solid Waste Infrastructure for Recycling grant program, funded by the 2020 Bipartisan Infrastructure Law.

We teamed up with EPA's Office of Water and other federal agencies including the National Oceanic and Atmospheric Administration, the U.S. Department of Transportation, and the National Institute of Standards and Technology to lead the development of studies and strategies under the Save Our Seas 2.0 Act that will help break barriers and incentivize innovation to reduce plastic waste. We also contribute to this work as part of our role in the Interagency Marine Debris Coordinating Committee.

Working on 18 Actions in the Strategy

This includes 13 EPA-led actions such as creating a national map of existing recycling infrastructure, conducting a financial needs assessment related to recycling infrastructure in the United States, researching domestic and international circular economy policies, providing grants to support community recycling programs, and developing a recycling measurement guide for state, local, and tribal governments.

To date, 2,008 entities have signed up to stay informed about the National Recycling Strategy activities and accomplishments.

Unless We Transform Our Business as Usual...

Global plastic production is projected to grow by 40% over the next decade.

Greenhouse gas emissions from the plastics lifecycle are projected to more than double by 2060.



Engaged with Diverse Groups Nationally and Across All Regions


The 2021 Bipartisan Infrastructure Law provides EPA with immense federal funding to develop and implement new initiatives to support communities and spur industry toward creating a circular economy for all. This funding supports implementation of EPA's Circular Economy Strategy Series and the Solid Waste Infrastructure for Recycling grant program authorized under the Save Our Seas 2.0 Act. The Bipartisan Infrastructure Law also authorizes a new Recycling Education and Outreach grant program, as well as Battery Collection Best Practices and Labeling Guidelines.

ORCR is designing the new grant programs and battery guidelines with meaningful input from a wide range of groups. We have had valuable conversations nationally and across all [EPA Regions](#). The discussions generated valuable insights on recycling challenges, barriers, and needs. ORCR has compiled and referred to this feedback to inform each program's design. The goal is to create programs with requirements and resources that are equitable and effective. Both grant programs established by the Bipartisan Infrastructure Law are covered under President Biden's Justice 40 Initiative.




Issued Requests for Information on Recycling Grants and Battery Best Practices and Labeling Guidelines

On June 9, 2022, we issued Requests for Information for the Bipartisan Infrastructure Law–funded initiatives to further engage diverse organizations and communities to inform the grant programs and best practices and guidelines for batteries.




Solid Waste Infrastructure for Recycling Grant Program

This program will help address organizations’ recycling infrastructure needs and challenges. Improving recycling infrastructure is key to improving recycling rates and decreasing contamination across the country.




Recycling Education and Outreach Grant Program

This program will help increase awareness and decrease confusion around what is recyclable.



Battery Collection Best Practices

This resource for states, territories, tribes, and local governments aims to provide information on increasing the circularity of batteries and critical minerals, as well as the safe management of batteries.



Voluntary Battery Labeling Guidelines

This resource for battery producers and consumers will provide information about the recyclability of batteries.

A collection of colorful toy vegetables and fruits scattered on a white surface. In the foreground, a green toy trash bin is visible, containing a corn cob. The toys include a carrot, cauliflower, radish, pumpkin, pear, cucumber, eggplant, bell pepper, watermelon slice, broccoli, banana, chili pepper, and a pea pod.

**Promoting Resource
Conservation
through Food Loss
and Waste Reduction**



Updated Food Loss and Waste Reduction Goal

In the Fall of 2021, we updated our interpretation of the 2030 food loss and waste reduction goal to align with the **United Nations Sustainable Development Goal Target 12.3**: cutting in half the amount of food leaving the human food supply chain. This replaced the original interpretation that aimed to cut in half the amount of food going to landfills and combustion facilities.

In December of 2021, ORCR and Office of Research and Development (ORD) held a meeting with state and local governments, nongovernmental organizations, industry, and academic partners to solicit input on 1) key actions EPA could take to help the U.S. achieve the 2030 Food Loss and Waste Reduction Goal and 2) research needs to help inform ORD's research planning.


In early 2022, we announced the [selection of 11 organizations to receive two million dollars to tackle the climate crisis through food diversion](#).

In the first few months of 2022, we also announced our [Food Recovery Challenge Awards for 2020 and 2021](#).



Our social media focus for Earth month was on


IMPACTS OF FOOD WASTE

 EPA Land @EPALand

#NoWastedFood
Here are 3 tips on how you can throw away less food at home:

- ✔ Shop your fridge to avoid buying food you already have, ❌
- ✔ Some fruits & veggies do (❤️) or don't (🥴) go in the fridge,
- ✔ Prepped foods are likely eaten first. 🍴

epa.gov/recycle/preven...



11:00 AM - Apr 19, 2022 - Salesforce - Social Studio

 EPA Land @EPALand

Why work towards **#NoWastedFood**? 🤔
Because:

- ✔ In the U.S., we throw away 35 million TONS of food every year! 🗑️
- ✔ Food is the single largest type of waste in our daily trash. 🍌
- ✔ Wasting food means wasting water 💧, energy ⚡, transportation 🚚 & production costs. 🏭

#EarthMonth



2:00 PM - Apr 19, 2022 - Salesforce - Social Studio

 EPA Land @EPALand

It's **#EarthMonth** - time to help make the planet better.

Let's start in the kitchen.

#DYK the avg person throws away 153 lbs of food a year?
Let's change the idea of the fridge crisper drawer from "the place where good intentions go to die" - to - "oh look - snack!" instead! 😋



8:00 AM - Apr 20, 2022 - Salesforce - Social Studio

 EPA Land @EPALand

#Earthday2022
🍌🍎 Preventing food from going to waste is one of the most powerful 🙌 actions you can take to save 💰 & lower effects to **#ClimateChange**; helping to build a brighter, healthier future for all.

Get tips on reducing food waste at home, at: epa.gov/recycle/preven...



11:30 AM - Apr 22, 2022 - Salesforce - Social Studio

 EPA Land @EPALand


#NoWastedFood
Reducing food waste isn't just good for the planet, it's also good for the wallet! 💰

- ✔ The average family of 4 spends \$1500/yr on food that never gets eaten! 🍌

Save money AND help save the planet with some simple tips on our webpage, at: epa.gov/recycle/preven...



10:30 AM - Apr 26, 2022 - Salesforce - Social Studio

 EPA Land @EPALand


#StopFoodWasteDay: Reducing food waste can help ❤️ the planet 🌍!

Food thrown into landfills can result in add'l greenhouse gas emissions that contribute to **#ClimateChange**.

Instead, try:

- ✔ Donating excess to food banks 🍌 and
- ✔ Composting scraps 🌱.

epa.gov/recycle/preven...



8:00 AM - Apr 27, 2022 - Salesforce - Social Studio

Since October of 2021, we have announced the following new

FOOD LOSS AND WASTE 2030 CHAMPIONS

We have continued our federal food loss and waste interagency collaboration with the United States Department of Agriculture and Food and Drug Administration as well as continued collaboration across the agency - notably with ORD, OITA, and OAR programs.



ALDI
Joined March 14th



PILGRIM'S
Joined May 13th



THE SF MARKET
Joined April 13th



BJ's
Joined January 31st



ALBERTSONS
Joined January 19th



STARBUCKS
Joined January 13th



PETE PAPPAS & SONS
Joined March 8th



JON HENRY GENERAL STORE
Joined August 22nd



SMITHFIELD
Joined November 3rd



DANONE USA
Joined November 19th



TYSON
Joined January 28th



SYSCO
Joined January 10th



KERRY
Joined April 7th



JBS USA
Joined May 13th

An aerial photograph of a dense, vibrant green forest. A winding river flows through the center of the forest, its blue water contrasting with the surrounding foliage. Mist or low clouds are visible, partially obscuring the trees in several areas, adding a sense of depth and atmosphere to the scene.

Promoting Resource Conservation through Education and Outreach

Communicating Our Important Work

And, last but certainly not least, several parts of the organization work to support ORCR's mission to protect human health and the environment through service-related functions, such as hiring, budget, contracts, economics, and communications support. The Communications Services Staff (CSS) supports our mission through a variety of communications products.

CSS cultivates 25 topical web areas containing **about 2,000 webpages** designed to help the public understand our work. In FY22, we began a massive project to address ORCR's archived web content. Among the many edits and additions to our web areas, we established new pages about the Bipartisan Infrastructure Law, Corrective Action Redevelopment Economics, and the PCB rulemaking.

In the last fiscal year, ORCR webpages were **viewed a total of 7.76 million times**. The top three most-visited pages across ORCR's web topics were the [Reduce, Reuse, Recycle web area](#), specifically the [Recycling Basics \(380,000 visits\)](#) and [Composting at Home \(359,000 visits\)](#) webpages, followed by the [Facts and Figures National Overview](#) webpage (**279,000 visits**). Of the approximately **430,000 downloads** of ORCR files from our website, the most popular downloads were in the [hazardous waste test methods](#), [hazardous waste generators](#), and [facts and figures about materials, waste, and recycling](#) web areas.



In FY22, CSS published **seven press releases**, drafted numerous communications plans, desk statements, video scripts, articles, social media plans and posts, Presidential Proclamations, talking points, slide decks, and copyedited several products. CSS communicated the impressive work of ORCR through two monthly electronic newsletters and began transitioning to a new platform. The Sustainable Materials Management newsletter, has more than **20,000 subscribers** and the Solid and Hazardous Waste newsletter, has over **2,700 subscribers**.

CSS responded to **174 inquiries from news media** in FY22. Each inquiry involved about a dozen people, many with detailed follow-ups and coordination across the Agency. CSS began sharing a regular ORCR News Roundup to highlight our work covered by the press.

In FY22, CSS led several staffers and managers through media training in preparation for interviews with the press and led ORCR through a plain language training. CSS presented on several webinars and supported communications for multiple announcements.

CSS developed several new products that it shared with the Office, including a social media guide and a cheat sheet for smart phone photography. We also helped the Office Director make an appearance at an event she couldn't attend by capturing a quick introduction via video and sending it instead. We continue to showcase the vast breadth and depth of work accomplished by ORCR to ensure the public understands everything we do to protect human health and the environment.





The mission of the Office of Resource Conservation and Recovery (ORCR) is to protect human health and the environment by promoting the conservation of resources, ensuring proper waste management, preventing harmful exposure, and overseeing the cleanup of land for productive use. We do this by establishing and implementing regulatory standards, incentive-based programs, and best practices in collaboration with communities, governments, businesses, and other organizations. ORCR implements the *Resource Conservation and Recovery Act (RCRA)*.



Office of Resource Conservation and Recovery
Office of Land and Emergency Management

www.epa.gov/rcra/epas-office-resource-conservation-and-recovery-orcr