EPA Evaluation and Evidence-Building for FY 2024

FY 2024 Annual Evaluation Plan

EPA

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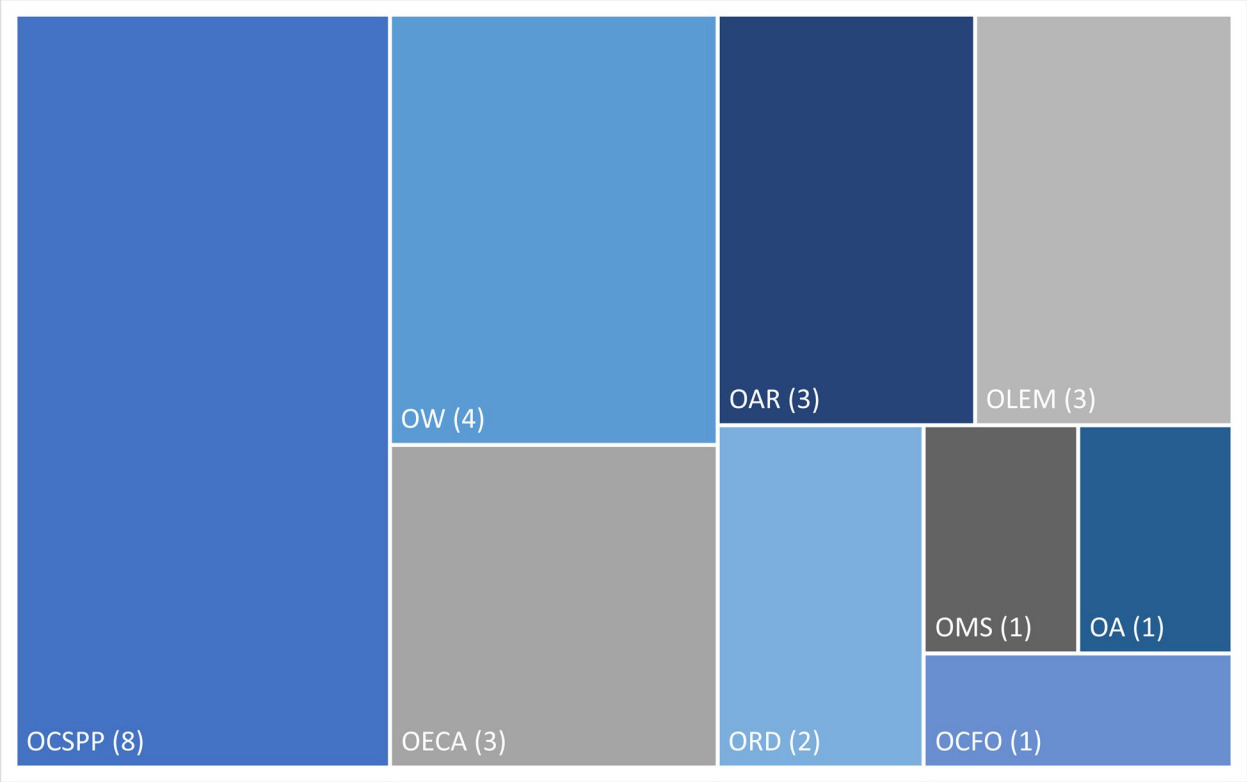
EPA Evaluation and Evidence-Building for FY 2024

The Foundations for Evidence-Based Policymaking Act (Evidence Act) provides a framework to promote a culture of evaluation and continuous learning to ensure Agency decisions are made using the best available evidence. EPA's FY 2024 Annual Evaluation Plan (AEP) describes significant program evaluations and other evidence-building activities the Agency plans to undertake in FY 2024. The Agency's FY 2024 AEP includes program evaluations that assess program outcomes, support program improvement, and aid decision making. Final program evaluation reports will be available at EPA's website: https://www.epa.gov/evaluate unless otherwise indicated.

The following activities are cited in this document:

Number of Activities Outlined per Office



FY 2024 Annual Evaluation Plan

OCSPP: Office of Chemical Safety and Pollution Prevention

Title	EPA-Supported WPS Training of Farmworkers
Lead National Program	Office of Chemical Safety and Pollution Prevention
Strategic Goal and Objective Supported	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and brief description:

This study uses pre- and post-training assessments to gauge the effectiveness of this recurring training. EPA provides funding through a 5-year cooperative grant to train farmworkers in accordance with the Agricultural Worker Protection Standard (WPS) rule. WPS pesticide safety training is an annual requirement. This evaluation will track the number of individuals trained and the effectiveness of the training by assessing participant knowledge and understanding before and after the training.

Programmatic or policy decisions this activity will inform:

Effectiveness and scope of the EPA-supported WPS training.

Question(s) this activity will address:

- How many farmworkers are receiving EPA-supported annual training required under the WPS rule, and what is their knowledge of the material at completion of the course?

Data, tools, method/analytical approach:

Critical data sets include information provided by the grantee on number of individuals trained. The evaluation will include pre- and post-training assessments of those trained. EPA can follow up with the grantee for assessment of factors leading to performance results against quarterly and annual targets.

Anticipated challenges and proposed solutions:

The COVID-19 public health emergency may continue to influence the grantee's training reach. Social distancing and other in-person protection strategies means smaller training groups and fewer individuals trained. Remote training can present technical challenges for some workers. Additional COVID-related impacts experienced in FY 2022 include farmers and growers' refusal to let trainers onto farms to conduct training for fear of exposing workers to COVID, and decreased capacity within the grantee's national network of training organizations (hiring and retention challenges, loss of established relationships with the agricultural community). In-person training is a preferred method to engage with trainees; the grantee and agricultural establishments will continue to implement strategies to address the pandemic-related obstacles while meeting the training needs. The grantee is currently aligning/redirecting resources to institutions with training capacity and will continue reaching out to their network and partnering organizations, including local agencies, nonprofit organizations, community leaders and agricultural employers, to better understand their capacity and increase efforts to return to in-person training.

Dissemination of findings: Evaluation results will be made publicly available in the Annual Reports on PRIA Implementation (https://www.epa.gov/pria-fees/annual-reports-pria-implementation).

Title	Effectiveness of OCSPP Pollution Prevention Activities
Lead National Program	Office of Chemical Safety and Pollution Prevention
Strategic Goal and Objective Supported	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.2: Promote Pollution Prevention
Planned Start Date	Continuing from FY 2022
Planned Completion Date	September 2024

Purpose and brief description:

The Pollution Prevention (P2) Program seeks to alleviate environmental problems by leveraging business-relevant approaches to achieve significant reductions in the generation of hazardous releases to air, water, and land; reductions in the use of hazardous materials, which also advances EPA's chemical risk reduction and management goals under the Toxic Substances Control Act (TSCA); reductions in the generation of greenhouse gases; and reductions in the use of water. As a result of these preventative approaches, the P2 Program helps businesses and others reduce costs and access market opportunities.

Programmatic or policy decisions this activity will inform:

Review will assess the degree of progress and outcomes of the P2 programs, as well as the utility of performance measures for the program.

Question(s) this activity will address:

The overarching evaluation question the program intends to address is "What are the outcomes of EPA's P2 programs?" More specific questions will be aligned to individual programs and initiatives, such as the environmental justice aspects of implementation of the BIL and the climate aspects of implementation of

the Inflation Reduction Act (IRA). Additionally, EPA intends to address questions about outcomes of the Safer Choice Program considering increased leadership interest and support for the program.

Data, tools, method/analytical approach:

EPA will review a range of data assets to determine how the information and data collected as part of the P2 grant programs, the existing list of Safer Choice products, and other performance metric targets can be used for FY 2024 conduct of evaluation of effectiveness and outcomes, as well as for continuous improvements of day-to-day operations.

Anticipated challenges and proposed solutions:

At this time, EPA does not anticipate any major challenges in gathering relevant data. This assessment may change pending the review of data assets and evaluation plans developed in FY 2023.

Dissemination of findings:

EPA anticipates making evaluation findings public through EPA's website www.epa.gov/evaluate, as well as other program venues as appropriate.

OECA: Office of Enforcement and Compliance Assurance

Title	Assessing the effectiveness of offsite compliance monitoring
Lead National Program	Office of Enforcement and Compliance Assurance
Strategic Goal and Objective Supported	Goal 3: Enforce Environmental Laws and Ensure Compliance Objective 3.2: Detect Violations and Promote Compliance
Planned Start Date	Continuing from FY 2022
Planned Completion Date	September 2024

Purpose and brief Description:

This project is a part of OECA's Compliance Learning Agenda which collaborates with states, tribes, and academics to identify the most pressing programmatic questions, and create a venue for EPA, states, tribes, and territories to collaborate in the development of evidence-based enforcement tools and techniques that will ensure the biggest impact on environmental compliance. As EPA moves out of the pandemic that restricted our ability to do onsite inspections, it recognizes that a broader portfolio of Off-site Compliance Monitoring (OfCM) activities may provide the Agency with additional tools for our enforcement and compliance programs. To assess what EPA has learned from the extended use of the past two years and gain insight into the efficacy of OfCM tools relative to onsite inspections, the Agency is conducting an exploratory evaluation using readily available data and information to inform interim guidance and best practices. EPA will then use those results to guide a longer-term evaluation of OfCM

and the best uses of these tools going forward. The Agency anticipates that the answers to these questions will involve multiple evaluation efforts given the range of programs and OfCM tools that will need to be assessed.

Programmatic or policy decisions this activity will inform:

In addition to furthering the efforts of OECA's Compliance Learning Agenda, the results of this activity will inform future Agency policy and guidance related to Off-site Compliance Monitoring.

Question(s) this activity will address:

- How does the effectiveness of off-site compliance monitoring activities compare to onsite inspections?
- What outcomes does the Agency achieve from off-site compliance monitoring?
- What is the best use for OfCM? (Does it depend on the tool, the program, and on the compliance history of the facility?)
- Do OfCM tools support enforcement activities?

Data, tools, method/analytical approach:

Data mining and analysis will use State/EPA inspection data, enforcement data, and State OfCM data from ICIS, other EPA data systems, and State associations. Some EPA regional OfCM data will be analyzed from a short questionnaire for the short-term study. An algorithm may be used to establish links between OfCM inspection activities and enforcement actions. The Agency also plans to partner with academics to develop methodology for longer term evaluations.

Anticipated challenges and proposed solutions:

There are potential significant data limitations associated with this activity. For example, because of the broad categories in ICIS, the definition of the OfCM activity performed in ICIS may not be indicative of the actual activity performed. To address this, EPA will use an array of different data sources to obtain as much specific, credible information as possible to minimize data irregularities. The Agency will develop and use algorithms to establish direct links and/or correlations between OfCM activities and enforcement actions. Longer term evaluations will require participation by our state and tribal partners to be successful. EPA has partnered with the E-Enterprise Leadership Council (EELC) and have invited the Environmental Council of States (ECOS), states, and tribes to participate in the workgroup to complete learning agenda projects.

Dissemination of findings:

EPA anticipates making project findings public through EPA's website, www.epa.gov/evaluate, as well as other public venues as appropriate.

References and Relevant Sources

- OECA Compliance Learning Agenda
- EPA Offsite Compliance Monitoring Project
- EPA OfCM Project Partnership Portal

Title	Identifying interventions that are effective at overcoming the impediments to municipal compliance
Lead National Program	Office of Enforcement and Compliance Assurance
Strategic Goal and Objective Supported	Goal 3: Enforce Environmental Laws and Ensure Compliance Objective 3.2: Detect Violations and Promote Compliance
Planned Start Date	October 2023
Planned Completion Date	Through FY 2024

Purpose and brief description:

This project is a part of OECA's Compliance Learning Agenda (CLA) which collaborates with state, tribal, and territorial government environmental professionals, and academics, to identify the most pressing programmatic questions, and create a venue for EPA, states, tribes, and territories to collaborate in the development of evidence-based enforcement tools and techniques that will ensure the biggest impact on environmental compliance. EPA has heard about causes of noncompliance for small municipal water systems from many sources over some time. The Agency's goal is to identify the root causes that lead to noncompliance and that also render agency interventions (e.g., enforcement, technical assistance, etc.) unsuccessful at returning systems to compliance. EPA anticipates this project to involve multiple evaluation and research projects under both the National Pollutant Discharge Elimination System (NPDES) and Safe Drinking Water Act (SDWA) programs.

Programmatic or policy decisions this activity will inform:

Project results will be used to improve Agency efforts and interventions to ensure that they are effective at returning systems to compliance.

Question(s) this activity will address:

- What are the root causes of municipal (wastewater treatment plants and drinking water systems) noncompliance that can render EPA and state enforcement and technical/financial assistance efforts unsuccessful?
- Considering the root causes of municipal noncompliance, what are the impediments to compliance that prevent technical assistance/financial assistance/enforcement tools from being effective in producing compliance?
- What alternate or supportive interventions are effective in producing compliance?

- What is the effectiveness of the application of various compliance tools to municipal noncompliance, e.g., enforcement actions, technical assistance, etc. in producing compliance – or improved compliance?

Data, tools, method/analytical approach:

EPA expects to use a wide range of evaluation tools and methods to address priority questions., For example, EPA plans use data collected by state associations' surveys, as well as engaging with evaluation and other academic experts to learn about evaluation and research into the causes of municipal noncompliance. Data mining and analysis will use both NPDES data from the ICIS-NPDES data system (and possibly state-specific NPDES data systems) and drinking water data from SDWIS-Fed.

Anticipated challenges and proposed solutions:

- Effectiveness of enforcement (and other compliance tools) in producing compliance may vary state to state for various reasons. EPA will account for this variance in the study.
- There are multiple likely drivers of noncompliance and variations of the drivers of noncompliance between states. The Agency will likely need a large study dataset to analyze the associations between these drivers of noncompliance and the effectiveness of enforcement actions to become evident.
- There is uncertainty about ease of obtaining reliable information about the drivers of noncompliance for individual enforcement action. To help overcome this challenge, we have partnered with the EELC and have invited ECOS, states, and tribes to participate in the workgroup to complete learning agenda projects.

Dissemination of findings:

EPA anticipates making project findings public through EPA's website, www.epa.gov/evaluate, as well as other public venues as appropriate.

OW: Office of Water

Title	Progress Evaluation of the National Estuary Program
Lead National Program	Office of Water/Office of Wetlands, Oceans and Watersheds
Strategic Goal and Objective Supported	Goal 5: Ensure Clean and Safe Water for All Communities Objective 5.2: Protect and Restore Waterbodies and Watersheds.
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and brief description:

This program evaluation activity is focused on the National Estuary Program as described in Section 320 of the Clean Water Act. The primary purpose of the Progress Evaluation of the National Estuary Programs (NEPs) is to help EPA assess progress in achieving programmatic and environmental results through implementation of Comprehensive Conservation and Management Plans (CCMPs). The program evaluation process has proven to be an effective, interactive management process that ensures national program accountability and transparency, while incorporating local priorities and demonstrating the value of federal investment in estuarine and coastal watershed restoration and protection at the local and regional levels. The program evaluation process was revised and published in the 2021 NEP Program Evaluation Guidance This new guidance was distributed to the 28 NEP locations at the end of FY 2021.

The NEP program evaluation process also: transfers lessons learned among NEPs, EPA, and stakeholders through the sharing of case studies and transferable examples; documents the value added to environmental management by the national program and individual NEPs, including their role in convening stakeholders and interpreting science for management; demonstrates continued stakeholder commitment; and highlights achievements and successes of each NEP, as well as suggestions for continued program improvements.

Programmatic or policy decisions this activity will inform:

Seven Program Evaluations will be conducted in FY 2024. The regular evaluation process for NEP locations informs the administration of the NEP program. It ensures the locations are delivering environmental results and are well-managed programs so that they can continue to receive annual grants from EPA which are matched 1:1 with non-federal dollars.

Question(s) this activity will address:

- Can NEP locations determine progress in achieving programmatic and environmental results?
- Can NEP locations document contributions to improving or reducing pressures on their coastal watersheds and enable NEPs to successfully serve as local implementation partners for EPA programs?
- Can NEP locations identify areas of improvement to assist NEPs in becoming stronger programs and achieving environmental results?

Progress, results, and interim findings (if applicable):

The NEP program evaluation process runs on an annual cycle such that each location within the NEP is evaluated every five years. The program evaluation process uses a two-category determination of Proficient and Progressing, as defined in the guidance. Proficient means an NEP is adequately meeting programmatic and environmental results. Progressing means there are missing criteria that need to be addressed before the next cycle and will catalyze a timeline to address those missing elements or opportunities for improvement before the next cycle. This determination is informed by the entire Program Evaluation (PE) package (narrative submission, NEPORT (NEP Online Reporting Tool) data, annual work plans, and EPA required annual end of year reports), on-site visit, and through discussions with the NEP under review.

Data, tools, method/analytical approach:

Information for the evaluation process includes annual reports and work plans, data submitted to NEPORT, existing CCMPs, and other documentation of key decisions., In addition, any supplementary documents the NEP locations may have developed including communications plans, financial plans, monitoring plans, etc. are also reviewed. The NEP locations assemble these materials and make them available to the program evaluation team which include EPA staff from headquarters and applicable region along with a director from a different NEP.

Anticipated challenges and proposed solutions:

The regular program evaluation process examines each NEP location on a variety of topics listed below. Each presents a potential challenge and can be addressed through the discussions between the program evaluation team and NEP locations. The results include recommendations for improvement based upon the following categories and are submitted to each program as a final program evaluation. letter:

- NEP Administration and Governance Structure
- Grant Obligations and Finance including budget summary
- Healthy Ecosystems (e.g., fish, shellfish, plant, eelgrass, and wildlife populations; habitat protection/restoration, natural resources, land use, hydrological and ecological restoration, invasive species)
- Community and Stakeholders Engagement
- Education and Outreach
- Monitoring and Assessment
- Clean Water Act Programs Relationship
- EPA Priorities (Nutrient pollution, water reuse and conservation, marine litter reduction, green infrastructure, environmental justice, climate change)

Dissemination of findings:

Information about the Progress Evaluation of the National Estuary Program is posted on EPA's website at https://www.epa.gov/nep/progress-evaluation-national-estuary-program.

FY 2024 Evaluation and Evidence-Building Activities in Support of the Bipartisan Infrastructure Law and Inflation Reduction Act

In FY 2022 the Bipartisan Infrastructure Law (BIL) expanded EPA's historic role as a regulatory and scientific agency to be a large-scale funder of critical infrastructure and the Inflation Reduction Act (IRA) enables EPA to take aggressive action in tackling the climate crisis. In FY 2022 and FY 2023, in support of the new and expanded programs supported by BIL and IRA, EPA is identifying and implementing appropriate evaluation and evidence-building activities to assess results and support program implementation. In FY 2024, EPA will continue its efforts to use evaluation and evidence-building for BIL and IRA programs with the following goals in mind: executing programs efficiently and effectively; promoting transparency and building trust; maintaining accountability to taxpayers; and advancing equity priorities. EPA will share results and information in subsequent Annual Performance Reports found on www.epa.gov/planandbudget, in addition to posting related evaluation reports at www.epa.gov/evaluate.

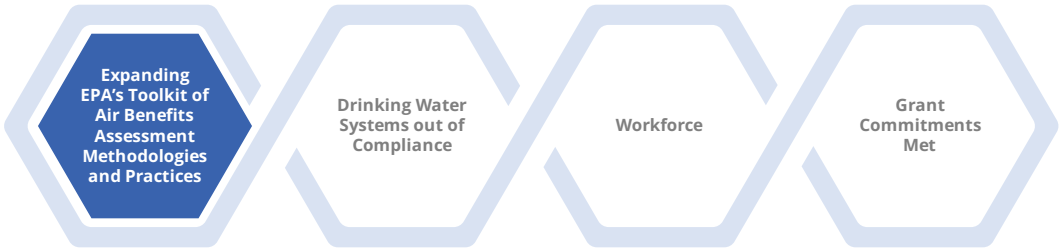
FY 2024 Evidence-Building Activities

The Foundations for Evidence-Based Policymaking Act (Evidence Act) provides a framework to promote a culture of evaluation and continuous learning to ensure Agency decisions are made using the best available evidence. *EPA's FY 2024 Annual Plan for Evidence-Building Activities* describes Agency plans for significant evidence-building across a range of program areas. In this section EPA describes evidence-building activities other than program evaluations, such as data analysis, foundational fact finding, research, statistical analysis, continuous process improvement, and performance measurement. This document shares examples of evidence-building that supports EPA's decision-making in response to Administration priorities, Congressional mandates, and management priorities.

The first part of this document gives an overview of EPA's evidence-building activities in support of the Agency's Learning Agenda, which is part of the *FY 2022 – 2026 EPA Strategic Plan*. This part is organized by Learning Priority Area. The second part of this document, the Other Evidence-Building Activities, is organized by national program.

Evidence-Building Activities Supporting EPA's Learning Agenda

Learning Priority Area: Expanding EPA's Toolkit of Air Benefits Assessment Methodologies and Practices



Title	Expanding EPA's Toolkit of Air Benefits Assessment Methodologies and Practices
Lead National Program	Office of Air and Radiation
Strategic Goal and Objective Supported	Ensure Clean and Healthy Air for all Communities. Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts
Planned Start Date	October 2022
Planned Completion Date	September 2023

Purpose and brief description:

EPA uses well-established methods for estimating the health benefits associated with reductions in some pollutants. However, as noted by scientific bodies including the National Academy of Sciences (NAS) and Science Advisory Board (SAB)[1], there are areas where the science of air pollution effects continues to advance and there are benefits that EPA does not currently quantify and monetize.

[1] National Research Council. 2002. Estimating the Public Health Benefits of Proposed Air Pollution Regulations. Washington, DC: The National Academies Press. https://doi.org/10.17226/10511. National Research Council. 2008. Estimating Mortality Risk Reduction and Economic Benefits from Controlling Ozone Air Pollution. Washington, DC: The National Academies Press. https://doi.org/10.17226/12198.

Programmatic or policy decisions this activity will inform:

This activity will improve EPA's ability to: (1) characterize the health benefits of improved air quality within Environmental Justice communities; (2) account for the role of air pollution in promoting the progression of chronic disease and subsequent death; (3) quantify the health benefits of reducing toxic air pollutants.

Question(s) this activity will address:

- What are the health benefits of reducing human exposures to air pollutants not currently quantified, particularly those related to hazardous air pollutants (HAPs)?
- What are the health benefits of reducing the risk of air pollution-related effects that are challenging to quantify but nonetheless important to the exposed populations?
- What are the benefits of health outcomes that cannot yet be valued using Willingness-to-Pay or other measures of economic value?
- How can EPA account for sequelae and the progression of disease when quantifying benefits?

Progress, results and interim findings:

In FY 2023 EPA anticipates hiring dedicated staff and initiating work on reports detailing methodological improvements and case studies applying those improvements. In addition, EPA plans to convene an NAS panel to advise the Agency and review the output of key reports/case studies.

Data, tools, method/analytical approach:

Addressing the above questions will require access to economic and health datasets providing information on health effect incidence, health outcomes, and health care expenditures. EPA would apply these newly developed techniques using existing Agency tools, including the newly revised cloud-based version of the environmental Benefits Mapping and Analysis Program (BenMAP).

Anticipated challenges and proposed solutions:

Addressing questions of the scope and complexity of those above will require significant contract resources and additional FTE (in particular, economists, biostatisticians, and air pollution epidemiologists).

Partnerships supporting this evidence-building effort:

EPA anticipates working collaboratively with NAS in developing this project. EPA also anticipates consulting with industry, academia, environmental organizations. The Agency will seek input and review of these parties in case studies and methodological proposals.

Dissemination of findings

The findings of evidence-building activities should generally be publicly available on EPA.gov. If you anticipate not sharing the findings publicly please explain your rationale.

**For internal use*

Learning Priority Area: Drinking Water Systems out of Compliance

Title	Drinking Water Systems out of Compliance
Lead National Program	Office of Enforcement and Compliance Assurance
Strategic Goal and Objective Supported	Goal 3: Enforce Environmental Laws and Ensure Compliance Objective 3.2: Detect Violations and Promote Compliance
Planned Start Date	Continuing from FY 2022
Planned Completion Date	Through 2026

Purpose and brief description:

Office of Enforcement and Compliance Assurance (OECA), Office of Water (OW), and the Drinking Water Systems Out of Compliance learning priority workgroup are assessing drinking water data reported to EPA to determine whether it accurately measures national compliance and substantiates EPA policy decisions; considering noncompliance root causes and corresponding technical/managerial/financial (TMF) factors; and testing efficacy of technical assistance, enforcement, and state oversight. The assessments, once complete, will identify key water system characteristics for which EPA and states should focus its policies and the most effective way to apply compliance assurance tools for increasing compliance in the drinking water program.

OECA anticipates FY 2024 funds will support continuation of evaluations and other empirical analyses for Question 3 (in the Agency Learning Agenda Learning Priority Area: Drinking Water Systems Out of Compliance) – efficacy of enforcement on compliance, and for Question 4 - identifying metrics for TMF, and initiation of work on question 5 – EPA oversight best practices. EPA plans to begin work on Question 4 in FY2023, using results from Question 2 – root cause of noncompliance, and EPA anticipates that work will continue into FY 2024.

Programmatic or policy decisions this activity will inform:

Applying compliance assurance tools to effectively increase drinking water compliance rates.

Question(s) this activity will address:

- Does increased use of compliance assurance tools (inspections and enforcement) improve system compliance, and if so under what circumstances?
- How can EPA determine if a system has the TMF capacity to provide safe water on a continuous basis to its customers?
- What EPA oversight activities are effective at assessing and improving state programs' ability to drive compliance?

Progress, results and interim findings:

In FY2022, EPA made significant progress on Questions 2 due to existing work from which the Agency was able to learn water system characteristics most correlative to noncompliance. Specifically, predictive tools developed and tested in the State of California and EPA Regions 3 and 7 resulted in statistical data indicating that important system characteristics of a water system that relate to system success are: number of sources of water, financial factors, system size, history of violations, operator training level, complexity of treatment required, and management factors. The results align with professional observation of characteristics associated with noncompliance. The next phase will involve examining the potential for additional, original analysis to gain further insights into root causes of noncompliance and conducting such work. In FY2022, for Question 3, EPA worked with the General Services Administration's Office of Evaluation Sciences (OES) academic partners from Georgetown University to explore possible study designs for evaluating the effect of EPA inspections in the drinking water program (as compared to the current approach of only having state sanitary surveys of systems). Additionally, EPA has entered into an agreement with the University of Kansas to study if and under what conditions enforcement in the drinking water program improves compliance. EPA anticipate study work on Question 3 will begin in FY2023 and will continue in FY2024.

Data, tools, method/analytical approach:

- Question 2 Root Cause Analysis: Going forward, the analysis will review findings to date and determine if additional data sets can be accessed or created to do deeper analysis on certain characteristics (e.g., find specific aspects of management structure that correlate with ongoing compliance). If so, advanced statistical analytical methods may be applied to better understand underlying causes versus correlations to noncompliance. For Question 3 on Enforcement and Inspection Efficacy, the Agency hopes to empirically test the impact of increased use of compliance monitoring inspections and conduct surveys of public water system operators to evaluate effects of enforcement actions as compared to the status quo practice of heavily relying on other types of assistance. This priority question complements the Drinking Water National Compliance Initiative (NCI). Increased use of inspections could be planned such that those activities form the basis of a prospective study to inform the overall evaluation process. The results of the study could inform future compliance assurance strategies either as part of or beyond the NCI. Additionally, the use of OECA's Enforcement and Compliance History Online database will be used to do a retrospective analysis of enforcement activity.
- EPA will search for available data sets that provide technical, managerial, and financial information to base the Question 4 (TMF metrics) evaluation. The Agency anticipates needing to pull from

various places such as federal databases at EPA (SDWIS), Department of Commerce Census Bureau, and USDA Rural Utilities Service (RUS) loan program data and information gleaned from the State Revolving Fund work, state Capacity Development annual reports, and sanitary survey checklists.

- EPA anticipates using several different tools for the evaluation of Questions 3 (efficacy of enforcement), 4 (TMF metrics), and 5 (EPA oversight) including statistical software, survey instruments, literature reviews, data mining, and advanced statistical analysis such as machine learning and other regression approaches.

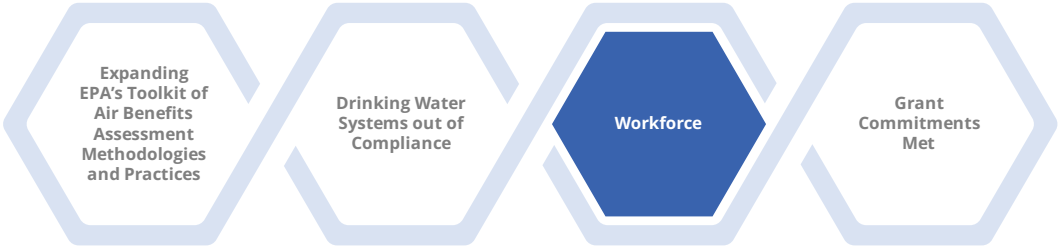
Anticipated challenges and proposed solutions:

Data availability may slow-down and/or limit progress on the root-cause analysis, as well as other analytical activities that need to be carried out to conduct planned evaluations and other empirical studies. For example, the volume of compliance assurance work may be too low to support methodologies that use a randomization approach to Question 3 (efficacy of enforcement). States and water systems may not agree to participate in a survey study to identify attitudes on enforcement actions. Insufficient TMF data could limit our ability to identify effective metrics for TMF capacity.

Dissemination of findings

Final evaluation reports and other empirical analyses for this learning priority area will be made available through EPA's website www.epa.gov/evaluate.

Learning Priority Area: Workforce



Title	Workforce
Lead National Program	Office of Mission Support
Strategic Goal and Objective Supported	Cross-Agency Strategy 3: Advance EPA's Organizational Excellence and Workforce Equity
Planned Start Date	Continuing from FY 2023
Planned Completion Date	September 2024

Purpose and brief description:

EPA identified Human Capital Management as an Enterprise Risk due to the high number of staff eligible for retirement and EPA's aging workforce, and the related concern of replacing departing employees' institutional knowledge and skills. The Workforce learning priority area in EPA's Learning Agenda will develop an evidence-based roadmap for how EPA can ensure it has employees with the competencies needed to achieve its mission now and in the future. It also will help determine the overall processes required to cultivate and manage the workforce, while anticipating internal and external changes, and continuously maximizing the efficiency and effectiveness of the Agency's Human Resources services.

Programmatic or policy decisions this activity will inform:

Near- and long-term strategies to attract, recruit, train, and retain a diverse and effective workforce.

Question(s) this activity will address:

- Does EPA have access to the tools and strategies needed to analyze and understand the Agency's near- and long-term workforce and succession needs?
- What are the critical skills needed to support the Agency's mission, now and in the future?
- What are the best strategies to attract, recruit, train, and retain a diverse workforce? What makes people stay in the Agency long-term?
- What is the best way to ensure knowledge is transferred from outgoing to current and incoming staff to support succession planning?

Data, tools, method/analytical approach:

EPA has various data sets and tools to capture employee demographic, hiring, and attrition data, but no current Agencywide data sets exist on current and future employee skills and competencies for leadership and other critical positions. To develop such data sets, EPA will compile information gathered from various internal and external stakeholders during its workforce planning and succession management activities. Stakeholders include but are not limited to: EPA employees and supervisors, the Human Resource Officer/Program Management Officer (HRO/PMO) community, First Line Supervisor Advisory Group (FLAG), senior leaders, and members of the external human resources academic and practitioner community. Surveys, literature reviews, focus groups, interviews, and other quantitative and qualitative methods will be used to obtain needed information. Cost-benefit analysis, benchmarking, and appropriate quantitative and qualitative analyses will be used along with other analytical approaches. Data will be managed consistent with security and privacy requirements.

Anticipated challenges and proposed solutions:

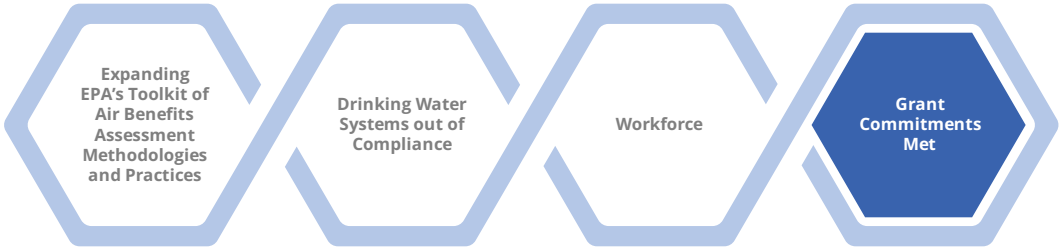
Due to a general sense of "survey fatigue" within EPA, there is a risk of low participation among key internal stakeholders in the assessment and analysis of the four workforce priority questions. This possible challenge will be mitigated by enlisting the buy-in and support of senior leaders, the Human Resources Council, and other key stakeholders to help promote the process prior to its start and keeping in constant contact with those stakeholders during the evaluation and analysis process. Additionally, analytical

approaches may be constrained by limitations due data security and privacy requirements; EPA will work carefully to identify appropriate alternatives.

Dissemination of findings:

The identified workforce activities are considered key components of management's strategic decision-making process; findings will be shared consistent with requirements related to information that may be privileged or prohibited from disclosure. The Agency anticipates that relevant results will be shared with internal stakeholders, including senior leaders and EPA's Human Resource Officer/Program Management Officer community. Aggregate information on findings might be shared with other federal agencies and/or publicly.

Learning Priority Area: Grant Commitments Met



Title	Grant Commitments Met
Lead National Program	Office of the Administrator/Office of Congressional and Intergovernmental Relations
Strategic Goal and Objective Supported	Cross-Agency Strategy 4: Strengthen Tribal, State and Local Partnerships and Enhance Engagement
Planned Start Date	Continuing from FY 2021
Planned Completion Date	Through 2024

Purpose and brief Description:

Historically, EPA has annually awarded over $4 billion in grants and other assistance agreements. With these grants, EPA helps to protect human health and the environment through the work of its grantees. The management and tracking of the individual awards are dispersed amongst thousands of staff throughout EPA's headquarters and ten regional offices, which makes tracking results at the national level challenging. This Learning Agenda priority area focuses on how to better understand how the EPA's grant programs track, report, and analyze its outputs and outcomes achieved to assess and communicate the environmental and health results accomplished.

The importance and visibility of this effort has increased with the additional funding provided by American Rescue Plan (ARP), IIJA, and, most recently, the IRA. The potential funding level for EPA's programs could reach over $100 billion, making it critical to have mechanisms in place to track, report and assess the Agency's progress in protecting human health and the environment through its grant programs.

This learning priority area outlines work to establish the baseline, assess the current state, and define the future state of grant result reporting. The effort spans multiple fiscal years, beginning in FY 2021. In FY 2021, the Grant Commitments Met Workgroup used a survey instrument to establish a baseline knowledge of grant results reporting practices at EPA. FY 2022 was focused on interviewing regional and headquarters National Program Manager (NPM) contacts to collect best practices. Efforts in FY 2023 and 2024 are focused on using the gathered data to implement grant program reviews and inform grant result tracking systems to better communicate and assess the environmental and health results achieved through EPA's grant programs.

Programmatic or policy decisions this activity will inform:

Practices and tools to effectively track whether grantees are fulfilling their workplan grant commitments, including outputs and environmental outcomes.

Question(s) this activity will address:

- What data and information exists to provide a baseline assessment of the Agency's grant and tracking systems?
- Which criteria are used to assess the ability of programs to successfully monitor grantee performance?
- How are the Agency's grant programs meeting their intended purpose?

Progress, results, and interim findings:

In Year 1, EPA surveyed all active EPA grant programs to determine the universe of existing grant reporting and tracking systems. The surveys provided the data and information needed to understand existing Agency approaches and processes for collecting, monitoring, reporting, and evaluating grant commitments. EPA learned that 99% of programs collect output data, but only 31% collect long-term outcomes. Word documents are the most common method of collecting grantee data. Common challenges to grantee data collection include labor intensity (i.e., the time and knowledge required for EPA staff and grantee staff to conduct data collection activities), poor communication with grantees, and capacity issues internal to grantees.

In Year 2, EPA used the Year 1 survey responses as a launching point to establish criteria for conducting the next set of interviews within EPA. Interview criteria included prioritizing programs receiving additional BIL or ARP funding, programs that reported best practices, and programs that addressed administration priorities. EPA has identified 31 Regional and NPM interviewees and has completed most of the interviews.

EPA is comparing the current state of grants management to an ideal future state, considering the programmatic and statutory requirements unique to each grant program, and available tools for

programmatic monitoring. A workgroup will develop criteria to assess the ability of programs to successfully monitor grantee performance, with a specific focus on tracking environmental outputs and outcomes. This activity will inform the next of phase (Learning Agenda Question 3), which will analyze the Agency's ability to review progress made in protecting human health and the environment through its grant programs and demonstrate how EPA's grants programs are achieving the intended environmental results.

Data, tools, method/analytical approach:

The third phase of this project will address the question: Are the commitments established in grant agreements achieving the intended results? Using Year 1 Survey results and Year 2 interview responses, EPA will design an appropriate empirical study to answer this key question.

The effort will culminate in overall findings report including several recommendations with the goal of reaching actionable results that aid in the implementation of a new Agency-wide approach to collect and communicate environmental results.

Anticipated challenges and proposed solutions:

Success depends on high stakeholder engagement and participation, including that of regional and NPM staff and management. EPA will address these challenges by relying on a group of regional and NPM points of contact and leveraging access to senior leadership calls. It will be challenging to keep up with the rapidly changing landscape regarding grant funding at EPA. Grant programs at EPA continue to expand in size and number. The high visibility of this additional funding further highlights the importance of accountability in grant reporting.

Partnerships supporting this evidence-building effort:

EPA will continue to engage with and inform states and tribes of EPA efforts through ECOS, the e-Enterprise Leadership Council (EELC), and other appropriate fora.

Dissemination of findings:

Final reports will be posted publicly on EPA's website www.epa.gov/evaluate; the Year 1 report has been posted at https://www.epa.gov/system/files/documents/2022-09/learning-agenda-grants-commitments-met.pdf.

Other EPA Evidence-Building Activities

Office of Air and Radiation (OAR)

Activity 1

Title	Title V Permitting Program Reviews
Lead National Program	Office of Air and Radiation
Strategic Goal and Objective Supported	Goal 4: Ensure Clean and Healthy Air for All Communities Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and description:

EPA periodically assesses state and local permitting programs, including the sufficiency of fees collected, under Title V of the Clean Air Act as part of its responsibility to oversee delegated and approved air permitting programs.

Programmatic or policy decisions this activity will inform:

In general, these analyses document areas needing improvement and inform how EPA can help the permitting agencies improve their performance.

Question(s) this activity will address:

- What are some good practices and areas of improvement in state and local permitting programs under Title V of the Clean Air Act?
- How can EPA help the permitting agencies improve their performance?

Data, tools, method/analytical approach:

In general, EPA uses a questionnaire to gather preliminary information, reviews files maintained on permits, conducts site visits, and follows up with the permitting program to clarify information in conducting a Title V program assessment.

Anticipated challenges and proposed solutions:

The Agency conducts these analyses annually and does not anticipate challenges.

Dissemination of findings:

The Title V Permit analyses are posted on EPA's website. Information and any findings will also be shared with appropriate EPA staff and management.

Activity 2

Title	Our Nation's Air: Status and Trends Through 2023
Lead National Program	Office of Air and Radiation
Strategic Goal and Objective Supported	Goal 4: Ensure Clean and Healthy Air for All Communities Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and description:

EPA is committed to protecting public health and the environment by improving air quality and reducing air pollution. This annual report presents the trends in the nation's air quality and summarizes the detailed information found at EPA's Air Trends website and other air quality and emissions data.

Programmatic or policy decisions this activity will inform:

This activity provides an annual assessment of air quality in an accessible format, allowing EPA, states, and other stakeholders to understand how air quality is changing both in their local area and across the nation. Stakeholders can use this information to help inform their decisions in their air quality programs.

Question(s) this activity will address:

- Where are areas experiencing air quality above the national ambient air quality standards?
- Are these areas trending toward improving air quality?

Data, tools, method/analytical approach:

Existing data is pulled from several sources to generate the report such as the National Emission Inventory (NEI) and Air Quality System (AQS).

Anticipated challenges and proposed solutions:

The Agency produces this report annually and does not anticipate challenges. This activity is contingent upon air quality data availability from state, local, and tribal air pollution control agencies.

Dissemination of findings:

This report is annually included on EPA's Air Trends website. Information and any findings will also be shared with appropriate EPA staff and management.

Office of the Chief Financial Officer (OCFO)

Title	Growing Capacity for Evidence Building
Lead National Program	Office of the Chief Financial Officer
Strategic Goal and Objective Supported	Strategy 3: Advance EPA's Organizational Excellence and Workforce Equity
Planned Start Date	Continuing from FY 2023
Planned Completion Date	Throughout 2024

Purpose and brief description:

EPA will engage in a variety of Evidence Act-related activities in FY 2024 that will support policy development and decision making. These activities reflect EPA's commitment to implement a framework that promotes a culture of evaluation and continuous learning and ensures Agency decisions are made using the best available evidence. For example, in FY 2023 EPA is engaging an Agency-wide effort to integrate evidence-building in the implementation of BIL and IRA by identifying evidence-building priorities for BIL and IRA-funded programs. In FY 2024, EPA will carry out plans across the board for evaluation and other empirical analyses.

EPA will lead a coordinated cross-agency process to support the design and execution of evaluations of BIL investments. EPA began this coordinated effort in FY 2023 and will continue to lead this effort in FY 2024.This effort will also include developing capacity for equity in evaluation by advancing approaches to conducting evaluations more equitably and be culturally responsive and/or develop new approaches reflecting EPA's unique understanding and role in advancing environmental justice.

Dissemination of findings:

EPA will share the results of these efforts on EPA's website, www.epa.gov/evaluate.

Office of Chemical Safety and Pollution Prevention (OCSPP)

Activity 1

Title	Assessing IT modernization of EPA pesticide tracking systems
Lead National Program	Office of Chemical Safety and Pollution Prevention
Strategic Goal and Objective Supported	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Planned Start Date	April 2019
Planned Completion Date	September 2024

Purpose and brief description:

In April 2019, EPA kicked off Phase 1 of a multi-year digital transformation to create a fully electronic workflow for EPA registration and reevaluation activities. In early 2020, in advance of the launch of the new system, EPA developed performance metrics and established baselines of performance using the current Agency systems for review of applications. These metrics will allow EPA to measure the effects of the digital transformation on meeting the targets and objectives described in the *FY 2022 - 2026 EPA Strategic Plan*. In FY 2020, a pilot of the new system went live and continues to be implemented in phases.

EPA has designed an ongoing assessment of the pilot focused on how the system meets performance metrics. Also, the pilot is designed to assess how effectively the use of predictive algorithms will help in determining skills gaps and hiring needs. The pilot is also designed to assess time savings and effects related to work-life balance. For example, OPP is tracking targeted Employee Viewpoint Survey (EVS) questions to track workload satisfaction. We believe digital transformation success will impact the results in a positive direction.

Programmatic or policy decisions this activity will inform:

Results of this assessment will inform additional IT system development and facilitate enterprise resilience through strategic planning, proactive risk management, effective organizational change management and capacity planning, as well as emergent technologies.

Question(s) this activity will address:

- Does this pilot approach show the expected potential for mission transformation through digitalization?
- What is the effectiveness of predictive algorithms used in this pilot in determining where skills gaps lie, and how does this help with resources decisions intended to remove bottlenecks?

- Does this pilot show how EPA can assess time savings and as well as outcomes related to work-life balance?

Data, tools, method/analytical approach:

Information from EPA's PRISM and OPPIN systems will allow EPA to establish baselines for how much time is spent at each stage of risk assessment and assess improvement in the overall review processes for registration and registration review cases. The Employee Engagement metric will be tracked by evaluating results to specific questions and focus areas on the EPA Employee Viewpoint Survey and comparing responses from OPP staff before and after implementation of the IT-modernization effort.

Anticipated challenges and proposed solutions:

EPA is currently waiting for the award of the Mission Support IT Contract to continue work on the Digital Transformation. Current contracts supporting development and operations & maintenance of systems expire in November thereby making the award of the new contract urgent. Office of Acquisition Services (OAS) is currently projecting an award date of September 15, 2022.

Dissemination of findings:

Process improvements relating to pesticide registration and registration review activities, as well as information technology improvements, are described annually in the PRIA annual report (https://www.epa.gov/pria-fees/annual-reports-pria-implementation).

Activity 2

Title	TSCA Risk Evaluation Review and Assessments
Lead National Program	Office of Chemical Safety and Pollution Prevention
Strategic Goal and Objective Supported	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and brief description:

These recurring reviews assess the degree of progress, timely completion of risk evaluations mandated under TSCA, and the utility and quality of program performance measures.

Programmatic or policy decisions this activity will inform:

EPA will use information from these reviews to make decisions on whether any changes are needed to performance measures. Information also will be used to determine needed changes in the process for completion of chemical risk evaluations within TSCA statutory time frames or other time frames designated by the Agency.

Question(s) this activity will address:

- Do EPA's suite of performance measures and processes for developing TSCA risk evaluation warrant further revision?

Data, tools, method/analytical approach:

Critical data sets include performance metric targets and results and any other data sets that could point to a need for operational improvements.

Anticipated challenges and proposed solutions:

At this time, EPA does not anticipate any major challenges in gathering performance data; however, challenges in chemical risk evaluation data gathering can exist. Expert input will be brought to bear on any challenges and possibility that solutions will be needed.

Dissemination of findings:

EPA intends to make performance results publicly available. through a variety of venues, including but not limited to, Agency performance reporting at https://www.epa.gov/planandbudget and other targeted stakeholder outreach and communications.

Activity 3

Title	TSCA Risk Management Activities
Lead National Program	Office of Chemical Safety and Pollution Prevention
Strategic Goal and Objective Supported	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and brief description:

These recurring reviews will assess the degree of progress and timely completion of risk management actions taken by EPA under TSCA, and performance measures (APG, LTPG, internal operational metrics).

Current measures for this program include 1) Draft risk management rules anticipated to not be completed by statutory deadline; 2) Final risk management rules anticipated to not be completed by statutory deadline; and percent of existing chemical TSCA risk management actions initiated within 45 days of a final chemical risk evaluation. EPA anticipates proposing and finalizing some number of risk management actions in FY 2024 and will assess the evidence for these measures at that time. EPA will not have the ability to fully determine the effectiveness of these actions in FY 2024 given the anticipated finalization during that year.

Programmatic or policy decisions this activity will inform:

Decisions on whether changes are needed in the measurement of, process for developing, or implementation of chemical risk management actions.

Question(s) this activity will address:

Whether EPA's suite of performance measures and processes for developing TSCA risk management actions warrant further revision. EPA anticipates assessing the effectiveness of its risk management actions in future years following finalization of the actions.

Data, tools, method/analytical approach:

Critical data sets include performance metric targets and results and any other data sets that could point to a need for operational improvements.

Anticipated challenges and proposed solutions:

At this time, EPA does not anticipate any major challenges in gathering relevant performance data; however, chemical data and information to inform risk management quality can be limited in quantity or quality, or hard to obtain. Expert input will be brought to bear on any challenges and will address any possibility that solutions will be needed.

Dissemination of findings:

Any risk management actions proposed or finalized will be a matter of public record. EPA intends to make performance results publicly available through a variety of venues, including but not limited to, Agency performance reporting at https://www.epa.gov/planandbudget and other targeted stakeholder outreach and communications.

Activity 4

Title	TSCA New Chemicals Activities
Lead National Program	Office of Chemical Safety and Pollution Prevention
Strategic Goal and Objective Supported	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and brief description:

Under TSCA section 5, EPA may impose certain actions by issuing an order and/or significant new use rule (SNUR) that may contain risk mitigation requirements put in place to protect human health and the environment. EPA's Office of Pollution Prevention and Toxics (OPPT) will develop a process to review compliance with the requirements of past Orders and SNURs issued under TSCA section 5, looking back from October 2021. EPA will review compliance with restrictions in TSCA section 5 orders or SNURs by

cross-walking action requirements with information reported to the 2020 Chemical Data Reporting (CDR) rule. This process would include any chemical with a TSCA section 5 order and/or SNUR that was also reported to CDR.

Programmatic or policy decisions this activity will inform:

OPPT will use the information reported to CDR to check adherence with the terms of past TSCA section 5 orders or SNURs. Instances of potential non-compliance will be referred to EPA's Office of Enforcement and Compliance Assurance (OECA). This could trigger OECA follow-up actions, including an information request for records, subpoena for specific documents and answers to questions, virtual records auditing, on-site audits, issuance of compliance advisories or guidance, and modifications/updates to TSCA section 5 Consent Order, SNURs, or other applicable regulations, as appropriate.

Question(s) this activity will address:

This activity will be the first time the New Chemicals Program has conducted a systematic review of information reported to EPA. Questions include:

- Does the information reported to help ensure chemical manufactures and importers comply with regulations designed to protect workers, consumers, communities, and the environment?
- Does the process to review compliance with these TSCA requirements meet the needs of the Agency in identifying non-compliance?

Progress, results, and interim findings:

The new chemicals program has started creating the datasets required to crosscheck new chemicals data with CDR data. Additionally, the program has developed methods to crosscheck new chemical actions with data reported to CDR.

Data, tools, method/analytical approach:

Critical data sets include the 2020 dataset from Chemical Data Reporting rule and a dataset of the regulatory terms of all TSCA section 5 consent orders and SNURs.

Anticipated challenges and proposed solutions:

At this time, EPA does not anticipate any major challenges in gathering relevant performance data; however, there can be challenges in cross-walking historic chemical data and information to more recent economic and enforcement information (e.g., current company status, ownership changes, location changes, etc.) Further, limitations in chemical data and information exist. Expert input will be brought to bear on any challenges and will address any possibility that solutions will be needed.

Dissemination of findings:

EPA intends to make performance results publicly available through a variety of venues, including but not limited to, Agency performance reporting at https://www.epa.gov/planandbudget and other targeted stakeholder outreach and communications.

Activity 5

Title	Pesticide Registration Review
Lead National Program	Office of Chemical Safety and Pollution Prevention
Strategic Goal and Objective Supported	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and brief description:

These recurring reviews assess the degree of progress and timely completion of docket openings, draft risk assessments, and case completions for the second cycle of pesticide registration review.

Programmatic or policy decisions this activity will inform:

Decisions on whether any changes are needed to pesticide registration review performance measures or the process for completion of pesticide registration review activities.

Question(s) this activity will address:

- Does OCSPP's suite of pesticide registration review performance measures and processes for meeting pesticide registration review statutory timeframes warrant further revision?
- Does the suite of pesticide registration review performance measures affect the quality of the draft risk assessments and risk management decisions?

Data, tools, method/analytical approach:

Critical data sets include performance metric targets and results and any other data sets that could point to a need for operational improvements.

Anticipated challenges and proposed solutions:

At this time, OCSPP does not anticipate any major challenges in gathering performance data. Expert input will be brought to bear on any challenges and possibility that solutions will be needed.

Dissemination of findings:

EPA intends to make performance results publicly available. through a variety of venues, including but not limited to, Agency performance reporting at https://www.epa.gov/planandbudget and quarterly updates to the pesticide registration review schedule (https://www.epa.gov/pesticide-reevaluation/upcoming-registration-review-actions).

Activity 6

Title	ESA Effects Determinations for Listed Species
Lead National Program	Office of Chemical Safety and Pollution Prevention
Strategic Goal and Objective Supported	Goal 7: Ensure Safety of Chemicals for People and the Environment Objective 7.1: Ensure Chemical and Pesticide Safety
Planned Start Date	October 2023
Planned Completion Date	September 2024

Purpose and brief description:

The Endangered Species Act (ESA) require that the actions of federal agencies do not jeopardize the continued existence of federally threatened or endangered species or destroy or adversely modify their critical habitat. EPA is developing a process to incorporate ESA determinations into its new active ingredient registration process and to work towards more routine considerations of ESA determinations for registration review decisions. EPA anticipates increasing ESA considerations into its registration and registration review decisions at an increasing frequency over the next 5 years. In FY 2022, EPA posted the ESA workplan[2] to provide to the public the framework for ESA implementation into pesticide regulatory activities. Data collection for this activity occurs annually.

Programmatic or policy decisions this activity will inform:

Decisions on whether any changes are needed to performance measures or the process for incorporating ESA effects determinations into OSCPP's risk assessments supporting registration and registration review activities. EPA is evaluating whether targets established at the time of the FY2022-2026 SP development are in alignment with the implementation schedule communicated in the EPA ESA workplan posted to the EPA webpage and has proposed adjusting annual targets appropriately. Stages of implementation are dependent on additional resources.

Question(s) this activity will address:

- Do processes for developing ESA effects determinations warrant further revision?
- Should EPA develop a new suite of performance measures to measure current or new processes, and if so, what are the options?

Data, tools, method/analytical approach:

Critical data sets include EPA workflow tracking systems and stand-alone reports on ESA-related risk assessment activity and label mitigation. Tools and analytical methods listed above would not be needed for this exercise.

[2] The ESA Workplan may be accessed at: https://www.epa.gov/system/files/documents/2022-04/balancing-wildlife-protection-and-responsible-pesticide-use_final.pdf.

Anticipated challenges and proposed solutions:

At this time, EPA does not anticipate any major challenges in gathering performance data. Expert input will be brought to bear on any challenges and possibility that solutions will be needed.

Dissemination of findings:

EPA intends to make performance results publicly available through a variety of venues, including but not limited to, Agency performance reporting at https://www.epa.gov/planandbudget and other targeted stakeholder outreach and communications.

Office of Land and Emergency Management (OLEM)

Activity 1

Title	OLEM Population Analysis
Lead National Program	Office of Land and Emergency Management
Strategic Goal and Objective Supported	Goal 6: Safeguard and Revitalize Communities Objective 6.1: Cleanup Up and Restore Land for Productive Uses and Healthy Communities
Planned Start Date	March 2024
Planned Completion Date	July 2024

Purpose and brief description:

This is a bi-annual descriptive study. The purpose is to conduct a bi-annual analysis to support evidence-based descriptions of who benefits from EPA's cleanup and prevention work, by collecting data on the population living within three and one mile(s) of a Superfund site, Brownfields site, Resource Conservation and Recovery Act (RCRA) Corrective Action (CA) site, Leaking Underground Storage Tank (LUST) site, and Underground Storage Tank (UST) facility that exist in thousands of communities across the United States ranging from remote to large urban settings.

This analysis also supports EPA's *America's Children and the Environment Report,*[3] by estimating the number of children and their socioeconomic/demographic characteristics who live within one mile of a RCRA CA or Superfund site that may not have had all human health protective measures in place at the time of the analysis.

[3] The Report may be accessed here: www.epa.gov/americaschildrenenvironment.www.epa.gov/americaschildrenenvironment.

Programmatic or policy decisions this activity will inform:

Aspects of these results are included in EPA's annual budget reviews and are included in the annual President's Budget submitted to Congress. Results also are used in general communications with press, other government agencies, and the public.

Question(s) this activity will address:

This analysis estimates the population living within three and one mile(s) of a Superfund site, Brownfield site, RCRA CA site, removal site, LUST site and UST facility by:

- *Race*: people who self-identify as white, black, Asian, Native American, Hawaiian/pacific islander, or other.
- *Ethnicity*: people of all races who self-identify as Hispanic or non-Hispanic.
- *Minority*: all race and ethnicity combinations except "non-Hispanic whites."
- *Income*: below poverty level, and incomes twice or more above poverty level.
- *Education*: less than high school education.
- *Age*: Under 5, Under 18, over 64.
- *Linguistically isolated*: households where all members do not speak English as a first language or "very well."

Populations that are more minority, low income, linguistically isolated, or less likely to have a high school education than the U.S. population as a whole, may have fewer resources with which to address concerns about their health and environment. EPA includes these factors in population analyses to understand the potential for these vulnerabilities in relation to cleanup sites at the national level.

Data, tools, method/analytical approach:

- **Data**
  - Site location and status data from the Assessment, Cleanup and Redevelopment Exchange System (ACRES), Superfund Enterprise Management System (SEMS) and RCRA Info for Brownfields, Superfund and RCRA CA, respectively.
  - Site location and status data for LUST sites and UST facilities from ORD's state LUST/UST database
  - Population data from the most recent American Community Survey 5-Year Estimates
- **Methods/Analytical approach:**
  - Latitude and longitude coordinates are used to map site locations. Then 1- and 3- mile buffers are drawn from the site location. Depending on data availability, the site location is either a point, a modeled circular site boundary based on site acreage around a point or the actual site boundaries.

- Using census block group centroids and the 1- and 3- mile buffers, the population and characteristics are estimated. If the census block centroid falls within the buffer, then the population of that census block is included in the estimation of the near site population.
- EPA compares the near site populations to the overall U.S. population to identify differences in the characteristics listed above.
- EPA follows the methods used in the America's Children and the Environment Report Indicators E10 and E11.[4]

- **Tools**
  - This spatial analysis is done using ArcGIS and R software suites

Anticipated challenges and proposed solutions:

Geospatial data available to map site boundaries is limited. EPA continues to work to improve geospatial data on Superfund and RCRA Corrective Action site boundaries. The LUST/UST data used was obtained from the USTFinder. The *USTFinder* is a new web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. *USTFinder* was made possible by a large ORD data collection effort. Ability to update estimates for LUST/UST in the future depends on whether ORD updates data in the *USTFinder*.

Dissemination of findings:

EPA will share the results of these analyses on EPA's OLEM program benefits website at https://www.epa.gov/aboutepa/office-land-and-emergency-management-olem-program-benefits and include the information in Agency documents that are available to the public.

Activity 2

Title	Redevelopment Economics at Remedial Sites (non-federal facility)
Lead National Program	Office of Land and Emergency Management
Strategic Goal and Objective Supported	Strategic Goal 6: Safeguard and Revitalize Communities Objective 6.1: Cleanup Up and Restore Land for Productive Uses and Healthy Communities
Planned Start Date	October 2023
Planned Completion Date	January 2024

Purpose and brief description:

Cleaning up contaminated sites can serve as a catalyst for economic growth and community revitalization. The Superfund Remedial Program facilitates the redevelopment of sites across the country while protecting human health and the environment. Collaborative efforts among state, local, and tribal

[4] For more details on the methods, see https://www.epa.gov/americaschildrenenvironment/ace-environments-and-contaminants-contaminated-lands#Methods.

partners, redevelopers, and other federal agency programs encourage restoration of sites. Since Superfund sites often encompass buildings, roads, and other infrastructure, their effective and efficient cleanup and reuse can play a pivotal role in a community's economic growth. EPA has initiated efforts to collect economic data at a subset of Superfund sites. Each year, the data collected is made available on EPA's webpages as part of the Redevelopment Economics at Superfund Sites page and corresponding pages, as well as the *Putting Sites to Work - How Superfund Redevelopment is Making a Difference in Communities Across the United States: Compendium of 2021 Economic Data*. In addition, Regional Economic Profiles summarize economic data collected for Superfund sites within an EPA region. They also highlight successes and put them in the context of aggregated data within the state and EPA region. Economic data are updated annually; regions receive a full regional economic profile or a data supplement to update the prior year's full regional economic profile on alternate years.

Programmatic or policy decisions this activity will inform:

Economic data are included in budget justifications to Congress and are used in general communication with key stakeholders and the public.

Question(s) this activity will address:

The analysis will provide current, reliable business-related information for a subset of Superfund sites in reuse and continued use:

- What information can EPA provide about Superfund sites in reuse and continued use, including the variety of purposes that some innovative business owners and organizations reuse Superfund sites?
- To what extent and how do these uses help economically revitalize communities near Superfund sites?

Data, tools, method/analytical approach:

The study estimates economic activity at Superfund sites in reuse from reputable sources based on methodology developed by EPA's Superfund Redevelopment Initiative and outlined on the public webpage: Redevelopment Economics at Superfund Sites. Information on the number of employees and sales volume for on-site businesses typically comes from Hoovers/Dun & Bradstreet, the *ReferenceUSA* and *Manta* databases.

Anticipated challenges and proposed solutions:

Given that most sites with known economic activities have been included in the report in prior years and that relatively few Superfund sites are added to the NPL or become newly economically productive each year, the analysis does not typically reveal large changes year-to-year. In order to focus resources on the most salient analyses, the program alternates the development of Regional economic profiles every two years and may consider a similar effort with a national profile if needed in the future. In the meantime, the program has also increased a focus on Beneficial Economic Effect Case Studies which offer expanded insights into the economic data and highlight replicable strategies for productive reuse and redevelopment.

Dissemination of findings:

The summary of the results will be shared on EPA's Superfund Redevelopment website.[5]

Activity 3

Title	Redevelopment Economics at Federal Facilities
Lead National Program	Office of Land and Emergency Management
Strategic Goal and Objective Supported	Strategic Goal 6: Safeguard and Revitalize Communities Objective 6.1: Cleanup Up and Restore Land for Productive Uses and Healthy Communities
Program Project Title/ Appropriations	Federal Facilities Restoration and Reuse Office
Planned Start Date	October 2023
Planned Completion Date	January 2024

Purpose and brief description:

Cleaning up contaminated sites at federal facilities can serve as a catalyst for economic growth and community revitalization. The Superfund Federal Facilities Program facilitates the redevelopment of federal facility sites across the country by assisting other federal agencies (OFAs) expedite activities related to CERCLA response actions, while protecting human health and the environment. Collaborative efforts among OFAs; developers; and state, local, and tribal partners encourage restoration of sites. Since federal facility Superfund sites often encompass thousands of acres with buildings, roads, and other infrastructure, their effective and efficient cleanup and reuse can play a pivotal role in a community's economic growth. EPA has initiated efforts to collect economic data at a subset of federal facility Superfund sites which is outlined on the public webpage Redevelopment Economics at Federal Facilities.[6] This economic analysis is updated and expanded annually.

Programmatic or policy decisions this activity will inform:

Economic data are included in budget justifications to Congress and are used in general communication with other Federal agencies and the public.

Question(s) this activity will address:

The analysis will provide current, reliable business-related information for a subset of federal facility Superfund sites in reuse and continued use.

- What information can EPA provide about federal facility Superfund sites in reuse and continued use, including the variety of purposes that some innovative business owners and organizations reuse Superfund sites

[5] Found at: https://www.epa.gov/superfund-redevelopment/redevelopment-economics-superfund-sites
[6] Found at: https://www.epa.gov/fedfac/redevelopment-federal-facilities.

- To what extent and how do these uses help economically revitalize communities near Superfund sites?

Data, tools, method/analytical approach:

The study estimates economic activity at federal facilities Superfund sites in reuse from reputable sources based on methodology developed by EPA's Superfund Redevelopment Initiative, which is outlined in more detail at Redevelopment Economics at Federal Facilities[7]. Information on the number of employees and sales volume for on-site businesses typically comes from Hoovers/Dun & Bradstreet, the *ReferenceUSA* and *Manta* databases.

Anticipated challenges and proposed solutions:

The Economic Analysis commenced in 2016 and is updated/expanded annually. The Economic Analysis is an established activity that provides valuable metrics for the program and is expected to continue without challenges.

Dissemination of findings*:*

The summary of the results will be shared on EPA's Federal Facilities website.[8]

Office of Research and Development (ORD)

Activity 1

Title	Climate Change Research
Lead National Program	Office of Research and Development
Cross-Agency Strategy Supported	Cross-Agency Strategy 1: Ensure Scientific Integrity and Science-Based Decision Making
Strategic Goal and Objective supported	Goal 1: Tackle the Climate Crisis Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
Planned Start Date	October 2023
Planned Completion Date	November 2026

Purpose and brief description:

Climate change is impacting public health, air, and water quality today and will exacerbate environmental challenges in the future. Potential impacts from climate change include increases in scale and frequency of hurricanes, wildland fires, flooding and drought, and changes in transportation and energy usage.

[7] Found at: https://www.epa.gov/fedfac/redevelopment-federal-facilities
[8] See https://www.epa.gov/fedfac/redevelopment-federal-facilities.

These changes impact air and water quality as well as the health of both humans and ecosystems. Coordinating research across the six National Research Programs (NRP), this research will improve understanding of these climate-driven changes, developing knowledge to support science-based decision making, and supporting climate induced disaster preparation, response and recovery, resiliency of ecosystems services, community resilience and sustainability, and management of human health and the environment.

Programmatic or policy decisions this activity will inform:

ORD research efforts will be designed to strengthen the scientific foundation for actions at the Agency, state, tribal, local, territory, and community levels to address environmental and health inequalities in vulnerable populations, lifestages, and communities with environmental justice and equity concerns.

Question(s) this activity will address:

This research area will assist EPA in addressing scientific questions related to environmental and health inequalities and is supported by multiple national research programs. EPA, state, tribal, local government, and communities need tools and data to predict how air quality, water quality, ecosystems, and human health will change because of the changing climate and the potential mitigation strategies that are adopted. ORD research will inform decisions, sustainable transitions, and efforts to decrease disproportionate impacts of climate change. The climate induced disasters need EPA response activities including public drinking water supply, drinking and wastewater infrastructure recovery, debris management, and environmental contamination cleanup (oil spill, pesticide, hazardous waste, mold, etc.). Many of these response activities benefit from capabilities developed from research supporting chemical, biological, and radiological incident response.

Data, tools, method/analytical approach:

This research area will produce data, methods, and tools to advance the understanding of adverse health impacts among people, changes to air quality, changes to water quality and quantity, changes to contaminant loading in sediments and soils, and changes to ecosystem functions and services that are associated with changing climate. This research area will also produce methods and tools to improve community preparation for, response to, and recovery from climate induced disasters, as well as to improve the long-term resilience of communities to climatic change with respect to human health and welfare.

Anticipated challenges and proposed solutions:

This research area will produce scientific deliverables which will require complex research planning, facilitation, review coordination, task prioritization, and regular interactions with the program partners (e.g., AO, OAR, OW, OLEM, Regional Offices) to ensure deliverables/products address partner's needs. In FY 2024, ORD will continue to develop more efficient methods of project implementation and tracking.

Dissemination of findings*:*

Research area findings will take a variety of publicly available forms such as technical reports, journal publications, open-access web-based tools and models, data sets, webinars, and technical fact sheets aimed at promoting translation of results to inform solutions.

Activity 2

Title	Environmental Justice, Cumulative Impacts, and Vulnerable Populations
Lead National Program	Office of Research and Development
Cross-Agency Strategy Supported	Cross-Agency Strategy 1: Ensure Scientific Integrity and Science-Based Decision Making
Strategic Goal and Objective supported	Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights Objective 2.1: Promote Environmental Justice Efforts at the Federal, Tribal, State, and Local Levels
Planned Start Date	October 2023
Planned Completion Date	November 2026

Purpose and brief description:

Environmental justice (EJ) is an integral part of EPA's mission to protect human health and the environment. EJ is achieved when all people are fully protected from environmental and health hazards and have equitable access to decision-making processes to maintain a healthy environment in which to live, learn, play, and work. Low-income, disadvantaged communities and indigenous peoples are often disproportionately vulnerable to environmental health challenges because they are faced with greater exposure to many sources of pollutants or contaminants (chemical stressors), disadvantaged due to long term environmental policies resulting in wealth and health inequities or disparities, and underserved in adaptive capacity to respond to and cope with emerging environmental stressors including those caused by climate change and catastrophic incidents. Similarly, cumulative health impacts from these chemical and nonchemical stressors vary with lifestages, as well as inherent sensitivities. Children, older persons, and people with disabilities or pre-existing health conditions may be most susceptible and vulnerable to climate changes and associated environmental stressors. Coordinating research across the six National Research Programs (NRP) will lead to a better understanding of how health disparities can arise from unequal environmental conditions, including impacts from climate change and exposures to pollution, and inequitable social and economic conditions.

Programmatic or policy decisions this activity will inform:

ORD research efforts will be designed to strengthen the scientific foundation for actions at the Agency, state, tribal, local, territory, and community levels to address cumulative impacts and environmental and health inequalities in vulnerable populations, lifestages, and communities with environmental justice and equity concerns.

Question(s) this activity will address:

ORD's research will address multiple questions such as:

- How can EPA address the challenge of expanding the state of scientific understanding for addressing environmental health disparities and shortening of lifespan related to exposure to chemical and nonchemical stressors in vulnerable populations and life stages?

- How can EPA address the challenge of investigating the intertwined social and environmental variables that affect community resilience and vulnerability to environmental contamination incidents including natural disasters?
- How can EPA address the challenge of characterizing and assessing disproportionate exposures, risks, and impacts, such as through cumulative impact assessment, while identifying, comparing, and evaluating evidence-based solutions to reduce these impacts in, and improve the health and wellbeing of, communities with EJ and equity concerns?

Data, tools, method/analytical approach:

In this research area a large amount of data, as well as methods, and tools, will be developed that help support decision-making and empower EPA, states, tribes, local governments, and overburdened and disadvantaged communities to take action for revitalization, resilience, and sustainability. This research will enhance human health by supporting the development of new technologies, data, models, and tools as well as resources and trainings for risk communication and risk management, outreach, and community engagement. In January 2022, ORD published the external review draft white paper, *Cumulative Impacts: Recommendations for ORD Research* to guide development of ORD's FY 2023-2026 research portfolio and address critical science gaps.[9] ORD has developed scores of research products to address cumulative impacts. Over time, ORD will be able to assess progress towards addressing the research recommendations contained in the white paper.

Anticipated challenges and proposed solutions:

This research area will produce scientific deliverables which will require complex research planning, facilitation, review coordination, task prioritization, and regular interactions with the program partners (e.g., OLEM, OEJ, OCHP, Regional Offices) to ensure deliverables/products address the partner needs. In FY 2024, ORD will continue to develop more efficient methods of project implementation and tracking.

Dissemination of findings:

Research area findings will take a variety of publicly available forms including journal publications, open-access web-based tools and models, data sets, webinars, and technical fact sheets.

Office of Water (OW)

Activity 1

Title	Clean Water Infrastructure Revolving Fund State Reviews
Lead National Program	Office of Water
Strategic Goal and Objective Supported	Goal 5: Ensure Clean and Safe Water for All Communities.

[9] Additional information may be found at: https://www.epa.gov/healthresearch/cumulative-impacts-research.

	Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure.
Planned Start Date	October FY 2023
Planned Completion Date	Throughout FY 2024

Purpose and brief description:

EPA completes annual reviews of each state's Clean Water State Revolving Fund (CWSRF) program.

Programmatic or policy decisions this activity will inform:

These reviews will help assess if states are effectively implementing the CWSRF program by increasing the amount of non-federal dollars leveraged. The reviews will also be used to encourage states to direct funding to projects that address climate resiliency and equity.

Question(s) this activity will address:

- Are states effectively implementing the CWSRF program by leveraging non-federal funds?
- Are the states complying with EPA's State and Tribal Assistance Grant program requirements?
- What steps are the states taking to promote climate resiliency and equity through CWSRF funding?

Progress, results, and interim findings (if applicable):

Results from the annual reviews are documented on EPA's Clean Water State Revolving Fund Report website [https://www.epa.gov/cwsrf/clean-water-state-revolving-fund-cwsrf-reports]

Data, tools, method/analytical approach:

Data are provided from each state CWSRF program review that is conducted by EPA Headquarters and the Regions.

Dissemination of findings:

The findings from the annual state reviews are documented in Program Evaluation Reports, which are provided to EPA Headquarters by the Regional Offices. EPA Headquarters periodically updates the guidance based on these findings. Revised guidance is made available to states and stakeholders through EPA's CWSRF website.[10]

[10] Additional information may be found at: https://www.epa.gov/cwsrf.

Activity 2

Title	Public Water System Supervision (PWSS) Program Reviews & Drinking Water Infrastructure Revolving Fund State Reviews
Lead National Program	Office of Water
Strategic Goal and Objective Supported	Goal 5: Ensure Clean and Safe Water for All Communities. Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure.
Planned Start Date	October FY 2023
Planned Completion Date	Throughout FY 2024

Purpose and brief description:

EPA annually conducts reviews of agencies with Public Water System Supervision (PWSS) primacy (55 reviews) and reviews of each state's Drinking Water State Revolving Fund (DWSRF) program.

Programmatic or policy decisions this activity will inform:

These reviews assess if primacy entities are effectively implementing the PWSS program to oversee community water system compliance with the Safe Drinking Water Act (SDWA) and assess if states are effectively implementing the DWSRF program to facilitate community water system compliance with the SDWA.

Question(s) this activity will address:

- Are primacy entities effectively implementing the range of activities in the PWSS program to oversee community water system compliance with the SDWA?
- Are states effectively implementing the DWSRF program to facilitate community water system compliance with the SDWA and complying with EPA's State and Tribal Assistance Grant program requirements?

Data, tools, method/analytical approach:

Data is provided via program review reports by agencies with primacy for the PWSS program. The reports are reviewed by EPA, and include elements such as state use of the funds and the associated outcomes, compliance, and implementation of SDWA regulations, alignment of the program with national enforcement and compliance priorities, and public communication efforts.

DWSRF data is provided from each state DWSRF program review conducted by EPA Headquarters and the Regions.

Dissemination of findings:

EPA's regional offices engage and share results with primacy agencies under their purview. EPA shares PWSS information on water system compliance rates across and within states. EPA makes publicly available an annual report on the status of the national DWSRF program. EPA also shares project and

financial data at the national and state level. The most recent annual report, 2019 DWSRF annual report, is available here: https://www.epa.gov/sites/default/files/2020-10/documents/2019_annual_report_final_508compliant.pdf.

Activity 3

Title	Safe Drinking Water Information System (SDWIS) National Community Water System Non-Compliance Review
Lead National Program	Office of Water
Strategic Goal and Objective Supported	Goal 5: Ensure Clean and Safe Water for All Communities. Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure.
Planned Start Date	October FY 2023
Planned Completion Date	Throughout FY 2024

Purpose and brief description:

EPA conducts a review quarterly of the Safe Drinking Water Information System (SDWIS) National Community Water System (CWS) health-based non-compliance data.

Programmatic or policy decisions this activity will inform:

This review assesses the trends and causes of non-compliance to inform technical, managerial, and financial state and public water system capacity building training or future drinking water regulation needs, in support of regulatory drinking water compliance.

Question(s) this activity will address:

- What are the barriers and challenges of CWS systems maintaining compliance with health-based drinking water standards?

Data, tools, method/analytical approach:

Data are provided from EPA's SDWIS database. There is a non-compliance review of CWS systems with health-based violations by regulation type, geographical distribution, and system source type.

Anticipated challenges and proposed solutions:

There are no anticipated challenges.

Dissemination of findings:

The findings from the program reviews will be publicly shared. Quarterly data reports are shared publicly via the SDWIS FED Data Warehouse.[11]

[11] For additional information, please visit: https://ofmpub.epa.gov/apex/sfdw/f?p=108%3A200%3A%3A%3A%3A%3A%3A.