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Washington, DC 20548

Comptroller General
of the United States

June 29, 2021

Accessible Version

The Honorable Michael S. Regan
Administrator of the Environmental Protection Agency
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Priority Open Recommendations: Environmental Protection Agency

Dear Administrator Regan:

I appreciated our recent meeting and look forward to a constructive working relationship between our two institutions. As we discussed, the purpose of this letter is to provide an update on the overall status of the Environmental Protection Agency's (EPA) implementation of GAO's recommendations and to call attention to areas where open recommendations should be given high priority.[1] In November 2020, we reported that on a government-wide basis, 77 percent of our recommendations made 4 years ago were implemented.[2] EPA's implementation rate for recommendations we made in 2016 is 62 percent. As of May 2021, EPA had 101 open recommendations. Fully implementing these open recommendations could significantly improve agency operations.

Since our April 2020 letter on the status of priority recommendations, EPA implemented six of our 21 open priority recommendations by taking the following actions:

- EPA revised its water quality measures that identify the overall health of certain water bodies to capture a wider range of water quality improvements. EPA also collected data on state projects that protect high-quality or unimpaired water bodies. Having done so, EPA can better measure the health of certain water bodies and understand states' ability to protect high-quality water bodies.

- EPA took actions to better track and promote water utilities' implementation of asset management. For example, EPA began requiring states to add asset management to their capacity development strategies and included questions in surveys to

[1]Priority recommendations are those that GAO believes warrant priority attention from heads of key departments or agencies. They are highlighted because, upon implementation, they may significantly improve government operations, for example, by realizing large dollar savings; eliminating mismanagement, fraud, and abuse; or making progress toward addressing a high-risk or duplication issue.

[2]GAO, *Performance and Accountability Report: Fiscal Year 2020*, GAO-21-4SP (Washington, D.C.: Nov. 16, 2020).

encourage states to assess their assets. These actions enable EPA to better understand water utilities' implementation of asset management.

- In its proposed revisions to the Lead and Copper Rule, EPA included a provision for water systems to assist with testing for lead in drinking water at schools and child care facilities, thereby increasing attention to the potential health implications for children from exposure to lead in drinking water.

- EPA updated its guidance on testing for lead in drinking water at schools to include information on monitoring, remediation, treatment, and costs. The agency also developed a fact sheet for states and worked with the Department of Education on a webinar for school emergency management personnel, aimed at providing information to states and school districts. These actions will help school districts make more informed decisions regarding their drinking water testing and remediation efforts.

- EPA reviewed and assigned appropriate National Initiative for Cybersecurity Education (NICE) framework work role codes to about 98 percent of 637 positions in the 2210 information technology (IT) management occupational series. Additionally, EPA reviewed position descriptions for accuracy. As a result, EPA has improved the reliability of the information it needs to identify its IT, cybersecurity, and other cyber-related workforce roles of critical need.

- EPA updated its cybersecurity risk management strategy, which addresses key elements called for in federal guidance. The updated strategy includes a discussion of the agency's risk tolerance and how it intends to assess, respond to, and monitor cybersecurity risks on an ongoing basis. By updating its strategy, EPA should enhance its organization-wide understanding of acceptable risk levels and appropriate risk response strategies to protect the agency's systems and data.

We ask for your attention to the 15 open priority recommendations remaining from those we identified in the 2020 letter. We are also adding seven new recommendations related to assessing and controlling toxics substances, improving risk communication for water infrastructure, and protecting the nation's air quality. These bring the total number of priority recommendations to 22. (See the enclosure for the list of priority recommendations.)

The 22 priority recommendations fall into the following six areas:

Assessing and Controlling Toxic Chemicals. EPA's ability to effectively implement its mission of protecting public health and the environment depends on credible and timely assessments of the risks posed by toxic chemicals, including per- and polyfluoroalkyl substances, which are commonly referred to as PFAS. Seven priority recommendations would enhance EPA's ability to ensure chemical safety under the Toxic Substances Control Act (TSCA) and improve toxic chemical assessments for the Integrated Risk Information System (IRIS) Program.

Related to TSCA, we recommended in March 2013 that EPA develop strategies to address challenges, such as identifying resources, which impede the agency's ability to meet its goal of ensuring chemical safety. In June 2016, the Frank R. Lautenberg Chemical Safety for the 21st Century Act reforming TSCA became law and granted EPA additional authorities that could

facilitate implementing our March 2013 recommendation.[3] We reported in March 2019 that EPA had demonstrated progress implementing TSCA by responding to the law's statutory deadlines through fiscal year 2018.[4] In its comments on that report, EPA said that it was charged with developing and implementing a new TSCA program while achieving extremely aggressive time frames. To fully implement our recommendation, EPA needs to identify the resources needed to conduct risk assessments and implement risk management decisions, as informed by workforce plans and other project management efforts. We plan to work with EPA to review its efforts, but as EPA's Inspector General noted in an August 2020 report, EPA's limited workforce faces significant TSCA responsibilities.[5]

Related to the IRIS Program, we issued reports in March 2008, December 2011, May 2013, and December 2020 in which we made multiple priority recommendations. Six of these remain open and outline steps EPA should take to

- finalize the process for periodically assessing the level of resources that should be dedicated to the program to meet user needs and maintain a viable IRIS database;
- address long-standing issues regarding the timeliness and availability of chemical information;
- establish priorities for IRIS toxicity assessments through a transparent process and develop a strategy for addressing unmet needs when IRIS toxicity assessments are not available, applicable, or current;
- provide more information publicly about the status of chemical assessments that are in the development process;
- issue criteria for how chemical assessment nominations are selected for inclusion in the IRIS Program's list of assessments in development; and
- identify in the Office of Research and Development's strategic plan EPA's universe of chemical assessment needs, how the IRIS Program is being resourced to meet user needs, and specific implementation steps that indicate how IRIS will achieve the plan's objectives.

Our December 2020 report provided a status update on the IRIS Program, reporting on the program's progress in addressing historical timeliness and transparency challenges in the assessment process, as well as examining changes to the way assessments are nominated by EPA offices. We reported that the program's progress producing assessments continues to be delayed, and that the Office of Research and Development's strategic plan did not include resource information or detailed implementation steps for the IRIS Program. Although EPA has begun to address some of our priority recommendations, to fully implement them, it needs to, among other things, establish an ongoing evaluation process to assess user needs and

[3]Pub. L. No. 114–182, 130 Stat. 448 (2016).

[4]GAO, *Chemical Assessments: Status of EPA's Efforts to Produce Assessments and Implement the Toxic Substances Control Act*, GAO-19-270 (Washington, D.C.: Mar. 4, 2019).

[5]Environmental Protection Agency, Office of Inspector General, *Lack of Planning Risks EPA's Ability to Meet Toxic Substances Control Act Deadlines*, 20-P-0247 (Washington, D.C.: Aug. 17, 2020).

resources required to successfully complete IRIS assessments and address related program issues.

Reducing Pollution in the Nation's Waters. One priority recommendation we made in December 2013 would improve EPA's ability to protect the quality of our nation's water resources. Specifically, we recommended that EPA issue regulations requiring pollution targets known as Total Maximum Daily Loads to include key features identified by the National Research Council as necessary for attaining water quality standards. EPA officials told us in July 2020 that they do not believe the agency can take action on the recommendation under its current authority, and officials have stated that the agency has no plans to take any action. However, we continue to believe that the problems of nonpoint source pollution require stronger action, such as regulations, to be resolved and that EPA has the authority to issue such regulations. To fully implement this recommendation, EPA needs to issue these regulations.

Ensuring Cybersecurity at EPA. One priority recommendation we made in July 2019 would help EPA better manage its cybersecurity risks. Specifically, we recommended that EPA take steps to establish a process for conducting an organization-wide cybersecurity risk assessment. EPA has identified steps the agency is taking toward implementing this recommendation, such as establishing a process for updating policies. To fully address the recommendation, EPA needs to complete these steps and ensure they result in a process for conducting cybersecurity risk assessment as laid out in our recommendation.

Addressing Data, Cybersecurity, and Risk Communication Issues for Drinking Water and Wastewater Infrastructure. Seven priority recommendations we made in four reports issued from June 2011 through December 2020 would improve EPA's ability to address water infrastructure issues in the following categories:

- **Data**. Four recommendations outline steps EPA should take to help (1) provide more complete and accurate data on community drinking water systems' compliance with the Safe Drinking Water Act and (2) obtain additional data to enhance oversight of the Lead and Copper Rule.
- **Cybersecurity**. One recommendation identifies steps that would improve EPA's ability to determine the success of efforts to protect infrastructure from cyber risks and where to focus limited resources for cyber risk mitigation. Specifically, this recommendation calls for EPA to develop methods for determining the level and type of cybersecurity framework adoption by entities across the water and wastewater systems sector.
- **Risk Communication.** Two recommendations identify actions EPA should take to better identify and communicate with those affected by lead in public water systems by (1) developing a strategic plan for providing targeted outreach, education, technical assistance, and risk communication to populations affected by the concentration of lead in public water systems and (2) establishing a time frame for publishing new risk communication guidance or updating existing risk communication manuals.

EPA has begun to address some of these data, cybersecurity, and risk communication recommendations through actions such as conducting file reviews in some states to verify the reliability of drinking water data. However, EPA needs to ensure that it completes and implements specific steps, such as consulting with partners to develop a comprehensive understanding of the level and type of cybersecurity framework adoption.

Managing Climate Change Risks. Since February 2013, we have included *Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks* on our list of federal program high-risk areas.[6] Four priority recommendations that we made to EPA in two reports in October 2019 and January 2020 would help EPA manage climate change risks for Superfund National Priorities List (NPL) sites and water utilities, respectively. These recommendations involve (1) clarifying how EPA's actions to manage certain risks from the potential impacts of climate change effects at nonfederal NPL sites align with the agency's current goals and objectives, (2) providing direction on how to integrate information on potential impacts of climate change effects into risk assessments at nonfederal NPL sites, (3) providing direction on how to integrate information on potential impacts of climate change effects into risk response decisions at nonfederal NPL sites, and (4) working with the Water Sector Government Coordinating Council to identify and engage technical assistance providers in a network to help drinking water and wastewater utilities incorporate climate resilience into infrastructure projects and planning.

EPA has begun to address two of the recommendations related to managing climate change risks at nonfederal NPL sites by planning to issue a memorandum that provides direction on integrating information on potential impacts of climate change into risk assessments and response decisions at nonfederal NPL sites. To address these recommendations, EPA needs to complete this step. EPA has not begun to address the recommendation to clarify how its actions to manage climate change risks at nonfederal NPL sites align with the agency's current goals and objectives; we continue to believe action is needed. EPA neither agreed nor disagreed with our recommendation related to managing climate change risks for water utilities. EPA officials said the agency continues to work across the water sector and with its established network to provide technical assistance to drinking water and wastewater utilities. To implement our recommendation, EPA should integrate these providers in a network, which would help more of these utilities incorporate climate resilience into their projects and planning on an ongoing basis.

Protecting the Nation's Air Quality. Two priority recommendations would help EPA better position the national ambient air quality monitoring system to provide critical information to manage air quality and protect public health. In November 2020, we made recommendations to help EPA better sustain and manage the air quality monitoring system, by consulting with state and local agencies to (1) develop, make public, and implement an asset management framework for consistently sustaining the monitoring system and (2) develop and make public an air quality monitoring modernization plan. EPA agreed with our recommendations, noting in its comments on our report that if fully implemented, these actions would add value and help sustain the monitoring system. EPA has taken some actions to address these recommendations, including facilitating discussions on the report's findings with state, local, and tribal organizations and committing to time frames and future activities for implementing the recommendations. To fully implement these recommendations, EPA should complete these actions and ensure that they result in an asset management framework and modernization plan.

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In March 2021, we issued our biennial update to our High-Risk List, which identifies government operations with greater vulnerabilities to fraud, waste, abuse, and mismanagement, or in need of transformation to address economy, efficiency, or effectiveness challenges.[7] One of our high-

[6]GAO, *High Risk Series: An Update*, GAO-13-283 (Washington, D.C.: Feb. 14, 2013).

[7]GAO, *High-Risk Series: Dedicated Leadership Needed to Address Limited Progress in Most High-Risk Areas*, GAO-21-119SP (Washington, D.C.: Mar. 2, 2021).

risk areas—transforming EPA's processes for assessing and controlling toxic chemicals—centers directly on EPA, and seven of our priority recommendations are related to this area. One additional high-risk area—limiting the federal government's fiscal exposure by better managing climate change risks—is shared among multiple agencies including EPA.

Several other government-wide high-risk areas also have direct implications for EPA and its operations. These include (1) ensuring cybersecurity of the nation,[8] (2) improving management of IT acquisitions and operations, (3) strategic human capital management, (4) managing federal real property, and (5) the government-wide security clearance process. We urge your attention to the EPA, shared, and government-wide high-risk issues as they relate to EPA. Progress on high-risk issues has been possible through the concerted actions and efforts of Congress, the Office of Management and Budget, and the leadership and staff in agencies, including EPA.

Copies of this letter and its enclosure are being sent to the Director of the Office of Management and Budget and appropriate congressional committees including the Committees on Appropriations, Budget, Homeland Security and Governmental Affairs, and Environment and Public Works, United States Senate; and the Committees on Appropriations, Budget, Oversight Reform, and Energy and Commerce, House of Representatives. In addition, the letter and its enclosure will be available on the GAO website at http://www.gao.gov.

I appreciate EPA's continued commitment to these important issues. If you have any questions or would like to discuss any of the issues outlined in this letter, please do not hesitate to contact me or Mark Gaffigan, Managing Director, Natural Resources and Environment, at gaffiganm@gao.gov or 202-512-3841. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Our teams will continue to coordinate with your staff on all of the 101 open recommendations, including those recommendations in the high-risk areas for which EPA has a leading role. Thank you for your attention to these matters.

Sincerely yours,

Gene L. Dodaro
Comptroller General of the United States
Enclosure - I

cc: Barry Breen, Acting Assistant Administrator, Office of Land and Emergency Management

[8]With regard to cybersecurity, we also urge you to use foundational information and communications technology supply chain risk management practices set forth in our December 2020 report: GAO, *Information Technology: Federal Agencies Need to Take Urgent Action to Manage Supply Chain Risks,* GAO-21-171 (Washington, D.C.: Dec. 15, 2020).

Radhika Fox, Principal Deputy Assistant Administrator, Office of Water

Joseph Goffman, Acting Assistant Administrator, Office of Air and Radiation
Jennifer Orme-Zavaleta, Acting Assistant Administrator, EPA Science Advisor, Principal Deputy Assistant Administrator for Science, Office of Research and Development
Lawrence Starfield, Acting Assistant Administrator, Office of Enforcement and Compliance Assurance
The Honorable Shalanda Young, Acting Director, Office of Management and Budget

Enclosure: I

Priority Open Recommendations to the Environmental Protection Agency

Assessing and Controlling Toxic Chemicals

Toxic Substances: EPA Has Increased Efforts to Assess and Control Chemicals but Could Strengthen Its Approach. GAO-13-249. Washington, D.C.: March 22, 2013.

Recommendation: To better position EPA to collect chemical toxicity and exposure-related data and ensure chemical safety under existing Toxic Substances Control Act (TSCA) authority, while balancing its workload, and to better position EPA to ensure chemical safety under existing TSCA authority, the Administrator of EPA should direct the appropriate offices to develop strategies for addressing challenges that impede the agency's ability to meet its goal of ensuring chemical safety. At a minimum, the strategies should address challenges associated with: (1) obtaining toxicity and exposure data needed to conduct ongoing and future TSCA Work Plan risk assessments, (2) gaining access to toxicity and exposure data provided to the European Chemicals Agency, (3) working with processors and processor associations to obtain exposure-related data, (4) banning or limiting the use of chemicals under section 6 of TSCA and planned actions for overcoming these challenges—including a description of other actions the agency plans to pursue in lieu of banning or limiting the use of chemicals, and (5) identifying the resources needed to conduct risk assessments and implement risk management decisions in order to meet its goal of ensuring chemical safety.

Action Needed: EPA neither agreed nor disagreed with our recommendation. According to an August 2020 report by the EPA Inspector General, the Office of Pollution Prevention and Toxics, which oversees TSCA implementation, needs to perform a workforce analysis to assess its capability to implement TSCA.[1] EPA is required to issue 20 high-priority risk evaluations by December 2022 and submit annual plans to Congress that contain details about needed resources and implementation steps for completing assessments and implementing risk management decisions. Our March 2021 high-risk report provided a status update reflecting EPA's progress through 2020 in implementing the law.[2] We plan to review EPA's efforts, especially those related to identifying appropriate resources to implement TSCA according to statutory deadlines.

High-Risk Area: Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals.

Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841
Chemical Assessments: Low Productivity and New Interagency Review Process Limit the Usefulness and Credibility of EPA's Integrated Risk Information System. GAO-08-440. Washington, D.C.: March 7, 2008.

Recommendation: To develop timely chemical risk information that EPA needs to effectively conduct its mission, the Administrator of EPA should require the Office of Research and Development (ORD) to re-evaluate its draft proposed changes to the Integrated Risk

[1]Environmental Protection Agency, Office of Inspector General, *Lack of Planning Risks EPA's Ability to Meet Toxic Substances Control Act Deadlines*, 20-P-0247 (Washington, D.C.: Aug. 17, 2020).

[2]GAO, *High-Risk Series: Dedicated Leadership Needed to Address Limited Progress in Most High-Risk Areas*, GAO-21-119SP (Washington, D.C.: Mar. 2, 2021).

Information System (IRIS) assessment process in light of the issues raised in the report and ensure that any revised process periodically assesses the level of resources that should be dedicated to this significant program to meet user needs and maintain a viable IRIS database.

Action Needed: In comments on the report, EPA agreed to consider our recommendation. Regarding the IRIS process, EPA officials indicated that the IRIS Program had released the "Handbook for Developing IRIS Assessments" for public comment. The handbook is intended to guide staff through the sequential stages of the IRIS assessment process, and completing review of the handbook is an important step toward ensuring consistency across assessments as they are developed. Regarding resources for the IRIS Program, we reported in December 2020 that EPA's draft strategic research action plan for the Health and Environmental Risk Assessment (HERA) area does not mention the resources IRIS or other assessment programs need to produce assessments. EPA needs to develop a strategic plan, or other document, that identifies the resources that ORD and the IRIS Program need to meet EPA user needs for chemical assessments.

High-Risk Area: Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals.
Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841
Chemical Assessments: Challenges Remain with EPA's Integrated Risk Information System Program. GAO-12-42. Washington, D.C.: December 9, 2011.
Recommendation: To better ensure the credibility of IRIS assessments by enhancing their timeliness and certainty, the Administrator of EPA should require the Office of Research and Development to establish a written policy that clearly describes the applicability of the time frames for each type of IRIS assessment and ensures that the time frames are realistic and provide greater predictability to stakeholders.

Action Needed: EPA agreed with our recommendation. As of April 2021, EPA was including information in its IRIS Assessment Plans (IAPs) and Systematic Review Protocols to help inform stakeholders and the public about complexity and time frames for each IRIS assessment. For example, IAPs document the extent and nature of the evidence, and the Systematic Review Protocols present more advanced literature inventories and summarize methods used in preparing an assessment. While such information can help the IRIS Program estimate timelines, identify appropriate staff, and contract support where needed, stakeholders have limited information to evaluate whether time frames are realistic. Baseline information that elaborates on what makes an assessment more or less complex or take more or less time to complete would facilitate understanding and better align with our recommendation.

High-Risk Area: Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals.
Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841
Chemical Assessments: An Agencywide Strategy May Help EPA Address Unmet Needs for Integrated Risk Information System Assessments. GAO-13-369. Washington, D.C.: May 10, 2013.
Recommendation: To ensure that EPA maximizes its limited resources and addresses the statutory, regulatory, and programmatic needs of EPA program offices and regions when IRIS toxicity assessments are not available, and once demand for the IRIS program is determined, the Administrator of EPA should direct the Deputy Administrator, in coordination with EPA's Science Advisor, to develop an agency-wide strategy to address the unmet needs of EPA

program offices and regions that includes, at a minimum: (1) coordination across EPA offices and with other federal research agencies to help identify and fill data gaps that preclude the agency from conducting IRIS toxicity assessments, and (2) guidance that describes alternative sources of toxicity information and when it would be appropriate to use them when IRIS values are not available, applicable, or current.

Action Needed: EPA partially agreed with our recommendation. As of April 2021, the IRIS Program needs to focus on user needs for chemical assessments, issue guidance, and provide documentation on alternative sources of toxicity information when IRIS values are unavailable. Officials indicated that they intend to hold coordination meetings with key program offices to discuss chemical assessments to meet agency needs. We reported in December 2020 that while the total number of chemicals nominated for assessment in 2018 was more than 50, in 2020 the IRIS Program was only working on 15 assessments. Additionally, program and regional officials do not have EPA-wide guidance on what sources to use when IRIS assessments are not available. One program office developed its own prioritized list of sources to use for chemical assessments when IRIS assessments are not available, and other offices follow similar guidelines, though none do so officially. EPA leadership needs to provide documentation showing an agency-wide strategy that includes identifying data gaps and guidance on alternative sources of toxicity information when IRIS values are not available, applicable, or current.

High-Risk Area: Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals.

Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841

Chemical Assessments: Annual EPA Survey Inconsistent with Leading Practices in Program Management. GAO-21-156. Washington, D.C.: December 18, 2020.

Recommendations:

(1) The Administrator should direct the Assistant Administrator of the Office of Research and Development (ORD) to provide more information publicly about where chemical assessments are in the development process, including internal and external steps in the process, and changes to assessment milestones.
(2) The Administrator should direct the Assistant Administrator of ORD to issue criteria for how chemical assessment nominations are selected for inclusion in the IRIS Program's list of assessments in development and provide quality information about such topics as defining high-priority chemicals, prioritizing assessment work, and determining the IRIS Program's capacity to undertake work.
(3) The Administrator of EPA should include in ORD's strategic plan (or subsidiary strategic plans) identification of EPA's universe of chemical assessment needs; how the IRIS Program is being resourced to meet user needs; and specific implementation steps that indicate how IRIS will achieve the plan's objectives, such as specific metrics to define progress in meeting user needs.

Action Needed: EPA disagreed with the first recommendation, stating that the agency already maintains a high level of transparency and that implementing the recommendation would create an additional reporting and management burden and would slow the development of assessments. However, we believe that more information is needed on the timing of all steps in

the assessment process to facilitate tracking by the public and stakeholders and that the recommendation is warranted. EPA partially agreed with the other two recommendations.

EPA needs to provide additional information to the public and stakeholders by communicating, via public Outlook documents and the IRIS website, more information about where assessments are in the development process. We found in December 2020 that neither program nor regional offices had issued criteria or information to guide their staff as they selected chemicals to nominate for assessment. Providing criteria and information to program and regional office staff would help them plan their chemical nominations to align with their own office's goals as well as facilitate understanding about how ORD prioritizes their needs. In addition, we found that EPA had not identified the resources needed to address user needs for chemical assessments, and we continue to believe that ORD should include, in a strategic plan or related document, information about the IRIS Program's resources and capacity.

High-Risk Area: Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals.

Director: Alfredo Gómez, Natural Resources and Environment

Contact information: gomezj@gao.gov, 202-512-3841

Reducing Pollution in the Nation's Waters

Clean Water Act: Changes Needed If Key EPA Program Is to Help Fulfill the Nation's Water Quality Goals. GAO-14-80. Washington, D.C.: December 5, 2013.

Recommendation: To enhance the likelihood that Total Maximum Daily Loads (TMDLs) support the nation's waters' attainment of water quality standards and to strengthen water quality management, the Administrator of EPA should develop and issue new regulations requiring that TMDLs include additional elements—and consider requiring the elements that are now optional—specifically, elements reflecting key features identified by the National Research Council as necessary for attaining water quality standards, such as comprehensive identification of impairment and plans to monitor water bodies to verify that water quality is improving.

Action needed: EPA agreed with our findings related to this recommendation, but did not agree to take the recommended action. As of June 2020, EPA officials stated that they believe the recommendation has been implemented based on steps the agency has taken to implement a new vision for the TMDL program, with a focus on effective implementation of TMDLs. We agree that these actions are helpful and can take the agency and states in the direction of improving the TMDL program. However, the actions do not carry the force of regulations and we believe that the problems of nonpoint source pollution require stronger action such as regulations to be resolved, since nonpoint sources continue to be a large source of pollution in the nation's waters.

In July 2020, EPA officials told us they do not believe the agency can issue the recommended regulations under its current authority and stated that the agency has no plans to take any action. However, we continue to believe that EPA has the authority to issue the regulations, as long as it follows all applicable procedural and substantive requirements. For us to consider this recommendation implemented, EPA needs to issue the recommended regulations.

Director: Alfredo Gómez, Natural Resources and Environment

Contact information: gomezj@gao.gov, 202-512-3841

Ensuring Cybersecurity at EPA
Cybersecurity: Agencies Need to Fully Establish Risk Management Programs and Address Challenges. GAO-19-384. Washington, D.C.: July 25, 2019.
Recommendation: The Administrator of EPA should establish a process for conducting an organization-wide cybersecurity risk assessment.
Action Needed: EPA did not provide comments on our July 2019 report. EPA has updated its cybersecurity risk management strategy, which calls for the agency to develop an organization-wide perspective on cybersecurity risks. However, as of April 2021, the agency had not provided evidence that it had developed a process for aggregating information from system-level risk assessments, continuous monitoring, and other sources to allow the agency to assess the risk from the operation and use of its information systems from an agency-wide perspective.
High-Risk Area: Ensuring the Cybersecurity of the Nation.
Director: Nick Marinos, Information Technology and Cybersecurity
Contact information: marinosn@gao.gov, 202-512-9342

Addressing Data, Cybersecurity, and Risk Communication Issues for Drinking Water and Wastewater Infrastructure

Drinking Water: Unreliable State Data Limit EPA's Ability to Target Enforcement Priorities and Communicate Water Systems' Performance. GAO-11-381. Washington, D.C.: June 17, 2011.

Recommendation: To improve EPA's ability to oversee the states' implementation of the Safe Drinking Water Act and provide Congress and the public with more complete and accurate information on compliance, the Administrator of EPA should resume data verification audits to routinely evaluate the quality of selected drinking water data on health-based and monitoring violations that the states provide to EPA. These audits should also evaluate the quality of data on the enforcement actions that states and other primacy agencies have taken to correct violations.

Action Needed: EPA partially agreed with our recommendation. As of April 2021, EPA indicated that it was not resuming data verification audits but was taking other actions to improve the agency's ability to oversee the quality of drinking water data that states provide to EPA. For example, the agency was conducting file reviews in at least 10 states annually to verify the reliability of data and to identify opportunities for implementation improvements. Nevertheless, the extent to which EPA's file reviews and other actions determine the completeness and accuracy of the Safe Drinking Water Information System (SDWIS) data overall is unclear. Additional information is needed on whether EPA uses a selection mechanism for file reviews that examines the entire population, a generalizable sample that produces reliable estimates of accuracy and completeness of the entire population, or another selection method that provides similar assurances. Without insight into the generalizability of the results of these file reviews, for example, it is difficult to determine the extent to which the SDWIS data are complete and accurate and the extent to which Congress and the public can rely on those data to assess compliance with the Safe Drinking Water Act. As of May 2021, we are conducting additional follow-up with EPA staff on the status of these efforts.

Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841

Drinking Water: Additional Data and Statistical Analysis May Enhance EPA's Oversight of the Lead and Copper Rule. GAO-17-424. Washington, D.C.: September 1, 2017.

Recommendations:

(1) The Assistant Administrator for Water of EPA's Office of Water should require states to report available information about lead pipes to EPA's SDWIS/Fed (or a future redesign such as SDWIS Prime) database, in its upcoming revision of the Lead and Copper Rule.
(2) The Assistant Administrator for Water of EPA's Office of Water should require states to report all 90th percentile sample results for small water systems to EPA's SDWIS/Fed (or a future redesign such as SDWIS Prime) database, in its upcoming revision of the Lead and Copper Rule.
(3) The Assistant Administrator for Water of EPA's Office of Water and the Assistant Administrator of EPA's Office of Enforcement and Compliance Assurance should develop a statistical analysis that incorporates multiple factors—including those currently in SDWIS/Fed and others such as the presence of lead pipes and the use of corrosion control—to identify water systems that might pose a higher likelihood for violating the Lead and Copper Rule once complete violations data are obtained, such as through SDWIS Prime.

Action Needed: EPA agreed with our recommendations. In January 2021, EPA issued a final regulation revising the Lead and Copper Rule that, once in effect, would implement two of our recommendations. The final rule requires states to report quarterly to EPA on the number of lead service lines each public water system in the state has, and to report to EPA all 90th percentile lead levels for all sizes of public water systems. The final rule is scheduled to take effect on December 16, 2021. We will wait until the final rule goes into effect before closing the recommendation to ensure the reporting requirements are implemented.

As of May 2021, we are conducting additional follow-up with EPA staff on the status of these efforts. EPA needs to provide an update on SDWIS modernization or other data plans for identifying violations data associated with water systems that might pose a higher likelihood for violating the Lead and Copper Rule. EPA officials told us the agency is also working to develop an internal resource that will consider a range of data inputs such as historical occurrence of action level exceedances, the number of lead service lines known to be present in a given water system, the proportion of a system's service connections that are served by lead service lines, and other capacity challenges.

Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841
Critical Infrastructure Protection: Additional Actions Are Essential for Assessing Cybersecurity Framework Adoption. GAO-18-211. Washington, D.C.: February 15, 2018.
Recommendation: The Administrator of EPA should take steps to consult with respective sector partner(s), such as the Sector Coordinating Council, Department of Homeland Security and National Institute of Standards and Technology, as appropriate, to develop methods for determining the level and type of framework adoption by entities across their respective sectors.
Action Needed: EPA did not explicitly agree or disagree with our recommendation. EPA noted several factors that constrain the agency from implementing the recommendation, such as the reluctance of water sector facilities to divulge sensitive information about specific infrastructure protection activities. EPA also said it agrees that a comprehensive assessment of framework adoption within the water sector would assist with evaluating and tailoring efforts to promote its use. Further, the agency stated that it will continue to work with the Water Sector Coordinating

Council and sector partners to promote and facilitate adoption of the cybersecurity framework. The agency also suggested options related to developing cross-sector metrics and survey methods and stated that it would collect available data that may be characterized as cybersecurity framework "awareness," such as downloads of guidance materials and participation in classroom trainings and webinars.
As of April 2021, EPA had yet to develop methods to determine the level and type of framework adoption. Officials identified steps the department is taking to facilitate framework use. Specifically, in written responses, EPA told us that the agency initiated and led a working group to identify strategies to promote adoption of the NIST Cybersecurity Framework in the Water Sector. EPA officials also stated that they conducted training, developed a cybersecurity incident action checklist, and convened a group of experts focused on providing intelligence related to the consequences of cyberattacks. In addition, EPA officials noted that the agency has been consulting with federal partners to develop potential options for promoting and assessing adoption of the framework. While the agency has some ongoing initiatives, implementing our recommendation to gain a more comprehensive understanding of the framework's use by its critical infrastructure sector is essential to the success of protection efforts.
High Risk Area: Ensuring the Cybersecurity of the Nation.
Director: Vijay D'Souza, Information Technology and Cybersecurity
Contact information: dsouzav@gao.gov, 202-512-6240

Drinking Water: EPA Could Use Available Data to Better Identify Neighborhoods at Risk of Lead Exposure. GAO-21-78. Washington, D.C.: December 18, 2020.

Recommendations:

(1) EPA's Assistant Administrator for Water should develop a strategic plan that meets the Water Infrastructure Improvements for the Nation (WIIN) Act requirement for providing targeted outreach, education, technical assistance, and risk communication to populations affected by the concentration of lead in public water systems, and that is fully consistent with leading practices for strategic plans.[3]

(2) The Administrator of EPA should establish a time frame for publishing new risk communication guidance or updating existing risk communication manuals.

Action Needed: EPA disagreed with the first recommendation and stated that it believes it has already met the WIIN Act requirement. However, we maintain that the recommendation is warranted and that EPA should implement it because the plan does not discuss all items required by the law and does not meet leading practices for strategic plans; doing so would give the agency greater assurance that it has effectively planned for how it will communicate to the public the risk of lead in drinking water. EPA agreed with the second recommendation and stated that it expects to update its risk communication website with new guidance in 2021. EPA updated its risk communication website with several agency-wide documents that we are currently reviewing.

Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841

[3]Pub. L. No. 114-322, § 2106(a)(6), 130 Stat. 1628, 1724 (2016) (*codified at* 42 U.S.C. § 300g-3(c)(5)(A)).

Managing Climate Change Risks
Superfund: EPA Should Take Additional Actions to Manage Risks from Climate Change. GAO-20-73. Washington, D.C.: October 18, 2019.
Recommendations:

(1) The Administrator of EPA should clarify how EPA's actions to manage risks to human health and the environment from the potential impacts of climate change effects at nonfederal National Priorities List (NPL) sites align with the agency's current goals and objectives.

(2) The Director of the Office of Superfund Remediation and Technology Innovation should provide direction on how to integrate information on the potential impacts of climate change effects into risk assessments at nonfederal NPL sites.

(3) The Director of the Office of Superfund Remediation and Technology Innovation should provide direction on how to integrate information on the potential impacts of climate change effects into risk response decisions at nonfederal NPL sites.

Action Needed: EPA disagreed with our recommendations, noting that managing risks from exposure to environmental contaminants is integral to EPA's current strategic goal 1.3, Revitalize Land and Prevent Contamination, and that the Superfund program's existing processes adequately ensure that climate change risks are woven into risk assessments and risk response decisions. However, strategic goal 1.3 does not include any measures related to climate change or discuss strategies for addressing the impacts of climate change effects. In addition, EPA's direction on risk assessments and risk response decisions does not address all types of cleanup actions or climate change effects. Consequently, we believe that our recommendations are still warranted.

As of April 2021, EPA was considering whether to take action on the first recommendation. Since EPA's current strategic goal 1.3, Revitalize Land and Prevent Contamination, does not include any measures related to climate change or discuss strategies for addressing the impacts of climate change effects, EPA should clarify how its actions to manage risks from climate change effects at nonfederal NPL sites align with the agency's current goals and objectives. For the other two recommendations, EPA officials stated that the agency plans to issue a memorandum that will provide direction on how to integrate information on potential climate change effects into risk assessments and risk response decisions at nonfederal NPL sites. To address these recommendations, EPA needs to complete this step.

High-Risk Area: Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks.
Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841
Water Infrastructure: Technical Assistance and Climate Resilience Planning Could Help Utilities Prepare for Potential Climate Change Impacts. GAO-20-24. Washington, D.C.: January 16, 2020.
Recommendation: The Director of Water Security of EPA, as Chair of the Water Sector Government Coordinating Council, should work with the council to identify existing technical assistance providers and engage these providers in a network to help drinking water and wastewater utilities incorporate climate resilience into their projects and planning on an ongoing basis.

Action Needed: EPA neither agreed nor disagreed with our recommendation, but said that its current efforts working with federal agencies and the water sector would help it carry out the

recommendation. However, as of April 2021, EPA has not indicated how it would work with agencies, states, and the water sector to organize a network of technical assistance, as we recommended.

High-Risk Area: Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks.
Director: Alfredo Gómez, Natural Resources and Environment
Contact information: gomezj@gao.gov, 202-512-3841
Protecting the Nation's Air Quality

Air Pollution: Opportunities to Better Sustain and Modernize the National Air Quality Monitoring System. GAO-21-38. Washington, D.C.: November 12, 2020.

Recommendations:

(1) The Assistant Administrator of EPA's Office of Air and Radiation, in consultation with state and local agencies, should develop, make public, and implement an asset management framework for consistently sustaining the national ambient air quality monitoring system. Such a framework could be designed for success by considering the key characteristics of effective asset management described in our report, such as identifying the resources needed to sustain the monitoring system, using quality data to manage infrastructure risks, and targeting resources toward assets that provide the greatest value.
(2) The Assistant Administrator of EPA's Office of Air and Radiation, in consultation with state and local agencies and other relevant federal agencies, should develop and make public an air quality monitoring modernization plan to better meet the additional information needs of air quality managers, researchers, and the public. Such a plan could address the ongoing challenges in modernizing the national ambient air quality monitoring system by considering leading practices, including establishing priorities and roles, assessing risks to success, identifying the resources needed to achieve goals, and measuring and evaluating progress.

Action Needed: EPA agreed with our recommendations, stating in its comments that implementing them would add value and help sustain the national air quality monitoring system. EPA also stated that to assure success, the agency would need to engage stakeholders at state, local, and tribal air monitoring agencies. As of April 2021, EPA had begun to address both recommendations by presenting the findings from our November 2020 report to and facilitating a discussion with associations representing state and local air quality agencies and tribal organizations. In addition, EPA has committed to various actions to implement the recommendations and established associated timeframes. For example, according to EPA officials, EPA plans to continue engaging with stakeholders in fiscal years 2021 and 2022 to identify opportunities to report on asset management metrics, practices to address infrastructure risks, potential modernization objectives and priorities, and necessary additional resources. We will continue to monitor the actions EPA takes to implement these recommendations.

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