

Looking Forward

Opportunities for Improvement

In fiscal year (FY) 2021, the Scientific Integrity program efforts focus on completing a number of scientific integrity resources for employees designed to further increase the visibility of scientific integrity at EPA; grow and model scientific integrity across EPA; and protect and support EPA's culture of scientific integrity. Some of these efforts include, but are not limited to, what is described in this section.

Differing Scientific Opinions

In collaboration with the Scientific Integrity Committee and other agency offices, work continues to finalize the *Approaches for Expressing and Resolving Differing Scientific Opinions* (DSO). The DSO recommends a progression of approaches that employees and managers can use to encourage the expression and satisfactory resolution of DSOs. Scientific products and decisions are strengthened by considering all pertinent evidence and exploring various plausible explanations of that evidence. Vigorous internal discussion of different points of view helps to anticipate counterarguments and alternative positions that could arise during public comment, peer review, and litigation. This process of challenging and improving ideas helps to guard against inadequate science and flawed analyses. The DSO applies to all EPA employees, including scientists, managers, and political appointees. This important resource is expected to be final and available to EPA employees, coupled with outreach and training, early in fiscal year 2021¹.

Plagiarism Software Tool

The Scientific Integrity Policy encourages publication and presentation of data and findings to the public. Additionally, the [Best Practices for Designating Authorship](#) states that employees must convey and acknowledge other's contributions. Plagiarism Checker X Pro is a software tool that was purchased in fiscal year 2020. This software verifies the originality of one's writing. It is available to all EPA employees, through the Program, when drafting publications for plagiarism detection. This tool allows EPA authors and supervisors to check drafts for originality, offering side by side comparison, keyword analyzer, and comprehensive reports. The Scientific Integrity team provides this educational service for EPA authors and supervisors to check their own draft documents for accurate representation of source materials.

Procedures for Addressing Scientific Integrity Concerns at EPA

The Scientific Integrity Program continues to work with Agency partners to finalize the *US EPA Procedures for Addressing Scientific Integrity Concerns*. The Procedures document will focus on prevention by encouraging employees to identify situations early

¹ The Approaches for Expressing and Resolving Differing Scientific Opinions (DSO) is now available.
<https://www.epa.gov/scientific-integrity/approaches-expressing-and-resolving-differing-scientific-opinions>

and by providing for timely advice or assistance from the Scientific Integrity Official, the Deputy Scientific Integrity Officials, and immediate supervisors. The Procedures will create a path for ensuring that EPA employees and decision-makers are able to identify possible violations of the Scientific Integrity Policy and that the Scientific Integrity Officials and Deputy Scientific Integrity Officials are able to consistently identify, evaluate, and make determinations about allegations of a violation of the Policy.

Scientific Integrity Language for Contracts

In fiscal year (FY) 2018, EPA issued a proposed rule to address applicability of scientific integrity requirements to EPA contracts by creating a clause on scientific integrity in solicitations and contracts under which a contractor may be required to perform scientific activities or use scientific information to perform advisory and assistance services. This clause was designed to complement the EPA Scientific Integrity Policy to ensure that all scientific work developed and used by EPA and its contractors is accomplished with scientific integrity. The public comment period ended in November 2018. The Environmental Protection Agency Acquisition Regulation (EPAAR) requires a final review by the United States Office of Management and Budget. The Agency expects the EPAAR will be published in the Federal Register in early FY 2021.

Plans for Fiscal Year 2021

Several initiatives have been identified for fiscal year 2021. They all have the goal of enhancing EPA's culture of scientific integrity through increasing the visibility of scientific integrity, encouraging all of EPA to embrace and model scientific integrity, or protecting and maintaining scientific integrity at EPA.

Training and Whiteboard Videos

The Scientific Integrity Program currently uses an online platform to provide mandatory Scientific Integrity onboarding training. The current training video shows the Scientific Integrity Official conducting a training session that features the introductory whiteboard video and discussion. In fiscal year 2021, the Scientific Integrity Program will work to create whiteboard videos on specific training topics.

FY 2021 Work Plan

The fiscal year 2021 Work Plan focuses on enhancing EPA's culture of scientific integrity and ensuring that scientific integrity is visible across the Agency. The objectives include:

- Scientific integrity is highly visible at EPA.
- All of EPA embraces and models scientific integrity.
- Robust mechanisms protect and maintain EPA's culture of scientific integrity.
- We have the tools to assess our progress.

Federal Managers Financial Integrity Act (FMFIA) 2021

Since 2013, EPA Assistant Administrators and Regional Administrators have been required to submit a certification of internal controls for scientific integrity. These reports ask employees across the Agency to ensure the integrity of science in each fiscal year—including accomplishments, potential weaknesses, challenges, ways that the Scientific Integrity program can be of assistance, and overall progress in implementing the Scientific Integrity Policy. A revised FMFIA questionnaire will be developed and released for fiscal year 2021.

Scientific Integrity Websites

In preparation for a web client migration, the Scientific Integrity team reviewed the external internet page and made key updates. To better convey scientific integrity information to the public, the Scientific Integrity team, in coordination with IT staff and the Scientific Integrity Committee, will prepare a web area specifically for Scientific Integrity in fiscal year 2021. The Scientific Integrity web area will be separate from the current Office of Science Advisor web location. The new web area will increase the visibility of the Program, allow for simpler web management, and help maintain Scientific Integrity's independence. Additionally, once published, the Scientific Integrity Language for Contracts and Differing Scientific Opinions (DSO), along with additional DSO resources, will be available on the public website.

Conclusions & Closing Remarks

The numerous outreach and other activities conducted by the Scientific Integrity Program reflect upon the efforts made to make scientific integrity highly visible at the Agency. We continue to offer mandatory onboarding, general, and management training to work towards the goal that all of EPA embraces and models scientific integrity. Our responses to scientific integrity concerns, including advice and allegations; implementing actions in response to the Office of Inspector General's recommendations; certifying compliance with the Policy; and conducting Scientific Integrity Committee Meetings and activities are all parts of the effort to have robust mechanisms to protect and maintain the culture of scientific integrity.

We will redouble our efforts to make all of EPA aware of the Policy and what they must do to enhance our culture of scientific integrity. Scientific Integrity at EPA is everyone's responsibility. Transparency and documentation continue to be critical to both preventing violations of the Scientific Integrity Policy and allowing for the detection of such violations. The Scientific Integrity Official and the team, the Scientific Integrity Committee, and many others are here to assist everyone at EPA with reporting and resolving any concerns they might have. Implementing the Policy and fostering a culture of scientific integrity is most effective when all employees, contractors, grantees, and volunteers understand the Policy and how they contribute to EPA's culture of scientific integrity. For eight years, implementation of the Policy has re-enforced the Agency's commitment to scientific integrity. In the upcoming years, the Program and Committee look forward to further assisting the Agency in ensuring that scientific integrity is embraced and modeled by all employees, contractors, grantees, and volunteers.