

EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF SCIENCE AND TECHNOLOGY POLICY  
WASHINGTON, D.C. 20502

November 13, 2014

Dear House and Senate Appropriations Committees:

This letter is submitted in fulfillment of the requirement in Title III of the Joint Explanatory Statement for the 2014 Omnibus for the Office of Science and Technology Policy (OSTP) to report to the Committees on progress in developing and implementing policies on increasing public access to the results of federally funded scientific research. Specifically, it describes the progress that Federal Departments and Agencies have made in response to a policy memorandum issued by OSTP in February 2013 on *Increasing Access to the Results of Federally Funded Scientific Research* and updates my March 2014 report to you on this topic.

In my March 2014 update to the Committees, I described the history of OSTP's involvement in the issue of increasing access to the results of federally funded scientific research, the process we were taking to implement the directive, and progress Departments and Agencies had made towards fulfilling the requirements of the directive. In this report, I provide an update on the continued progress Departments and Agencies are making, and expand upon the steps we are taking with agencies beyond the directive to increase public access to the results of federally funded scientific research.

You may recall that OSTP sent joint OSTP and OMB comments on agencies' draft public access plans back to agencies after an initial round of review on a rolling basis and asked each agency to respond to the OSTP and OMB comments within 90 days from the date we transmitted comments. Since then, we have received revised plans from all Federal Departments and Agencies covered by the policy and given final approval to two of the plans. OSTP and OMB have reviewed and returned a second round of comments on all but two plans from Federal agencies. The two that we have not returned comments on were just received, because those agencies made major changes to their draft plans since the last round of review and needed additional time to complete them. Nonetheless, we plan to return comments to them in November. In fact, several agencies made major changes in their approaches to increasing access to scientific publications in response to OSTP and OMB comments, and therefore needed more than 90 days to revise their draft plans. This is to be expected. As Departments and Agencies explore the most efficient and effective ways to increase access to research results, they are naturally encountering more optimal options to meet the needs of the scientific communities that they fund and to meet their missions.

OSTP's reviews of agency plans are conducted to ensure that agency plans are in full compliance with each requirement in the OSTP memorandum and are consistent with the Executive Order on "Making Open and Machine Readable the New Default for Government Information" and the accompanying "Open Data Policy for Managing Information as an Asset" issued by OMB. To that end, OSTP has been meeting with each agency individually to discuss changes that need to be made to finalize their plans. We have already met or have had phone conversations with all

agencies developing plans and will continue to work closely with them as they bring their plans to completion.

The OSTP memorandum required agencies to include “a strategy for leveraging existing archives, where appropriate” in their plans. Many agencies are currently taking such approaches rather than building *de novo* systems or using services provided by third parties. In the end, using such existing infrastructure will save the taxpayer dollars. However, having multiple archives for publications provides additional challenges for establishing a broad framework for discovering scientific publications describing federally funded scientific research.

We have already provided final clearance on two Department plans, one of which, from the Department of Energy (DOE), is available online.<sup>1,2</sup> The other will be releasing its final plan shortly. The majority of agencies are now going through a final round of internal clearance on their plans before returning them to OSTP and OMB for final clearance. Because we have been meeting with agencies individually to ensure that they will be able to satisfy all of the requirements of the directive, we believe that final clearance on most plans will be *pro forma*. The Committees should expect most Departments and Agencies to be releasing their public access plans over the next three months.

It is important to note that the private sector is also working to help establish mechanisms for increasing access to scientific publications. While these efforts are in their infancy, all indications are that we are seeing a major shift in public access to scientific research that has been accelerated by the steps that OSTP, Departments, and Agencies have taken. Two of these efforts are particularly notable. The first, called the Clearinghouse for the Open Research of the United States (CHORUS)<sup>3</sup> is being developed by a newly formed non-profit organization backed by a consortium of publishers that intends to provide a “sustainable solution for agencies and publishers to deliver public access to published articles reporting on funded research in the United States.” The second effort, called the SHared Access Research Ecosystem (SHARE),<sup>4</sup> is being developed by the Association of Research Libraries, the Association of American Universities, and the Association of Public and Land-grant Universities and intends to make “the inventory of research assets more discoverable and more accessible, and to enable the research community to build upon these assets in creative and productive ways.” Both of these efforts are at very early stages and cannot, now, serve as a substitute for agency efforts to increase access, but we are encouraged to see this productive shift in effort. Such activities have the potential to be valuable complements to Federal efforts and we look forward to seeing their progress over the coming years.

## Next Steps

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<sup>1</sup> <http://www.energy.gov/downloads/doe-public-access-plan>

<sup>2</sup> <http://science.energy.gov/funding-opportunities/digital-data-management/>

<sup>3</sup> <http://www.chorusaccess.org/>

<sup>4</sup> <http://www.arl.org/focus-areas/shared-access-research-ecosystem-share>

It is important to note that while agencies have not finalized their plans, they are not sitting idly. Indeed, many Departments and Agencies are already incorporating requirements into grant award terms and conditions for making scientific publications describing federally funded scientific research publically available, requiring data-management plans of all researchers, and making scientific research data available to the public.

Overall, the plans include a variety of approaches for increasing public access to the results of federally funded research, including both scientific publications and research data. Indeed, the great majority of the attention to these policies has focused on making scientific publications available. But we believe that even larger societal benefits will be gained through Federal efforts to make scientific data available for analysis and reuse.

The 2013 memo made the Administration's position on scientific data clear: "digitally formatted scientific data resulting from unclassified research supported wholly or in part by Federal funding should be stored and publicly accessible to search, retrieve, and analyze." In drafting their plans, agencies have been asked to require that data-management plans submitted by scientists seeking Federal funding describe how and where they will make their data available to the public, and to describe explicitly how they will make the data underlying scientific publications available for discovery, retrieval, and analysis.

Currently, most scientific data produced with Federal research dollars are not easily accessible to the public and, when available, they are often banished to the supplementary sections of scholarly journals, which can limit discoverability and reuse. This lack of availability has contributed to some of the reproducibility issues in scientific research today. Correcting this practice and achieving a state where research data are widely available will provide new opportunities for scientific advancement, better leverage on Federal investments, and economic growth.

Requiring federally funded scientific researchers to detail how and where they will make their data available in data-management plans is an important first step for increasing access to valuable scientific data, but it is not sufficient to drive the desired sea change in practice across scientific disciplines. We are therefore working with Federal Departments and Agencies now to implement policies that require the deposition of research data underpinning the results described in scientific publications of federally funded scientific research in publicly accessible repositories. Optimally, such data would be made freely available in nonproprietary machine-readable formats and would allow for discoverability, reuse, and repurposing.

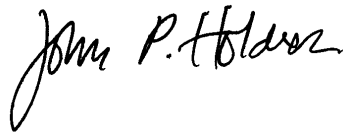
That data underlying scientific publications are not available for confirmatory analysis, reuse, and repurposing is an anachronism that we aim to address. By first focusing on releasing the data that led to the reported results described in scientific publications, we are both addressing the need to increase access to scientific data and providing parameters to guide scientists. Ultimately, they decide when their data must be made available by deciding when they are ready to communicate their results and conclusions.

One mechanism to facilitate the release of data would be for Federal Departments and Agencies to work with the private sector to develop a federated system of databases that would allow for

the storage, discoverability, reuse, and repurposing of data and provide data services. A “research data commons” model would do more than simply make data available; it would allow for the discovery of data from publications and publications from data sets and allow for data services to be used for analysis of datasets creating an ecosystem of discovery that truly revolutionizes how science is done. We will update the Committees as we explore the feasibility of such an approach.

In conclusion, Departments and Agencies are currently revising their plans to address OSTP and OMB comments and ensure compliance with all of the requirements laid out in the OSTP memorandum. Federal Departments and Agencies have made significant progress in developing and implementing policies on increasing public access to the results of federally funded scientific research. The steps they are taking are just the start of a sea change towards open as the default for the results of federally funded scientific research. We would be happy to talk with you further if you have any questions about the path we are taking with our Federal partners.

Sincerely,

A handwritten signature in black ink that reads "John P. Holdren". The signature is written in a cursive, flowing style.

Director and  
Assistant to the President for Science & Technology