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What opportunities or benefits do you anticipate you and/or your institution would realize from the requirement that NSF-funded peer-reviewed publications be made available in the NSF Public Access Repository (NSF–PAR)?

Requiring NSF-funded peer-reviewed publications to be made available in PAR will ensure that researchers have a no-cost mechanism to fully comply with the 2022 OTSP Nelson Memorandum's publications requirements. It will increase equitable access to these publications benefitting libraries as well as the people they serve–including researchers, students, and their local communities. It will also improve equity in contributing to the scientific record by removing unnecessary financial barriers (specifically author-side charges like APCs).

The requirement will enable researchers across the globe to find, use, and build on the most cutting edge research NSF funds, accelerating collaboration and the pace of innovation. For example, providing immediate access to articles and associated metadata in machine-readable XML in PAR will ensure NSF has a robust and complete collection of its research outputs that allows for text and data mining, machine learning, and other computational uses. It will also increase equity in access to NSF's research by removing barriers and making it free and easy for governments and experts in the community to discover and use new knowledge to improve public wellbeing.

And finally, it will support institutions and libraries in their efforts to increase public trust in science and academic institutions by making the research ecosystem and its outputs more open and transparent to all users.

What challenges or barriers do you anticipate personally facing while complying with the requirement that NSF-funded peer reviewed publications be made available in NSF–PAR?

Researchers and institutions have expressed that fees charged by publishers to make a publication openly available (i.e., article processing charges, article development charges) will present financial barriers. To address these concerns, NSF should state that authors can fully comply with its public access policy at **no cost** by depositing their author's accepted manuscripts into PAR. Additionally, NSF should clarify that any fee that authors may be asked to pay is a publisher fee, and not a fee required by the agency for compliance. It is critical that authors do not conflate compliance with APCs, which create significant challenges for less-well-resourced authors and institutions to make their research available in PAR. Clearly articulating the no-cost compliance mechanisms to institutions and researchers will be an important step in the agency's policy implementation as grantees may not be aware of these

options when faced with communications from some Gold Open Access publishers promoting compliance options requiring payment.

In addition to PAR, institutional repositories run by libraries or research institutions can play an important role in public access compliance as they generally do not charge authors to deposit articles or manuscripts. However, institutional repositories are often under-resourced despite this role as a critical component in research infrastructure. Both NSF and the research community would benefit from investments in institutional repositories to strengthen the network of repositories, federal and non-federal, across the country and ensure interoperability. Engagement with the U.S. Repository Network and its efforts to establish shared practices and workflows for repositories is one example of how NSF can address barriers to making publications available.

What opportunities or benefits do you anticipate you and/or your institution would realize from the requirement that the data underlying your NSF-funded peer-reviewed publications be made publicly available?

Requiring that the data underlying NSF-funded peer-reviewed publications be made available will protect scientific integrity and enable broader engagement with NSF's research, benefiting both researchers and the general public. Requiring that the underlying data be shared better equips the scientific community with the opportunity to reproduce the study and debate the findings and methods behind the publication. The re-analysis of findings allows other experts to root out false results or bias, increasing public trust in science.

Making this data public also enables broader engagement with the science and can catalyze collaboration and ideas for future research. Other researchers can not only ensure the integrity of the findings but build on them to generate new knowledge within and across disciplines.

What challenges or barriers do you anticipate personally facing while complying with the requirement that the data underlying your NSF-funded peer-reviewed publications be made publicly available?

Libraries play an important role in facilitating research data sharing, storage, and management as well as educating faculty and students about campus data resources. While complying with the data requirement will present challenges, particularly around costs and the implementation of new campus workflows and policies, NSF can mitigate these challenges by investing in open data infrastructure and data repository coordination activities in partnership with libraries. NIH's GREI initiative is one such example that aims to establish shared infrastructure and practices among generalist repositories in NIH's data ecosystem. Similar investments from NSF in data repositories would be beneficial in removing barriers to compliance for researchers and their institutions.

How can NSF best engage affected communities regarding public access issues, in particular marginalized or underrepresented groups?

Minority serving and less-well-resourced institutions and authors often face disparate impacts when complying with new federal policies. While the financial barriers posed by APCs are of concern to a variety of institutions, they are likely to be a more significant barrier to marginalized and underrepresented groups. For example, studies have documented that APC costs disproportionately affect younger researchers, female researchers, and those at less-well-funded institutions. It is important for NSF to be aware of these impacts and to actively monitor the effects of any publication charges across demographic groups of its grantees.

For example, NSF should establish a baseline understanding of the environment by collecting data on the number and makeup of its current funding recipients who are charging publication fees as direct costs to their research grants and analyzing that data across different demographics (e.g., minority-serving institutions (MSIs), EPSCoR-eligible institutions, IDeA-eligible institutions, researchers in less-well-resourced disciplines, etc.) The results of this data collection would be helpful in engaging marginalized and underrepresented groups about potential negative impacts of APC-based models and solutions to mitigate them (e.g., no-cost manuscript deposit).

If you have any additional comments about NSF's Public Access Plan, please share them here.

Section 3.A.iii of the Plan identifies the important need for a shared understanding of reuse rights for publications. It aligns with the expectation set out in Section 5(j) of the *2022 OSTP Memorandum* that publications are made "findable, accessible, interoperable, and reusable, to the American public and the scientific community in an equitable and secure manner." OMB's Uniform Guidance referenced in the Plan, 2 CFR 200.315(b), already provides agencies with a license to any copyrighted work created with federal funds that authorizes the agency to make broad use of the work for federal purposes and to authorize others to do so. This language likely already provides NSF with sufficient authority to require that publicly accessible copies of scholarly publications are provided to the public with reuse rights.

To avoid doubt on this issue, we recommend that NSF require grantees, as a term and condition of funding agreements, to ensure that the agency receives a license to funded publications sufficient for NSF to grant the public reuse rights. This is the most straightforward approach that minimizes complexity and burden in compliance by grantee institutions and authors. NSF could rely on its existing authority under 2 CFR 200.315(b), or it could require grantees to ensure that NSF receives an analogous additional license that specifically provides the right to grant the public reuse rights to agency publications covered by the Public Access Policy. Requiring that this additional license be granted as a term and condition of funding ensures that NSF receives its additional license at the moment the publication is created, which is how the longstanding federal purpose license operates. In this way, even if an author from the grantee institution signs

a publication agreement that conflicts with the agency's license, the agency's license remains intact, as is the case with the agency's federal purpose license.

We also recommend the agency develop author guidance and template language that can be attached to or included with the publication, either by the author or PAR staff, to indicate the publication is available under an open license such as the CC BY license or its functional equivalent.

A more thorough explanation of this recommendation is available here: https://sparcopen.org/wp-content/uploads/2023/08/Public-Access-with-Reuse-Rights.pdf