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ASME's Response to the Request for Information (RFI) on the National Institutes of Health (NIH) Plan to Enhance Public Access to the Results of NIH-Supported Research
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Founded in 1880, The American Society of Mechanical Engineers® (ASME) mission is to help the global engineering community develop solutions to real world challenges facing all people and our planet. We actively enable inspired collaboration, knowledge sharing and skills development across all engineering disciplines throughout the world, while promoting the vital role of engineers in society.

With over 85,000 Members, our organization is one of the largest technical publishing operations in the world, offering thousands of titles and some of the most prestigious engineering content in 33 technical journals including the topics of biomedical and bioengineering, power generation and storage, and manufacturing to highlight a few.

ASME serves a wide-ranging engineering community through quality learning, the development of codes and standards, certifications, research, conferences and publications and other forms of outreach. We collaborate with 36 Technical Divisions, including an ASME Bioengineering Division which includes over 5,000 members who employ mechanical engineering principles in the development of many lifesaving and life-improving technologies such as robotic surgery, the artificial heart, prosthetic joints, diagnostics and numerous rehabilitation technologies and directly contribute to U.S. advances in bioengineering.

ASME is driven by global engineering communities to ensure high-quality, rigorously peer-reviewed content is accessible and freely available online for everyone. ASME journals provide extensive, diverse indexes of research articles that span the broad spectrum of engineering topics. ASME supports compliance with government and funder mandates for Open Access publication, including Plan S for European-funded research, and offers authors the option to publish their papers hybrid Open Access across all our journals or in the fully Open Access ASME Open Journal of Engineering with payment of an Article Publishing Charge (APC).

ASME continues to offer publication at no cost to an author through traditional subscription access. However, the White House Office of Science and Technology Policy's 2022 guidance, "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research", would eliminate the subscription-based model, resulting in the need for new funding streams to support zero cost-to-author publication. The current 12-month embargo period allows publishers to recoup at least part of their costs by incentivizing subscriptions for readers who desire immediate access. The new OSTP policy will eliminate the ability to recoup any part of the costs incurred in publishing, leaving smaller institutions that are

dependent on this model, including many non-profit organizations with public service missions, resource constrained and marginalized.

Pre-requisites for ensuring success of the OSTP's new policy include:

- Development of economic and sociological impact study and analysis of new public costs resulting from the 2022 OSTP policy guidance
- Development of guidance to authors/researchers on how to budget for new publication and data management costs
- Development of policies to ensure researcher freedom to choose venue of publication, repository, and an appropriate re-use license
- Development of agency metrics and guidelines to support maximization of equitable access to funding

Responses to NIH-identified questions:

How to best ensure equity in publication opportunities for NIH-supported investigators?

ASME supports open science by ensuring our peer reviewed scholarly publications are of the highest quality and integrity. By fostering their dissemination, we advance engineering and scientific research to ensure the United States remains globally competitive.

The peer-reviewed scholarly publications which are included in our journals are not the direct result of the expenditure of taxpayer funds; conversely, they result from a significant publisher investment. Over the years, ASME has dedicated significant resources in innovative platforms that enable exceptional digital peer-review, production, distribution, interoperability, and discovery of the latest scientific and scholarly works to ensure our publications are of the highest quality. Our Digital Collection provides unparalleled depth, breadth and quality of peer-reviewed content and includes: 33 technical journals; 26 conference proceedings (annually); 3,500 journal articles reviewed by over 8,000 subject matter expert editors (annually); and comprised of over 308,000 technical papers and 2.400,000 technical pages.

ASME's peer-reviewed journal articles are the direct result of our investments and our extensive collaborations with authors, which is why they are considered the "gold standard" of scientific communication. The ability to recoup our investment enables innovation, allows infrastructure to be developed (including archives and metadata), and provides incentives to try new approaches. Long-term stewardship of content also carries significant costs that are already being borne by publishers.

Any policy change requiring us to make our peer-reviewed publications immediately available for free without charging a fee is not economically sustainable for our organization, as well as other scholarly publishers. A new, sustainable funding model must include clear guidance on how private publication costs will be transferred to a new publicly funded model. The scholarly research and publishing enterprise is a very complex and intricate ecosystem. We must be able to recoup our investments in order to publish high quality peer reviewed journals and research articles, as well as to sustain collaborations of this nature.

Steps for improving equity in access and accessibility of publications.

While immediate open access is often couched in terms of expanding access in equity terms, for researchers it threatens to create a pay-to-play system benefiting well-resourced institutions and researchers. While large corporations and well-funded universities may be able to absorb new R&D publishing and administrative costs, smaller colleges and companies will struggle to function. For HBCUs, rural institutions, community colleges, and undergraduate-only programs, this policy will further strain already-tight research budgets and marginalize their contributions.

We share the goal of open access for taxpayer-funded research. However, current proposals fail to sufficiently address guidance and budget forecasting for the crucial funding mechanisms which will allow for the peer-reviewed publication of vital research. We encourage Congress and the Administration to closely coordinate with the research and scholarly publishing communities on clear guidance supporting equitable solutions to providing the necessary funding streams to meet the expanded public policy objectives of the revised OSTP Public Access policy.

Methods for monitoring evolving costs and impacts on affected communities.

ASME is concerned that the currently proposed OSTP guidance does not sufficiently account for transition to a model where subscriptions are largely eliminated. There is already substantial evidence of subscription cancellation and market consolidation in the face of open access mandates, both in Europe and in the United States. Assertions that expanded Open Access policy objectives can be achieved without any new costs are not supported by any exploration of the state of the scholarly publishing industry.

The National Institutes of Health recognizes the importance of seeking post-publisher peer-reviewed article versions and other additive content to satisfy OSTP's proposed open access requirements, as opposed to the author's original manuscript. Agencies should also develop planning to account for new peer-review costs, data management costs, including re-investment into expanded public-private databases, costs for maintenance of versions of record and related open access data repositories.

Further, Open Access APCs are likely to be subject to annual discretionary appropriations from Congress and individual institutional budgetary decisions. Federal agency leaders should develop transparent economic modeling to support elimination of the subscription revenue stream from scholarly publications supporting federally funded researchers, including guidance to researchers on how to account for new open access policy implementation costs. We believe helping researchers understand and budget for costs, as well as NIH and other federal agencies seeking robust and sustainable funding from agency leaders and Congress is the best way to ensure authors at all institutions have a wide array of options to communicate their research.

Early input on considerations to increase findability and transparency of research.

Researchers in the academic, government, and corporate sectors are generating massive quantities of data across all scientific, technical, and medical disciplines at an accelerating

rate. Increasingly, government and other funding bodies are beginning to require expanded data management plans, including in the NIH Public Access Plan. ASME currently participates in the Open Researcher and Contributor ID (ORCID) and research Organization Registry (ROR) in order to provide persistent digital identifiers that authors and research organizations own and control.

The United States world-leading professional and scholarly publishing sector provides a strong foundation for scientific integrity around the world, but this sector requires a strong enabling framework of copyrights and intellectual property protections to sustain it, especially in the face of growing technological means of undermining existing copyright protections. It is important that federal agencies do not force researchers into untenable rights or licensing agreements that could suppress researcher choice in how they communicate their research. Researchers need flexibility, including non-commercial, non-derivative versions that allow them to protect the integrity of their work. Agency requirements restricting authors' ability to license their rights, for example through a rights retention mandate, would significantly limit authors' options to bring their work to the scientific community, thereby increasing costs and limiting equity options.

An industry-university-government partnership is essential to the progress of science, engineering and education, and we look forward to working with the NIH to ensure that scientific information itself remain free from political interference to the maximum extent possible. As agencies consider societal communication of scientific and technical information, it is critical that science and engineering communicators have a healthy degree of freedom of choice in how and where they can publish, as well as separation from the appearance of undue government influence in the preparation and publication of scientific information. This issue is especially salient as society struggles with scientific disinformation and mistrust in government institutions.

The erosion of copyrights for independent technical and scholarly publishers risks driving further consolidation of the publishing industry into fewer distribution mediums, a dynamic fundamentally at odds with maintenance of a healthy, competitive, innovative, and independent scholarly publishing ecosystem.

ASME continues to accelerate public access while advancing engineering and technological research to ensure the United States remains a global leader in engineering innovation. While ASME endorses the dissemination of the results of all peer-reviewed research, including research supported by federal funding, it must be done in a manner that is sustainable for the scholarly publishing community.