AN INTRODUCTION TO
PUBLIC ACCESS GATEWAY FOR ENERGY AND SCIENCE (PAGES):
A DEPARTMENT OF ENERGY INITIATIVE FOR PUBLIC ACCESS

February 2013

Background

Journal articles are the gold standard for scientific communication. Yet while collecting, preserving, and disseminating them to the scientific community and the scientifically-interested public is a valuable way to leverage federal research investments, journal articles represent a major gap in what the U.S. Department of Energy (DOE) offers the public today.

Worldwide, an increasing number of funding agencies, institutions and associations are adopting public access policies. Within the U.S., such a policy is most notably demonstrated by the National Institutes of Health (NIH), which starting in 2008, required mandatory access after a 12-month "embargo" period to accepted manuscripts or journal articles resulting from NIH-funded medical research.

The America COMPETES Reauthorization Act of 2010 included a provision, Section 103, that called on the Director of the White House Office of Science and Technology Policy (OSTP) to establish a working group under the National Science and Technology Council (NSTC) "with the responsibility to coordinate Federal science agency research and policies related to the dissemination and long-term stewardship of the results of unclassified research, including digital data and peer-reviewed scholarly publications, supported wholly, or in part, by funding the Federal science agencies."

The NSTC in turn established the Task Force on Public Access to Scholarly Publications (PASP). The PASP Task Force's charge was "to develop recommendations for Federal policies related to the dissemination of the results of unclassified research in peer-reviewed scholarly publications, supported wholly or in part by funding from Federal science agencies…" The PASP Task Force had three co-chairs (from NIH, NSF and DOE) and representatives from several other science agencies (NASA, USDA, EPA, Commerce National Technical Information Service, DOD Defense Technical Information Center. (DOE's Office of Scientific and Technical Information (OSTI) represented DOE on the Task Force.)

In spring 2012, the PASP Task Force produced a consensus set of objectives and recommendations for Federal policies on public access to the results of federally-funded research in peer-reviewed scholarly publications for consideration by the NSTC and OSTP. The PASP Task Force's vision was clear: "Peer-reviewed scholarly publications of the results of unclassified research supported wholly or in part by federally funding will be permanently stored and accessible to enable any individual or business to search, retrieve and analyze these publications in ways that maximize the impact and accountability of the federal research investment."

Following the task force report, OSTP continued dialogue with federal science agencies about implementing public access policies and on February 22, 2013, issued a memorandum to all agency and department heads titled, "Increasing Access to the Results of Federally Funded Scientific Research." The memo requires each agency to develop a public access plan and to implement public access practices that result in free public access to articles or final, peer-reviewed manuscripts resulting from federal funding. The memo emphasizes public-private collaborations and the important role publishers play in scholarly communications. In general, the memo calls for a 12-month embargo period before public access is offered to articles or manuscripts but also allows for exceptions to this standard. Following issuance of the memo, several agency officials, including DOE's Office of Science Director Bill Brinkman, issued statements endorsing the memo's objectives and committing to quick implementation.

PAGES

As the largest funder of physical sciences research, the DOE Office of Science (SC) is actively engaged in the public access topic and supports continued efforts to share DOE's unclassified R&D results as broadly as possible. At the request of SC Director Bill Brinkman, OSTI is developing a new public access resource as a proof-of-concept portal.

PAGES (Public Access Gateway for Energy and Science) is a web-based portal that will ensure that scholarly publications, i.e., final accepted manuscripts or peer-reviewed journal articles resulting from DOE research funding, are publicly accessible and searchable at no charge to readers. PAGES is designed to take advantage of the public access efforts of publishers by linking to DOE articles they make publicly accessible. For each such article, there is a single version of record, and it is hosted by the publisher. Thus, PAGES will avoid duplicating the public access efforts of publishers.

When DOE articles are not made publicly accessible by publishers, PAGES will focus on accepted manuscripts. Specifically, after an administrative interval (to be determined), it will link to publicly accessible manuscripts hosted by institutional repositories. For those instances where free public access is offered neither by a publisher nor by an institutional repository, DOE OSTI will host the accepted manuscript and link to it after an administrative period.

Regardless of where DOE-sponsored articles or accepted manuscripts are hosted, PAGES will enable readers to search them all via a single search box using centralized metadata provided by DOE-funded authors and a centralized index of full text. The process and tool that DOE authors will use are the same process and tool they have long used to submit metadata for technical reports, conference papers, and other forms of scientific and technical information (STI), including citations for published journal articles.

PAGES is an innovative and economical solution for public access because it takes advantage of existing DOE tools and infrastructure, such as the E-Link metadata submission system and the network of STI managers and technical information officers at Labs, site offices, and procurement offices – known collectively as the Scientific and Technical Information Program (STIP). These roles and responsibilities are outlined in the DOE directive DOE O 241.1B, "Scientific and Technical Information Management."

OSTI believes that, in this way, DOE can meet the goals of public access effectively via a "hybrid" approach. The hybrid nature of the approach means that the centralized metadata and the rich index of full text power a sophisticated centralized search engine, while the actual full text itself remains distributed across the institutions and publishers who host it. In an electronic age, this is a proven model, and, in our opinion, one that is most compatible with the sometimes competing interests of public access, publisher viability, and the quality of peer review. Specifically, the PAGES model will allow participating publishers to host articles for free on their websites rather than being displayed within the PAGES interface. This approach fulfills public access expectations, while ameliorating publishers' concerns about diminished traffic and visibility. All the while, PAGES ensures permanent public access by building a dark archive of accepted manuscripts for any publisher-hosted article or institution-hosted manuscript that is ever removed from public access.

Criteria for a DOE Public Access Model

While the Office of Science has developed a working prototype for making peer-reviewed manuscripts and articles about DOE SC-funded research publicly available, no decisions about deployment have been made. We are now vetting the prototype internally within the DOE community of stakeholders and also communicating our ideas to other agency counterparts and publisher representatives.

SC's conceptual approach is built around the following public access criteria:

- Enables **free access** by the public to peer-reviewed scientific and technical information sponsored by DOE.
- Enables **single search** of all DOE-sponsored research literature without requiring that articles be in a centralized collection.
- Maintains a **comprehensive metadata collection** in order for the agency to fully account for its scholarly output.
- Preserves the freedom of researchers to promote and disseminate their research, i.e., **preserves researchers' choice** in selecting the journal to which they wish to submit manuscripts.
- Recognizes the **value added by publishers** in providing high-quality scholarly communications and research tools and accommodates flexible publisher business models.
- Promotes the **single version of record** for each article.
- Minimizes **cost** to DOE by utilizing corporate systems and existing STI policy.
- Encourages **coordination and collaboration among agencies**.

Office of Scientific and Technical Information (OSTI)

OSTI (http://www.osti.gov/) fulfills the agency's responsibilities to collect, preserve, and disseminate scientific and technical information (STI) emanating from DOE research and development (R&D) activities. In addition to agency enabling legislation, this mandate is emphasized in Section 982 of the Energy Policy Act of 2005, "The Secretary, through the Office of Scientific and Technical Information, shall maintain within the Department publicly available collections of scientific and technical information resulting from research, development, demonstration, and commercial applications supported by the Department."

Today OSTI provides access to scientific and technical information using web-based searchable databases, offering ever-expanding sources of R&D information to DOE, the research community and the science-attentive public. The databases offer search simplicity as well as advanced capabilities, such as customized alerts, results displayed in relevance rank and downloadable search results for a broad array of scientific information related to DOE missions. OSTI works with DOE program offices, field offices, national labs, and grantees to acquire the STI from Departmental R&D. Through OSTI web products, these R&D results are accessed nearly 300 million times annually.