

U.S. Department of Education Plan and Policy Development Guidance for Public Access:
Improving Access to Results of Federally Funded Scientific Research
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1.0 BACKGROUND AND PURPOSE

The U.S. Department of Education Plan and Policy Development Guidance for Public Access: Improving Access to Results of Federally Funded Scientific Research (ED PPDG) is issued in response to the February 22, 2013, Office of Science and Technology (OSTP) Memorandum for the Heads of Executive Departments and Agencies, “Increasing Access to the Results of Federally Funded Scientific Research.” Through this Memorandum, OSTP directed all agencies with greater than \$100 million in research and development¹ expenditures each year to prepare a plan for improving the public’s access to the direct results of Federally funded research.

The U.S. Department of Education (ED) supports a wide range of research in the education sciences. Providing rigorous and relevant evidence on which to ground education practice and policy is a key function of the education sciences. By identifying what works, what doesn't, and why, education science aims to improve educational and life outcomes for all learners, particularly those at risk of failure, including children living in poverty, English learners, and individuals with or at risk for disabilities. Information should be shared and research collaboration encouraged to successfully address the largest challenges in education. The ED PPDG provides a framework and guidance for policy development related to information sharing and public access to research findings generated from ED-supported research in the education sciences.

ED believes that allowing others access to research findings and scientific data supported by Federal funds can be an important component of the scientific process. Access to peer-reviewed scholarly publications and scientific data provides opportunities for other researchers to review, confirm or challenge study findings. In addition, providing public access can enhance scientific inquiry through a variety of other analytic activities, including the use of data to test alternative theories or hypotheses; explore different sets of research questions than those targeted by the original researchers; combine data from multiple sources to provide potential new insights and areas of inquiry; and/or conduct methodological studies to advance education research methods and statistical analyses. In short, by providing public access to peer-reviewed scholarly publications and digital data, ED believes it maximizes the potential for creative reuse of research to enhance value to all stakeholders; avoids unnecessary duplication of research; and maximizes the impact of the Federal research investment.

ED encourages researchers to maximize the data made available to the public. The ED PPDG establishes objectives to improve public access to peer-reviewed scholarly publications and digital data arising from ED-funded research, with particular emphasis on data reported in peer-reviewed publications. The majority of research and development activities at ED are supported through

¹ The ED PPDG relies on the definitions of “research and development” set out in Office of Management and Budget (OMB) Circular A-11 and 2 CFR 200.87. ED supports open access to information across its wide range of program evaluation activities, but these are covered under other guidance.

discretionary grants administered by the two research centers of the Institute of Education Sciences (IES). Smaller investments in research and development are supported through the Office of Special Education and Rehabilitative Services (OSERS), Office of Postsecondary Education (OPE), and Office of Career, Technical, and Adult Education (OCTAE).

IES, the research arm of ED, established its commitment to providing public access to peer-reviewed scholarly publications emerging from IES-funded research and to the sharing of scientific data collected through its grant-funded research programs in two policy statements released in 2011. Peer-reviewed scholarly publications produced by researchers who received IES research grants starting in FY 2012 must be submitted to the Educational Resources Information Center (ERIC), a publicly accessible and searchable electronic database of education research on the Internet at <http://www.eric.ed.gov/>. IES began requiring applicants to submit plans for public access to research data in its FY 2013 Request for Applications for a limited set of grant categories and has continued to extend this requirement in subsequent years. The goal of including this requirement was to incentivize the timely release of sharable data and accompanying documentation following the peer-reviewed publication of results from and the completion of a research grant. Current versions of these policies extend these requirements to IES funded research contracts.

The ED PPDG is aligned with current public access policies and ongoing implementation at IES. Information about policies currently in place is available at <http://ies.ed.gov/funding/researchaccess.asp>. Once approved, the ED PPDG will guide policy development and implementation throughout ED, including any required modifications to current practice and policy at IES. ED intends to have public access rules, policies, and accompanying guidance in place as expeditiously as possible, and to begin preparing these materials no later than December 31, 2016.

The ED PPDG:

- Affirms and enhances ED's commitment to public access to research results;
- Supports adoption of and best practices for managing public access to peer-reviewed scholarly publications and scientific data across ED;
- Supports access to and preservation of ED-funded peer-reviewed scholarly publications and scientific data sets for research, development, and education purposes; and
- Increases opportunities for the use of research results to enhance scientific discovery and deployment of research results.

The ED PPDG is organized into sections that describe its scope, applicability, requirements, authority, stakeholder roles and responsibilities, and implementation. It also includes plans for assuring compliance and evaluating the implementation of the ED PPDG, public consultation, interagency coordination, and a timeline for rollout.

2.0 DEFINITIONS

Peer-reviewed scholarly publications, for the purpose of the ED PPDG, shall be defined as *final peer-reviewed manuscripts* accepted for publication, that arise from research funded, either fully or partially, by Federal funds awarded through an ED-managed grant, contract, or other agreement. A *final peer-reviewed manuscript* is defined as an author's final manuscript of a peer-reviewed scholarly paper accepted for publication, including all modifications from the peer review process. The final peer-reviewed manuscript is not the same as the *final published article*, which is defined as a publisher's authoritative copy of the paper including all modifications from the publishing peer-review process, copyediting, stylistic edits, and formatting changes. However, the content included in both the final peer-reviewed manuscript and the final published article is identical.

Data access in the ED PPDG refers to digital research data used in research conducted or funded by ED, including, at minimum, the final data underlying peer-reviewed scholarly publications. As defined at 2 CFR 200.315, research data are the recorded factual materials commonly accepted in the scientific community as necessary to validate research findings. Final research data does not mean summary statistics or tables, but rather the factual information on which summary statistics and tables are based. For the purposes of the ED PPDG, final research data do not include laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, or communications with colleagues.

3.0 SCOPE

Once appropriate regulations are in place, the ED PPDG will apply to all research activities supported through ED research grant awards, cooperative agreements, and contracts², and to any research activities carried out by ED intramural scientists. The Secretary of Education will be responsible for management of the development of policies and procedures for all offices within ED that support research through grants, cooperative agreements, or contracts, or intramurally, to ensure that grantees, contractors, and intramural staff provide plans that outline how peer-reviewed scholarly publications and digital research data, including, at minimum, data underlying peer-reviewed scholarly publications, will be made publicly available. While peer-reviewed scholarly publications describing education evaluation findings resulting from ED contracts are widely available through the IES (<http://ies.ed.gov/ncee/pubs/>), ED (www.ed.gov) and ERIC (<http://eric.ed.gov/>) websites, peer-reviewed scholarly publications not published by the Federal government are often inaccessible to the public without purchase, and the intent of the ED PPDG is to outline a framework for future requirements for those publications to be made available to the public without charge.

The ED PPDG applies to data collected by researchers during the course of ED-funded research as well as to data created by researchers through transforming or linking extant datasets. It aims to maximize access to data resulting from ED-funded research and development, taking into consideration privacy and confidentiality concerns and other limitations imposed by determinations

² IES research activities funded in FY 2012 and after are currently covered by the IES Public Access Policy. This requirement is clearly set forth in IES's Request for Applications.

made by Institutional Review Boards (IRBs) and/or informed consent for the data collection provided by study subjects or their representatives (e.g., students and parents). There may be circumstances, such as when a state or Federal law do not allow student data to be further disclosed, where investigators will not be able to share their complete data set. However, ED expects those data not restricted by law, including primary data collected by the project or extant data obtained from a private source, to be shared at the time of initial publication of their findings in machine readable formats. As with publications, these data should be made available to the public without charge.

The ED PPDG is subject to law, protection of privacy and individually identifiable information, (including, but not limited to, the Family Educational Rights and Privacy Act (FERPA), the Privacy Act of 1974, as amended, and the Common Rule for the Protection of Human Subjects in Research), agency mission, resource constraints, U.S. national, homeland, and economic security and the objectives listed in the February 22, 2013, OSTP Memorandum for the Heads of Executive Departments and Agencies, “Increasing Access to the Results of Federally Funded Scientific Research.” By providing public access to the results of Federally funded education research, ED anticipates that there will be opportunities for innovation from multiple sectors including the business sector. The ED PPDG recognizes proprietary interests, business confidential information, and intellectual property rights and avoids significant negative impact on intellectual property rights, innovation, and U.S. competitiveness.

4.0 APPLICABILITY

The ED PPDG applies to peer-reviewed scholarly publications and digital research data, particularly digital research data underlying peer-reviewed scholarly publications, produced in whole or part, by ED grantees or ED contractors. ED grantees and contractors include but are not limited to non-profit and for-profit organizations, public and private agencies and institutions, such as colleges and universities, and individuals. While ED normally does not conduct intramural research, per se; to the extent that ED Federal employees produce peer-reviewed scholarly publications and digital research data as part of their Federal duties, the ED PPDG will also apply to them, as will the requirements of OMB Memo M-13-13.

5.0 AUTHORITY

A number of legal and policy elements promote the concept of access to peer-reviewed scholarly publications produced in full or in part with the support of Federal funds and digital research data, particularly digital research data underlying these publications. These elements most relevant to public access and ED are summarized below:

- Consolidated Appropriations Act, 2014 (P.L. 113-76), Section 527 of Title V of Division H - Departments of Labor, Health, and Human Services and Related Agencies Appropriations Act, and Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235), Section 525 of Title V of Division G - Departments of Labor, Health, and Human Services and Related Agencies Appropriations Act, both state that “Each Federal agency, or in the case of

- an agency with multiple bureaus, each bureau (or operating division) funded under this Act that has research and development expenditures in excess of \$100,000,000 per year shall develop a Federal research public access policy that provides for — (1) the submission to the agency, agency bureau, or designated entity acting on behalf of the agency, a machine-readable version of the author’s final peer-reviewed manuscripts that have been accepted for publication in peer-reviewed journals describing research supported, in whole or in part, from funding by the Federal Government; (2) free online public access to such final peer-reviewed manuscripts or published versions not later than 12 months after the official date of publication; and (3) compliance with all relevant copyright laws.”
- The America COMPETES Reauthorization Act of 2010 (P.L. 111-358), Section 103(a), outlines the Office of Science and Technology Policy (OSTP) Director’s “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 from the Federal science agencies.”
 - The Office of Management and Budget (OMB) Circular A-11 (“Preparation, Submission and Execution of the Budget,” July 2016) defines research and development activities as “as creative and systematic work undertaken in order to increase the stock of knowledge—including knowledge of people, culture, and society—and to devise new applications using available knowledge.”
 - The Freedom of Information Act (FOIA; 5 U.S.C. § 552) provides for public access to the records of the Federal government under certain circumstances.
 - The Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 CFR Part 200.315, as adopted by ED at 2 CFR Part 3474, provides that ED retains a royalty-free, nonexclusive, and irrevocable right to reproduce, publish, or otherwise use works produced with grant funds for Federal purposes, and to authorize others to do so. In addition, those regulations provide that:
 - “(d) The Federal Government has the right to:
 - (1) Obtain, reproduce, publish, or otherwise use the data produced under a Federal award; and
 - (2) Authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.
 - (e) Freedom of Information Act (FOIA)
 - (1) In response to a Freedom of Information Act (FOIA) request for research data relating to published research findings produced under a Federal award that were used by the Federal Government in developing an agency action that has the force and effect of law, the Federal awarding agency must request, and the non-Federal entity must provide, within a

reasonable time, the research data so that they can be made available to the public through the procedures established under the FOIA. If the Federal awarding agency obtains the research data solely in response to a FOIA request, the Federal awarding agency may charge the requester a reasonable fee equaling the full incremental cost of obtaining the research data. This fee should reflect costs incurred by the Federal agency and the non-Federal entity. This fee is in addition to any fees the Federal awarding agency may assess under the FOIA (5 U.S.C. 552(a)(4)(A)).”

- The E-Government Act of 2002 (44 U.S.C. § 3601 notes) has among its primary purposes the promotion of “the use of the Internet and emerging technologies within and across Government agencies to provide citizen-centric Government information and services” as well as providing “enhanced access to Government information and services.”
- OMB Circular A-130 (“Management of Federal Information Resources”) specifies that “[t]he open and efficient exchange of scientific and technical Federal information ... fosters excellence in scientific research and effective use of Federal research and resources.”
- The Paperwork Reduction Act of 1995 (44 U.S.C. Ch. 35) has as one of its key purposes to “ensure the greatest possible public benefit from and maximize the utility of information created, collected, maintained, used, shared and disseminated by or for the Federal Government.”
- OMB Memorandum M-10-06 (“Open Government Directive”; December 8, 2009), in furtherance of transparent government and openness, directs agencies to “publish information online in an open format that can be retrieved, downloaded, indexed, and searched by commonly used web search applications.” It further defines an open format as one that is “platform independent, machine readable, and made available to the public without restrictions that would impede the re-use of that information.”
- OMB Memorandum M-13-13 (“Open Data Policy – Managing Information as an Asset;” May 9, 2013) states that that agencies must take the following five actions:
 - 1) Collect or create information in a way that supports downstream information processing and dissemination activities by using machine-readable and open formats, data standards, and common core and extensible metadata, and by ensuring information stewardship through the use of open licenses.
 - 2) Build information systems to support interoperability and information accessibility.
 - 3) Strengthen data management and release practices by creating and maintaining an enterprise data inventory and a public data listing, creating a process to engage with customers to help facilitate and prioritize data release, and clarifying roles and responsibilities for promoting efficient and effective data release practices.

- 4) Strengthen measures to ensure that privacy and confidentiality are fully protected and that data are properly secured.
 - 5) Incorporate new interoperability and openness requirements into core agency processes.
- ED's Scientific Integrity Policy (ACS Directive, IES: 1-101, December 16, 2014) affirms as a core principle that all ED grantees and contractors are expected to make public the findings resulting from their scientific activities, including research.

6.0 ROLES AND RESPONSIBILITIES

The Secretary of Education:

- Has overall responsibility for management and oversight of this ED PPDG.

The Director of the Institute of Education Sciences:

- Coordinates the implementation of the ED PPDG.
- Coordinates a sustainable funding strategy to implement the ED PPDG, leveraging current resources devoted to repositories of education research (e.g., ERIC).
- Coordinates knowledge sharing and implementation of public access across Federal agencies.

ED Offices that fund or carry out research:

- Adopt and implement requirements that will direct recipients of funds awarded under grants or contracts to make any peer reviewed scholarly publications produced with that funding and digital research data, particularly data underlying those peer-reviewed scholarly publications, publicly available consistent with the requirements of the approved ED PPDG for research programs.
- Develop practical funding mechanisms to ensure the successful implementation of the ED PPDG and resulting policies.
- Inform ED employees that they cannot secure a copyright for any work they create as part of their official duties, including peer-reviewed scholarly publications, because works created by ED employees as part of their official duties are in the public domain (17 U.S.C. § 105).
- Notify funded awardees of ED requirements established in response to the ED PPDG and monitor grantees' compliance with those requirements.

Awardees and their institutions:

- Comply with contract and grant conditions concerning public access to peer reviewed scholarly publications produced with that funding and data underlying those peer-reviewed scholarly publications.

- Ensure all terms and conditions of awards are met, including those concerning the submission of final peer-reviewed manuscripts that arise directly from their awards to ERIC, even if they are not an author or co-author of the paper, and the development and implementation of a Data Management Plan (DMP), even if the data to be shared are not ready for access until after the award is completed.

Authors of Peer-Reviewed Scholarly Publications:

- Comply with applicable ED policies to ensure compliance with the ED PPDG.
- Ensure that any terms and conditions of publication do not impair the obligation of the authors to comply with the requirements established in ED regulations and policies that result from the implementation of the ED PPDG and resulting.

7.0 PROPOSED REQUIREMENTS FOR PUBLIC ACCESS

ED will develop policy and regulations that will require awardees and ED staff to comply with ED requirements on public access to peer-reviewed scholarly publications and digital research data, including data underlying publications.

7.1 Publications

Consistent with the ED PPDG, ED will take appropriate steps to require awardees – grantees or contractors – who are receiving ED funding to carry out research, as well as ED employees who produce peer-reviewed scholarly publications, to submit their final peer-reviewed manuscripts to ERIC when accepted for publication. The ED PPDG does not apply to publications resulting from previous support from ED, except for grants awarded through IES starting with the Fiscal Year (FY) 2012 competitions.³ However, all ED award recipients are strongly encouraged to submit peer-reviewed scholarly publications from ED-funded awards to ERIC.

Access to the ERIC database is free to the public, with the full text of many documents, including those which are not products of ED-funded research, available at no cost. ERIC includes citations to indexed peer-reviewed journal articles and education-related materials from a variety of sources including ED and other Federal agencies, scholarly organizations, professional associations, research centers, policy organizations, and university presses. Much of the content indexed in ERIC pre-dates the ED PPDG and is not subject to current public access requirements. Thus, the majority of journal articles pre-dating the ED PPDG need to be obtained through library print and electronic holdings or directly from the publisher, although some may be available at no cost. In order to identify which publications are covered by current IES public access policies, and to facilitate implementation of policies and guidance developed in response to the ED PPDG, associated IES or ED award numbers have been included to the extent possible since 2013.

³ Beginning in FY 2012, IES established a Public Access Policy to Research Findings, and incorporated those requirements into awards made in FY 2012 and after. The policy is available here: <http://ies.ed.gov/funding/researchaccess.asp>.

Consistent with the ED PPDG, ED will develop and implement policies and regulations to ensure new awards to researchers or institutions are not finalized until the awardee's performance under prior awards from ED has been reviewed, including applicable requirements concerning making final peer-reviewed manuscripts freely available to the public in ERIC no later than 12 months following publication. Awardees subject to subsequent policies and guidance derived from the ED PPDG will be required to include information about the availability of their publications in ERIC in their annual and final reports. If non-compliance with these requirements is noted during annual review of reports, appropriate administrative actions will be taken to bring the awardee into compliance. In addition, procedures will be developed as expeditiously as possible to help ensure that ED employees submit peer-reviewed publications produced as a result of their Federal research activities to ERIC.

7.2 Data

The intent of the ED PPDG is to increase access to digital data resulting from ED-funded research, including research completed by ED employees as part of their Federal employment, and require that awardees and ED employees ensure public access, at a minimum,⁴ to data underlying peer-reviewed scholarly publications free of charge to the public, except when otherwise prohibited by law. ED will develop and implement regulations as expeditiously as possible to require that applications/proposals to carry out scientific research, including projects proposed by ED employees, include a DMP. DMPs for covered awards generally would address a number of items, including the data to be generated by the research, how the data will be managed, how privacy and confidentiality of personally identifiable information will be ensured, how the security of the data will be assured, and the details of how the data will be made accessible to others in machine readable formats for free at the time of publication in public repositories, when available.

In addition to describing the approval process of the DMP by ED, we further anticipate that proposed regulations would address the responsibility of the Project Director/Principal Investigator (PD/PI) and the institution's office that oversees sponsored research to have its DMP for covered human subjects research or other research approved by the institutional review board or other appropriate entity to ensure its compliance with human subjects review policy and protect the privacy and confidentiality of personally identifiable information.

Those requirements will also make it clear that once the DMP is approved by ED, that PD/PI and the institution are required to carry it out, and to report progress and problems through the regular reporting channels (e.g., annual reports, monitoring contacts with ED staff overseeing the project). Compliance with ED data access requirements is expected even though the final dataset may not be completed and prepared for access until after the award period is over. New awards to researchers or institutions will not be finalized until ED has reviewed the awardee's performance under prior awards, including the applicable requirements of the PD/PI/awardee DMP and deposit of data in machine readable formats into an agreed upon data repository. In addition, if noncompliance with

⁴ Federal employees and their contractors are also subject to OMB's M-13-13, as described in Section 5.0 of this document.

the data access requirements is noticed during the course of a project, ED will take appropriate administrative action to secure compliance with these requirements. In addition, ED will develop procedures to guide the review of DMPs and monitoring of compliance for ED intramural staff conducting scientific research as part of their ED responsibilities.

Human Subjects and Privacy Issues

Researchers funded by ED through grants or contracts must be committed to protecting the rights and privacy of human subjects at all times. Data access must not compromise this commitment. ED recognizes that data sharing may be complicated or limited by institutional policies, local Institutional Review Board (IRB) determinations, as well as state and Federal laws and regulations that address issues of the rights and privacy of human subjects. Researchers should work to maximize access to digital data, while protecting privacy and confidentiality. Specifically, the awardees have the responsibility to develop informed consent procedures and a DMP that protects the rights of study participants and privacy and confidentiality of the data, as required by their IRB and state and Federal laws and regulations. Data that are made accessible should be free of identifiers that would allow linkages to individuals participating in the research as well as other elements that could lead to deductive disclosure of the individual study participants. Deductive disclosure is particularly challenging in research in which there might be "indirect" identifiers, such as data collection that involves study participants drawn from small geographic areas or rare populations (e.g., individuals with low-incidence disabilities), when there is a joint occurrence of several rare factors (e.g., individuals with a low-incidence disability attending a rural school with unique characteristics), or when, as is often the case in education research, there is a hierarchical structure in the data (e.g., students nested within classrooms within schools). Disclosure risk might also be a concern when databases are linked or when digital photographs or videos include tags with identifying information. Disclosure risk may be a concern in other situations, such as when entities are disclosing the same or similar data using differing statistical techniques to protect the privacy and confidentiality of the data subjects. Where possible, researchers may address these limitations through the aggregation of data. In cases where data cannot be free of identifiers or when identifiers are important for linking datasets, then investigators should set restrictions on data access, if such access complies with applicable Federal and State privacy laws, as provided by data archives or enclaves.

Investigators will need to plan their study design and procedures to enable data access in machine readable formats. One important consideration will be the consent forms and agreements used in recruiting individuals and/or institutions (e.g., schools, early childhood programs) to participate in research studies. The content of the informed consent limits how those data can subsequently be used, including data accessibility. In addition, some IRBs as well as Federal statutes and regulations that govern access to education data (e.g., FERPA) require that personally identifiable information from students' education records not be disclosed, whether through single or multiple releases and taking into account other reasonably available information, and FERPA's research exceptions to the general requirement of prior written consent require such personally identifiable information to be

destroyed when no longer needed for the purpose of the evaluation or study and in a timeframe that may limit its further use. Investigators should seek to maximize the opportunity for data access in design of informed consent procedures and while working with their IRB to protect the privacy rights of study participants and confidentiality of the data.

If researchers believe that full data access is not possible, such as when state's or district's limitations limit access, they must provide a written rationale in their DMP. Researchers should also describe how a more limited set of data can be made accessible, in cases where not all data are restricted by such data sources.

Proprietary Data

ED acknowledges that there may be issues associated with data access when the data collected are proprietary (e.g., when a published curriculum is being evaluated). Any restrictions on data access, such as a delay of disclosing proprietary data, should be presented in the DMP. If proprietary issues emerge during the course of the research, they should be brought to the attention of ED staff, and the DMP will be reviewed in light of these issues.

Data Documentation

Documentation that provides all the information necessary for other researchers to use the data must be prepared and made accessible with the data at the time of initial publication of research results. The documentation should include a summary of the purpose of the data collection, methodology and procedures used to collect the data, timing of the data collection, as well as details of the data codes and weights, definition of variables, variable field locations, and frequencies. The data documentation should be a comprehensive and stand-alone document that includes all the information necessary to replicate the analysis performed by the original research team. The DMP described more fully below, will outline the contents of the data documentation and provide a timeline of when and where it will be made available.

8.0 IMPLEMENTATION AND COMPLIANCE

ED will implement the objectives articulated in the ED PPDG in phases, addressing the processes and procedures to be followed before research begins, as well as the submissions process, management of the components of the ED PPDG including measures of successful implementation and compliance enforcement, access, preservation for peer-reviewed scholarly publications and, at a minimum, data underlying those publications. All ED research awardees will be required to comply with ED public access policies for awards as soon as possible after ED policies are approved and implemented across the Department. ED intends to phase these requirements into all new requests for applications and solicitations for research and development as expeditiously as possible.

This guidance will also apply to any ED employees producing peer-reviewed publications and research data as part of their Federal duties as soon as ED policies are approved and implemented. This requirement will not be applied retroactively to activities that have already been approved.

As described in Section 8.1, many IES research awards are already covered by extant IES Policies Regarding Public Access to Research and Data Sharing. When the ED PPDG is approved, necessary modifications to extant IES policies will be completed. Each ED office which supports research will develop policy guidance aligned with the objectives articulated in the ED PPDG. In the following sections, we describe current and planned implementation steps in IES and ED.

8.1 Timeline for Implementation and Compliance

There are a number of aspects of the ED PPDG that are already being implemented within IES and other ED offices that will require additional planning and rollout upon final approval of the ED PPDG, which are summarized below.

Current Implementation of Public Access Requirements at IES Includes:

- Beginning in FY 2012, IES awards that support research are covered by the IES Policy Regarding Public Access to Research (<http://ies.ed.gov/funding/researchaccess.asp>), and a Policy Statement on Data Sharing in IES Research Centers (http://ies.ed.gov/funding/datasharing_policy.asp).
- Information for staff and applicants about public access requirements has been included in all IES Requests for Applications since our FY 2012 competitions. These requirements serve as written guidance for staff and applicants. The language included in the [FY 2017 Requests for Applications](#), released in Spring 2016, mirrors the language included in the ED PPDG.
- All IES Requests for Applications released since April 2014 include expanded DMP requirements that align with the expectations laid out in the ED PPDG.
- IES developed protocols for the review of DMPs submitted with applications to FY 2015 grant competitions. Those protocols were used to review DMPs during March and April 2015 and 2016. Training for staff on the review of DMPs occurred in February and March 2015, and refresher training was completed by staff in March 2016. A similar timeline will be followed in subsequent competition cycles.
- IES has several mechanisms already in place for informing the field about current IES requirements and any future changes. When IES releases annual Requests for Applications, a series of funding opportunities webinars are held that include information on public access requirements. In Spring 2015, IES launched a new web page at: (<http://ies.ed.gov/funding/researchaccess.asp>), where information about IES policies and resources available for implementation of public access requirements are compiled and regularly updated. ERIC regularly provides training and workforce development for IES staff on how to successfully comply with public access requirements using available resources. ERIC prepared and delivered training on submission of peer-reviewed scholarly publications via webinar on November 18, 2014. That webinar is archived here: <http://eric.ed.gov/?note>, and IES staff are instructed to view this training.

- Training for awardees on the IES Public Access Policies is completed through a number of venues. All IES awardees participate in a post-award meeting (by phone or in person) within 30 days of the award being obligated. During this meeting, IES staff provide detailed information on the terms and conditions of awards, as well as reporting requirements (including compliance to stated terms and conditions). Training about the IES Public Access Policies is incorporated into that post-award meeting, and awardees are directed to the ERIC webinar referenced above. New FY 2016 IES awardees participated in post-award meetings in Spring and Summer 2016. IES holds annual New Grantee Webinars in which information about current public access requirements are included. In addition, IES staff monitor awards throughout the duration of a project, and review products and reports from their award. Discussion with awardees during these monitoring meetings includes updates on awardee compliance with IES public access requirements and provides opportunities to discuss any anticipated issues or problems.
- IES includes specific language in contracts regarding ERIC with publishers to ensure that publishers understand the obligation of some of their authors to enable access to peer reviewed research publications describing Federally sponsored research.
- IES is working to identify data archives and repositories to help provide awardees with optimal choices for public access to the data underlying peer-reviewed scholarly research publications (described more fully in section 8.3.4).
- IES submitted an initial compliance report to OSTP on July 1, 2016.

Implementation Steps to be Taken Upon Approval of the ED PPDG

- IES will post a copy of the ED PPDG to the IES website (<http://ies.ed.gov/funding/researchaccess.asp>), and on ED's Open Government page (<http://www2.ed.gov/about/open.html>) upon approval from OSTP and clearance from ED.
- IES will use current outreach mechanisms to distribute the information widely (via our Newsflash and Twitter feed).
- IES will review the content of the current Public Access Policies to ensure that they are aligned with the expectations specified in the ED PPDG. Many offices also require that new awardees participate in a webinar upon receipt of award, into which ED intends to incorporate training about the ED PPDG. IES will prepare a standard set of slides that will be shared across the Department.
- ED will explore the possibilities of working with the private sector to improve access and compatibility of scientific digital data underlying peer-reviewed scholarly research publications, as described in section 8.3.3.
- ED will evaluate options for improving data set identification, attribution and discovery as described in sections 8.3.3 and 8.3.4 during FY 2017.
- ED intends for all ED offices that support scientific research to develop policies, regulations, and guidance that align with the approved ED PPDG as expeditiously as possible, and, to begin to developing the needed policies, regulations, and guidance prior to December 31, 2016.

- IES will lead an effort to evaluate the lessons learned from implementing public access requirements and will devise implementation guidance to share with other offices and programs in ED as the new policies and regulations are put in place.

Compliance steps to be taken upon approval of the ED PPDG

- Measures of successful implementation will include identifying whether all peer-reviewed scholarly publications that are required to be available in ERIC were in fact made available in ERIC. Compliance enforcement will occur at the time of annual and final report reviews, and a summary report for ED will be prepared in January 2017.
- Measures of successful implementation of the data access requirements will be developed over the next several years, and reported to OSTP bi-annually. At a minimum, IES and ED will develop electronic tracking systems to determine which approved research applications are subject to the data access requirements.

8.2 Publications

8.2.1 Incorporating Language about Public Access to Peer-Reviewed Scholarly Publications into the Pre-Award Process

To complement the existing Federal purpose language, ED will establish new regulations and requirements that apply to all ED funding agreements that support research activities. IES will continue, as it has since FY 2012, to require its grantees and contractors to submit their peer-reviewed scholarly publications to ERIC via the user submission facility (<http://eric.ed.gov/submit/>). ED will develop and seek public comment on regulatory requirements that would implement the same requirement for other Department grantees that develop peer-reviewed scholarly research publications under their grants. Once these regulatory requirements are established, ED will reference them in grant competition announcements. These regulations will address the following issues:

- The U.S. Department of Education has the rights to obtain and make public metadata available upon submission of the final accepted manuscript to ERIC.
- Ensuring that grantees understand that copyrightable intellectual property resulting from Federally-funded research, excluding peer-reviewed scholarly publications and digital research data, may be subject to other ED regulations.
- Ensuring that grantees will not enter into agreements with other parties that conflict with the rights above.

8.2.2 Submission

ED currently houses peer-reviewed scholarly publications in the ERIC repository, which has an established submission process. The publications indexed in ERIC refer to commercially published articles, either resulting from Federally funded research or not, or they may be the full-text of final

peer-reviewed manuscripts resulting from Federally funded research. ERIC houses full-text copies of many of the articles in addition to those reporting on the results of Federally funded research. ERIC has written agreements with many commercial and scholarly society publishers in order to index their journals and indexes thousands of articles yearly according to these agreements. The agreements with the publishers to index some of their articles do not change the obligation of the grantee or contractor to deposit the final peer-reviewed copy of their article in ERIC. This is the case even if a publisher agrees to allow access to the full-text of an article which is produced from Federally funded research. As part of the submission process ERIC asks recipients of ED funding who are submitting manuscripts to review and acknowledge the terms and conditions of their copyright agreements.

Beginning with the FY 2012 grant competitions and contract awards, IES required its grantees and contractors to submit their peer-reviewed scholarly publications to ERIC via the user submission facility (<http://eric.ed.gov/submit/>). The ED PPDG confirms that requirement for IES grantees and contractors and will extend it, as expeditiously as possible, to grants made by other ED program offices that support research. Under the requirements currently applied by IES, which may be form the basis for the requirements that will be imposed on other ED grantees, PIs are required to submit the electronic version of their final peer-reviewed scholarly manuscripts upon acceptance for publication in a peer-reviewed journal or upon completion of an institution's internal peer-review process. This manuscript version will be housed and preserved in ERIC. In lieu of the final peer-reviewed manuscript, ED accepts the final published article, provided the author has the right to submit the published version. This version would likewise be kept in ERIC.

Access to the full text of the article is available after an embargo period of not more than 12 months, from the date of publication, from the ERIC record for the author's final peer reviewed manuscript. If the publisher has agreed that ERIC can provide access to the publisher's version of the article at the end of the embargo period then this will also be available. The link to the publisher's version remains on a separate ERIC record from the manuscript and, in addition, there will be a "download PDF" link to the copy of the publisher's version ERIC will house.

The metadata for the author's final manuscript is posted by ERIC for public access as soon as possible after the manuscript or article has been accepted for publication. Metadata in ERIC are available for free download on a monthly basis from <http://eric.ed.gov/?download>.

Metadata elements that are gathered include:

- Unique, persistent ID
- Author name(s)
- Title and abstract of article or paper
- Journal or serial title with identifier (ISSN) or other relevant publishing information
- Name(s) of funding agency or agencies with award numbers
- When possible and appropriate, links to the underlying data including but not limited to the Supplementary Material published with the journal article, will be included.

8.2.3 Management

ED shall use ERIC as its primary system to serve as a public repository of full-text peer-reviewed scholarly publications.

8.2.4 Access to Publications

ERIC will ensure, for current IES grantees and contractors and, after the adoption of appropriate regulations, grants made by other ED offices, that the public can read, download, and analyze in digital form the final peer reviewed manuscript or the final published article resulting from research funded by ED. ERIC will allow easy human or machine search, analysis and download of peer-reviewed scholarly publications without charge no later than 12 months following publication. ERIC permits the download of all citation records in the database and monthly update files will be posted regularly. The ERIC website permits crawling and is indexed in all major commercial search engines. ED's responsibilities to ensure public access include:

- Properly maintaining the system to ensure it is reliably available through the Internet.
- Ensuring the system is accessible to people with disabilities and compliant with Section 508a of the Rehabilitation Act (29 USC 794d).

For peer reviewed scholarly publications developed under IES grants and contracts, ED requires that, beginning not later than 12 months after the official date of publication, any member of the public, or their machine may:

- Access the publication
- Download the publication for any lawful purpose; however, the end user may not sell, republish or redistribute copies of the publication (e.g. paper copies, electronic copies, reformat, revised editions, translations) except as permitted under fair use. ERIC posts the copyright policy prominently on the website at <http://eric.ed.gov/?copyright>.
- Analyze any publication for research purposes with no restrictions other than the restrictions listed above and attribution.

These rights are not intended to limit any rights that the end user may already have. ED will conduct notice-and-comment rulemaking to propose the extension of these requirements to grants issued by offices other than IES that support the development of peer-reviewed scholarly publications.

ED has established a maximum embargo period of 12 months for public access to the full-text of publications produced as a result of ED funded research. Stakeholders can petition to change the embargo period for a specific field by sending an email request to ERICrequests@ed.gov. In this petition, stakeholders must present evidence that the current embargo period is inconsistent with the objectives articulated in the February 22, 2013, OSTP memo and present evidence for changing the embargo to a shorter period of time. By law, the maximum embargo period allowable for articles reporting on ED-funded research is 12-months after the official data of publication. ED will coordinate with other relevant Departments and Agencies as well as OMB and OSTP on requests to change the embargo period consistent with the requirements of the February, 2013, OSTP memo.

Final decisions about requests to change the embargo period will be made by the Director of IES in consultation with the Director of the National Library of Education.

8.2.5 Preservation of Publications

ED shall ensure the permanent preservation and long term accessibility of peer-reviewed scholarly publications through ERIC by:

- Adopting sound, non-proprietary preservation standards and archival formats such as PDF for publications and reviewing these practices as technology evolves.
- Implementing practical backup, migration, and technology refreshing strategies on a periodic basis.
- Partnering with other appropriate scientific publication archives across the Federal, academic, and business communities.

8.2.6 Metrics, Compliance, and Evaluation of Public Access to Publications

Initial compliance with the requirement to submit final peer-reviewed manuscripts to ERIC will be measured with IES grantees beginning with those awarded in FY 2012. IES grantees use the Federal Research Performance and Progress Report form for annual reports, in which grantees are required to identify which publications have been produced from an IES grant, and to indicate if the publication is available on ERIC. In addition, IES is currently developing an electronic tracking system for all IES awards, the IES Catalog of Education Research (ICER), through which IES will be able to identify how many of the peer-reviewed scholarly publications have metadata available in ERIC, and are available in full-text after the 12-month embargo period. The research centers are currently in conversation with the ERIC team to identify ways to coordinate on the compliance process.

During FY 2016, IES prepared tracking spreadsheets drawn from ICER, in which IES identifies the percentage of publications generated by research grants funded in FY 2012 and beyond which are (a) indexed in ERIC, (b) have completed the 12-month embargo period, and (c) have full-text available. Current and former grantees whose scholarly publications are not in compliance are contacted and guided through the process of submitting publications to ERIC. These spreadsheets will be shared with other offices as requested.

Compliance strategies for other ED offices will be consistent with those outlined in the ED PPDG, including not finalizing new awards without reviewing the potential grantee's compliance with public access requirements that applied under previous awards.

8.3 Data

8.3.1 Scope of Data Management Plan Activities

At IES, the implementation of public access to research data is being carried out in phases, in order to ensure that requirements to maintain privacy and confidentiality of student data are met. Initial implementation of the requirement for data management plans applies to IES grants and contracts carrying out causal inference studies. These studies are expected to include DMPs in their

applications and proposals. Applications requiring DMPs are screened for compliance when submitted. Trained IES staff evaluate the merits of DMPs for applications being considered for awards. Protocols are being used to assist in the review of the DMPs and training sessions will be held to discuss the reviews. IES will continue to review and improve these materials going forward as we learn from experience and new developments in the management of data occur. In addition, IES intends to expand the types of studies required to prepare DMPs and provide public access to digital data. IES anticipates that these changes will be made in requests for applications released in Spring 2017 for FY 2018 research awards. Final decisions as to the types of research to be covered by these requirements will be based on lessons learned as the public access policy is implemented. Particular attention will be paid to documenting and considering the substantive challenges associated with maintaining the privacy and confidentiality of the digital data collected by education researchers.

In the coming months, ED will begin the process of developing regulations that would propose requiring other grantees not funded by IES that conduct research resulting in peer reviewed research articles to develop DMP. Once public comments are considered and final regulations are adopted, other ED offices that fund research will train staff and develop DMP guidance for researchers they fund and intramural staff. IES will provide assistance based on their experience. ED will ensure that all DMPs are evaluated on their merits by either ED staff or external peer reviewers. Opportunities will be provided for ED staff with direct oversight of new awards to contact key IES staff members designated to assist in DMP review should issues arise. In addition, ED will develop, as necessary and with the advice of ED's Office of the General Counsel, additional guidance and terms and conditions for institutional compliance with DMP activities. Following initial competitions, ED staff will be asked for feedback on the DMPs and the review protocol so that guidance and technical assistance can be improved for future rounds. It is ED's intention that following the completion of notice-and-comment rulemaking, the requirements adopted would be incorporated into all requests for applications or solicitations to carry out research.

IES will continue to work on issues related to data management, analysis, storage, preservation, discoverability, and stewardship, in coordination with other agencies and the private sector. We anticipate that new information and new strategies will be provided to staff to use in discretionary grant monitoring and contract oversight. IES is also identifying currently available training opportunities for data management oversight, and seeks opportunities to coordinate across agencies to identify and deliver such training. ED will coordinate with other agencies and private sector organizations to support training, education and workforce development related to scientific data management, analysis, storage, preservation, and stewardship, as appropriate.

8.3.2 Data Submission

As ED increases the number of research applicants required to submit DMPs, IES will lead an ED-wide effort to develop new, standardized requirements for DMPs for research funding recipients under ED-managed grants and contracts. DMPs must provide a comprehensive overview of how the

final research data will be made accessible. DMPs are expected to differ, depending on the nature of the project and the data collected. However, applicants will be expected to address the following in their DMP:

- Type of data to be shared;
- Procedures for managing and for maintaining the privacy and confidentiality of the data to be shared;
- Roles and responsibilities of project or institutional staff in the management and long-term preservation – to the extent legally permissible – of research data, including a discussion of any changes to the roles and responsibilities that will occur should the PD/PI and/or Co-PDs/Co-PIs leave the project or institution;
- Expected schedule for data access, including how long the data will remain accessible (at least 10 years, unless a shorter period of time is required to comply with applicable Federal or State laws or agreements promulgated to ensure compliance with such laws in which the destruction of records or personal information is required within a shorter period of time) and acknowledgement that the timeframe of data accessibility will be reviewed at the time of annual progress reviews and revised as necessary;
- Format of the final dataset and any standards to which the data conform;
- Documentation to be provided;
- Location where data will be stored and method of data access (e.g., via a publicly accessible data archive, institutional repository, or from the Project Director/Principal Investigator);
- Whether or not a data agreement that specifies conditions under which the data will be made accessible is required; and
- Any circumstances that prevent all or some of the data from being made accessible. This includes data that may fall under multiple statutes and hence must meet the privacy and confidentiality requirements for each applicable statute (e.g., data covered by the Common Rule for Protection of Human Subjects, FERPA, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy Rule (45 CFR Part 160 and Subparts A and E of Part 164), section 183 of the Education Sciences Reform Act, or the Privacy Act of 1974, as amended).

The costs of data access can be included in grant, cooperative agreement or contract budgets. The costs can include those associated with preparing the dataset and documentation and storing the data.

8.3.3 Data Management and Monitoring

DMPs will identify how the research team will manage and provide access to data collected during the research, with the expectation that the investigator will share, at a minimum, the data underlying any peer-reviewed publication.

After an award is made, the DMP will be monitored by ED staff through regular monitoring contacts, as well as through Annual and Final Reports. ED will include both the data management and data

access requirements in the Performance Agreement, Cooperative Agreement, or contract documentation (as appropriate for each award). These documents dictate the expected products and reporting requirements during the award period, including what is expected in annual and final reports. Annual reports must provide information on the progress of data management and the issues outlined in the DMP. The Final Report must discuss execution and any updating of the original DMP. ED staff will review awardee progress, updates, and changes to DMPs through the regular monitoring and reporting process. In cases where non-compliance occurs during the course of an award, ED will take appropriate action to ensure requirements are met.

Given that the data of interest will not likely be complete until after the grant or cooperative agreement is over, ED will need to continue to monitor and enforce awardee compliance with the terms spelled out in the DMPs and award mechanism. In cases where the awardee is non-compliant with the requirements of the DMP after the grant award period, subsequent awards to individuals or institutions may be affected. ED will consider adding DMP compliance to the list of items used to evaluate prior performance and considered in decisions for either new grant or contract funding.

When the awardee has completed the tasks in their DMP, they will need to notify the designated ED program officer via email with the information on the disposition of the data and documentation. Awardees will also provide metadata to ED to be made available to the public, in order to support discoverability of the data. As described below, ED will evaluate various alternatives for implementing this part of the process, including the determination of the most appropriate location(s) for storing and making accessible the metadata about available research data, and will include the best options in guidance to grantees and contractors.

8.3.4 Data Access

Timely data access is important to the scientific process. ED thus expects that, at minimum, data underlying peer-reviewed scholarly publications will be shared no later than when the findings from the final study dataset are published. In the initial implementation of the ED PPDG, ED intends to require that grantees and contractors plan for final data created or gathered in the course of Federally-funded research to remain accessible for at least 10 years following their release, except in cases where prohibited by law. However, the DMPs for each research award will take into account the relative values of long-term preservation and access and the associated cost, administrative burden, and legal restrictions. ED will also look to the education sciences research community for additional input and guidance to determine appropriate duration for access to data.

ED will encourage deposit of data in publicly accessible repositories where the disclosure of such data to the repositories is legally permissible. IES is working to identify data archives and repositories to help provide awardees with optimal choices for public access to the data resulting from ED-funded research. ED will review the need for data repositories in fields of research it supports. Relevant data repositories will be added to the dedicated IES web page on public access as they are identified, beginning in Spring 2015. Additional repositories may be deemed acceptable if they meet criteria that may be provided in future guidance. This will include collaborating and

coordinating with other Federal agencies to assist awardees to access appropriate archive and repository resources. Along with other Federal Departments and Agencies, ED will explore the development of a research data commons, a federated system of research databases, for storage, discoverability, and reuse of data with a particular focus on making the data underlying peer-reviewed scholarly publications resulting from Federally funded research available for free at the time of publication. ED will also develop approaches for identifying and providing appropriate attribution to data sets that are made available.

ED will explore the possibilities of working with the private sector to improve access, discoverability, and compatibility of scientific digital data underlying peer-reviewed scholarly research publications, through public-private partnerships with foundations and other organizations that fund research. These partnerships can then be encouraged through ED guidance on public access implementation and through communications with researchers. IES will provide support to other offices within ED to ensure coordinated Department level plans to measure and enforce compliance with these new requirements, including an exploration of possible technological solutions within extant grant and contract monitoring systems for Department-wide reporting.

As part of this effort to make the data publicly accessible, ED will design, implement and maintain data management capabilities to enable discovery, appropriate use, and long term management of digitally formatted scientific data. This includes but is not limited to:

- Establishment of a standard set of attributes for metadata to enable data discovery, identification, and attribution.
- Exploration of ways to link to research data using existing repositories of journal literature.
- Development of procedures to ensure data accessibility over time.

ED is an active member of CENDI (<http://www.cendi.gov/>) and is participating in ongoing discussions about strategies related to data management capabilities. CENDI is an interagency working group of senior scientific and technical information managers from 12 U.S. Federal agencies. These conversations will shape the timeline of implementation of the steps outlined above during 2016.

In November 2013 ED launched a new searchable electronic ED Data Inventory that catalogs agency-created datasets available to the public. This electronic inventory includes metadata about available datasets, individual variables in each data set, and information about how to access the data (<http://datainventory.ed.gov/>). ED also began maintaining an abbreviated version of the inventory at ED.gov/data.json, which is harvested by and included in the Data.gov catalog. While the inventory has not to-date included data collected through education research, these websites will serve as a starting point for the roll-out of this aspect of the ED PPDG. ED will evaluate the degree to which the ED Data Inventory can be used for indexing all extramural research data and will also explore other mechanisms through which to make data discoverable, including linking to data from associated publications via ERIC. In all cases, the inventories will make use of the standard metadata attributes

awardees will submit about research data. Through the searchable inventory, the public will be able to identify and subsequently access datasets that are available to the extent consistent with law (including confidentiality, privacy, and human subject protection).

ED also generates data from evaluations conducted under contract to and grants from the Department, and through its statistical data collections. IES currently maintains online inventories of agency generated datasets (e.g., those that result from evaluations carried out via contract through the National Center for Education Evaluation and Regional Assistance, National Center for Special Education Research, and National Center for Education Research) and makes the datasets available to the public to the extent consistent with law (including confidentiality, privacy, human subject protection, etc.). Many of these data are restricted use data files, and individuals who wish to make use of the restricted use datasets are required to apply for a restricted use data license. Non-restricted use data are directly accessible on the ies.ed.gov website as well as in the ED Data Inventory described above.

8.3.5 Preservation of Data

ED will promote the preservation and long-term accessibility of digitally formatted data by developing rigorous guidelines for DMPs that stress preservation and accessibility and monitoring awards for strict adherence to these plans. During 2016, ED will seek to identify publicly accessible repositories or data enclaves to provide its awardees options for preservation of their data. We will leverage in-house expertise (e.g., ED's Data Strategy team) but also evaluate partnering with other appropriate digital data preservation networks across the Federal, academic, and business communities.

IES revised a section of its website where relevant information about public access is available (<http://ies.ed.gov/funding/researchaccess.asp>). This page includes information about repositories for digital data that we have identified as possible storage sites.

In instances where ED intends to collect digital data resulting from supported research, including research data generated by ED staff and contractors, or stored in ED-managed repositories, additional requirements for data management may be necessary to ensure the Department meets the requirements of the Open Data Policy. Those requirements are specified in OMB Memorandum M-13-13, and are fully described in section 5.0 of this document.

8.3.6 Metrics, Compliance, and Evaluation of Public Access to Digital Data

Initial compliance with the requirement to provide access, at a minimum, to the digital data that lie behind peer-reviewed publications, will be tracked using the ICER database. Program officers will indicate in this system whether the award is subject to the public access data requirements, and where the investigators propose to store the data. At the point of annual and final review, the program officers will update information about access to the data, at the same time as they update information about publications. This system provides the flexibility to incorporate tracking information for ED employees who produce research data. Given that there is much still to be

learned about the best ways to store and share the private and confidential data typically collected in education research, ED will continue to refine and update reporting metrics on this measure.

9.0 ADDITIONAL MATERIAL

Additional information is described below.

IES Policies Related to Public Access to Research Findings and Data include:

- IES Policy Regarding Public Access to Research:
<http://ies.ed.gov/funding/researchaccess.asp>.
- IES Policy Statement on Data Sharing in IES Research Centers:
http://ies.ed.gov/funding/datasharing_policy.asp.

Public Access Plans Prepared by Other Federal Agencies are available here:

- https://www.cendi.gov/projects/Public_Access_Plans_US_Fed_Agencies.html

Additional information

- Memorandum for the Heads of Executive Departments and Agencies – Open Government Directive, Executive Office of the President, Office of Management and Budget, December 8, 2009: http://www.whitehouse.gov/omb/assets/memoranda_2010/m10-06.pdf.
- National Digital Information Infrastructure & Preservation Program: A Collaborative Initiative of the Library of Congress: <http://www.digitalpreservation.gov/>.
- Interagency Public Access Coordination (March 2012):
https://www.whitehouse.gov/sites/default/files/microsites/ostp/public_access-final.pdf.
- Scholarly Publishing Roundtable, Report and Recommendations from the Scholarly Publishing Roundtable (2009):
http://www.aau.edu/policy/scholarly_publishing_roundtable.aspx?id=6894.
- Common Education Data Standards: <https://ceds.ed.gov/>.

10.0 METRICS, COMPLIANCE, AND EVALUATION

ED will monitor on an annual basis the compliance of awardees with the ED PPDG. ED will establish as expeditiously as possible a coordinated reporting structure, in which offices that support research activities will annually report the degree to which their awardees are complying with the requirements of public access. Compliance reporting will begin once required public notifications are complete. Additional information on compliance is included in sections 8.2.6 and 8.3.6.

11.0 PUBLIC CONSULTATION EXPERIENCE

The National Academy of Sciences held two public meetings, one focused on access to peer-reviewed scholarly publications and the other focused on data access on May 14-15, and May 16-17,

2013, respectively. Representatives from IES attended the meetings and have included recommendations from public comments from those meetings into the ED PPDG.

12.0 INTERAGENCY COORDINATION

IES modeled its existing data sharing policy and implementation procedures after research agencies most similar in their research missions, the National Institutes of Health and the National Science Foundation. Each agency has now had some experience with implementing this process, and ED plans to continue to coordinate with these agencies to share what works, what doesn't, and strategies for improving the implementation of the ED PPDG.

In the event that there are multiple sources of funding for a single research project during a single time period, ED intends to defer to the requirements for the agency committing the most resources to the project. Staff responsible for oversight of the awards from each agency will be involved in assuring that the requirements are clear to the awardee. ED also intends to explore whether there are automated sharing options, so that articles available in one repository (e.g., ERIC) may be automatically shared and made available in the repository of another funding agency (e.g., PubMed).

13.0 PUBLIC NOTICE

ED will work with other executive agencies in publicizing the ED PPDG and in soliciting comment on implementation policies from Federally funded researchers, librarians, publishers, professional organizations, users of Federally funded research results, civil society groups, and the general public.

In addition, ED will share the ED PPDG with the public. IES will put the approved ED PPDG on the IES website, as well as on the Department's Open Government webpage (<http://www2.ed.gov/about/open.html>). IES will discuss the ED PPDG at their annual Project Director/Principal Investigator meeting.

14.0 UPDATE AND RE-EVALUATION OF THE ED PPDG

As required in the February 22, 2013, memo from OSTP Director John Holdren, ED will provide updates on the implementation of the ED PPDG to the Directors of OSTP and OMB twice yearly, on January 1 and July 1, for two years after the effective date of ED's final ED PPDG. As a result of the information learned from implementing the ED PPDG, information obtained from collaborating with other agencies, and from feedback received from OSTP and OMB review, ED will update and re-evaluate the ED PPDG twice yearly in line with the dates above. Thereafter, ED will update and re-evaluation the ED PPDG yearly, as appropriate, to accommodate changes in technology, as well as the nature and volume of the data collected.

15.0 RESOURCES

The ED PPDG in the near term requires staff resources within IES to develop all guidance, work with applicants, review and monitor DMPs, develop and maintain a system for metadata, and continue thoughtful rollout of the ED PPDG. The Research and Development budget of the Institute of Education Sciences allocated to ERIC will be used to build the required functionality in the ERIC infrastructure to manage public access to peer reviewed articles produced from ED funding, as described in the ED PPDG. It also includes ongoing commitment of funds to support the ERIC repository. It may also require a commitment of funds to develop and support data repositories to provide options for ED researchers. Overall funding needs and priorities for implementation will be reflected in future budget submissions.