DOE F 4600.2
(3/11)
All Other Editions Are Obsolete

Attachment #3

U.S. Department of Energy
FEDERAL ASSISTANCE REPORTING CHECKLIST
AND INSTRUCTIONS FOR RD&D PROJECTS

1. Identification Number:	2. Program/Project Title:
DE -EE0000447.003	Ann Arbor Wind Generator for Water Treatment Plant

3. Recipient:

City of Ann Arbor

4. ReportingRequirements:		Frequency	Addresses
A. MANAGEMENT REPORTING			
☑ Research Performance Progress Report (RPPR)		Q	https://www.eere-pmc.energy.gov/SubmitReports.aspx
☑ Special Status Report		A	https://www.eere-pmc.energy.gov/SubmitReports.aspx
B. SCIENTIFIC/TECHNICAL REPORTING (Reports/Products must be submitted with appropriate DOE F 241. The 241 forms are available at www.osti.gov/elink)			
Report/Product	Form		
☑ Final Scientific Report	DOE F 241.3	F	http://www.osti.gov/elink-2413
☐ Conference papers/proceedings*	DOE F 241.3		http://www.osti.gov/elink-2413
☐ Software/Manual	DOE F 241.4		http://www.osti.gov/estsc/241-4pre.jsp
☐ Other (see special instructions)	DOE F 241.3		http://www.osti.gov/elink-2413
** Scientific and technical conferences only*			
C. FINANCIAL REPORTING			
☑ SF-425, Federal Financial Report		FQ	https://www.eere-pmc.energy.gov/SubmitReports.aspx
D. CLOSEOUT REPORTING			
☑ Patent Certification		F	https://www.eere-pmc.energy.gov/SubmitReports.aspx
☑ SF-428 & 428B Final Property Report		F	https://www.eere-pmc.energy.gov/SubmitReports.aspx
☐ Other			https://www.eere-pmc.energy.gov/SubmitReports.aspx
E. OTHER REPORTING			
☑ Annual Indirect Cost Proposal		Y180	See block 5 below for instructions.
☐ Audit of For-Profit Recipients			See block 5 below for addresses.
☐ SF-428 Tangible Personal Property Report Forms Family			https://www.eere-pmc.energy.gov/SubmitReports.aspx
☐ Other			See block 5 below for instructions

FREQUENCY CODES AND DUE DATES:

A - Within 5 calendar days after events or as specified.

Q - Quarterly; within 30 days after end of the reporting period.

F - Final; 90 calendar days after expiration or termination of the award.

O - Other: See instructions for further details

Y - Yearly; 90 days after the end of the reporting period.

Y180 - Yearly; 180 days after end of the recipient's fiscal year.

S - Semiannually; within 30 days after end of the reporting period.

5. Special Instructions:

Annual Indirect Cost Proposal - If DOE is the Cognizant Federal Agency, then the proposal should be sent to https://www.eere-pmc.energy.gov/SubmitReports.aspx. Otherwise, it should be sent to the Cognizant Federal Agency.

Audit of For-Profit Recipients must be sent to 2 different addresses in accordance with the final audit guidance. A copy for the Contracting Officer shall be submitted via https://www.eere-pmc.energy.gov/SubmitReports.aspx; a copy must also be e-mailed to the CFO at DOE-Audit-Submission@hq.doe.gov

Federal Assistance Reporting Instructions (3/11)

A. MANAGEMENT REPORTING

Research Performance Progress Report (RPPR)

See attached document entitled "Research Performance Progress Report".

Special Status Report

The recipient must report the following events by e-mail as soon as possible after they occur:

1. Developments that have a significant favorable impact on the project.

2. Problems, delays, or adverse conditions which materially impair the recipient's ability to meet the objectives of the award or which may require DOE to respond to questions relating to such events from the public. The recipient must report any of the following incidents and include the anticipated impact and remedial action to be taken to correct or resolve the problem/condition:

    a. Any single fatality or injuries requiring hospitalization of five or more individuals.

    b. Any significant environmental permit violation.

    c. Any verbal or written Notice of Violation of any Environmental, Safety, and Health statutes.

    d. Any incident which causes a significant process or hazard control system failure.

    e. Any event which is anticipated to cause a significant schedule slippage or cost increase.

    f. Any damage to Government-owned equipment in excess of $50,000.

    g. Any other incident that has the potential for high visibility in the media.

B. SCIENTIFIC/TECHNICAL REPORTS

Final Scientific/Technical Report

Content. The final scientific/technical report must include the following information and any other information identified under Special Instructions on the Federal Assistance Reporting Checklist:

1. Identify the DOE award number; name of recipient; project title; name of project director/principal investigator; and consortium/teaming members.

2. Display prominently on the cover of the report any authorized distribution limitation notices, such as patentable material or protected data. Reports delivered without such notices may be deemed to have been furnished with unlimited rights, and the Government assumes no liability for the disclosure, use or reproduction of such reports.

3. Provide an executive summary, which includes a discussion of: (1) how the research adds to the understanding of the area investigated; (2) the technical effectiveness and economic feasibility of the methods or techniques investigated or demonstrated; or (3) how the project is otherwise of benefit to the public. The discussion should be a minimum of one paragraph and written in terms understandable by an educated layman.

4. Provide a comparison of the actual accomplishments with the goals and objectives of the project.

5. Summarize project activities for the entire period of funding, including original hypotheses, approaches used, problems encountered and departure from planned methodology, and an assessment of their impact on the project results. Include, if applicable, facts, figures, analyses, and assumptions used during the life of the project to support the conclusions.

6. Identify products developed under the award and technology transfer activities, such as:

    a. Publications (list journal name, volume, issue), conference papers, or other public releases of results. If not provided previously, attach or send copies of any public releases to the DOE Program Manager identified in Block 15 of the Assistance Agreement Cover page;

    b. Web site or other Internet sites that reflect the results of this project;

    c. Networks or collaborations fostered;

    d. Technologies/Techniques;

    e. Inventions/Patent Applications, licensing agreements; and

    f. Other products, such as data or databases, physical collections, audio or video, software or netware, models, educational aid or curricula, instruments or equipment.

7. For projects involving computer modeling, provide the following information with the final report:

    a. Model description, key assumptions, version, source and intended use;

    b. Performance criteria for the model related to the intended use;

    c. Test results to demonstrate the model performance criteria were met (e.g., code verification/validation, sensitivity analyses, history matching with lab or field data, as appropriate);

    d. Theory behind the model, expressed in non-mathematical terms;

    e. Mathematics to be used, including formulas and calculation methods;

f. Whether or not the theory and mathematical algorithms were peer reviewed, and, if so, include a summary of theoretical strengths and weaknesses;

g. Hardware requirements; and

h. Documentation (e.g., users guide, model code).

Electronic Submission. The final scientific/technical report must be submitted electronically via the DOE Energy Link System (E-Link) accessed at http://www.osti.gov/elink-2413.

Electronic Format. Reports must be submitted in the ADOBE PORTABLE DOCUMENT FORMAT (PDF) and be one integrated PDF file that contains all text, tables, diagrams, photographs, schematic, graphs, and charts. Materials, such as prints, videos, and books, that are essential to the report but cannot be submitted electronically, should be sent to the DOE Administrator at the address listed in Block 16 of the Assistance Agreement Cover Page.

Submittal Form. The report must be accompanied by a completed electronic version of DOE Form 241.3, "U.S. Department of Energy (DOE), Announcement of Scientific and Technical Information (STI)." You can complete, upload, and submit the DOE F 241.3 online via E-Link. You are encouraged not to submit patentable material or protected data in these reports, but if there is such material or data in the report, you must: (1) clearly identify patentable or protected data on each page of the report; (2) identify such material on the cover of the report; and (3) mark the appropriate block in Section K of the DOE F 241 3. Reports must not contain any limited rights data (proprietary data), classified information, information subject to export control classification, or other information not subject to release. Protected data is specific technical data, first produced in the performance of the award that is protected from public release for a period of time by the terms of the award agreement.

Conference Papers/Proceedings

Content. The recipient must submit a copy of any conference papers/proceedings, with the following information: (1) Name of conference; (2) Location of conference; (3) Date of conference; and (4) Conference sponsor.

Electronic Submission. Scientific/technical conference paper/proceedings must be submitted electronically via the DOE Energy Link System (E-Link) at http://www.osti.gov/elink-2413. Non-scientific/technical conference papers/proceedings must be sent to the URL listed on the Reporting Checklist.

Electronic Format. Conference papers/proceedings must be submitted in the ADOBE PORTABLE DOCUMENT FORMAT (PDF) and be one integrated PDF file that contains all text, tables, diagrams, photographs, schematic, graphs, and charts. If the proceedings cannot be submitted electronically, they should be sent to the DOE Administrator at the address listed in Block 16 of the Assistance Agreement Cover Page.

Submittal Form. Scientific/technical conference papers/proceedings must be accompanied by a completed DOE Form 241.3. The form and instructions are available on E-Link at http://www.osti.gov/elink-2413. This form is not required for non-scientific or non-technical conference papers or proceedings.

Software/Manual

Content. Unless otherwise specified in the award, the following must be delivered: source code, the executable object code and the minimum support documentation needed by a competent user to understand and use the software and to be able to modify the software in subsequent development efforts.

Electronic Submission. Submissions may be submitted electronically via the DOE Energy Link System (E-Link) at http://www.osti.gov/estsc/241-4pre.jsp. They may also be submitted via regular mail to:

Energy Science and Technology Software Center
P.O. Box 1020
Oak Ridge, TN 37831

Submittal Form. Each software deliverable and its manual must be accompanied by a completed DOE Form 241.4, "Announcement of U.S. Department of Energy Computer Software." The form and instructions are available on E-Link at http://www.osti.gov/estsc/241-4pre.jsp.

Protected Personally Identifiable Information (PII). Management Reports or Scientific/Technical Reports must not contain any *Protected* PII. PII is any information about an individual which can be used to distinguish or trace an individual's identity. Some information that is considered to be PII is available in public sources such as telephone books, public websites, university listings, etc. This type of information is considered to be Public PII and includes, for example, first and last name, address, work telephone number, e-mail address, home telephone number, and general educational credentials. In contrast, *Protected* PII is defined as an individual's first name or first initial and last name in combination with any one or more of types of information, including, but not limited to, social security number, passport number, credit card numbers, clearances, bank numbers, biometrics, date and place of birth, mother's maiden name, criminal, medical and financial records, educational transcripts, etc.

C. FINANCIAL REPORTING

Recipients must complete the SF-425 as identified on the Reporting Checklist in accordance with the report instructions. A fillable version of the form is available at http://www.whitehouse.gov/omb/grants/grants_forms.aspx.

D. CLOSEOUT REPORTS

Final Invention and Patent Report

The recipient must provide a DOE Form 2050.11 , "PATENT CERTIFICATION." This form is available at http://energy.gov/management/downloads/patent-certification.

Final Property Report

See instructions under **SF-428 Tangible Personal Property Report Forms Family** below.

E. OTHER REPORTING

Annual Indirect Cost Proposal and Reconciliation

Requirement. In accordance with the applicable cost principles, the recipient must submit an annual indirect cost proposal, reconciled to its financial statements, within six months after the close of the recipient's fiscal year, unless the award is based on a predetermined or fixed indirect rate(s), or a fixed amount for indirect or facilities and administration (F&A) costs.

Cognizant Agency. The recipient must submit its annual indirect cost proposal directly to the cognizant agency for negotiating and approving indirect costs. If the DOE awarding office is the cognizant agency, submit the annual indirect cost proposal to https://www.eere-pmc.energy.gov/SubmitReports.aspx.

Audit of For-Profit Recipients

As required by 10 CFR 600.316, as supplemented by For-Profit Audit Guidance Parts I through IV, audits must be performed of For-Profit Recipients of financial assistance awards (prime awards) and sub-awards.

For-Profit Audit Guidance Parts I through IV to assist for-profit recipients in complying with the audit requirements of 10 CFR 600.316 are posted on the Financial Assistance Forms page of the MA home page under the 'Coverage of Independent Audits' subheading, http://energy.gov/management/downloads/profit-audit-guidance.
Submission: For recipients, financial statement and compliance audit submissions are due to DOE within six months of the recipients' fiscal year-end dates. For sub-awardees, financial statement and compliance audit submissions are due to the pass-through entity within six months of the sub-awardees' fiscal year-end dates. For recipients, the compliance audits must be submitted, along with audited financial statements, to the appropriate DOE Contracting Officer at https://www.eere-pmc.energy.gov/SubmitReports.aspx as well as to the DOE Office of the Chief Financial Officer at DOE-Audit-Submission@hq.doe.gov

SF-428 Tangible Personal Property Report Forms Family

Requirement. The SF-428 is a forms family consisting of 5 forms: the SF-428, SF-428-A, SF-428-B, SF-428-C, and SF-428S. Fillable versions of the SF-428 forms are available at http://energy.gov/management/office-management/operational-management/financial-assistance/financial-assistance-forms.

- The SF-428 is the cover page and the submitter attaches the appropriate form or forms as listed on the SF-428.
- The SF-428-A is the Annual report, due Oct. 30th of each calendar year.
- The SF-428-B is the Final Award Closeout Report, due at award completion.
- The SF-428-C is the Disposition Report/Request.

- The SF-428S is the supplemental form for the SF-428-A, SF-428-B and SF-428-C.

If at any time during the award the recipient is provided Government-furnished property or acquires property with project funds and the award specifies that the property vests in the Federal Government (i.e. federally owned property), the recipient must submit an annual inventory of this property to the DOE Administrator using the SF-428 and SF-428-A forms at the address on page 1 of this checklist no later than October 30th of each calendar year, to cover an annual reporting period ending on the preceding September 30th. The SF-428 and SF-428-B reports are required during closeout.

Content of Inventory. As required on the SF-428-A form, the inventory must include a description of the property, tag number, acquisition date, and acquisition cost, if purchased with project funds. The location of property should be listed under the Comments section. The report must list all federally owned property, including property located at subcontractor's facilities or other locations.

RESEARCH PERFORMANCE PROGRESS REPORT

Standard Cover Page Data Elements and Reporting Categories

The standard cover page data elements shown below, as well as mandatory and optional components comprise the complete research performance progress report format.

Each category in the RPPR is a separate reporting component. Each component is marked to indicate if it is optional or mandatory. Mandatory components must be addressed in each report, optional are at your discretion.

If you have nothing significant to report during the reporting period on a question or item, state "Nothing To Report".

1. COVER PAGE DATA ELEMENTS: Mandatory

- Federal Agency and Organization Element to Which Report is Submitted
- Federal Grant or Other Identifying Number Assigned by Agency
- Project Title
- PD/PI Name, Title and Contact Information (e-mail address and phone number)
- Name of Submitting Official, Title, and Contact Information (e-mail address and phone number), if other than PD/PI
- Submission Date
- DUNS Number
- Recipient Organization (Name and Address)
- Project/Grant Period (Start Date, End Date)
- Reporting Period End Date
- Report Term or Frequency (annual, semi-annual, quarterly, other)
- Signature of Submitting Official (electronic signatures (i.e., Adobe Acrobat) are acceptable)

2. ACCOMPLISHMENTS: Mandatory

What was done? What was learned?

The information provided in this section allows the agency to assess whether satisfactory progress has been made during the reporting period.

INSTRUCTIONS – Accomplishments

The PI is reminded that the grantee is required to obtain prior written approval from the Contracting Officer whenever there are significant changes in the project or its

direction. Requests for prior written approval must be submitted to the Contracting Officer (submission via Fedconnect is acceptable).

- What are the major goals and objectives of the project?
- What was accomplished under these goals?
- What opportunities for training and professional development has the project provided?
- How have the results been disseminated to communities of interest?
- What do you plan to do during the next reporting period to accomplish the goals and objectives?

What are the major goals of the project?

List the major goals of the project as stated in the approved application or as approved by the agency. If the application lists milestones/target dates for important activities or phases of the project, identify these dates and show actual completion dates or the percentage of completion.

Generally, the goals will not change from one reporting period to the next. However, if the awarding agency approved changes to the goals during the reporting period, list the revised goals and objectives. Also explain any significant changes in approach or methods from the agency approved application or plan.

What was accomplished under these goals?

For this reporting period describe: (1) major activities; (2) specific objectives; (3) significant results, including major findings, developments, or conclusions (both positive and negative); and (4) key outcomes or other achievements. Include a discussion of stated goals not met. As the project progresses, the emphasis in reporting in this section should shift from reporting activities to reporting accomplishments.

What opportunities for training and professional development has the project provided?

Describe opportunities for training and professional development provided to anyone who worked on the project or anyone who was involved in the activities supported by the project.

“Training” activities are those in which individuals with advanced professional skills and experience assist others in attaining greater proficiency. Training activities may include, for example, courses or one-on-one work with a mentor. “Professional development” activities result in increased knowledge or skill in one’s area of expertise and may include workshops, conferences, seminars, study groups, and individual study. Include participation in conferences, workshops, and seminars not listed under major activities.

How have the results been disseminated to communities of interest?

Describe how the results have been disseminated to communities of interest. Include any outreach activities that have been undertaken to reach members of communities who are not

usually aware of these research activities, for the purpose of enhancing public understanding and increasing interest in learning and careers in science, technology, and the humanities.

What do you plan to do during the next reporting period to accomplish the goals?

Describe briefly what you plan to do during the next reporting period to accomplish the goals and objectives.

3. PRODUCTS: [Optional/Mandatory]

What has the project produced?

Publications are the characteristic product of research. Agencies evaluate what the publications demonstrate about the excellence and significance of the research and the efficacy with which the results are being communicated to colleagues, potential users, and the public, not the number of publications.

Many projects (though not all) develop significant products other than publications. Agencies assess and report both publications and other products to Congress, communities of interest, and the public.

INSTRUCTIONS – Products

List any products resulting from the project during the reporting period. Examples of products include:

- Publications, conference papers, and presentations;
- Website(s) or other Internet site(s);
- Technologies or techniques;
- Inventions, patent applications, and/or licenses;
- Other products, such as data or databases, physical collections, audio or video products, software or NetWare, models, educational aids or curricula, instruments, or equipment; and

- Any other public release of information related to the project.

Publications, conference papers, and presentations

Report only the major publication(s) resulting from the work under this award. There is no restriction on the number. However, agencies are interested in only those publications that most reflect the work under this award in the following categories:

- **Journal publications.** List peer-reviewed articles or papers appearing in scientific, technical, or professional journals. Include any peer-reviewed publication in the periodically published proceedings of a scientific society, a conference, or the like. A publication in the proceedings of a one-time conference, not part of a series, should be reported under "Books or other non-periodical, one-time publications."

Identify for each publication: Author(s); title; journal; volume: year; page numbers; status of publication (published; accepted, awaiting publication; submitted, under review; other); acknowledgement of federal support (yes/no).

- **Books or other non-periodical, one-time publications.** Report any book, monograph, dissertation, abstract, or the like published as or in a separate publication, rather than a periodical or series. Include any significant publication in the proceedings of a one-time conference or in the report of a one-time study, commission, or the like.

  Identify for each one-time publication: author(s); title; editor; title of collection, if applicable; bibliographic information; year; type of publication (book, thesis or dissertation, other); status of publication (published; accepted, awaiting publication; submitted, under review; other); acknowledgement of federal support (yes/no).

- **Other publications, conference papers and presentations.** Identify any other publications, conference papers and/or presentations not reported above. Specify the status of the publication as noted above.

Website(s) or other Internet site(s)

List the URL for any Internet site(s) that disseminates the results of the research activities. A short description of each site should be provided. It is not necessary to include the publications already specified above in this section.

Technologies or techniques

Identify technologies or techniques that have resulted from the research activities. Describe the technologies or techniques and how they are being shared.

Inventions, patent applications, and/or licenses

Identify inventions, patent applications with date, and/or licenses that have resulted from the research. Submission of this information as part of an interim research performance progress report is not a substitute for any other invention reporting required under the terms and conditions of an award.

Other products

Identify any other significant products that were developed under this project. Describe the product and how it is being shared. Examples of other products are:

- Databases;
- Physical collections;
- Audio or video products;
- Software or NetWare;
- Models;

- Educational aids or curricula;
- Instruments or equipment;
- Data & Research Material (e.g., cell lines, DNA probes, animal models); and
- Other.

4. PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS: [Optional/Mandatory]

Who has been involved?

Agencies need to know who has worked on the project to gauge and report performance in promoting partnerships and collaborations.

INSTRUCTIONS - Participants & Other Collaborating Organizations

Provide the following information on participants:

- What individuals have worked on the project?
- What other organizations have been involved as partners?
- Have other collaborators or contacts been involved?

What individuals have worked on the project?

Provide the following information for: (1) principal investigator(s)/project director(s) (PIs/PDs); and (2) each person who has worked at least one person month per year on the project during the reporting period, regardless of the source of compensation (a person month equals approximately 160 hours of effort).

- Provide the name and identify the role the person played in the project. Do NOT include any other identifying information on individuals. Indicate the nearest whole person month (Calendar, Academic, Summer) that the individual worked on the project. Show the most senior role in which the person has worked on the project for any significant length of time. For example, if an undergraduate student graduates, enters graduate school, and continues to work on the project, show that person as a graduate student, preferably explaining the change in involvement.

- Describe how this person contributed to the project and with what funding support. If information is unchanged from a previous submission, provide the name only and indicate “no change”.

- Identify whether this person is collaborating internationally. Specifically is the person collaborating with an individual located in a foreign country and whether the person had traveled to the foreign country as part of that collaboration and duration of stay. The foreign country(ies) should be identified.

Example:

Name:	Mary Smith
Project Role:	Graduate Student
Nearest person month worked:	5
Contribution to Project:	Ms. Smith has performed work in the area of combined error-control and constrained coding.
Funding Support:	The Ford Foundation (Complete only if the funding provided from other than this award.)
Collaborated with individual in foreign country:	Yes
Country(ies) of foreign collaborator:	China
Traveled to foreign country:	Yes
If traveled to foreign country(ies), duration of stay:	5 months

What other organizations have been involved as partners?

Describe partner organizations – academic institutions, other nonprofits, industrial or commercial firms, state or local governments, schools or school systems, or other organizations (foreign or domestic) – that have been involved with the project. Partner organizations may provide financial or in-kind support, supply facilities or equipment, collaborate in the research, exchange personnel, or otherwise contribute.

Provide the following information for each partnership:

Organization Name:
Location of Organization: (if foreign location list country)
Partner's contribution to the project: (identify one or more)

- Financial support;
- In-kind support (e.g., partner makes software, computers, equipment, etc., available to project staff);
- Facilities (e.g., project staff use the partner's facilities for project activities);
- Collaborative research (e.g., partner's staff work with project staff on the project); and
- Personnel exchanges (e.g., project staff and/or partner's staff use each other's facilities, work at each other's site).

More detail on partner and contribution (foreign or domestic).

Have other collaborators or contacts been involved?

Some significant collaborators or contacts within the recipient's organization may not be covered by "What people have worked on the project?" Likewise, some significant collaborators or contacts outside the recipient's organization may not be covered under "What other organizations have been involved as partners?" For example, describe any significant:

- collaborations with others within the recipient's organization; especially interdepartmental or interdisciplinary collaborations;
- collaborations or contact with others outside the organization; and
- collaborations or contacts with others outside the United States or with an international organization.
- country(ies) of collaborations or contacts.

It is likely that many recipients will have no other collaborators or contacts to report.

5. IMPACT: [Optional/Mandatory]

What is the impact of the project? How has it contributed?

Over the years, this base of knowledge, techniques, people, and infrastructure is drawn upon again and again for application to commercial technology and the economy, to health and safety, to cost-efficient environmental protection, to the solution of social problems, to numerous other aspects of the public welfare, and to other fields of endeavor.

The taxpaying public and its representatives deserve a periodic assessment to show them how the investments they make benefit the nation. Through this reporting format, and especially this section, recipients provide that assessment and make the case for Federal funding of research and education.

Agencies use this information to assess how their research programs:
- increase the body of knowledge and techniques;
- enlarge the pool of people trained to develop that knowledge and techniques or put it to use; and
- improve the physical, institutional, and information resources that enable those people to get their training and perform their functions.

INSTRUCTIONS - Impact

This component will be used to describe ways in which the work, findings, and specific products of the project have had an impact during this reporting period. Describe distinctive contributions, major accomplishments, innovations, successes, or any change in practice or behavior that has come about as a result of the project relative to:

- the development of the principal discipline(s) of the project;
- other disciplines;
- the development of human resources;
- physical, institutional, and information resources that form infrastructure;
- technology transfer (include transfer of results to entities in government or industry, adoption of new practices, or instances where research has led to the initiation of a startup company); or
- society beyond science and technology.

What is the impact on the development of the principal discipline(s) of the project?

Describe how findings, results, techniques that were developed or extended, or other products from the project made an impact or are likely to make an impact on the base of knowledge, theory, and research and/or pedagogical methods in the principal disciplinary field(s) of the project. Summarize using language that an intelligent lay audience can understand (*Scientific American* style).

How the field or discipline is defined is not as important as covering the impact the work has had on knowledge and technique. Make the best distinction possible, for example, by using a "field" or "discipline", if appropriate, that corresponds with a single academic department (i.e., physics rather than nuclear physics).

What is the impact on other disciplines?

Describe how the findings, results, or techniques that were developed or improved, or other products from the project made an impact or are likely to make an impact on other disciplines.

What is the impact on the development of human resources?

Describe how the project made an impact or is likely to make an impact on human resource development in science, engineering, and technology. For example, how has the project:

- provided opportunities for research and teaching in the relevant fields;
- improved the performance, skills, or attitudes of members of underrepresented groups that will improve their access to or retention in research, teaching, or other related professions;
- developed and disseminated new educational materials or provided scholarships; or
- provided exposure to science and technology for practitioners, teachers, young people, or other members of the public?

What is the impact on physical, institutional, and information resources that form infrastructure?

Describe ways, if any, in which the project made an impact, or is likely to make an impact, on physical, institutional, and information resources that form infrastructure, including:

- physical resources such as facilities, laboratories, or instruments;
- institutional resources (such as establishment or sustenance of societies or organizations); or
- information resources, electronic means for accessing such resources or for scientific communication, or the like.

What is the impact on technology transfer?

Describe ways in which the project made an impact, or is likely to make an impact, on

commercial technology or public use, including:

- transfer of results to entities in government or industry;
- instances where the research has led to the initiation of a start-up company; or
- adoption of new practices.

What is the impact on society beyond science and technology?

Describe how results from the project made an impact, or are likely to make an impact, beyond the bounds of science, engineering, and the academic world on areas such as:

- improving public knowledge, attitudes, skills, and abilities;
- changing behavior, practices, decision making, policies (including regulatory policies), or social actions; or
- improving social, economic, civic, or environmental conditions.

What dollar amount of the award's budget is being spent in foreign country(ies)?

Describe what percentage of the award's budget is being spent in foreign country(ies). If more than one foreign country, identify the distribution between the foreign countries.

6. CHANGES/PROBLEMS: [Optional/Mandatory]

The PI is reminded that the grantee is required to obtain prior written approval from the Contracting Officer whenever there are significant changes in the project or its direction. Requests for prior written approval must be submitted to the Contracting Officer (submission via Fedconnect is acceptable). If not previously reported in writing, provide the following additional information, if applicable:

- Changes in approach and reasons for change.
- Actual or anticipated problems or delays and actions or plans to resolve them.
- Changes that have a significant impact on expenditures.
- Significant changes in use or care of animals, human subjects, and/or biohazards.

INSTRUCTIONS - Changes/Problems

Changes in approach and reasons for change

Describe any changes in approach during the reporting period and reasons for these changes. Remember that significant changes in objectives and scope require prior approval of the agency.

Actual or anticipated problems or delays and actions or plans to resolve them

Describe problems or delays encountered during the reporting period and actions or plans to resolve them.

Changes that have a significant impact on expenditures

Describe changes during the reporting period that may have a significant impact on expenditures, for example, delays in hiring staff or favorable developments that enable meeting objectives at less cost than anticipated.

Significant changes in use or care of human subjects, vertebrate animals, and/or Biohazards

Describe significant deviations, unexpected outcomes, or changes in approved protocols for the use or care of human subjects, vertebrate animals, and/or biohazards during the reporting period. If required, were these changes approved by the applicable institution committee and reported to the agency? Also specify the applicable Institutional Review Board/Institutional Animal Care and Use Committee approval dates.

Change of primary performance site location from that originally proposed

Identify any change to the primary performance site location identified in the proposal, as originally submitted.

7. SPECIAL REPORTING REQUIREMENTS: [Optional/Mandatory]

Respond to any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements.

8. BUDGETARY INFORMATION: [Optional/Mandatory]

This component will be used to collect budgetary data from the recipient organization. The information will be used in conducting periodic administrative/budgetary reviews. Budgetary data should be submitted in an Excel spreadsheet format.