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R&D TRACKING SYSTEM

DATA AND PROCESS GUIDANCE DOCUMENT

U. S. Department of Energy
October 31, 2006

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SUMMARY OF CHANGES FOR FY 2006 DATA SUBMISSION

- Performance Location Zip - In order to make our results more complete and to support future analysis, this year we are requiring a 9 digit zip code. **Records submitted without this field will be rejected and returned to the Labs for action and re-submission.** Please refer to the following web site for assistance in determining 9 digit zip codes based on the street address: http://zip4.usps.com/zip4/welcome.jsp.

- This year we are going back to requesting all five types of research (Basic, Applied, Development, Equipment, and Facilities). Please read the definitions for equipment and facilties. They may have changed since they were last required in 2002.

BUDGET & REPORTING (B&R) CATEGORIES EXCLUDED FROM THE R&D DATA CALL

- Intelligence & Counterintelligence (IN) – exclude all B&Rs.
- Environment, Safety & Health (EH) – exclude all B&Rs.
- Environmental Management (EM) – exclude all B&Rs except (EY40).
- National Nuclear Security Administration (NNSA) – exclude any classified information.
- Nuclear Energy, Science & Technology (NE) – exclude all B&Rs except AF35, AF38, AF45, and AF58.
- Science (SC) – exclude KD, KG, KV, KX, and FS B&Rs.
- Security and Safety Performance Assurance (SO) – exclude all B&Rs.

BACKGROUND

PURPOSE

The purpose of this document is to provide guidance to the laboratories and field offices for collecting and reviewing the annual research and development project information for the R&D Tracking System. Research and development is defined in OMB Circular No. A-11 (2006), Section 84 Character Classification (Schedule C). That text reads as follows:

Research and development (R&D) activities comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications.

Include:

- Administrative expenses for R&D

Exclude:

- Routine product testing, quality control, mapping, collection of general purpose statistics, experimental production, routine monitoring and evaluation of an operational program, and the training of scientific and technical personnel.

Definitions of the five types of research and development are as follows:

- *Basic Research* – is defined as systematic study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind. Basic research, however, may include activtities with broad applications in mind.
- *Applied Research* – is defined as systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.
- *Development* – is defined as systematic application of knowledge or understanding, directed toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.
- *Equipment* – is defined as amounts for major equipment for research and development. Includes acquisition or design and production of movable equipment, such as spectrometers, research satellites, detectors, and other instruments. At a minimum, this line should include programs devoted to the purchase or construction of R&D Equipment.

- *Facilities* – is defined as amounts for the construction and rehabilitation of research and development facilities. Includes the acquisition, design, and construction of, or major repairs or alterations to, all physical facilities for use in R&D activties. Facilities include land, buildings, and fixed capital equipment, regardless of whether the facilities are to be used by the Government or by private organization, and regardless of where the title to the property may rest. Includes the international space station and such fixed facilities as reactors, wind tunnels, and particle accelerators.

The guidance: (1) identifies the short-term information needs that will allow the Department to respond to various data calls including those from Program Offices, Office of Management and Budget (OMB) and the White House Office of Science and Technology Policy (OSTP), and (2) lays the foundation for the longer term need for a corporate R&D information system. The R&D System is a resource for the Department, enabling better management of its R&D enterprise and efficient and effective responses to numerous internal and external requests for information on DOE R&D activities.

FY 2006 PROCESS

The Department needs to respond to the White House's Office of Science and Technology Policy (OSTP) call in March 2007. The DOE R&D Tracking System helps ensure the consistency of our response, and improves our ability to respond to inquiries and other requirements. The required data elements defined in this document are used to satisfy OSTP's request.

The proposed process for collecting FY 2006 Departmental R&D data is as follows. Laboratories will provide initial data to the Office of Scientific and Technical Information (OSTI) in XML format using the new XML submission Web site. Sites are requested to submit test data to OSTI between October 16, 2006 and November 15, 2006 prior to making the final submission by December 15, 2006.

Projects continuing/ongoing from previous years will be updated at OSTI with the newly received FY 2006 information based on the existing Project ID. New projects started in FY 2006 should be submitted with a unique Project ID. If changes were made to existing projects during last year's data review, those changes should be incorporated in the FY 2006 submittal.

DATA REQUIREMENTS

The following data categories will be included in the FY 2006 data call:

- DOE Program Sponsored R&D performed by Management and Operating Contractors (M&O)
- Work for Others R&D (WFO)
- Cooperative R&D Agreement (CRADA)

Information regarding R&D funded non-Management and Operating (M&O) and Management and Integrating (M&I) procurements awarded as grants, contracts, cooperative agreements, and small business innovative research, etc. will be obtained through DOE's Procurement and Assistance Data System (PADS). OSTI will enhance the information extracted from PADS via processing and input of additional relevant project information provided on the "Notice of Energy R&D" form (DOE F241.2). Offices that do not have electronic submission processes in place for submitting associated R&D project summaries, may choose to use that form.

The following target dates have been established for the FY 2006 data submission:

October 31, 2006	Guidance Document published on R&D Web site
November 3, 2006	HQ & OSTI distribution of Data Call & Guidance
October 16–November 15, 2006	Labs upload XML test data (M&O, WFO, and CRADA) to OSTI Web Site
November 16–December 15, 2006	Labs upload final XML files to OSTI Web Site
January 2–31, 2007	HQ Program Secretarial Office Review
February 1–9, 2007	HQ feed from LDRD/PDRD/SDRD System
February 12–28, 2007	HQ reconciliation
March 15, 2007	OSTI Extract and Electronic Transfer to OSTP

As stated above, the required data fields are to be uploaded to the OSTI Web site by December 15, 2006. The data will then be verified via the online system by the Program Offices prior to the submission to OSTP to satisfy the annual R&D requirement.

Projects are to be reported at the lowest practical level possible in whole dollars. If funded Field Work Proposals (FWP) or other similar documents are at the appropriate level, these will suffice. It is important to describe the project in terms meaningful to others rather than as a broad program mission or activity and for work to be traceable from year to year during the life of the project. This information will be useful in helping the Department better manage its R&D activities.

INFORMATION USE

The R&D Tracking System is used for a variety of needs, thus reducing the number of data calls and the resources previously involved in responding to those calls. Some of the R&D Tracking System customers are as follows:

- DOE Program Offices
- Office of Management and Budget (OMB)
- White House Office of Science and Technology Policy (OSTP)
- National Science and Technology Council (NSTC)
- National Science Foundation (NSF)
- National Technical Information Service (compliance with P.L. 102–245)
- International Energy Agency (IEA)
- International Atomic Energy Agency (IAEA)

In 1997, the Deputy Secretary's R&D Council determined that a subset of the R&D project records submitted for inclusion in the DOE R&D Tracking System would be made available to the general public beginning June 1, 1997, via the DOE Research & Development (R&D) Project Summaries Database and the DOE R&D Tracking Home Page. This subset includes projects conducted by Management and Operating (M&O) contractors or through DOE grants, contracts, or cooperative agreements.

Decisions to expand access to Department of Energy R&D Project Summaries support the Department's interest in ensuring that scientific and technical information resulting from DOE's efforts is effectively managed and easily accessible to U.S. industry, educators, and the public.

Both DOE and DOE's contractors have access to the R&D Tracking System, which provides access to over 16,000 active R&D projects. Information regarding access to the R&D Tracking System is available on the R&D Home Page at http://www.osti.gov/rdprojects.

Questions concerning the development and use of the R&D Tracking System and its data should be directed to Cathy Lorah, Office of Corporate Financial Systems at (301) 903-0546. Technical questions can be directed to Melanie Cox, Office of Scientific and Technical Information (OSTI) (865) 576-1274.

DATA SPECIFICATIONS

DATA STRUCTURE

To aid in the processing and receipt of R&D information, OSTI requires that all data be received in XML format.

XML is the de-facto standard of the software industry. Tags are applied to each element to aid in the receipt and processing of information independent of platform, software, or hardware. OSTI has developed an XML Document Type Definition (DTD) to be used to verify the data uploaded and it is included later in this document.

To aid in processing the data, sites are asked to upload separate files for each funding mechanism (DOE Program Sponsored R&D, Work for Others R&D, and Cooperative R&D Agreements).

Sites are expected to upload a test file of sample data to OSTI by November 15, 2006 to identify and alleviate format or data inconsistencies.

PRIORITIZATION OF DATA REQUIREMENTS

The compiled list of data fields for the R&D Tracking System includes those deemed valuable for DOE's own use in a DOE corporate information database, and fields required to fulfill the Department's external reporting requirements.

DATA FIELDS AND DESCRIPTIONS

∫ = required field

✦ = requested field

X = not required

Field Name	XML Tag	Description	CRADA	M&O	LDRD PDRD SDRD	WFO	CONTRACT	GRANT	OTHER
Project ID	proj-id	Single value. Unique and permanent ID assigned by the LPI to identify a particular research project. For Laboratories the makeup of the field is P/XXXXX--YYYYYYYYY where XXXXX=laboratory code and YYYYYYYY=number assigned by the laboratory. Please note that if the Project ID does not exactly conform to the format, a prefix of "P" plus slash plus the laboratory name plus two dashes will be added onto the value submitted. If the LPI changes the project ID number for an ongoing project, a cross-walk must be provided to OSTI to link prior and current project IDs. Old IDs may not be re-used for new projects.	∫	∫	∫	∫	X	X	∫
Research Organization	res-org	Single value. Must be one of the choices in the list provided with this guidance document (see Standardized Lists for Validated Data Fields). If submitting via XML, please use the code. Contains the formal name (acronym) of the DOE organization responsible for the work (Laboratory, plant, or other installation (LPI)). Contact OSTI if not on the list.	∫	∫	∫	∫	X	X	∫
Project Title	proj-ttl	Single value. Maximum size of this field is 400 characters and will be silently truncated if larger. Official title of the project assigned by the LPI. This project title should be suitable for public release.	∫	∫	∫	∫	∫	∫	∫
Funding Mechanism	fund-mec	Single value. Must be one of the choices in the list provided with this guidance document. List of choices (see Standardized Lists for Validated Data Fields). If submitting via XML, please use the code. Indicates type of mechanism for funding R&D activity both internal and external to the Department.	∫	∫	∫	∫	∫	∫	∫
Old Project ID	oldprojid	Single value. This field is available by XML only. This would be an existing project ID that is changing to identified by a new project ID.	✦	✦	✦	✦	✦	✦	✦
Project Description	proj-desc	Single value. Maximum size of this field is 4,000 characters and will be silently truncated if larger. Narrative description of the research project. This project description should be suitable for public release.	∫	∫	✦	∫	✦	✦	∫
Point of Contact Name	poc-name	Single value. Format: Last name, First name or initial, Middle name or initial (Middle initial is optional). e.g., Campbell, A. P. Person at the LPI to contact for information concerning the research project. (Not the Principal Investigator)	∫	∫	✦	∫	X	X	∫
Point of Contact Telephone Number	poc-phone	Single value. FORMAT: ###-###-#### Phone number of the Point of Contact.	∫	∫	✦	∫	X	X	∫

Field	Tag	Description							
Sponsoring Office	sp	Multiple values. The program office which sponsored the research project. Please see the Standardized Lists for Validated Data Fields section for the list of valid codes to use when submitted via XML.	!	!	+	X	+	+	!
Non-Federal Sponsor Program	nsp	Single value. The full name of the other federal agency or outside organization sponsoring the project. If proprietary, place "Y" in proprietary field.	X	X	X	!	X	X	X
Budget and Reporting Section	br	Multiple values. XML tag to appear before and after pairs of "br-code" and "br_cost" tags. Each Budget and Reporting code and associated Fiscal Year Cost should be included inside separate tags.	!	!	+	!	+	+	+
Budget and Reporting Code	br-code	Single value per tag. Alphanumeric code which is used for tracking costs. Must be associated with dollars in the Fiscal Year Cost field. Report multiple Budget and Reporting Code as shown in the attached sample records. B&R Codes should not contain any punctuation. Maximum field length is nine characters, but should contain at least five characters of the code.	!	!	X	X	+	+	+
Fiscal Year Cost	br-cost	Single value per tag. Dollars must be associated with corresponding B&R Codes. Report multiples as shown in the attached sample records. Dollars are to include all direct and overhead costs and be associated with fiscal year dollars. Estimated End of Fiscal Year costs are required. **Costs must be supplied in whole dollars, not "K".**	!	!	+	!	+	+	+
Performing Location Zip Code	perf-zip	Single value. FORMAT: #####-####. Zip code where the work is actually being done. Nine digit zip code is required.	!	!	+	!	X	X	!
Deliverables	deliverables	Multiple values. Please see the Standardized Lists for Validated Data Fields section for the list of valid codes to use when submitted via XML. Reporting requirements as set forth by the Sponsor (funding program, program sponsor, etc.) and in the contract for technical deliverables. NOTE: The Project ID should be included as a reference on the deliverable or accompanying transmittal document in order to link to the appropriate project. Do not supply multiple deliverables separated with semicolons within a single tag, please use multiple tags.	!	!	+	+	X	X	!
Start Date	start-date	Single value. FORMAT: YYYYMMDD. Date on which the project formally began. Provide the date only (not "Ongoing").	!	!	!	!	+	+	!
Date of Completion	exp-date	Single value. FORMAT: YYYYMMDD. Date by which the project is estimated to be complete. Provide the date only (not "Ongoing").	+	+	+	+	+	+	+
Future Fiscal Year Costs	future-cost	Multiple values. FORMAT: FY2007-10000; FY2008-10000; FY2009-10000; FY2010-10000 FY2007 estimated cost for the project and out year requests for FY2008, FY2009, FY2010. **Costs must be supplied in whole dollars, not "K".**	+	+	+	+	X	X	+
Progress to Date	progress	Single value. Maximum size of this field is 4,000 characters and will be silently truncated if larger. Narrative description of the research project to date. Should be suitable for public release. Entries are to be made from the perspective of the just completed fiscal year	+	+	+	+	X	X	+
Future Plans	future-plans	Single value. Maximum size of this field is 4,000 characters and will be silently truncated if larger. Narrative description of the future plans for the research. Should be suitable for public release. Entries are to be made from the perspective of the just completed fiscal year.	+	+	+	+	X	X	+
Non-Federal Percent	non-doe-cont	Single value. Valid values are integers from 1 to 100. Non-federal cost share amount over the life of the project. Report as a percentage without the percent sign.	+	+	+	+	X	X	+
Principal Investigator Section	pi	Multiple principal investigators must each be provided in separate "pi" tags. The first principal investigator provided will be assumed to be the lead principal investigator.	!	!	+	!	+	+	+
Principal Investigator Name	pi-name	Single value per tag. Character type - Three components: Last name, First name or initial, Middle name or initial (MI is optional). (e.g., Campbell, A.G.) Person who is performing the work, heading the research, or leading the team. May be the lead scientist; not the point of contact. Lead PI is listed first with supporting PIs separated by semicolons.	!	!	+	!	+	+	+

Field	Tag	Description							
Principal Investigator Affiliation	pi-affil	Single value per tag. May be one of the choices from the list provided with this document (see Standardized Lists for Validated Data Fields).	✓	✓	+	✓	+	+	+
Principal Investigator Telephone Number	pi-phone	Single value per tag. FORMAT: ###-###-#### Phone number for the principal investigator,	+	+	+	+	+	+	+
Principal Investigator Zip Code	pi-zip	Single value per tag. Multiple values, Character type - FORMAT: #####-#### The Principal Investigator Zip Code is required for responding to external data requirements. OSTI will generate the principal investigator city and state from the principal investigator zip code.	+	+	+	+	+	+	+
Non-Federal Partner Section	nfp	Multiple Non-Federal Partner data must each be provided in separate "nfp" tags.	✓	X	X	X	X	X	X
NFP Company Name	nfpname	Single value per tag. The full name of the non-federal partner.	✓	X	X	X	X	X	X
NFP Point of Contact	nfppoc	Single value per tag. Contact at the non-federal partner.	✓	X	X	X	X	X	X
NFP Business Type	nfptype	Single value per tag. Choose one business type code that best describes this non-federal partner found in Standardized Lists for Validated Data Fields.	✓	X	X	X	X	X	X
NFP Fiscal Year Contribution	nfpcost	Single value per tag. Includes both in-kind funds and contributions. Report only actual amounts for the fiscal year. **Contributions must be supplied in whole dollars, not "K".**	+	X	X	X	X	X	X
NFP Point of Contact's Zip Code	nfppoczip	Single value per tag. FORMAT: #####-#### or #####. Zip code of non-federal partner.	✓	X	X	X	X	X	X
Type of Research	type-res	Single value. Sites should supply from the list provided in this guidance document. (See Standardized Lists for Validated Data Fields.)	✓	✓	+	X	X	X	✓
Associated References	asref-no	Multiple Associated References data must each be provided in separate tags. Other related numbers pertaining to a project (e.g. FWP, ADS, TTP, CRADA). If CRADA the format is C/XXXXX--YYYYY; if TTP format is TTP/YYYYYYYY (where XXXXX=laboratory code and YYYYY=number assigned by the program office or laboratory). Could also include projects being performed jointly with other research organizations.	+	+	+	X	+	+	+
Point of Contact E-Mail Address	poc-email	Single value. E-mail address for Point of Contact.	+	+	+	+	X	X	+
International	int-where	Single value. Non U.S. country where the work is being done. If more than one country, list all applicable. If left blank, U.S. will be assumed.	+	+	+	+	X	X	+
Subcontractor Number	subcont-no	Multiple values in single XML tag. Sub-contract number assigned by the LPI under which the project is being performed. Separate multiple values with semicolons.	+	+	+	+	X	X	+
Subcontractor Name	subcont-name	Multiple values in single XML tag. Formal name of the sub-contractor responsible for the work. Separate multiple values with semicolons.	+	+	+	+	X	X	+
Publications	publications	Multiple citations allow separated with semicolons. Citations to published articles about the project. Maximum size of this field is 4,000 characters and will be silently truncated if larger.	+	+	+	+	X	X	+
Project URL	url	Multiple URL values allowed separated with semicolons. URL location of additional R&D information.	+	+	+	+	X	X	+
Proprietary Flag	proprietary	If the WFO project is proprietary, enter "Y". Otherwise, if the WFO project is not proprietary, enter "N".	X	X	X	✓	X	X	X

Research Subject	ressub	Indicate whether animal "A", human "H", or both animal and human "A;H" subjects are used in the research. Leave blank if neither applies.	/	X	X	X	X	X	X
Work Proposal Numbers	wpn	Multiple Work Proposal Numbers allowed, but each must be provided in separate tags. A unique seven character number specific to a Work Proposal. The first two characters of this number are to signify the DOE organization, the third character is "W", and the last four characters are a unique sequential number assigned by the requesting organization.	✓	✓	✓	X	X	X	✓
Work Authorization Numbers	wasn	Multiple Work Authorization Numbers allowed, but each must be provided in separate tags. A unique seven character number specific to a Work Authorization. The first two characters are to signify the DOE organization code, the next four characters are a unique sequential number assigned by the issuing organization, and the last character is the last digit of the fiscal year.	✓	✓	✓	X	X	X	✓
Contract Number		Single value. There is no XML equivalent of this field. The DOE Contract or Grant number under which the work is being performed. Format: DE-AA11-22BB33333 AA - FC for Contract or FG for Grant (2 characters) 11 - Awarding Operations Office Code (2 numeric digits) 22 - Last 2 digits of the Fiscal Year contract was awarded (2 numeric digits) BB33333 - Unique Registry Number (last 5 must be numeric)	X	X	X	X	/	/	X
Project Status		There is no XML equivalent of this field. If checked this project is complete. If not checked, this project is incomplete.	✓	✓	✓	✓	✓	✓	✓

STANDARDIZED LISTS FOR VALIDATED DATA FIELDS

The following are the controlled vocabulary lists that may be used for the indicated fields in the R&D Tracking System. **Please provide only the codes or abbreviations when submitting data since textual data will be generated for each element.** Other codes will be added as needed. If a code is not present, call Melanie Cox of the OSTI at (865) 576-1274.

RESEARCH ORGANIZATION NAME: THE DOE LAB, PLANT, OR OTHER INSTALLATION

AMES	Ames Laboratory
ANL	Argonne National Laboratory
BAPL	Bettis Atomic Power Lab
BLAC	Bates Linear Accelerator Center
BPA	Bonneville Power Administration
BNL	Brookhaven National Laboratory
EML	Environmental Measurements Laboratory
GO	Golden Field Office
FNAL	Fermi National Accelerator Laboratory
ICPP	Idaho Chemical Processing Plant
INL	Idaho National Laboratory
ITRI	Inhalation Toxicology Research Institute
KCP	Kansas City Plant

K-25	East Tennessee Technology Park
KAPL	Knolls Atomic Power Laboratory
LANL	Los Alamos National Laboratory
LBNL	Lawrence Berkeley National Laboratory
LLNL	Lawrence Livermore National Laboratory
LREH	Laboratory of Radiobiology and Environmental Health
LVF	Las Vegas Facilities
MOUND	Mound Plant
NHMFL	National High Magnetic Field Laboratory
NBL	New Brunswick Laboratory
NDRL	Notre Dame Radiation Laboratory
NETL	National Energy Technology Lab
NNSA	National Nuclear Security Administration Service Center
NPTO	National Petroleum Technology Office (formerly BPO)
NREL	National Renewable Energy Laboratory
NTS	Nevada Test Site
ORISE	Oak Ridge Institute for Science and Education
ORNL	Oak Ridge National Laboratory
PNNL	Pacific Northwest National Laboratory
PPPL	Princeton Plasma Physics Laboratory
PTX	Pantex Plant
REHL	Radiobiology & Environmental Health Laboratory
RFP	Rocky Flats Plant
RSL	Remote Sensing Laboratory
SLAC	Stanford Linear Accelerator Center
SNL	Sandia National Laboratories
SREL	Savannah River Ecology Laboratory
SRP	Savannah River Plant
SRS	Savannah River Site
SRNL	Savannah River National Laboratory (formerly SRTC)
SSO	Seattle Support Office

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STL	Special Technologies Laboratory
TJNAF	Thomas Jefferson National Accelerator Facility (formerly CEBAF)
Y-12	Y-12 National Security Complex
WIPP	Waste Isolation Pilot Plant

Please only provide codes. Textual data will be generated for each element.

FUNDING MECHANISM

M&O	DOE Program-Sponsored Work
WFO	Work for Others
CRADA	Cooperative R&D Agreement
LDRD	Laboratory Directed R&D (received from HQ)
PDRD	Plant Directed R&D (received from HQ)
SDRD	Site Directed R&D (received from HQ)
SUBCON	Subcontract
GRANT	Grant
CONTRACT	Contract
COOP	Cooperative Agreement
INTERAG	Interagency Agreement
INTNAT	International Agreement
SBIR	Small Business Innovative Research
OTHER	Other Funding Mechanisms

PRINCIPAL INVESTIGATOR AFFILIATION

Use Research Organization list for PIs within DOE complex; for those affiliated with an external entity, provide industry or academic institution name.

DELIVERABLES

SI	Scientific Information (reports, e.g., final, annual, semiannual, interim topical; published literature; or conference papers)
CS	Computer Software
HW	Hardware
IN	Inventions

OT   Other Technical Deliverables

NOTE: The Project ID should be included as a reference on the deliverable or accompanying transmittal document in order to relate the resulting STI to the appropriate R&D project.

BUSINESS TYPES (USED FOR CRADAS ONLY)

S   Small Business

M   Medium Business

L   Large Business

F   Foreign Participation

N   Not-for-profit Firm

A   Academic Institution

G   Government (state or local)

O   Other

RESEARCH SUBJECT (USED FOR CRADAS ONLY)

A   Animal

H   Human

A;H   Animal or Human

TYPE OF RESEARCH

Valid inputs are provided below.

A   Applied – is defined as systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

B   Basic – is defined as systematic study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind.

D   Development – is defined as systematic application of knowledge or understanding, directed toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

E   R&D Major Equipment – is defined as amounts for major equipment for research and development. Includes acquisition or design and production of movable equipment, such as spectrometers, research

satellites, detectors, and other instruments.

F   R&D Facilities – is defined as amounts for the construction and rehabilitation of research and development facilities. Includes the acquisition, design, and construction of, or major repairs or alterations to, all physical facilities for use in R&D activities. Facilities include land, buildings, and fixed capital equipment, regardless of where the title to the property may rest. Includes the international space station and such fixed facilities as reactors, wind tunnels, and particle accelerators.

SPONSORING PROGRAM CODES & TITLES

BPA   Bonneville Power Administration (BPA)

CF   USDOE Office of the Chief Financial Officer (CF)

EE   USDOE Office of Energy Efficiency and Renewable Energy (EE)

EM   USDOE Office of Environmental Management (EM)

FE   USDOE Office of Fossil Energy (FE)

ME   USDOE Office of Management, Budget and Evaluation (ME)

NA   National Nuclear Security Administration (NA)

NE   USDOE Office of Nuclear Energy, Science and Technology (NE)

NR   USDOE Office of Naval Reactors (NR)

OE   USDOE Office of Electricity Delivery and Energy Reliability (OE)

RW   USDOE Office of Civilian Radioactive Waste Management (RW)

SC   USDOE Office of Science (SC)

SAMPLE RECORDS

The following examples have been included for reference. These electronic submission options will also be distributed via the R&D ListServer. If you have questions about the examples, please contact Melanie Cox at OSTI (865) 576-1274 or coxm@osti.gov.

PROGRAM SPONSORED MANAGEMENT AND OPERATING R&D SAMPLE

```xml
<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE doc SYSTEM "http://rd.osti.gov/examples/rd.dtd">
<doc>
<rec>
<proj-id>P/ANL--008888</proj-id>
<res-org>ANL</res-org>
<proj-ttl>Example of a M&amp;O Record</proj-ttl>
<fund-mec>M&amp;O</fund-mec>
<proj-desc>The purpose of this project is to test loading a M&amp;O record.</proj-desc>
<poc-name>McCoy, Sylvester</poc-name>
```

```
<poc-phone>800-555-1234</poc-phone>
<sp>EE</sp>
<br>
   <br-code>EE0900</br-code>
   <br-cost>1110000</br-cost>
</br>
<br>
   <br-code>EE0901</br-code>
   <br-cost>12000</br-cost>
</br>
<br>
   <br-code>EE0902</br-code>
   <br-cost>99000</br-cost>
</br>
<br>
   <br-code>EE0903</br-code>
   <br-cost>100</br-cost>
</br>
<perf-zip>37830-1234</perf-zip>
<deliverables>SI</deliverables>
<deliverables>CS</deliverables>
<start-date>20021123</start-date>
<exp-date>20080531</exp-date>
<future-cost>FY2007-30000; FY2008-32000; FY2009-34000; FY2010-36000</future-cost>
<progress>The project is progressing.</progress>
<future-plans>The plan is to continue as before with no unexpected changes to occur in the foreseeable future.</future-plans>
<non-doe-cont>50</non-doe-cont>
<pi>
   <pi-name>McCoy, Sylvester</pi-name>
   <pi-affil>ANL</pi-affil>
   <pi-phone>800-555-5678</pi-phone>
   <pi-zip>37830-1234</pi-zip>
</pi>
<type-res>A</type-res>
<asref-no>ANL66666/66667</asref-no>
<asref-no>ANL77777/77778</asref-no>
<poc-email>mccoys@osti.gov</poc-email>
<subcont-no>CN990001; CN880002</subcont-no>
<subcont-name>Cube Squared Company; Logopolis Math Systems</subcont-name>
<wpn>ZZW0010</wpn>
<wpn>ZZW0011</wpn>
<wasn>ZZ00012</wasn>
<wasn>ZZ00013</wasn>
</rec>
</doc>
```

WORK FOR OTHERS R&D SAMPLE

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE doc SYSTEM "http://rd.osti.gov/examples/rd.dtd">
<doc>
```

```
<rec>
<proj-id>P/ANL--Y7777</proj-id>
<res-org>ANL</res-org>
<proj-ttl>Example of a WFO Record</proj-ttl>
<fund-mec>WFO</fund-mec>
<proj-desc>The purpose of this project is to test loading a WFO record.</proj-desc>
<poc-name>Vaughn, Tobias</poc-name>
<poc-phone>555-555-1234</poc-phone>
<nsp>North Sea Natural Gas Company</nsp>
<br>
   <br-code></br-code>
   <br-cost>103000</br-cost>
</br>
<perf-zip>55555-3333</perf-zip>
<deliverables>SI</deliverables>
<deliverables>CS</deliverables>
<start-date>20030121</start-date>
<exp-date>20080102</exp-date>
<future-cost>FY2007-30000; FY2008-32000; FY2009-34000; FY2010-36000</future-cost>
<progress>The project is progressing.</progress>
<future-plans>The plan is to continue as before with no unexpected changes to occur in the foreseeable future.</future-plans>
<non-doe-cont>85</non-doe-cont>
<pi>
   <pi-name>Saward, Eric</pi-name>
   <pi-affil>ANL</pi-affil>
</pi>
<poc-email>vaughnt@osti.gov</poc-email>
<subcont-no>CN222001; CN333002</subcont-no>
<subcont-name>Turnpike Transportation;International Electromatics</subcont-name>
<url>www.osti.gov</url>
<proprietary>Y</proprietary>
</rec>
</doc>
```

COOPERATIVE R&D AGREEMENTS SAMPLE

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE doc SYSTEM "http://rd.osti.gov/examples/rd.dtd">
<doc>
<rec>
<proj-id>P/ANL--C0012345</proj-id>
<res-org>ANL</res-org>
<proj-ttl>Example of a CRADA Record</proj-ttl>
<fund-mec>CRADA</fund-mec>
<oldprojid>P/ANL--C0012346</oldprojid>
<proj-desc>The purpose of this project is to test load a CRADA record.</proj-desc>
<poc-name>Hartnell, William</poc-name>
<poc-phone>800-555-1234</poc-phone>
<sp>EE</sp>
<br>
   <br-code>ED1877</br-code>
```

```
        <br-cost>12000</br-cost>
    </br>
    <br>
        <br-code>ED1878</br-code>
        <br-cost>18050</br-cost>
    </br>
    <perf-zip>37830-1234</perf-zip>
    <deliverables>SI</deliverables>
    <deliverables>CS</deliverables>
    <start-date>20021123</start-date>
    <exp-date>20080531</exp-date>
    <future-cost>FY2007-30000; FY2008-32000; FY2009-34000; FY2010-36000</future-cost>
    <progress>The project is progressing.</progress>
    <future-plans>The plan is to continue as before with no unexpected changes to occur in the foreseeable future.</future-plans>
    <non-doe-cont>50</non-doe-cont>
    <pi>
        <pi-name>Troughton, Patrick</pi-name>
        <pi-affil>ANL</pi-affil>
        <pi-phone>800-555-5678</pi-phone>
        <pi-zip>37830-1234</pi-zip>
    </pi>
    <nfp>
        <nfpname>The Robin Bland Corporation</nfpname>
        <nfppoc>Pertwee, Jon</nfppoc>
        <nfptype>M</nfptype>
        <nfpcost>1200</nfpcost>
        <nfppoczip>37830-5555</nfppoczip>
    </nfp>
    <nfp>
        <nfpname>Interplanetary Mining Corporation</nfpname>
        <nfppoc>Baker, Tom</nfppoc>
        <nfptype>F</nfptype>
        <nfpcost>5500</nfpcost>
        <nfppoczip>37830-5555</nfppoczip>
    </nfp>
    <type-res>A</type-res>
    <asref-no>C/ANL55555</asref-no>
    <asref-no>P/ANL--005555</asref-no>
    <poc-email>hartnellw@osti.gov</poc-email>
    <subcont-no>CN550001; CN550002</subcont-no>
    <subcont-name>Bee Incorporated; Schema Industries</subcont-name>
    <url>www.osti.gov</url>
    <ressub>A</ressub>
    <wpn>ZZW0001</wpn>
    <wpn>ZZW0002</wpn>
    <wasn>ZZ00014</wasn>
    <wasn>ZZ00024</wasn>
    </rec>
</doc>
```

DOCUMENT TYPE DEFINITION (DTD)

The following DTD is used to verify the data uploaded. This file can be used by the sites to verify their file(s) before upload.

```
<!ELEMENT doc (rec)+>
<!-- Each load must contain one or more records. -->
<!ELEMENT rec (proj-id | res-org | proj-ttl | fund-mec | oldprojid? |
    proj-desc | poc-name? | poc-phone? | sp* | nsp* | br+ |
    perf-zip | deliverables* | start-date? | exp-date? | future-cost? |
    progress? | future-plans? | non-doe-cont? | pi+ | nfp? | type-res? |
    asref-no* | poc-email? | int-where? | subcont-no? | subcont-name? |
    publications? | url? | proprietary? | ressub? | wpn* | wasn* )+>

<!ELEMENT proj-id (#PCDATA)>
<!-- The <res-org> tag is required and must be a valid research organization. See guidance document for allowed values. -->
<!ELEMENT res-org (#PCDATA)>
<!ELEMENT proj-ttl (#PCDATA)>
<!-- Valid funding mechanisms for XML upload are CRADA, LDRD, M&O, PDRD, SDRD, and WFO. -->
<!ELEMENT fund-mec (#PCDATA)>
<!-- The provided <oldprojid> must match an existing project ID in the R&D tracking database exactly. -->
<!ELEMENT oldprojid (#PCDATA)>
<!ELEMENT proj-desc (#PCDATA)>
<!-- CRADA, M&O, and WFO funding mechanisms are required to provide the <poc-name> tag. The recommended format is Last, First MI. -->
<!ELEMENT poc-name (#PCDATA)>
<!-- CRADA, M&O, and WFO funding mechanisms are required to provide the <poc-phone> tag. The required format is NNN-NNN-NNNN. -->
<!ELEMENT poc-phone (#PCDATA)>
<!-- For CRADA, LDRD, M&O, PDRD, and SDRD funding mechanisms, multiple sponsoring organizations must each be provided in separate <sp> tags. If multiple sponsoring organizations
are provided in a single <sp> tag, the data will not validate. See guidance document for allowed values. -->
<!ELEMENT sp (#PCDATA)>
<!-- For WFO funding mechanisms, any non-DOE sponsor will be accepted. Multiple non-federal sponsoring organizations must each be provided in separate <nsp> tags. -->
<!ELEMENT nsp (#PCDATA)>
<!-- <br> is a required element. Each budget and reporting code and its' associated cost should be included inside separate <br> tags. -->
<!ELEMENT br (br-code? , br-cost)>
    <!-- <br-code> is required for records with CRADA or M&O funding mechanisms. -->
    <!ELEMENT br-code (#PCDATA)>
    <!-- <br-cost> is required. -->
    <!ELEMENT br-cost (#PCDATA)>
<!-- The <perf-zip> must be provided for CRADA, M&O, and WFO funding mechanisms, and must be provided in NNNNN-NNNN format. -->
<!ELEMENT perf-zip (#PCDATA)>
<!-- At least one deliverable is required for records with CRADA or M&O funding mechanisms. See guidance document for allowed values. Do not supply multiple deliverables separated
with semicolons within a single <deliverables> tag! -->
<!ELEMENT deliverables (#PCDATA)>
<!-- The <start-date> is required and the format must be YYYYMMDD. -->
<!ELEMENT start-date (#PCDATA)>
<!-- The <exp-date> is required for CRADA, M&O, and WFO funding mechanisms. If supplied, the format must be YYYYMMDD. -->
<!ELEMENT exp-date (#PCDATA)>
<!ELEMENT future-cost (#PCDATA)>
<!ELEMENT progress (#PCDATA)>
<!ELEMENT future-plans (#PCDATA)>
<!ELEMENT non-doe-cont (#PCDATA)>
<!-- Multiple principal investigators must each be provided in separate <pi> tags. The first principal investigator provided will be assumed to be the lead principal investigator. <pi-name> and
<pi-affil> are required for all principal investigator records where the funding mechanism is CRADA, M&O, and WFO. -->
<!ELEMENT pi (pi-name, pi-affil?, pi-phone?, pi-zip?)>
```

```
<!-- The recommended format for <pi-name> is Last, First MI. -->
<!ELEMENT pi-name (#PCDATA)>
<!ELEMENT pi-affil (#PCDATA)>
<!-- The required format for <pi-phone> is NNN-NNN-NNNN. -->
<!ELEMENT pi-phone (#PCDATA)>
<!-- The required format for <pi-zip> is NNNNN or NNNNN-NNNN. -->
<!ELEMENT pi-zip (#PCDATA)>
<!-- Non federal partner data <nfp> is required for records with a CRADA funding mechanism exclusively. All elements making up a <nfp> records are required when applicable. -->
<!ELEMENT nfp (nfpname, nfppoc, nfptype, nfpcost, nfppoczip)>
<!-- The recommended format for <nfpname> is Last, First MI. -->
<!ELEMENT nfpname (#PCDATA)>
<!ELEMENT nfppoc (#PCDATA)>
<!-- See guidance document for allowed NFP type values. -->
<!ELEMENT nfptype (#PCDATA)>
<!ELEMENT nfpcost (#PCDATA)>
<!ELEMENT nfppoczip (#PCDATA)>
<!-- The <type-res> is required for CRADA and M&O funding mechanisms. The <res-type> is not allowed for WFO funding mechanisms. See guidance document for allowed values. -->
<!ELEMENT type-res (#PCDATA)>
<!-- Multiple associated reference number data, <asref-no>, must each be provided in separate <asref-no> tags. Records with a WFO funding mechanism are not allowed to supply
<asref-no> data. Do not supply multiple reference numbers separated with semicolons within a single <asref-no> tag! -->
<!ELEMENT asref-no (#PCDATA)>
<!ELEMENT poc-email (#PCDATA)>
<!ELEMENT int-where (#PCDATA)>
<!ELEMENT subcont-no (#PCDATA)>
<!ELEMENT subcont-name (#PCDATA)>
<!ELEMENT publications (#PCDATA)>
<!ELEMENT url (#PCDATA)>
<!-- WFO is the only funding mechanism that is allowed to populate the <proprietary> tag. Valid values are N and Y. -->
<!ELEMENT proprietary (#PCDATA)>
<!-- The <ressub> is required for CRADA funding mechanisms. The <ressub> is not allowed for LDRD, SDRD, PDRD, M&O, and WFO funding mechanisms. Allowed values must be A, H,
or A;H. -->
<!ELEMENT ressub (#PCDATA)>
<!-- Multiple work proposal number data, <wpn>, must each be provided in separate <wpn> tags. Records with a WFO funding mechanism are not allowed to supply <wpn> data. Do not
separate work proposal numbers with semicolons within a single <wpn> tag! -->
<!ELEMENT wpn (#PCDATA)>
<!-- Multiple work authorization number data, <wasn>, must each be provided in separate <wasn> tags. Records with a WFO funding mechanism are not allowed to supply <wasn> data. Do
not separate work authorization numbers with semicolons within a single <wasn> tag! -->
<!ELEMENT wasn (#PCDATA)>
```

ELECTRONIC SUBMISSION

All electronic R&D submissions must be entered via the XML upload page or entered manually via the Web form. **E-Mailed files will not be accepted.** Utilization of the XML upload page or Web form requires that you become a registered user of the R&D Tracking System. The procedure to become a registered user is detailed on the "User Request" help page.

If you have questions or issues, you can contact OSTI at this e-mail address: RDTDAT@OSTI.GOV

GLOSSARY OF ACRONYMS

Acronyms	Definitions
ADS	Activity Data Sheet

B&R	Budget and Reporting
CF	DOE Office of the Chief Financial Officer
CRADA	Cooperative Research and Development Agreement
DOE	Department of Energy
DTD	Document Type Definition
EE	DOE Office of Energy Efficiency and Renewable Energy
EH	Office of Environment, Safety and Health
EM	DOE Office of Environmental Management
FE	DOE Office of Fossil Energy
FIPS	Federal Information Processing Standard
FWP	Field Work Proposal
FY	Fiscal Year
HQ	Headquarters
IAEA	International Atomic Energy Agency
IEA	International Energy Agency
IN	DOE Office of Intelligence and Counterintelligence
LDRD	Laboratory Directed Research and Development
LPI	Lab/Plant/Installation
M&I	Management and Integrating
M&O	Management and Operating
ME	DOE Office of Management, Budget and Evaluation
NA	National Nuclear Security Administration
NE	DOE Office of Nuclear Energy, Science and Technology
NFP	Non Federal Partner
NNSA	National Nuclear Security Administration
NSF	National Science Foundation
NSTC	National Science and Technology Council
OMB	Office of Management and Budget
OSTI	Office of Scientific and Technical Information
OSTP	White House Office of Science and Technology Policy
PADS	Procurement and Assistance Data System
PDRD	Plant Directed Research and Development
PI	Principal Investigator
PL	Public Law

R&D	Research and Development
RW	DOE Office of Civilian Radioactive Waste Management
SC	DOE Office of Science
SDRD	Site Directed Research and Development
STI	Scientific and Technical Information
WFO	Work for Others
XML	Extended Markup Language

OSTI

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