1.4(b) prescribe a clause that must be incorporated into construction awards and subawards. Further details are provided in Appendix B to 10 CFR 600 subpart D, item 1.

PART 605—THE OFFICE OF ENERGY RESEARCH FINANCIAL ASSISTANCE PROGRAM

Sec.

AUTHORITY: Section 31 of the Atomic Energy Act, as amended, Pub. L. 83–703, 68 Stat. 919 (42 U.S.C. 2051); sec. 107 of the Energy Reorganization Act of 1974, Pub. L. 93–438, 88 Stat. 1240 (42 U.S.C. 5817); Federal Nonnuclear Energy Research and Development Act of 1974, Pub. L. 93–577, 88 Stat. 1878 (42 U.S.C. 5901 *et seq.*); secs. 644 and 646 of the Department of Energy Organization Act, Pub. L. 95–91, 91 Stat. 599 (42 U.S.C. 7254 and 7256); Federal Grant and Cooperative Agreement Act, as amended (31 U.S.C. 6301 *et seq.*).

SOURCE: 57 FR 40583, Sept. 3, 1992, unless otherwise noted.

§ 605.1 Purpose and scope.

This part sets forth the policies and procedures applicable to the award and administration of grants and cooperative agreements by the DOE Office of Energy Research (ER) and the Science and Technology Advisor (STA) Organization for basic and applied research, educational and/or training activities, conferences and related activities.

§ 605.2 Applicability.

(a) This part applies to all grants and cooperative agreements awarded after the effective date of this amended rule.

(b) Except as otherwise provided by this part, the award and administration of grants and cooperative agreements shall be governed by 10 CFR part 600 (DOE Financial Assistance Rules).

§ 605.3 Definitions.

In addition to the definitions provided in 10 CFR part 600, the following definitions are provided for purposes of this part—

Basic and applied research means basic and applied research and that part of development not related to the development of specific systems or products. The primary aim of research is scientific study and experimentation directed toward advancing the state of the art or increasing knowledge or understanding rather than focusing on a specific system or product.

Educational/Training means support for education or related activities for an individual or organization that will enhance education levels and skills in particular scientific or technical areas of interest to DOE.

Principal investigator means the scientist or other individual designated by the recipient to direct the project.

Recipient obligation means the amounts of orders placed, contracts and subawards issued, services received, and similar transactions during a given period that will require payment by the recipient during the same or a future period.

Related conference means scientific or technical conferences, symposia, workshops or seminars for the purpose of communicating or exchanging information or views pertinent to ER/STA.

Special purpose equipment means equipment which is used only for research, medical, scientific, educational, or other related project activity.

§ 605.4 Deviations.

Single-case deviations from this part may be authorized in writing by the Director or Deputy Director of ER or the Head of a Contracting Activity upon the written request of DOE staff,

an applicant for an award, or a recipient. A request from an applicant or a recipient must be submitted to or through the cognizant contracting officer. Whenever a proposed deviation from this part would be a deviation from 10 CFR part 600, the deviation must also be authorized in accordance with the procedures prescribed in that part.

§ 605.5 The Office of Energy Research Financial Assistance Program.

(a) DOE may issue, under the Office of Energy Research Financial Assistance Program, 10 CFR part 605, awards for basic and applied research, educational/training activities, conferences, and other related activities under the ER program areas set forth in paragraph (b) of this section and described in appendix A of this part.

(b) The Program areas are:

(1) Basic Energy Sciences

(2) Field Operations Management

(3) Fusion Energy

(4) Health and Environmental Research

(5) High Energy and Nuclear Physics

(6) Scientific Computing Staff

(7) Superconducting Super Collider

(8) University and Science Education Programs

(9) Program Analysis; and

(10) Other program areas of interest as may be described in a notice of availability published in the FEDERAL REGISTER.

§ 605.6 Eligibility.

Any university or other institution of higher education or other non-profit or for-profit organization, non-Federal agency, or entity is eligible for a grant or cooperative agreement. An unaffiliated individual also is eligible for a grant or cooperative agreement.

§ 605.7 [Reserved]

§ 605.8 Solicitation.

(a) The Catalog of Federal Domestic Assistance number for this program is 81.049, and its solicitation control number is ERFAP 10 CFR part 605.

(b) An application for a new or renewal award under this solicitation may be submitted at any time to DOE at the address specified in paragraph (c) of this section. New or renewal applications shall receive consideration for funding generally within 6 months but, in any event, no later than 12 months from the date of receipt by DOE.

(c) Applicants may obtain application forms, described in § 605.9(b), and additional information from the Acquisition and Assistance Management Division, Office of Energy Research, ER–64, Department of Energy, Washington, DC 20585, (301) 903–5544, and shall submit applications to the same address.

(d) DOE shall publish annually, in the FEDERAL REGISTER, a notice of the availability of the Office of Energy Research Financial Assistance Program. DOE shall also publish notices or abbreviated notices of availability in trade and professional journals, and news media, and use other means of communication, as appropriate.

(1) Each notice of availability shall cite this part and shall include:

(i) The Catalog of Federal Domestic Assistance number and solicitation control number of the program;

(ii) The amount of money available or estimated to be available for award;

(iii) The name of the responsible DOE program official to contact for additional information, and an address where application forms may be obtained;

(iv) The address for submission of applications; and

(v) Any evaluation criteria in addition to those set forth in § 605.10.

(2) The notice of availability may also include any other relevant information helpful to applicants such as:

(i) Program objectives,

(ii) A project agenda or potential areas for project initiatives,

(iii) Problem areas requiring additional effort, and

(iv) Any other information which identifies areas in which grants or cooperative agreements may be made.

(e) DOE is under no obligation to pay for any costs associated with the preparation or submission of applications.

(f) DOE reserves the right to fund, in whole or in part, any, all, or none of the applications submitted.

(g) To be considered for a renewal award under this part, an incumbent

recipient shall submit a renewal application as provided in § 605.9 (c) and (h).

§ 605.9 Application requirements.

(a) An original and seven copies of the application for initial support must be submitted except that State governments, local governments, or Indian tribal governments shall not be required to submit more than the original and two copies of the application.

(b) Each new or renewal application in response to this part must include:

(1) An application face page, DOE Form 4650.2 (approved by OMB under OMB Control No. 1910–1400). However, the facesheet of the application for State and local governments and Indian tribal government applicants shall be the facesheet of Standard Form (SF) 424 (approved by OMB under OMB Control Number 0348–0043).

(2) A detailed description of the proposed project, including the objectives of the project, in relationship to DOE's program and the applicant's plan for carrying it out;

(3) Detailed information about the background and experience of the principal investigator(s) (including references to publications), the facilities and experience of the applicant, and the cost-sharing arrangements, if any.

(4) A detailed budget for the entire proposed period of support with written justification sufficient to evaluate the itemized list of costs provided on the entire project.

(i) Numerical details on items of cost provided by State and local government and Indian tribal government applicants shall be on Standard Form 424A, Budget Information for Non-Construction Programs (approved under OMB Control No. 0348–0044). All other applicants shall use budget form ERF 4620.1 (approved by OMB under Control No. 1910–1400).

(ii) DOE may, subsequent to receipt of an application, request additional budgetary information from an applicant when necessary for clarification or to make informed preaward determinations under 10 CFR part 600.

(5) Any preaward assurances required pursuant to 10 CFR parts 600 and 605.

(c) Applications for a renewal award must be submitted in an original and seven copies, except that State governments, local governments, or Indian tribes are required to submit only an original and two copies. (Approved by OMB under OMB Control Numbers 0348–0005—0348–0009)

(d) The application must be signed by an official who is authorized to act for the applicant organization and to commit the applicant to comply with the terms and conditions of the award, if one is issued, or if unaffiliated, by the individual applicant. (See § 605.19(a)(1) for requirements on continuation awards.)

(e) All applications which involve research, development, or demonstration activities when such activities:

(1) Have a unique geographic focus and are directly relevant to the governmental responsibilities of a State or local government within the geographic area;

(2) Necessitate the preparation of an Environmental Impact Statement under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.* (1976)); or

(3) Are to be initiated at a particular site or location and require unusual measures to limit the possibility of adverse exposure or hazard to the general public, are subject to the provisions of Executive Order 12372 and 10 CFR part 1005.

Anyone planning to submit such applications should contact ER for further information about compliance requirements.

(f) DOE may return an application which does not include all information and documentation required by statute, this part, 10 CFR part 600 or the notice of availability, when the nature of the omission precludes review of the application.

(g) During the review of the complete application, DOE may request the submission of additional information only if the information is essential to evaluate the application.

(h) In addition to including the information described in paragraphs (b), (c), and (d) of this section, an application for a renewal award must be submitted no later than six months prior to the scheduled expiration of the project period and must be on the same forms

and include the same type of information as that required for initial applications. The renewal application must outline and justify a program and budget for the proposed project period, showing in detail the estimated cost of the proposed project, together with an indication of the amount of funds needed and the amount of cost sharing, if any. The application also shall describe and explain the reasons for any change in the scope or objectives of the proposed project, and shall compare and explain any difference between the estimates in the proposed budget and actual costs experienced as of the date of the application.

(i) DOE is not required to return to the applicant an application which is not selected or funded.

(j) Renewal applications must include a separate section that describes the results of work accomplished through the date of the renewal application and how such results relate to the activities proposed to be undertaken in the renewal period.

§ 605.10 Application evaluation and selection.

(a) Applications shall be evaluated for funding generally within 6 months but, in any event, no later than 12 months from the date of receipt by DOE. After DOE has held an application for 6 months, the applicant may, in response to DOE's request, be required to revalidate the terms of the original application.

(b) DOE staff shall perform an initial evaluation of all applications to ensure that the information required by this part is provided, that the proposed effort is technically sound and feasible, and that the effort is consistent with program funding priorities. For applications which pass the initial evaluation, DOE shall review and evaluate each application received based on the criteria set forth below and in accordance with the Merit Review System developed as required under DOE Financial Assistance Regulations, 10 CFR part 600.

(c) DOE shall select evaluators on the basis of their professional qualifications and expertise. Evaluators shall be required to comply with all applicable DOE rules or directives concerning the use of outside evaluators.

(d) DOE shall evaluate new and renewal applications based on the following criteria which are listed in descending order of importance:

(1) Scientific and/or technical merit or the educational benefits of the project;

(2) Appropriateness of the proposed method or approach;

(3) Competency of applicant's personnel and adequacy of proposed resources;

(4) Reasonableness and appropriateness of the proposed budget; and

(5) Other appropriate factors established and set forth by ER in a notice of availability or in a specific solicitation.

(e) Also, DOE shall consider, as part of the evaluation, other available advice or information as well as program policy factors such as ensuring an appropriate balance among the program areas listed in § 605.5(b) of this part.

(f) In addition to the evaluation criteria set forth in paragraphs (d) and (e) of this section, DOE shall consider the recipient's performance under the existing award during the evaluation of a renewal application.

(g) Selection of applications for award will be based upon the findings of the technical evaluations, the importance and relevance of the proposed application to ER's mission, and fund availability. Cost reasonableness and realism will also be considered to the extent appropriate.

(h) After the selection of an application, DOE may, if necessary, enter into negotiation with an applicant. Such negotiations are not a commitment that DOE will make an award.

§ 605.11 Additional requirements.

(a) A recipient performing research, development, or related activities involving the use of human subjects must comply with DOE regulations in 10 CFR part 745, ''Protection of Human Subjects,'' and any additional provisions which may be included in the Special Terms and Conditions of an award.

(b) A recipient performing research involving recombinant DNA molecules

and/or organisms and viruses containing recombinant DNA molecules shall comply with the National Institutes of Health ''Guidelines for Research Involving Recombinant DNA Molecules'' (51 FR 16958, May 7, 1986), or such later revision of those guidelines as may be published in the FEDERAL REGISTER. (The guidelines are available from the Office of Recombinant DNA Activities, National Institutes of Health, Building 31, room 4B11, Bethesda, Maryland 20892.)

(c) Any recipient performing research on warm-blooded animals shall comply with the Federal Laboratory Animal Welfare Act of 1966, as amended (7 U.S.C. 2131 *et seq.*) and the regulations promulgated thereunder by the Secretary of Agriculture at 9 CFR chapter I, subchapter A, pertaining to the care, handling, and treatment of warm blooded animals held or used for research, teaching, or other activities supported by Federal awards. The recipient shall comply with the guidelines described in DHHS Publication No. [NIH] 86–23, ''Guide for the Care and Use of Laboratory Animals,'' or succeeding revised editions. (This guide is available from the Office for Protection from Research Risks, Office of the Director, National Institutes of Health, Building 31, room 4B09, Bethesda, Maryland 20205.)

§ 605.12 Funding.

(a) The project period during which DOE expects to provide support for an approved project under this part shall generally not exceed 3 years and may exceed 5 years only if DOE makes a renewal award or otherwise extends the award. The project period shall be specified on the Notice of Financial Assistance Award (DOE Form 4600.1).

(b) Each budget period, of an award under this part, shall generally be 12 months and may be as much as 24 months as determined appropriate by ER.

§ 605.13 Cost sharing.

Cost sharing is not required nor will it be considered as a criterion in the evaluation and selection process unless otherwise provided under § 605.10(d)(5).

§ 605.14 Limitation of DOE liability.

Awards under this part are subject to the requirement that the maximum DOE obligation to the recipient is the amount shown in the Notice of Financial Assistance Award as the amount of DOE funds obligated. DOE shall not be obligated to make any additional, supplemental, continuation, renewal or other awards for the same or any other purpose.

§ 605.15 Fee.

(a) Notwithstanding 10 CFR part 600, a fee may be paid, in appropriate circumstances, to a recipient which is a small business concern as qualified under the criteria and size standards of 13 CFR part 121 in order to permit the concern to participate in the ER Financial Assistance Program. Whether or not it is appropriate to pay a fee shall be determined by the Contracting Officer who shall, at a minimum, apply the following guidelines:

(1) Whether the acceptance of an award will displace other work the small business is currently engaged in or committed to assume in the near future; or

(2) Whether the acceptance of an award will, in the absence of paying a fee, cause substantial financial distress to the business. In evaluating financial distress, the Contracting Officer shall balance current displacement against reasonable future benefit to the company. (If the award will result in the beneficial expansion of the existing business base of the company, then no fee would generally be appropriate.) Fees shall not be paid to other entities except as a deviation from 10 CFR part 600, nor shall fees be paid under awards in support of conferences.

(b) To request a fee, a small business concern shall submit with its application a written self certification that it is a small business concern qualified under the criteria and size standards in 13 CFR part 121. In addition, the application must state the amount of fee requested for the entire project period and the basis for requesting the amount, and must also state why payment of a fee by DOE would be appropriate.

(c) If the Contracting Officer determines that payment of a fee is appropriate under paragraph (a) of this section, the amount of fee shall be that determined to be reasonable by the Contracting Officer. The Contracting Officer shall, at a minimum, apply the following guidelines in determining the fee amount:

(1) The fee base shall include the estimated allowable cost of direct salaries and wages and allocable fringe benefits. This fee base shall exclude all other direct and indirect costs.

(2) The fee amount expressed as a percentage of the appropriate fee base pursuant to paragraph (c)(1) of this section, shall not exceed the percentage rate of fee that would result if a Federal agency contracted for the same amount of salaries, wages, and allocable fringe benefits under a cost reimbursement contract.

(3) Fee amounts, determined pursuant to paragraphs (c)(1) and (c)(2) of this section, shall be appropriately reduced when:

(i) Advance payments are provided; and/or

(ii) Title to property acquired with DOE funds vests in the recipient (10 CFR part 600).

(d) Notwithstanding 10 CFR part 600, any fee awarded shall be a fixed fee and shall be payable on an annual basis in proportion to the work completed, as determined by the Contracting Officer, upon satisfactory submission and acceptance by DOE of the progress report. If the project period is shortened due to termination, or the project period is not fully funded, the fee shall be reduced by an appropriate amount.

§ 605.16 Indirect cost limitations.

Awards issued under this part for conferences and scientific/technical meetings will not include payment for indirect costs.

§ 605.17 [Reserved]

§ 605.18 National security.

Activities under ER's Financial Assistance Program shall not involve classified information (i.e., Restricted Data, formerly Restricted Data, National Security Information). However, if in the opinion of the recipient or DOE such involvement becomes expected prior to the closeout of the award, the recipient or DOE shall notify the other in writing immediately. If the recipient believes any information developed or acquired may be classifiable, the recipient shall not provide the potentially classifiable information to anyone, including the DOE officials with whom the recipient normally communicates, except the Director of Classification, and shall protect such information as if it were classified until notified by DOE that a determination has been made that it does not require such handling. Correspondence which includes the specific information in question shall be sent by registered mail to U.S. Department of Energy, Attn: Director of Classification, DP–32, Washington, DC 20585. If the information is determined to be classified, the recipient may wish to discontinue the project in which case the recipient and DOE shall terminate the award by mutual agreement. If the award is to be terminated, all material deemed by DOE to be classified shall be forwarded to DOE, in a manner specified by DOE, for proper disposition. If the recipient and DOE wish to continue the award, even though classified information is involved, the recipient shall be required to obtain both personnel and facility security clearances through the Office of Safeguards and Security for Headquarters awards, or from the cognizant field office Division of Safeguards and Security for awards obtained through DOE field organizations. Costs associated with handling and protecting any such classified information shall be negotiated at the time that the determination to proceed is made.

§ 605.19 Continuation funding and reporting requirements.

(a) A recipient shall periodically report to DOE on the project's progress in meeting the project objectives of the award. The following types of reports shall be used:

(1) *Progress reports.* After issuance of an initial award and if future support is recommended, recipients must submit a satisfactory progress report in order to receive continuation awards for the remainder of the project period.

The original and two copies of the required report (generally not to exceed two pages per project or task) must be submitted to the ER program manager 90 days prior to the anticipated continuation funding date and contain the following information: on the first page, provide the project title, principal investigator/project director name, period of time report covers, name and address of recipient organization, DOE award number, the amount of unexpended funds, if any, that are anticipated to be left at the end of the current budget period, and if the amount exceeds 10 percent of the funds available for the budget period, provide information as to why the excess funds are anticipated to be available and how they will be used in the next budget period. Report should state whether aims have changed from original application and if they have, provided revised aims. Include results of work to date. Emphasize findings and their significance to the field, and any real or anticipated problems. A completed budget page must be submitted with the continuation progress report when a change to anticipated future costs will exceed 25 percent of the original recommended future budget.

(2) *Notice of Energy R&D Project.* A Notice of Energy R&D Project, DOE Form 1430.22, which summarizes the purpose and scope of the project, must be submitted in accordance with the Distribution and Schedule of Documents set forth at the end of this section. Copies of the form may be obtained from a DOE Contracting Office.

(3) *Special reports.* The recipient shall report the following events to DOE as soon after they occur as possible:

(i) Problems, delays, or adverse conditions which will materially affect the ability to attain project objectives, or prevent the meeting of time schedules and goals. The report must describe the remedial action the recipient has taken or plans to take and any action DOE should take to alleviate the problems.

(ii) Favorable developments or events which enable meeting time schedules and goals sooner or at less cost than anticipated or producing more beneficial results than originally projected.

(4) *Final report.* A final report summarizing the entire investigation must be submitted by the recipient within 90 days after the final project period ends or the award is terminated. Satisfactory completion of an award will be contingent upon the receipt of this report. The final report shall follow the same outline as a progress report. Manuscripts prepared for publication should be appended.

(5) *Financial status report (FSR) (OMB No. 0348–0039).* The FSR is required within 90 days after completion of each budget period; for budget periods exceeding 12 months, an FSR is also required within 90 days after this first 12 months unless waived by the Contracting Officer.

(b) DOE may extend the deadline date for any report if the recipient submits a written request before the deadline which adequately justifies an extension.

(c) A table summarizing the various types of reports, time for submission, number of copies is set forth below. The schedule of reports shall be as prescribed in this table, unless the award document specifies otherwise.

(d) *DOE review of performance.* DOE or its authorized representatives may make site visits, at any reasonable time, to review the project. DOE may provide such technical assistance as may be requested.

(e) *Subrecipient progress reporting.* Recipients may place progress reporting requirements on a subrecipient consistent with the provisions of this section.

DISTRIBUTION AND SCHEDULE OF DOCUMENTS

Type	When due	Number of copies to be submitted
1. Summary: 200 words on scope and purpose (Notice of Energy R&D Project).	Immediately after award and with each application for renewal.	3
2. Renewal	6 months before the project period ends.	8
3. Progress Report	90 days prior to the next budget period (or as part of a renewal application).	3

DISTRIBUTION AND SCHEDULE OF DOCUMENTS—Continued

Type	When due	Number of copies to be submitted
4. Other progress reports, brief topical reports, etc. (Designated when significant results develop or when work has direct programmatic impact).	As deemed appropriate by the recipient.	3
5. Reprints, Conference papers.	Same as 4 above	3
6. Final Report	Within 90 days after termination of the project.	3
7. Financial Status Report. (FSR).	Within 90 days after completion of the project period; for budget periods exceeding 12 months an FSR is also required within 90 days after the first 12-month period.	3

NOTE: Report types 5 and 6 require with submission two copies of DOE Form 1332.16, University-Type Contractor and Grantee Recommendations for Disposition of Scientific and Technical Document.

§ 605.20 Dissemination of results.

(a) Recipients are encouraged to disseminate project results promptly. DOE reserves the right to utilize, and have others utilize, to the extent it deems appropriate, the reports resulting from awards.

(b) DOE may waive progress reporting requirements set forth in § 605.19, if the recipient submits to DOE a copy of its own report which is published or accepted for publication in a recognized scientific or technical journal and which satisfies the information requirements of the program.

(c) Recipients are urged to publish results through normal publication channels in accordance with the applicable provisions of 10 CFR part 600.

(d) The article shall include an acknowledgment that the project was supported, in whole or in part, by a DOE award, and specify the award number, but state that such support does not constitute an endorsement by DOE of the views expressed in the article.

APPENDIX A TO PART 605—THE ENERGY RESEARCH PROGRAM OFFICE DESCRIPTIONS

1. BASIC ENERGY SCIENCES

This program supports basic science research efforts in a variety of disciplines to broaden the energy supply and technological base knowledge. The major science division and its objectives are as follows:

(a) Energy Biosciences

The primary objective of this program is to generate a basis of understanding of fundamental biological mechanisms in the areas of botanical and microbiological sciences that will support biotechnology development related to energy. The research serves as the basic information foundation with respect to renewable resource productivity for fuels and chemicals, microbial conversions or renewable materials and biological systems for the conservation of energy. This office has special requirements on the submission of preapplications, when to submit, and the length of the preapplication/application; applicants are encouraged to contact the office regarding these requirements.

(b) Chemical Sciences

This program sponsors experimental and theoretical research on liquids, gases, plasmas, and solids. The focus is on their chemical properties and the interactions of their component molecules, atoms, ions, and electrons. The subprogram objective is to expand, through support of basic research, our knowledge in the various areas of chemistry; the long-term goal is to contribute to new or improved processes for developing and using domestic energy resources in an efficient and environmentally sound manner. Disciplinary areas covered include physical, organic, and inorganic chemistry; chemical physics; atomic physics; photochemistry; radiation chemistry; thermodynamics; thermophysics; separations science; analytical chemistry; and actinide chemistry.

(c) Geosciences

The goal of this program is to develop a quantitative and predictive understanding of the energy-related aspects of processes within the earth and at the solar-terrestrial interface. The emphasis is on the upper levels of the earth's crust and the focus is on geophysics and geochemistry of rock-fluid systems and interactions. Specific topical areas receiving emphasis include: High resolution geophysical imaging; fundamental properties of rocks, minerals, and fluids; scientific drilling; and sedimentary basin systems. The resulting improved understanding

and knowledge base are needed to assist efforts in the utilization of the Nation's energy resources in an environmentally acceptable fashion.

(d) Engineering Research

This program's objectives are: (1) To extend the body of knowledge underlying current engineering practice in order to open new ways for enhancing energy savings and production, prolonging useful equipment life, and reducing costs while maintaining output and performance quality; and (2) to broaden the technical and conceptual base for solving future engineering problems in the energy technologies. Long-term research topics of current interest include: foundations of bioprocessing of fuels and energy related wastes, fracture mechanics, experimental and theoretical studies of multiphase flows, intelligent machines, and diagnostics and control for plasma processing of materials.

(e) Materials Sciences

The objective of this program is to increase the understanding of phenomena and properties important to materials behavior that will contribute to meeting the needs of present and future energy technologies. It is comprised of the subfields metallurgy, ceramics, solid state physics, materials chemistry, and related disciplines where the emphasis is on the science of materials.

(f) Advanced Energy Projects

The objective of this program is to support exploratory research on novel concepts related to energy. The concepts may be in any field related to energy but must not fall into an area of programmatic responsibility of an existing ER technical program. The research is usually aimed at establishing the scientific feasibility of a concept and, where appropriate, at estimating its economic viability.

2. FIELD OPERATIONS MANAGEMENT

This office administers special purpose support programs that cut across DOE program areas. In conjunction with this activity, it supports related conferences, research, and training initiatives that further these areas of interest.

(a) Laboratory Technology Transfer Program

The ER Laboratory Technology Transfer (LTT) Program has dedicated funding which fulfills the legislative mandate to more effectively transfer research and technology from Energy Research laboratories to industry. By design, this program provides only partial funding for technology research projects and personnel exchanges with industry and universities. Mandatory cost-sharing by industry and other partners ensures that cooperative projects will focus on those that generate real interest in the private sector and facilitate the transfer of technology. The program supports laboratory-industry personnel exchanges; comprehensive program evaluation; and cost-shared technology research, especially CRADAs to advance precompetitive research projects to a point where they can be evaluated for commercial applications. Other activities of the ER Laboratory Technology Transfer Program include coordinating technology transfer operations throughout the ER laboratory system; coordinating technology transfer elements of the institutional planning process; contributing to Departmental technology transfer policy development; and implementing appropriate outreach activities.

3. FUSION ENERGY

The magnetic fusion energy program is an applied research and development program whose goal is to develop the scientific and technological information required to design and construct magnetic fusion energy systems. This goal is pursued by three divisions, whose major functions are listed below.

(A) APPLIED PLASMA PHYSICS (APP)

This Division seeks to develop that body of physics knowledge which permits advancement of the fusion program on a sound basis. APP research programs provide: (1) The theoretical understanding of fusion plasmas necessary for interpreting results from present experiments, and the planning and design of future confinement devices; (2) the data on plasma properties, atomic physics and new diagnostic techniques for operational support of confinement experiments; research and development of Heavy Ion Fusion Accelerator (HIFAR) and reactor studies in support of the development of Inertial Fusion Energy (IFE).

(B) CONFINEMENT SYSTEMS

This Division has as its primary objective the conduct of research efforts to investigate and resolve basic physics issues associated with medium- to large-scale confinement devices. These devices are used to experimentally explore the limits of specific confinement concepts as well as to study associated physical phenomena. Specific areas of interest include: the production of increased plasma densities and temperatures; the understanding of the physical laws governing plasma energy transport and confinement scaling; equilibrium and stability of high plasma pressure; the investigation of plasma interaction with radio-frequency waves; and the study and control of particle transport in the plasma.

(C) DEVELOPMENT AND TECHNOLOGY

This Division supports research and development of the technology necessary for fabrication and operation of present and future plasma and fusion devices. The program also pursues R&D and system studies pertaining to critical feasibility issues of fusion technology and development.

4. HEALTH AND ENVIRONMENTAL RESEARCH

The goals of this research program are as follows: (1) To provide, through basic and applied research, the scientific information required to identify, understand and anticipate the long-term health and environmental consequences of energy use and development; and (2) to utilize the Department's unique resources to solve major scientific problems in medicine, biology and the environment. The goals of the program are accomplished through the effort of its divisions, which are:

(a) Health Effects and Life Sciences Research

This is a broad program of basic and applied biological research. The objectives are: (1) To develop experimental information from biological systems for estimating or predicting risks of carcinogenesis, mutagenesis, and delayed toxicological effects associated with low level human exposures to energy-related radiations and chemicals; (2) to define mechanisms involved in the induction of biological damage following exposure to low levels of energy-related agents; (3) to develop new technologies for detecting and quantifying latent health effects associated with such agents; (4) to support fundamental research in structural biology user facilities at DOE laboratories; and (5) to create and apply new technologies and resources for characterizing the molecular nature of the human genome.

Increasing emphasis will be placed on: Understanding of mechanisms by which low level exposures to radiation and/or energy-related chemicals produce long-term health impacts; development of new technologies for estimating human health risks from low level exposures; development and application of technologies and approaches for cost-effective characterization of the human genome.

(b) Medical Applications and Biophysical Research

The objectives of this program comprise several areas: (1) To develop new concepts and techniques for detecting and measuring hazardous physical and chemical agents related to energy production; (2) to evaluate chemical and radiation exposures and dosimetry for health protection application; (3) to determine the physical and chemical mechanisms of radiation action in biological systems; and (4) to develop new instrumentation and technology for biological and biomedical research. In addition, Medical Application research is aimed at enhancing the beneficial applications of radiation, and radionuclides, in the diagnosis, study, and treatment of human diseases. This includes the development of new techniques for radioactive isotope production, labeled pharmaceuticals, imaging devices, and radiation beam applications for the improved diagnosis and therapy of human diseases or the study of human physiological processes. A new area of interest involves the integration of Nuclear Medicine and Molecular Biology. This includes development of radioisotopes and new molecular radiopharmaceutical probes specific to disease-associated targets for improved diagnosis and therapy.

(c) Environmental Sciences

The objectives of the program relate to environmental processes affected by energy production and use. For example, the program develops information on the physical, chemical and biological processes that cycle and transport energy related material and nutrients through the atmosphere, and the ocean margin. Specific emphasis is placed on hydrological transport, mobility and degradation of energy-related contaminants by microorganisms in subsurface systems.

This program also addresses global environmental change from increases in atmospheric carbon dioxide and other greenhouse gases. The scope of the global change program encompasses the carbon cycle, climate modeling and diagnostics, ecosystem responses, the role of the ocean in global change and experiments to quantify the links between greenhouse gas increases and climate change. A new dimension of this program addresses the role of molecular biology in understanding the ecosystem response to global change.

5. HIGH ENERGY AND NUCLEAR PHYSICS

This program supports 90 percent of the U.S. efforts in high energy and nuclear physics. The objectives of these programs are indicated below:

(a) Nuclear Physics (Including Nuclear Data Program)

The primary objectives of this program are an understanding of the interactions and structures of atomic nuclei and nuclear matter at the most elementary level possible, and an understanding of the fundamental forces of nature as manifested in nuclear matter.

(b) High Energy Physics

The primary objectives of this program are to understand the nature and relationships among fundamental forces of nature and to understand the ultimate structure of matter

in terms of the properties and interrelations of its basic constituents.

6. SCIENTIFIC COMPUTING STAFF

The goal of this program is to advance the understanding of the fundamental concepts of mathematics, statistics, and computer science underlying the complex mathematical models of the key physical processes involved in the research and development programs of DOE. Broad emphasis is given in three major categories: analytical and numerical methods, information analysis techniques, and advanced concepts.

7. SUPERCONDUCTING SUPER COLLIDER (SSC)

The goals of the Superconducting Super Collider are to build a proton-proton collider with an energy of 20 TeV per proton, to construct and operate experimental systems to study the interactions of these protons, to establish the premier international laboratory for high energy physics reasearch, and to create a major resource for science education. The Office of the Superconducting Super Collider administers research grants associated with the SSC Laboratory's physics, accelerator, and associated technology research and development programs.

8. UNIVERSITY AND SCIENCE EDUCATION

The Office of University and Science Education supports a variety of science, mathematics and engineering education precollege through postgraduate programs aimed at strengthening the Nation's science education and research infrastructure. DOE's education mission has been expanded to include increasing emphasis on the precollege and general public literacy areas. Much of the support involves the use of the unique resources (scientists, facilities and equipment) at DOE's national laboratories and research facilities, and includes research and/or other ''hands-on'' opportunities for precollege and postsecondary students, teachers, and faculty members. In addition to programs centered in DOE facilities, a number of other educational activities are supported, including:

(a) Pre-Freshman Enrichment Program (PREP)

PREP supports projects at colleges and universities aimed at seeking out gindividuals, typically under-represented in science-based careers, during junior high school and early high school years (sixth through tenth grades) and providing these individuals with pre-freshman enrichment activities to identify, motivate and prepare them for science-based careers. Projects must include concentrated, integrated activities that enhance the student's understanding of science and mathematics, must have a summer component at least four weeks in length, and may also include a presummer or post-summer component.

(b) Museum Science Education Program

This program funds museum projects that support the development of the media of informal energy-related science education. The media of informal science education include, but are not limited to: Interactive exhibits, demonstrations, hands-on activities, teacher-student curriculum and film/video/software productions. Examples of energy-related subjects include, but are not limited to: high energy and nuclear physics, nuclear science and technologies, global warming, waste management, energy efficiency, new materials development, fossil energy resources, renewable technologies, risk assessment, energy/environment and other timely topics. The purpose of the program is the development and use of creative informal science education media which focus on energy-related science and technology.

(c) University Research Instrumentation Program

The University Research Instrumentation Program has been developed as part of an interagency effort under the coordination of the Office of Science and Technology Policy to help alleviate the overall shortage of sophisticated state-of-the-art instruments required for advanced scientific and technical research at universities. The overall program objective is to assist university and college scientists in strengthening their capabilities to conduct long-range experimental/scientific research in specific energy areas of direct interest to DOE through the acquisition of large scientific/technical pieces of equipment. Only those colleges and universities that currently have DOE funded research projects, which require the requested equipment, totalling at least $150,000 in the specific area will be selected (more complete eligibility guidelines and principal research areas of particular DOE interest in any given year are available from the program office). Smaller research instruments (less than $100,000 each) are not eligible for consideration in this program. No specific fraction of cost sharing is required but the level of non-Federal funds to be provided will be considered in final selection of awards under the program.

(d) Experimental Program To Stimulate Competitive Research

The purpose of the DOE Experimental Program to Stimulate Competitive Research is to enhance the capabilities of the eligible designated States to develop science and engineering manpower in energy-related areas and to conduct nationally competitive energy-related research. Planning committees

within eligible States may apply for planning, implementation and/or training efforts (list of eligible States and activities to be supported in any given year as well as cost-sharing requirements are available from the program office). Separate applications for planning/implementation and graduate traineeships are required. Planning/implementation applications must contain information that details development of a Statewide improvement plan for energy-related research and human resources, while training grant applications must detail the need for energy-related specific and technical educational disciplines.

(e) Nuclear Engineering Research

The objective of this program is to support research efforts aimed at strengthening University-based nuclear engineering programs. Specific areas of basic and applied research of interest include, but are not limited to: (1) Material behavior in a radiation environment typical of advanced nuclear power plants; (2) real-time instrumentation that identifies and applies innovative measurements technologies in nuclear-related fields; (3) advanced nuclear reactor concepts; (4) applied nuclear sciences that address improvements in the applications of radiation and the understanding of the interaction of radiation with matter; (5) engineering science research applicable to advanced nuclear reactor concepts, industry safety and reliability concerns; (6) neutronics that address improvements in reactor computational methodologies and knowledge of the basic fission processes; and (7) nuclear thermal hydraulics that address improvements of models and analysis of thermal hydraulic behavior in an advanced nuclear reactor system.

(f) Used Energy-Related Laboratory Equipment (ERIE) Program

In accordance with DOE's responsibility to encourage research and development in the energy area, grants of used energy-related laboratory equipment for use in energy-oriented educational programs in the life, physical and environmental sciences, and engineering are available to universities, colleges and other non-profit educational institutions of higher learning in the United States. An institution is not required to have a current DOE grant or contract in order to participate in this program. The program office should be contacted for specific information on how to access the list of eligible equipment under this program. The cost of care and handling incident to the grant must be borne by the institution.

9. PROGRAM ANALYSIS

The Office of Program Analysis conducts assessments to identify research opportunities in specific areas of interest to DOE programs.

PART 607—GOVERNMENTWIDE REQUIREMENTS FOR DRUG-FREE WORKPLACE (FINANCIAL ASSISTANCE)

Subpart A—Purpose and Coverage

Subpart B—Requirements for Recipients Other Than Individuals

Subpart C—Requirements for Recipients Who Are Individuals

Subpart D—Responsibilities of DOE Awarding Officials

Subpart E—Violations of This Part and Consequences