Draft "As Is" Condition Report
Office of Science
Headquarters

November 20, 2002

Introduction

This document describes the condition of the Office of Science headquarters organization as it is currently exists. The current structure of the Office of Science came about because of legislation, orders, directives, regulations, and traditions over more than the 58 years of its existence. In this document, we will describe briefly the current structure in terms of the roles, responsibilities, authorities, and accountabilities (R2A2) necessary for the purpose of the Office. The R2A2s arise from laws, regulations, orders, and delegations.

This description of the "as is" condition is necessary to determine whether there are any gaps in the R2A2s and to understand the current reporting relationships in the Office. This description is the basis for restructuring leading to the organization, as it will be, after it meets the requirements established by this administration.

What is the Office of Science

The Office of Science is best described by the legislation that created it. In 1977, the Department of Energy Act created the Office of Energy Research, which was changed later to the Office of Science, with the following responsibilities:

> (a) There shall be within the Department an Office of Science to be headed by a Director, who shall be appointed by the President, by and with the advice and consent of the Senate, and who shall be compensated at the rate provided for level IV of the Executive Schedule under section 5315 of title 5.
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> (b) It shall be the duty and responsibility of the Director (1) to advise the Secretary with respect to the physical research program transferred to the Department from the Energy Research and Development Administration; (2) to monitor the Department's energy research and development programs in order to advise the Secretary with respect to any undesirable duplication or gaps in such programs; (3) to advise the Secretary with respect to the well-being and management of the multipurpose laboratories under the jurisdiction of the Department, excluding laboratories that constitute part of the nuclear weapons complex; (4) to advise the Secretary with respect to education and training activities required for effective short- and long-term basic and applied research activities of the Department; (5) to advise the Secretary with respect to grants and other forms of financial assistance required for effective short- and long-term basic and applied research activities of the Department; and (6) to carry out such additional duties assigned to the Office by the Secretary relating to basic and applied research, including but not limited to supervision or support of research activities carried out by any of the Assistant Secretaries designated by section 7133 of this title, as the Secretary considers advantageous.

A section on transfers gave the Department of Energy Act the responsibilities that the Energy Research and Development Administration had and therefore those that the Atomic Energy Commission had.

> TITLE III —TRANSFERS OF FUNCTIONS
> GENERAL TRANSFERS
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> SEC.301. (a) Except as otherwise provided in this Act, there are hereby transferred to, and vested in, the Secretary all of the functions vested by law in the Administrator of the Federal Energy Administration or the Federal Energy Administration, the Administrator of the Energy Research

and Development Administration or the Energy Research and Development Administration; and the functions vested by law in the officers and components of either such Administration.

The following responsibilities were transferred from the Energy Reorganization Act of 1974. The authority to fund research was stated in the responsibilities of the head of the organization:

RESPONSIBILITIES OF THE ADMINISTRATOR

SEC.103.The responsibilities of the Administrator shall include, but not be limited to— (1) exercising central responsibility for policy planning, coordination, support, and management of research and development programs respecting all energy sources, including assessing the requirements for research and development in regard to various energy sources in relation to near-term and long- range needs, policy planning in regard to meeting those requirements, undertaking programs for the optimal development of the various forms of energy sources, managing such programs, and disseminating information resulting therefrom; (2) encouraging and conducting research and development, including demonstration of commercial feasibility and practical applications of the extraction, conversion, storage, transmission, and utilization phases related to the development and use of energy from fossil, nuclear, solar, geothermal, and other energy sources; (3) engaging in and supporting environmental, biomedical, physical, and safety research related to the development of energy sources and utilization technologies; (4) taking into account the existence, progress, and results of other public and private research and development activities, including those activities of the Federal Energy Administration relating to the development of energy resources using currently available technology in promoting increased utilization of energy resources, relevant to the Administration's mission in formulating its own research and development programs; (5) participating in and supporting cooperative research and development projects which may involve contributions by public or private persons or agencies, of financial or other resources to the performance of the work; (6) developing, collecting, distributing, and making available for distribution, scientific and technical information concerning the manufacture or development of energy and its efficient extraction, conversion, transmission, and utilization; (7) creating and encouraging the development of general information to the public on all energy conservation technologies and energy sources as they become available for general use, and the Administrator, in conjunction with the Administrator of the Federal Energy Administration shall, to the extent practicable, disseminate such information through the use of mass communications; (8) encouraging and conducting research and development in energy conservation, which shall be directed toward the goals of reducing total energy consumption to the maximum extent practicable, and toward maximum possible improvement in the efficiency of energy use. Development of new and improved conservation measures shall be conducted with the goal of the most expeditious possible application of these measures; (9) encouraging and participating in international cooperation in energy and related environmental research and development; (10) helping to assure an adequate supply of manpower for the accomplishment of energy research and development programs, by sponsoring and assisting in education and training activities in institutions of higher education, vocational schools, and other institutions, and by assuring the collection, analysis, and dissemination of necessary manpower supply and demand data; (11) encouraging and conducting research and development in clean and renewable energy sources.

The continuity with the basic research done under the Atomic Energy Act of 1954 followed from the paragraph (c) under Abolition and Transfers: "Functions of Atomic Energy Commission transferred to Administrator. There are hereby transferred to and vested in the Administrator all functions of the Atomic Energy Commission, the Chairman and members of the Commission, and the officers and components of the Commission, except as otherwise provided in this chapter." The Atomic Energy Act of 1954 includes the following:

> The Commission is directed to exercise its powers in such manner as to insure the continued conduct of research and development and training activities in the fields specified below, by private or public institutions or persons, and to assist in the acquisition of an ever-expanding fund of theoretical and practical knowledge in such fields. To this end the Commission is authorized and directed to make arrangements (including contracts, agreements, and loans) for the conduct of research and development activities relating to (1) nuclear processes; (2) the theory and production of atomic energy, including processes, materials, and devices related to such production; (3) utilization of special nuclear material and radioactive material for medical, biological, agricultural, health, or military purposes; (4) utilization of special nuclear material, atomic energy, and radioactive material and processes entailed in the utilization or production of atomic energy or such material for all other purposes, including industrial or commercial uses, the generation of usable energy, and the demonstration of advances in the commercial or industrial application of atomic energy; (5) the protection of health and the promotion of safety during research and production activities; and (6) the preservation and enhancement of a viable environment by developing more efficient methods to meet the Nation's energy needs.

Because of this legislation Congress appropriates funds for Office of Science to conduct research through grants, contracts, and cooperative agreements "to assist in the acquisition of an ever-expanding fund knowledge."

What is the Role of Headquarters in the Office of Science

The primary roles of Headquarters are to:

- Advance Science and Technology
- Set SC-wide strategic direction
- Acquire funding, formulate the budget, and execute the budget
- Steward the national science infrastructure
- Defend and fight for SC interests
- Advocate and represent the Office of Science, the Department of Energy, and U.S. science
- Oversee and Manage the SC Complex

The Office of Science is the third largest Federal sponsor of basic research in the United States. It is by far the largest sponsor of U.S. physical science research and also plays a significant role in U.S. biological, environmental, and geological research. The two most important roles for Headquarters are setting scientific program objectives and convincing DOE, OMB, OSTP, and the Congress that funds should be appropriated to meet those objectives. Other primary Headquarters roles include assessing the quality of science in grant applications and DOE laboratory proposals, allocating funds based on those assessments, balancing the allocation of funds across all research performers (M&O contractors, universities, and private institutions), setting policy for government-to-government international agreements, and coordinating interagency affairs, including jointly funded research and interagency initiatives. Headquarters also plays an important role in assessing construction projects and evaluating the management of research by SC contractors.

The setting of policy in all government-to-government international agreements in areas under its jurisdiction is a role reserved for Headquarters. Headquarters is also has the primary role in interagency affairs, including jointly funded research and interagency initiatives.

What are the Responsibilities of Headquarters?

In its role of advancing science and technology, Headquarters fosters and supports forefront basic and applied research programs needed to accomplish DOE missions through 5 Offices:

- Basic Energy Sciences
- High Energy and Nuclear Physics
- Fusion Energy Sciences
- Biological and Environmental Research
- Advanced Scientific Computing Research

Each of these Offices is responsible for the support of specific scientific disciplines. Implicit in this support is a responsibility for the national strength in the discipline and for the training of the next generation of scientists through the support of graduate students.

Headquarters sets SC-wide strategic objectives to:

- ensure that DOE and national priorities are reflected in the content and orientation of SC research programs and activities
- make final decisions regarding planning/direction of SC science and non-technical programs and operational activities
- request/secure advice from SC Advisory Committees regarding scientific and technical goals, priorities, & program planning
- establish expectations for SC-wide performance in programmatic and operational areas
- provide policy guidance and direction for SC Headquarters and Field Offices on scientific and non-technical programmatic and operational issues
- develop "corporate story" to describe SC programs and role
- develop outreach strategies for DOE, White House, general public, and domestic/international science communities

In its role of acquiring funding, the Office of Science has the responsibility to:

- make final decisions on budget priorities across SC science programs
- make final decisions regarding funding of SC science and non-technical programs and operational activities
- defend proposed budgets to the Secretary, OMB, OSTP, and Congress
- testify at Authorization & Appropriations Committee hearings

In budget execution, the immediate Office of the Director is directly responsible to:

- develop and maintain domestic and international strategic alliances in S&T
- evaluate laboratory R&D
- chair SC ESAAB-Equivalent Board
- approve membership of SC Advisory Committees; recommend membership to the Secretary
- recommend Lawrence & Fermi Award recipients to the Secretary; recommend Fermi Award recipients to the President

However, the Division of Financial Management, which reports to the Director through the Office of Resource Management, has the responsibilities for budget formulation and execution related to the support of research and for internal operations of the Office. The Financial Management responsibilities are to:

- manage SC budget formulation process on behalf of the Director
- serve as principal budget advisor to the Director
- direct/evaluate formulation of budget documents/material prepared by SC offices to ensure consistency with OMB/DOE/SC-1 policies and guidance
- prepare/review data for Director's Congressional testimony, statements for OMB hearings, speeches and presentations
- coordinate/review/advise on responses to hearing questions, statements for the record, transcripts
- advise Director and Associate Directors on strategies for defense of proposed budgets to DOE, OMB, OSTP, Congress
- serve as liaison/principal point of contact with Office of Chief Financial Officer, Office of Management and Budget, and Congressional Authorization and Appropriations Committee staffs
- submit proposed SC budget to CFO
- manage appropriated SC program funds to ensure use is in accordance with intent of appropriation
- ensure that financial restrictions are not violated, and that proper accounting controls and practices are maintained
- prepare monthly Approved Funding Plan, including program guidance and work authorizations operate financial management information system for SC programs to provide accurate/timely data for Director, Associate Directors, OMB, Congressional committees, etc.
- provide direction/guidance on financial and budgetary matters to various SC field offices, laboratories, and contractors/grantees for SC programs.

As steward for the national science infrastructure in areas important to the missions of the Department of Energy the responsibilities include:

- advise the Secretary on basic and applied DOE research missions

- advise the Secretary on DOE-wide laboratory and policy issues which affect the institutional capabilities of the DOE laboratories
- provide funding for the operation/maintenance of large-scale scientific user facilities
- ensure laboratory infrastructure needs are adequately addressed
- undertake initiatives to ensure continuous management improvement of SC laboratories
- manage/direct/develop SC Science Education Programs
- ensure science education opportunities for students/faculty in DOE-relevant disciplines
- promote participation of underrepresented populations in science education programs

As the main advocate and representative for Science, the Department of Energy, and in the international arena of the United States and to perform active outreach to external communities for those areas of science important to the missions of the Department the responsibilities are to:

- champion scientific/non-technical programs and SC positions on operational, administrative, or management issues within DOE (S-1/S-2/S-3; Assistant Secretaries; at FMC, LOB, DNFSB, ESAAB, COO Council Meetings) and within the Executive Branch (OMB, OSTP, White House, other agencies)
- foster consistent operational positions/policies/procedures for EM, DP, & SC
- resolve disputes between SC & other DOE offices on programmatic/operational issues at the Assistant Secretary or Secretarial level
- explain SC/DOE/Administration positions and current/proposed SC programs to Congressional members and staff; testify before Congressional committees
- deliver speeches/make presentations on SC programs/budgets/policies; participate in panel discussions, etc.
- promote SC programs with stakeholders (other government agencies, public, press, national & international scientific societies, foreign governments, etc.)

The final major role is to oversee and manage the Office of Science's complex. This complex includes the Department's Laboratories, which are managed by contractors under management and operating contracts, are among the top research institutions worldwide. They are an essential to the missions of the Department. The responsibilities of the Office of Science are to:

- provide policy & management oversight of SC program/staff/operations/site offices
- direct high-level day-to-day technical, management, and operational activities
- settle disputes between SC Headquarters & Field Offices
- appraise/review performance of Associate Directors, Office Directors, Operations Office Managers, and Site Office Managers

What authorities are assigned to the Office of Science?

The primary authorities come from the Atomic Energy Act of 1954, the Energy Reorganization Act of 1974, and the DOE Organization Act of 1977. All of these are contained in various sections in 42 U.S.C.

Other authorities are delegated by the Secretary. Budget formulation follows DOE 130.1, the DOE Budget Handbook, and OMB Circular A-11, "Preparation & Submission of Budget Estimates." Grants and cooperative agreements are authorized by 10 CFR 605 and the Federal Grants and Cooperative Agreement Act U.S.C. 6301. The M&O contracts are authorized by 48 CFR, Chapter 1. The Field work proposals from M&O contractors are authorized by DOE 412.1.

There are several specific laws affecting individual programs. These are all detailed in the R2A2 tables.

What accountabilities are assigned to Headquarters?

The Director of the Office of Science is accountable to the Undersecretary and the Secretary. The Government Performance Results Act makes the Office of Science accountable to the Congress through the goals set in the budget submission.

Every manager in the Office of Science reports directly or indirectly to the Office of the Director/Principal Director/Deputy Director. All are accountable to the Director. Some are direct reports as is the case with the Principal Deputy, Deputy Director for Operations, Associate Directors, and certain Office Directors. Other managers report through a supervisor who reports to the Director. For example, in the 5 program Offices, Division Directors report to Associate Directors who report directly to the Director of the Office of Science. A metric in the budget established by the Director of the Office of Science to comply with the Government and Performance Act will make a Division Director, who reports to an Associate Director, accountable for meeting that metric.

In some special circumstances, the accountability is directly to the Director even though the reporting relationship is indirect. This situation is the case for the budget formulation and execution roles and in the case of the assessment role for major system acquisitions.

What are the performance expectations?

There are three sources of performance expectations for Headquarters. The first stems from laws, executive orders, regulations, and DOE orders that have certain requirements. All of the environmental laws have requirements and SC is expected to meet them. Another example is that SC is expected to meet the requirements for security at Headquarters.

The second stems from the Government Performance Results Act. These expectations are formalized in the budget formulation process. The expectations are detailed for each

element in the budget. These expectations are revised annually with the submission of the President's request to Congress.

The second stems from the Administration. For example, the current restructuring effort is an expectation of the administration. There are also expectations that arise from interagency initiatives, such as high performance computing, climate change, or nanoscience. The interagency expectations are set usually by OSTP.

All of these expectations result in specific roles and responsibilities that are detailed in the tables in the Appendix.