FAQ about the DOE Office of Science National Laboratories

1. What is a Department of Energy (DOE) national laboratory?

Often called the "crown jewels" of the federal research and development (R&D) infrastructure, the DOE national laboratories comprise a preeminent federal research system that is responsible for developing, maintaining, and providing the Nation with assured access to strategic scientific and technological capabilities and, thus, enabling the execution of long-term governmental missions in energy, the environment, national security, and basic science. 17 DOE institutions are named "national laboratories" in Section 2(3) of the Energy Policy Act (EPACT) of 2005 (Public Law 109-58).

2. What distinguishes a DOE national laboratory from other research institutions?

The DOE national laboratories are distinguished from other research facilities by most, and typically all, of the following characteristics:

- ***Mission driven***, providing sustained support to further one or more long-term goals in support of the DOE mission;
- ***Science-of-scale***, comprising large-scale, long-term projects and programs;
- ***Multi-disciplinary teams***, integrating personnel across a broad suite of scientific and technical disciplines to execute the complex DOE missions and solve national problems;
- ***Distinctive, powerful research facilities***, hosting one or more major DOE-designated scientific user facilities which are made available to international research communities; and
- ***Safe and secure operating environments***, managed to conduct research involving special operating considerations (e.g., operation of facilities that conduct hazardous, sensitive or classified research essential to national interests).

3. What is a Federally Funded Research and Development Center?

The Federal Acquisition Regulations (FAR) and the Department of Energy Federal Acquisition Regulations (DEAR) define Federally Funded Research and Development Centers (FFRDCs) as "federally-funded, privately-operated facilities established to meet a special long-term R&D need of the federal government which cannot be met effectively by existing in-house or contractor resources. FFRDCs are managed, operated, and/or administered by a university, other nonprofit organization, or an industrial firm." With the exception of the National Energy Technology Laboratory (NETL) operated by the Office of Fossil Energy (FE), all of the DOE national laboratories are FFRDCs.

4. What are management and operating contracts?

According to FAR 17.601, a "Management and operating contract" (M&O contract) is ". . . an agreement under which the government contracts for the operation, maintenance, or support, on its behalf, of a government-owned or -controlled research, development, special production, or testing establishment wholly or principally devoted to one or more major programs of the contracting federal agency." The work performed under M&O contracts is closely related to the sponsoring agency's mission and is of a long-term and continuing nature; as a result, M&O contracts are characterized by their special purpose and the close relationship they create between the sponsoring agency and the contractors. All of DOE's FFRDC laboratories are operated under M&O contracts.

5. Why does DOE use management and operating contracts for the operation of its FFRDC national laboratories?

DOE values and uses the M&O contract model for the operation of its FFRDCs because it provides for "Long-term relationships between the Government and FFRDC's . . . to provide the continuity that will attract high-quality personnel to the FFRDC. This relationship [is] of a type to encourage the FFRDC to maintain currency in its field(s) of expertise, maintain its objectivity and independence, preserve its familiarity with the needs of its sponsor(s), and provide a quick response capability" (as quoted from FAR 35.017(a)(4)). More specifically, M&O contracts enable:

- ***Scientific and Technical Excellence:*** M&O contractors are able to attract world-leading scientific talent that likely would not work for a Government laboratory. (The results speak for themselves: DOE laboratory scientists have produced 64 Nobel Laureates and hundreds of R&D 100 awards.)
- ***Maximum Managerial Flexibility:*** These contracts recognize the expertise and experience of academic and private sector entities in managing large R&D institutions. They also allow DOE to maintain long-term relationships with the laboratories but swap out managing contractor as needed without wholesale disruption of the laboratory.
- ***Low Cost Operations:*** DOE FFRDCs are managed for fees that average less than 3.5% of their annual operating costs; SC's FFRDC contracts pay on average less than 1% of operating budgets in annual fees.
- ***Value Added:*** Many of DOE's M&O contractors provide significant contributions (e.g., long-term rent-free land and building leases, other financial contributions) to the laboratories that benefit the Government because of their long-term relationship with their DOE sponsor and the laboratories.

6. How does the Office of Science oversee the performance of its laboratories?

The Office of Science utilizes several mechanisms to monitor and evaluate contractor performance, including through the acceptance of contract requirement deliverables, conducting performance reviews, preparing performance reports, conducting facility "walk-throughs" and property inspections, and the use of contractor self-reporting. These activities often result in the provision by DOE of feedback and recommendations on how a contractor can improve its level of performance. In addition to these ongoing activities, SC performs formal oversight of the laboratory contractors on an annual basis through the fiscal year-end laboratory performance appraisal process, which results in evaluations of the contractors' scientific, technological, managerial, and operational performance.

7. What is the Office of Science laboratory performance appraisal process?

The laboratory appraisal process, performed annually, is the means by which SC evaluates the scientific, technical, managerial, and operational performance of the contractors who manage and operate its 10 national laboratories. These evaluations provide the basis for determining annual performance fees and the possibility of winning additional years on the contract through an "Award Term" extension. They also serve to inform the decisions that the DOE makes regarding whether to extend or to compete laboratory M&O contracts when they expire.

8. What is Work for Others (WFO), and what is SC's policy for allowing its laboratories to conduct work for non-DOE entities?

Work for Others is research/work undertaken by a national laboratory or research facility for a client other than DOE/NNSA or the Department of Homeland Security (DHS). This work is allowable under the Atomic Energy Act of 1954, as amended, which permits the national laboratories to perform research and development for other federal agencies, the private sector, academia, State and local governments, and foreign governments if the facilities and resources of the national laboratories are otherwise unavailable in the private sector. In accordance with the standard DOE WFO policy (codified in Order 481.1C), the SC laboratories may perform WFO if the project 1) is consistent with or complementary to missions of DOE/NNSA and the facility to which the work is to be assigned, 2) will not adversely impact programs assigned to the facility, 3) will not place the facility in direct competition with the domestic private sector, and 4) will not create a detrimental future burden on DOE/NNSA resources.

9. How do DOE and the laboratories address the need to move research findings from the laboratories, to the market place?

The laboratories have a variety of mechanisms at their disposal to do business with private enterprises. These include such things as Cooperative Research and Development Agreements (CRADAs), WFO, and the ability to provide visitors and non-federal partners with access to the laboratories' unique facilities. DOE has also authorized its facilities to patent and to license intellectual property resulting from DOE R&D and to collect and to appropriately dispose of related royalties and fees.