Responses to IT-related Questions from the Transition Team

1. Major IT Infrastructure(s)

DOE has a single IT infrastructure that supports most of Federal DOE. It is managed by the Office of the Chief Information Officer (OCIO). It includes a single, integrated, nationwide network and direct support for workstations at headquarters and for Federal employees in the field. It also includes two geographically separated data centers, one a backup for coop purposes. The data centers support workstations and mobile computing, application servers, and network connectivity. The infrastructure includes a single help desk. This IT infrastructure is managed and overseen by DOE federal employees, with most of the technical support, e.g. help desk, system administration, and data center operations, provided through a small business contract.

DOE is near completion consolidating financial, human capital, procurement, and budget formulation and execution IT systems, and has outsourced payroll and travel IT services. These consolidated administrative IT applications are known as iManage.

2. IT Capital Planning Process

The DOE OCIO manages a DOE-wide IT capital planning process that oversees a portfolio of IT investments having a value of $2 billion. Each investment has a business case, for which progress is reviewed quarterly, with full reviews performed annually. This process is keyed to the Department's Strategic Plan, and to the DOE IT Strategic Plan. The process is supported by the DOE Enterprise Architecture, which enables review for possibly duplication and for opportunities for synergy across the Department's IT investments. The process can be improved by taking even greater advantage of the Enterprise Architecture.

3. Opportunities for Cost Savings

The increased use of Enterprise Architecture during DOE's budget and IT approval processes could result in additional cost savings through consolidation and integration across Program Offices.

OCIO has in place an enterprise-wide software licensing program that has resulted in substantially reduced costs within Federal DOE and for DOE's National Laboratories, e.g. savings of up to 65% on Oracle and other products. This program can be expanded still further.

Implementation of the single Federal IT infrastructure in DOE has achieved a cost avoidance of over $90 million since 2006, and is estimated to result in an additional $200 million in cost avoidance or savings over the next four years.

4. Three Most Significant Technology Innovations

Three significant IT technology innovation areas within DOE are "green computing", high performance computing, and advanced technology cyber security protection.

The Department is moving toward green computing, including the use of thin-client technology which replaces today's desktop computer or workstation with just a keyboard, monitor, and mouse. The desktop functions and applications are provided by servers located in a data center, with a single server simultaneously providing the required functions and applications for 40 to 100 users. This configuration enables a reduction in energy consumption for workstations of over 25%, while also enabling reduced support costs and improved cyber for real world testing over the next several months.

DOE currently leads the world in high performance computing, having the world's two fastest supercomputers and five other supercomputers of the top nine in the world. The technology developed for and used in these DOE high performance computing systems is cutting edge, and drives improved competitiveness in the U.S. IT industry, while meeting DOE requirements for high performance computing for science and national security.

The Department has in place advanced cyber security technology that provides defense-in-depth protection of DOE's sensitive information and information systems. Some of this technology, including special sensor equipment deployed at the perimeter of major DOE sites, outside the firewalls, supports sophisticated cyber forensics analysis by OCIO and the Officer of Intelligence and Counterintelligence. This type of technology, already in place at DOE, is now in the early stages of deployment throughout the Federal government.

5. Information accessibility

The DOE IT infrastructure, including DOE Web sites and supporting technology, will support increased transparency of DOE operations programmatic decisions are made to provide increased to information. Efforts are underway to ensure that this can be done effectively without interfering with adequate cyber security protection of DOE IT networks and systems.

6. Procurement of IT products and services

Current DOE procurement processes support the acquisition of IT products and services for OCIO very well. There is sufficient flexibility, adequate procurement expertise, and timely support to meet new and continuing requirements.