

Exhibit 300: Capital Asset Plan and Business Case Summary**Part I: Summary Information And Justification (All Capital Assets)****Section A: Overview (All Capital Assets)**

- | | |
|---|---|
| 1. Date of Submission: | 9/10/2007 |
| 2. Agency: | Department of Energy |
| 3. Bureau: | Energy Programs |
| 4. Name of this Capital Asset: | ORNL Leadership Computing Facility (OLCF) |
| 5. Unique Project (Investment) Identifier: (For IT investment only, see section 53. For all other, use agency ID system.) | 019-20-01-21-01-1031-00 |
| 6. What kind of investment will this be in FY2009? (Please NOTE: Investments moving to O&M in FY2009, with Planning/Acquisition activities prior to FY2009 should not select O&M. These investments should indicate their current status.) | Mixed Life Cycle |
| 7. What was the first budget year this investment was submitted to OMB? | FY2004 |
| 8. Provide a brief summary and justification for this investment, including a brief description of how this closes in part or in whole an identified agency performance gap: | |
| <p>The SC ORNL LCF (OLCF) is a mixed life-cycle investment to develop and operate increasingly higher performance computers to enable major advances in computational science as part of the DOE-ASCR LCF Program. The OLCF is intended for open, unclassified science research on capability-limited computational grand challenges and is made available to the scientific community primarily through DOE-SC's INCITE Program. The investment covers the operation of existing systems and the lease-to-own acquisition of more advanced systems and the effort and infrastructure needed to run them.</p> <p>The OLCF Program is based on an evaluation of the near- and long-term needs of DOE-SC computational scientists which are derived from DOE strategic and tactical programmatic goals and from collaboration in algorithm and reusable code solutions with the general science community, e.g., DOE Energy Science researchers; DOE-SC collaborators; other federal agencies such as NASA, NIH, NSF; and university and industrial research collaborators. These wide-ranging collaborations directly support the President's 'Competitive' and 'American Energy' Initiatives. OLCF directly supports DOE's mission "to advance the national, economic and energy security of the United States; to promote scientific and technological innovation in support of that mission" Moreover, it satisfies DOE's Science Strategic Goal 3.1, Scientific Breakthroughs and all 7 of DOE-SC's Goals, especially #6 ("Deliver Computing for the Frontiers of Science") and #7 ("Provide the Resource Foundations that Enable Great Science"), by providing key leadership class computational capabilities and infrastructure required for US scientific innovation (as "Services for Citizens" (001109026) in "R&D" (002202069)). It maps directly to the BRM function of Scientific Research & Advanced Computational Science/Scientific Research</p> | |
| 9. Did the Agency's Executive/Investment Committee approve this request? | Yes |
| a. If "yes," what was the date of this approval? | 8/24/2004 |
| 10. Did the Project Manager review this Exhibit? | Yes |
| 11. Contact information of Project Manager? | |
| Name | Rawlins, Mary |
| Phone Number | 865-576-4507 |
| Email | rawlinsmh@ornl.gov |
| a. What is the current FAC-P/PM certification level of the project/program manager? | TBD |
| 12. Has the agency developed and/or promoted cost effective, energy-efficient and environmentally sustainable techniques or practices for this project? | Yes |
| a. Will this investment include electronic assets (including computers)? | Yes |
| b. Is this investment for new construction or major retrofit of a Federal building or facility? (answer applicable to non-IT assets only) | No |

Exhibit 300: ORNL Leadership Computing Facility (OLCF) (Revision 16)

1. If "yes," is an ESPC or UESC being used to help fund this investment?

2. If "yes," will this investment meet sustainable design principles?

3. If "yes," is it designed to be 30% more energy efficient than relevant code?

13. Does this investment directly support one of the PMA initiatives? Yes

If "yes," check all that apply:

Human Capital
R and D Investment Criteria

a. Briefly and specifically describe for each selected how this asset directly supports the identified initiative(s)? (e.g. If E-Gov is selected, is it an approved shared service provider or the managing partner?)

Supports R&D Investments by using existing ORNL infrastructure while supporting scientists in greater research synergies through its incremental technical advancements and its strategic partnerships with industry and other federal agencies; and Human Capital by providing cutting-edge technology that will attract the highest quality scientist to work on the grand challenges in energy science.

14. Does this investment support a program assessed using the Program Assessment Rating Tool (PART)? (For more information about the PART, visit www.whitehouse.gov/omb/part.) Yes

a. If "yes," does this investment address a weakness found during a PART review? Yes

b. If "yes," what is the name of the PARTed program?

Advanced Scientific Computing Research

c. If "yes," what rating did the PART receive?

Moderately Effective

15. Is this investment for information technology? Yes

If the answer to Question 15 is "Yes," complete questions 16-23 below. If the answer is "No," do not answer questions 16-23.

For information technology investments only:

16. What is the level of the IT Project? (per CIO Council PM Guidance) Level 2

17. What project management qualifications does the Project Manager have? (per CIO Council PM Guidance)

(1) Project manager has been validated as qualified for this investment

18. Is this investment or any project(s) within this investment identified as "high risk" on the Q4 - FY 2007 agency high risk report (per OMB Memorandum M-05-23)

No

19. Is this a financial management system?

No

a. If "yes," does this investment address a FFMIA compliance area?

1. If "yes," which compliance area:

2. If "no," what does it address?

b. If "yes," please identify the system name(s) and system acronym(s) as reported in the most recent financial systems inventory update required by Circular A-11 section 52

20. What is the percentage breakout for the total FY2009 funding request for the following? (This should total 100%)

Hardware	54
Software	2
Services	28
Other	16

21. If this project produces information dissemination products for the public, are these products published to the Internet in conformance with OMB Memorandum 05-04 and included in your agency inventory, schedules and priorities? N/A

22. Contact information of individual responsible for privacy related questions:

Name Lewis, Jack

Phone Number 865-576-3470

Title Manager, Records Management Services
 E-mail lewisjp@ornl.gov
 23. Are the records produced by this investment appropriately scheduled with the National Archives and Records Administration's approval? Yes
 Question 24 must be answered by all Investments:
 24. Does this investment directly support one of the GAO High Risk Areas? No

Section B: Summary of Spending (All Capital Assets)

1. Provide the total estimated life-cycle cost for this investment by completing the following table. All amounts represent budget authority in millions, and are rounded to three decimal places. Federal personnel costs should be included only in the row designated "Government FTE Cost," and should be excluded from the amounts shown for "Planning," "Full Acquisition," and "Operation/Maintenance." The "TOTAL" estimated annual cost of the investment is the sum of costs for "Planning," "Full Acquisition," and "Operation/Maintenance." For Federal buildings and facilities, life-cycle costs should include long term energy, environmental, decommissioning, and/or restoration costs. The costs associated with the entire life-cycle of the investment should be included in this report.

Table 1: SUMMARY OF SPENDING FOR PROJECT PHASES (REPORTED IN MILLIONS)									
(Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)									
	PY-1 and earlier	PY 2007	CY 2008	BY 2009	BY+1 2010	BY+2 2011	BY+3 2012	BY+4 and beyond	Total
Planning:	0.005	0.555	0.779	0.757					
Acquisition:	0.56	31.979	20.142	40.594					
Subtotal Planning & Acquisition:	0.565	32.534	20.921	41.351					
Operations & Maintenance:	125.893	44.496	62.825	43.679					
TOTAL:	126.458	77.030	83.746	85.03					
Government FTE Costs should not be included in the amounts provided above.									
Government FTE Costs	0.015	0.03	0.03	0.03					
Number of FTE represented by Costs:	2	1	1	1					

Note: For the multi-agency investments, this table should include all funding (both managing partner and partner agencies). Government FTE Costs should not be included as part of the TOTAL represented.

2. Will this project require the agency to hire additional FTE's? No
 a. If "yes," How many and in what year?
 3. If the summary of spending has changed from the FY2008 President's budget request, briefly explain those changes:
 The budget was adjusted down from \$80M to \$77M in FY07 as a result of the continuing resolution and FY07 Congressional budget allocations.

Section C: Acquisition/Contract Strategy (All Capital Assets)

1. Complete the table for all (including all non-Federal) contracts and/or task orders currently in place or planned for this investment. Total Value should include all option years for each contract. Contracts and/or task orders completed do not need to be included.

Exhibit 300: ORNL Leadership Computing Facility (OLCF) (Revision 16)

Contracts/Task Orders Table:															* Costs in millions	
Contract or Task Order Number	Type of Contract/ Task Order	Has the contract been awarded (Y/N)	If so what is the date of the award? If not, what is the planned award date?	Start date of Contract/ Task Order	End date of Contract/ Task Order	Total Value of Contract/ Task Order (\$M)	Is this an Interagency Acquisition ? (Y/N)	Is it performance based? (Y/N)	Competitively awarded? (Y/N)	What, if any, alternative financing option is being used? (ESPC, UESC, EUL, N/A)	Is EVM in the contract? (Y/N)	Does the contract include the required security & privacy clauses? (Y/N)	Name of CO	CO Contact information (phone/email)	Contracting Officer Certification Level (Level 1,2,3,N/A)	If N/A, has the agency determined the CO assigned has the competencies and skills necessary to support this acquisition ? (Y/N)
DE-AC05-00OR22725	Cost Reimbursement	Yes	4/1/2005	4/1/2005	3/31/2010	289.918	No	Yes	Yes	NA	Yes	Yes	Million, Mark	865-576-7814 / millionma@oro.doe.gov	Level 3	
4000037567	Firm Fixed Price /LTO	Yes	2/1/2005	2/1/2005	12/1/2013	261.394	No	Yes	Yes	NA	No	Yes	Million, Mark	865-576-7814 / millionma@oro.doe.gov	Level 3	

2. If earned value is not required or will not be a contract requirement for any of the contracts or task orders above, explain why:

Contracts 1 and 2, its extension, represent the Prime Contract for the entire Laboratory. The WBS for the DME portion of the LCF investment is managed by an integrated project team that employs trained cost account managers and change control procedures. The SC ORNL LCF Project Director submits quarterly EVM reports along with operational analysis of the steady state investment to the assigned DOE Program Manager. ORNL deploys an ANSI/EIA-748 certifiable EVM system, for DME activities, that is integrated into ORNL's SAP and Primavera management systems. The DOE uses a performance-based management approach to manage LCF through an ongoing process of establishing strategic performance objectives; measuring performance; collecting, analyzing, reviewing, and reporting performance data; and using that data to drive performance improvement. Contract performance is managed in accordance with Department of Energy Order 224.1, Contractor Performance-Based Business Management Process, dated 12-8-97, which requires Departmental elements to regularly assess and evaluate contractor performance, controls, and compliance. Self-assessments are the primary tool used at all levels to assess and evaluate results and to improve performance. Through adherence to DOE Order 224.1, ORNL integrates contract work scope, budget, and schedule to achieve realistic, executable performance plans, compliant with EVM System Industry Standard (ANSI/EIA-748). The program is reviewed at least annually to ensure that its management, technologies, and capabilities adequately meet the requirements of its mission, as defined by its community of users and its sponsors. External peer review is a driving force in the development and implementation of the program. Reviews are conducted on both a routine and an extraordinary basis as critical program issues arise. The latest review was chaired by Dan Lehman (DOE Project Management office) in December, 2006.

Contract 3 is for the Lease-to-Own computer systems. It is performance-based in that OLCF will pay only if the delivered systems meet performance goals. EVM is not implemented as the contract is not activity-based.

3. Do the contracts ensure Section 508 compliance? Yes

a. Explain why:

The LCF complies with the DOE policy on Section 508 through the use of appropriate contractor's requirements documents. The Contracting Officer (CO) or CO Technical Representative (COTR), ensures that statements of work include Section 508 technical standards and that all IT acquisitions provide the greatest possible degree of compliance with Section 508 technical standards (36 CFR 1194.21-1194.26, 1194.31, 1194.41) while satisfying other functional requirements.

4. Is there an acquisition plan which has been approved in accordance with agency requirements? Yes

a. If "yes," what is the date?

5/12/2004

b. If "no," will an acquisition plan be developed?

1. If "no," briefly explain why:

Section D: Performance Information (All Capital Assets)

In order to successfully address this area of the exhibit 300, performance goals must be provided for the agency and be linked to the annual performance plan. The investment must discuss the agency's mission and strategic goals, and performance measures (indicators) must be provided. These goals need to map to the gap in the agency's strategic goals and objectives this investment is designed to fill. They are the internal and external performance benefits this investment is expected to deliver to the agency (e.g., improve efficiency by 60 percent, increase citizen participation by 300 percent a year to achieve an overall citizen participation rate of 75 percent by FY 2xxx, etc.). The goals must be clearly measurable investment outcomes, and if applicable, investment outputs. They do not include the completion date of the module, milestones, or investment, or general goals, such as, significant, better, improved that do not have a quantitative or qualitative measure.

Agencies must use the following table to report performance goals and measures for the major investment and use the Federal Enterprise Architecture (FEA) Performance Reference Model (PRM). Map all Measurement Indicators to the corresponding "Measurement Area" and "Measurement Grouping" identified in the PRM. There should be at least one Measurement Indicator for each of the four different Measurement Areas (for each fiscal year). The PRM is available at www.egov.gov. The table can be extended to include performance measures for years beyond FY 2009.

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
2007	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation’s energy, national security, and environmental	Customer Results	Customer Benefit	Customer Satisfaction	Satisfaction as determined through user survey	Previous year’s survey results	Annual user survey results show improvement in at least 1/3 of questions that scored below average in previous period.	Available Q1 FY08

Exhibit 300: ORNL Leadership Computing Facility (OLCF) (Revision 16)

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	quality challenges.							
2007	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation’s energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Delivery Time	Time between receipt of user query (RT ticket) and initial response, in Business Hours	Average response time of 2 Business Hours	Sustain or improve overall response time average of 2 Business Hours	Actual performance metrics results and achievements will be provided in Q1 FY08 perf goals and milestones. In FY06 OLCF achieved 90% of the perf goal and is on target to exceed the planned FY07 perf improvement goal and is currently scored "Green"
2007	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation’s energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation	CPU hours allocated to users through INCITE	30M hours allocated	Increase available hours to 75M (calendar 2007 allocation)	Actual performance metrics results and achievements will be provided in Q1 FY08 perf goals and milestones. In FY06 OLCF achieved 90% of the perf goal and is on target to exceed the planned FY07 perf improvement goal and is currently scored "Green"
2007	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation’s energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity	% of scheduled time that system is available to users	75%	Improve to 80%	Actual performance metrics results and achievements will be provided in Q1 FY08 perf goals and milestones. In FY06 OLCF achieved 90% of the perf goal and is on target to exceed the planned FY07 perf improvement goal and is currently scored "Green"
2007	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation’s energy, national security, and environmental quality challenges.	Technology	Efficiency	Improvement	Computing capability	50 TF (peak)	Improve to 100 TF	This milestone achieved for FY07, 119 TF (peak)
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that	Customer Results	Customer Benefit	Customer Satisfaction				

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.							
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Delivery Time				
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity				
2008	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Efficiency	Improvement				
2009	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that	Customer Results	Customer Benefit	Customer Satisfaction				

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.							
2009	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Delivery Time				
2009	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2009	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity				
2009	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Efficiency	Improvement				
2010	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that	Customer Results	Customer Benefit	Customer Satisfaction				

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.							
2010	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Response Time				
2010	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2010	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity				
2010	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Reliability and Availability	Reliability				
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that	Customer Results	Customer Benefit	Customer Satisfaction				

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.							
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Response Time				
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity				
2011	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Reliability and Availability	Reliability				
2012	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that	Customer Results	Customer Benefit	Customer Satisfaction				

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.							
2012	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Customer Results	Timeliness and Responsiveness	Response Time				
2012	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Mission and Business Results	General Science and Innovation	Scientific and Technological Research and Innovation				
2012	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Processes and Activities	Productivity and Efficiency	Productivity				
2012	GOAL 3.1 Scientific Discovery – Achieve the major scientific discoveries that will drive U.S. competitiveness, inspire America, and revolutionize our approaches to the Nation's energy, national security, and environmental quality challenges.	Technology	Reliability and Availability	Reliability				

Section E: Security and Privacy (IT Capital Assets only)

In order to successfully address this area of the business case, each question below must be answered at the system/application level, not at a program or agency level. Systems supporting this investment on the planning and operational systems security tables should match the systems on the privacy table below. Systems on the Operational Security Table must be included on your agency FISMA system inventory and should be easily referenced in the inventory (i.e., should use the same name or identifier).

For existing Mixed-Life Cycle investments where enhancement, development, and/or modernization is planned, include the investment in both the "Systems in Planning" table (Table 3) and the "Operational Systems" table (Table 4). Systems which are already operational, but have enhancement, development, and/or modernization activity, should be included in both Table 3 and Table 4. Table 3 should reflect the planned date for the system changes to be complete and operational, and the planned date for the associated C&A update. Table 4 should reflect the current status of the requirements listed. In this context, information contained within Table 3 should characterize what updates to testing and documentation will occur before implementing the enhancements; and Table 4 should characterize the current state of the materials associated with the existing system.

All systems listed in the two security tables should be identified in the privacy table. The list of systems in the "Name of System" column of the privacy table (Table 8) should match the systems listed in columns titled "Name of System" in the security tables (Tables 3 and 4). For the Privacy table, it is possible that there may not be a one-to-one ratio between the list of systems and the related privacy documents. For example, one PIA could cover multiple systems. If this is the case, a working link to the PIA may be listed in column (d) of the privacy table more than once (for each system covered by the PIA).

The questions asking whether there is a PIA which covers the system and whether a SORN is required for the system are discrete from the narrative fields. The narrative column provides an opportunity for free text explanation why a working link is not provided. For example, a SORN may be required for the system, but the system is not yet operational. In this circumstance, answer "yes" for column (e) and in the narrative in column (f), explain that because the system is not operational the SORN is not yet required to be published.

Please respond to the questions below and verify the system owner took the following actions:

1. Have the IT security costs for the system(s) been identified and integrated into the overall costs of the investment:
 - a. If "yes," provide the "Percentage IT Security" for the budget year:
2. Is identifying and assessing security and privacy risks a part of the overall risk management effort for each system supporting or part of this investment.

3. Systems in Planning and Undergoing Enhancement(s), Development, and/or Modernization - Security Table(s):			
Name of System	Agency/ or Contractor Operated System?	Planned Operational Date	Date of Planned C&A update (for existing mixed life cycle systems) or Planned Completion Date (for new systems)
NCCS (1PF)			
NCCS (20PF)			
NCCS (250TF)			

4. Operational Systems - Security Table:							
Name of System	Agency/ or Contractor Operated System?	NIST FIPS 199 Risk Impact level (High, Moderate, Low)	Has C&A been Completed, using NIST 800-37? (Y/N)	Date Completed: C&A	What standards were used for the Security Controls tests? (FIPS 200/NIST 800-53, NIST 800-26, Other, N/A)	Date Complete(d): Security Control Testing	Date the contingency plan tested
National Center for Computational Sciences (NCCS synonymous with OLCF)							

5. Have any weaknesses, not yet remediated, related to any of the systems part of or supporting this investment been identified by the agency or IG?
 - a. If "yes," have those weaknesses been incorporated into the agency's plan of action and milestone process?
6. Indicate whether an increase in IT security funding is requested to remediate IT security weaknesses?
 - a. If "yes," specify the amount, provide a general description of the weakness, and explain how the funding request will remediate the weakness.

7. How are contractor security procedures monitored, verified, and validated by the agency for the contractor systems above?

8. Planning & Operational Systems - Privacy Table:					
(a) Name of System	(b) Is this a new system? (Y/N)	(c) Is there at least one Privacy Impact Assessment (PIA) which covers this system? (Y/N)	(d) Internet Link or Explanation	(e) Is a System of Records Notice (SORN) required for this system? (Y/N)	(f) Internet Link or Explanation
NCCS	No	No	The system does not contain, process or transmit personal identifying information.	No	The system is not a Privacy Act system of records.
NCCS (1PF)	No	No	The system does not contain, process or transmit personal identifying information.	No	The system is not a Privacy Act system of records.
NCCS (20PF)	No	No	The system does not contain, process or transmit personal identifying information.	No	The system is not a Privacy Act system of records.
NCCS (250TF)	No	No	The system does not contain, process or transmit personal identifying information.	No	The system is not a Privacy Act system of records.

Details for Text Options:
 Column (d): If yes to (c), provide the link(s) to the publicly posted PIA(s) with which this system is associated. If no to (c), provide an explanation why the PIA has not been publicly posted or why the PIA has not been conducted.
 Column (f): If yes to (e), provide the link(s) to where the current and up to date SORN(s) is published in the federal register. If no to (e), provide an explanation why the SORN has not been published or why there isn't a current and up to date SORN.
 Note: Working links must be provided to specific documents not general privacy websites. Non-working links will be considered as a blank field.

Section F: Enterprise Architecture (EA) (IT Capital Assets only)

In order to successfully address this area of the capital asset plan and business case, the investment must be included in the agency's EA and Capital Planning and Investment Control (CPIC) process and mapped to and supporting the FEA. The business case must demonstrate the relationship between the investment and the business, performance, data, services, application, and technology layers of the agency's EA.

1. Is this investment included in your agency's target enterprise architecture? Yes
 - a. If "no," please explain why?

2. Is this investment included in the agency's EA Transition Strategy? Yes
 - a. If "yes," provide the investment name as identified in the Transition Strategy provided in the agency's most recent annual EA Assessment. ORNL Leadership Computing Facility (LCF) - Direct Mission
 - b. If "no," please explain why?

3. Is this investment identified in a completed (contains a target architecture) and approved segment architecture? No
 - a. If "yes," provide the name of the segment architecture as provided in the agency's most recent annual EA Assessment.

4. Service Component Reference Model (SRM) Table:								
Identify the service components funded by this major IT investment (e.g., knowledge management, content management, customer relationship management, etc.). Provide this information in the format of the following table. For detailed guidance regarding components, please refer to http://www.egov.gov .								
Agency Component Name	Agency Component Description	FEA SRM Service Domain	FEA SRM Service Type	FEA SRM Component (a)	Service Component Reused Name (b)	Service Component Reused UPI (b)	Internal or External Reuse? (c)	BY Funding Percentage (d)
Computer Center Management	Resources to perform management of computing facility.	Back Office Services	Asset / Materials Management	Computers / Automation Management			No Reuse	
Data Management	Supports the archiving and storage of large volumes of data.	Back Office Services	Data Management	Data Warehouse			No Reuse	

Exhibit 300: ORNL Leadership Computing Facility (OLCF) (Revision 16)

4. Service Component Reference Model (SRM) Table:								
Identify the service components funded by this major IT investment (e.g., knowledge management, content management, customer relationship management, etc.). Provide this information in the format of the following table. For detailed guidance regarding components, please refer to http://www.egov.gov .								
Agency Component Name	Agency Component Description	FEA SRM Service Domain	FEA SRM Service Type	FEA SRM Component (a)	Service Component Reused Name (b)	Service Component Reused UPI (b)	Internal or External Reuse? (c)	BY Funding Percentage (d)
High Performance Computational Services	Software to perform mathematical and statistical calculations	Business Analytical Services	Analysis and Statistics	Mathematical			No Reuse	
High Performance Computation	Support of scientific research. This is the fundamental reason for the investment.	Business Analytical Services	Knowledge Discovery	Simulation			No Reuse	
Data Analytics	Resources that support the creation of film or electronic images from pictures, paper forms or graphics for static or dynamic use.	Business Analytical Services	Visualization	Imagery			No Reuse	
Help Desk	On-line help application	Customer Services	Customer Initiated Assistance	Self-Service			No Reuse	
Data Management	Supports the balance and allocation of memory, usage, disk space and performance on computers and their applications	Support Services	Systems Management	System Resource Monitoring			No Reuse	

a. Use existing SRM Components or identify as "NEW". A "NEW" component is one not already identified as a service component in the FEA SRM.

b. A reused component is one being funded by another investment, but being used by this investment. Rather than answer yes or no, identify the reused service component funded by the other investment and identify the other investment using the Unique Project Identifier (UPI) code from the OMB Ex 300 or Ex 53 submission.

c. 'Internal' reuse is within an agency. For example, one agency within a department is reusing a service component provided by another agency within the same department. 'External' reuse is one agency within a department reusing a service component provided by another agency in another department. A good example of this is an E-Gov initiative service being reused by multiple organizations across the federal government.

d. Please provide the percentage of the BY requested funding amount used for each service component listed in the table. If external, provide the percentage of the BY requested funding amount transferred to another agency to pay for the service. The percentages in the column can, but are not required to, add up to 100%.

5. Technical Reference Model (TRM) Table:				
To demonstrate how this major IT investment aligns with the FEA Technical Reference Model (TRM), please list the Service Areas, Categories, Standards, and Service Specifications supporting this IT investment.				
FEA SRM Component (a)	FEA TRM Service Area	FEA TRM Service Category	FEA TRM Service Standard	Service Specification (b) (i.e., vendor and product name)
Computers / Automation Management	Component Framework	Data Management	Database Connectivity	
System Resource Monitoring	Component Framework	Data Management	Reporting and Analysis	
System Resource Monitoring	Component Framework	Data Management	Reporting and Analysis	
Imagery	Component Framework	Presentation / Interface	Content Rendering	
Imagery	Component Framework	Presentation / Interface	Content Rendering	
Imagery	Component Framework	Presentation / Interface	Content Rendering	
Imagery	Component Framework	Presentation / Interface	Dynamic Server-Side Display	
Self-Service	Service Access and Delivery	Access Channels	Collaboration / Communications	
Self-Service	Service Access and Delivery	Delivery Channels	Internet	
Identification and Authentication	Service Access and Delivery	Service Requirements	Authentication / Single Sign-on	
Self-Service	Service Access and Delivery	Service Requirements	Hosting	
Data Warehouse	Service Platform and Infrastructure	Database / Storage	Storage	

Exhibit 300: ORNL Leadership Computing Facility (OLCF) (Revision 16)

5. Technical Reference Model (TRM) Table:

To demonstrate how this major IT investment aligns with the FEA Technical Reference Model (TRM), please list the Service Areas, Categories, Standards, and Service Specifications supporting this IT investment.

FEA SRM Component (a)	FEA TRM Service Area	FEA TRM Service Category	FEA TRM Service Standard	Service Specification (b) (i.e., vendor and product name)
Mathematical	Service Platform and Infrastructure	Hardware / Infrastructure	Servers / Computers	
Simulation	Service Platform and Infrastructure	Hardware / Infrastructure	Servers / Computers	
Mathematical	Service Platform and Infrastructure	Software Engineering	Integrated Development Environment	
Mathematical	Service Platform and Infrastructure	Software Engineering	Integrated Development Environment	
Computers / Automation Management	Service Platform and Infrastructure	Support Platforms	Platform Dependent	

a. Service Components identified in the previous question should be entered in this column. Please enter multiple rows for FEA SRM Components supported by multiple TRM Service Specifications

b. In the Service Specification field, agencies should provide information on the specified technical standard or vendor product mapped to the FEA TRM Service Standard, including model or version numbers, as appropriate.

6. Will the application leverage existing components and/or applications across the Government (i.e., FirstGov, Pay.Gov, etc)? No

a. If "yes," please describe.

Exhibit 300: Part II: Planning, Acquisition and Performance Information

Section A: Alternatives Analysis (All Capital Assets)

Part II should be completed only for investments identified as "Planning" or "Full Acquisition," or "Mixed Life-Cycle" investments in response to Question 6 in Part I, Section A above.

In selecting the best capital asset, you should identify and consider at least three viable alternatives, in addition to the current baseline, i.e., the status quo. Use OMB Circular A-94 for all investments and the Clinger Cohen Act of 1996 for IT investments to determine the criteria you should use in your Benefit/Cost Analysis.

1. Did you conduct an alternatives analysis for this project? Yes
 - a. If "yes," provide the date the analysis was completed? 8/27/2007
 - b. If "no," what is the anticipated date this analysis will be completed?
 - c. If no analysis is planned, please briefly explain why:

2. Alternative Analysis Results:			* Costs in millions
Use the results of your alternatives analysis to complete the following table:			
Alternative Analyzed	Description of Alternative	Risk Adjusted Lifecycle Costs estimate	Risk Adjusted Lifecycle Benefits estimate
0			
1			
2			
3			

3. Which alternative was selected by the Agency's Executive/Investment Committee and why was it chosen?

Alt. #1 has the lowest cost and best cost-to-benefit ratio of the two other progressive alternatives and is the most effective way to provide the benefits measured in the performance section I.D. Alt. #1 covers ORNL's operation of existing systems and the lease-to-own acquisition of more advanced systems through a low-risk, incremental upgrade program to achieve a 20 petaflops (PF) computing system by Q4FY11. The incremental technique allows OLCF staff to solve in a timely manner problems that inevitably present when installing cutting-edge high performance computers all the while allowing users access to ever increasing capability. LCF at ORNL also benefits from the existing housing, cooling, and power infrastructure already in place or in planning at the Lab. The only cost to LCF are site preparation, installation and connection expenses. Also already in place are staff with the expertise to install and operate successfully a computing facility of this caliber.

Based on a peer-reviewed competition, the Office of Science awarded the Leadership Class Computing facility to the partnership of ORNL, ANL and PNNL on May 12, 2004. This review established the approach of employing Cray systems (at ORNL) and IBM Blue Gene systems (at ANL) to optimally span the wide range of science requirements. This two-site approach also substantially reduces the risk to the program should one of the sites go off line for an extended period. Benefits are also derived from avoiding the higher costs of commercial hosting of the computer(s).

4. What specific qualitative benefits will be realized?

The science thrusts of DOE employ a wide range of computational algorithms requiring capability computing. Different computing architectures have different strengths with respect to the algorithms currently in popular use. A key strength of the LCF Program approach is the ability of diverse Leadership Computing systems to each efficiently address capability-limited computations in different science areas of the DOE portfolio more economically than a single computer architecture. With the addition of the leadership class Cray XT Series computers at ORNL, DOE science fills a large gap in computer and data storage resource requirements with strong capabilities to accelerate scientific understanding in areas that include energy systems, life sciences, environmental stewardship, and fundamental science. This is an important step in achieving 2006 DOE Strategic Goal 3.1 for Scientific Breakthroughs, which requires us to "Advance the computational sciences and the leadership class computational capabilities required for today's frontiers of scientific discovery" and DOE-SC Strategic Goal 6.4, "Provide computing resources at the petascale and beyond, network infrastructure, and tools to enable computational science and scientific collaboration

5. Will the selected alternative replace a legacy system in-part No
or in-whole?
 - a. If "yes," are the migration costs associated with the migration to the selected alternative included in this investment, the legacy investment, or in a separate migration investment.
 - b. If "yes," please provide the following information:

List of Legacy Investment or Systems		
Name of the Legacy Investment of Systems	UPI if available	Date of the System Retirement

Section B: Risk Management (All Capital Assets)

You should have performed a risk assessment during the early planning and initial concept phase of this investment's life-cycle, developed a risk-adjusted life-cycle cost estimate and a plan to eliminate, mitigate or manage risk, and be actively managing risk throughout the investment's life-cycle.

- 1. Does the investment have a Risk Management Plan? Yes

 - a. If "yes," what is the date of the plan? 8/1/2007
 - b. Has the Risk Management Plan been significantly changed since last year's submission to OMB? No
 - c. If "yes," describe any significant changes:

The current plan clearly describes the processes that will be used for risk management, including risk identification, qualitative analysis (includes rating and ranking), appropriate quantitative analysis, response planning, and methods of monitoring, reporting, and control. It also includes a section on opportunity management, the corollary to negative impact risks. All of these processes are consistent with the "best practices" guidelines promoted by the Project Management Institute. The descriptions of particular risks contained in the previous version of the plan were removed. All identified risks have been and will be entered into a separate risk register (or log) for easier analysis, tracking, and reporting.

- 2. If there currently is no plan, will a plan be developed?
 - a. If "yes," what is the planned completion date?
 - b. If "no," what is the strategy for managing the risks?

3. Briefly describe how investment risks are reflected in the life cycle cost estimate and investment schedule:

Section C: Cost and Schedule Performance (All Capital Assets)

EVM is required only on DME portions of investments. For mixed lifecycle investments, O&M milestones should still be included in the table (Comparison of Initial Baseline and Current Approved Baseline). This table should accurately reflect the milestones in the initial baseline, as well as milestones in the current baseline.

- 1. Does the earned value management system meet the criteria in ANSI/EIA Standard-748? Yes
- 2. Is the CV% or SV% greater than +/- 10%? (CV%= CV/EV x 100; SV%= SV/PV x 100) No
 - a. If "yes," was it the CV or SV or both?
 - b. If "yes," explain the causes of the variance:
The acquisition activities did not cost as much as planned.
 - c. If "yes," describe the corrective actions:
The variance will be rectified in the implementation phase.
- 3. Has the investment re-baselined during the past fiscal year? Yes
 - a. If "yes," when was it approved by the agency head? 3/15/2007

Exhibit 300: ORNL Leadership Computing Facility (OLCF) (Revision 16)

4. Comparison of Initial Baseline and Current Approved Baseline

Complete the following table to compare actual performance against the current performance baseline and to the initial performance baseline. In the Current Baseline section, for all milestones listed, you should provide both the baseline and actual completion dates (e.g., "03/23/2003"/ "04/28/2004") and the baseline and actual total costs (in \$ Millions). In the event that a milestone is not found in both the initial and current baseline, leave the associated cells blank. Note that the 'Description of Milestone' and 'Percent Complete' fields are required. Indicate '0' for any milestone no longer active.

Milestone Number	Description of Milestone	Initial Baseline		Current Baseline				Current Baseline Variance		Percent Complete
		Planned Completion Date (mm/dd/yyyy)	Total Cost (\$M) Estimated	Completion Date (mm/dd/yyyy)		Total Cost (\$M)		Schedule (# days)	Cost (\$M)	
				Planned	Actual	Planned	Actual			
1	FY05 SS Installation of 18TF platform	9/30/2005	\$73.328	9/30/2005	9/30/2005	\$73.328	\$73.328	0	\$0	100%
2	FY05 DME 18TF Acceptance Milestone	9/30/2005	\$0	9/30/2005	9/30/2005	\$0	\$0	0	\$0	100%
3	FY06 DME Project Management - Planning	9/30/2006	\$0.005	9/30/2006	9/30/2006	\$0.005	\$0.005	0	\$0	100%
4	FY06 DME Hardware Acquisition	9/30/2006	\$0.56	9/30/2006	9/30/2006	\$0.56	\$0.56	0	\$0	100%
5	FY06 DME 25TF Acceptance Milestone	12/1/2005	\$0	12/1/2005	12/1/2005	\$0	\$0	0	\$0	100%
6	FY06 DME 50TF Acceptance Milestone	7/1/2006	\$0	7/1/2006	7/1/2006	\$0	\$0	0	\$0	100%
7	FY06 SS Operations (O&M)	9/30/2006	\$52.613	9/30/2006	9/30/2006	\$52.613	\$52.613	0	\$0	100%
8	FY07 DME Hardware Acquisition	9/30/2007	\$0.878	9/30/2007	9/30/2007	\$1.208	\$1.208	0	\$0	100%
9	FY07 DME Site Prep	9/30/2007	\$3.178	9/30/2007	9/30/2007	\$3.721	\$3.721	0	\$0	100%
10	FY07 DME Computer Acceptance Prep Activities	9/30/2007	\$0.435	9/30/2007	9/30/2007	\$0.779	\$0.779	0	\$0	100%
11	FY07 DME Computer Acceptance Activities	9/30/2007	\$0.318	9/30/2007	9/30/2007	\$0.294	\$0.294	0	\$0	100%

Exhibit 300: ORNL Leadership Computing Facility (OLCF) (Revision 16)

4. Comparison of Initial Baseline and Current Approved Baseline

Complete the following table to compare actual performance against the current performance baseline and to the initial performance baseline. In the Current Baseline section, for all milestones listed, you should provide both the baseline and actual completion dates (e.g., "03/23/2003"/ "04/28/2004") and the baseline and actual total costs (in \$ Millions). In the event that a milestone is not found in both the initial and current baseline, leave the associated cells blank. Note that the 'Description of Milestone' and 'Percent Complete' fields are required. Indicate '0' for any milestone no longer active.

Milestone Number	Description of Milestone	Initial Baseline		Current Baseline				Current Baseline Variance		Percent Complete
		Planned Completion Date (mm/dd/yyyy)	Total Cost (\$M) Estimated	Completion Date (mm/dd/yyyy)		Total Cost (\$M)		Schedule (# days)	Cost (\$M)	
				Planned	Actual	Planned	Actual			
12	FY07 DME 100TF Acceptance Milestone	2/15/2007	\$0	2/28/2007	2/15/2007	\$0	\$0	13	\$0	100%
13	FY07 DME Project Management - Planning	9/30/2007	\$0.498	9/30/2007	9/30/2007	\$0.555	\$0.555	0	\$0	100%
14	FY07 DME Project Management - Risk & Change, Mgmt, QA, ESH, Reporting	9/30/2007	\$0.36	9/30/2007	9/30/2007	\$0.445	\$0.445	0	\$0	100%
15	FY07 DME Project R&D	9/30/2007	\$1.124	9/30/2007	9/30/2007	\$0.697	\$0.697	0	\$0	100%
16	FY07 DME Project Management Contingency Reserve	9/30/2007	\$2.117	9/30/2007	9/30/2007	\$1.046	\$1.046	0	\$0	100%
17	FY07 DME Hardware Lease Payments	9/30/2007	\$27.142	9/30/2007	9/30/2007	\$24.313	\$24.313	0	\$0	100%
18	FY07 SS Hardware Lease Payments	9/30/2007	\$14.685	9/30/2007	9/30/2007	\$14.685	\$14.685	0	\$0	100%
19	FY07 SS Operations (O&M)	9/30/2007	\$29.237	9/30/2007	9/30/2007	\$29.247	\$29.247	0	\$0	100%
20	FY07 SS Security Test Milestone	9/30/2007	\$0.01	9/30/2007	9/30/2007	\$0.01	\$0.01	0	\$0	100%