

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: 1/7/2008
- 2. Agency: Department of Commerce
- 3. Bureau: Noaa (Cio)
- 4. Name of this Capital Asset: NOAA/OCIO/ NOAA R&D High Performance Computing System
- 5. Unique Project (Investment) Identifier: (For IT investment only, see section 53. For all other, use agency ID system.) 006-48-01-17-01-3804-00
- 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.) Operations and Maintenance
- 7. What was the first budget year this investment was submitted to OMB? FY2006

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:

This investment provides the computational resources necessary to support continued advances in the environmental modeling capabilities and addresses other HPC requirements that may arise within NOAA and at other partner agencies. IT capital investment includes the HPC systems, complementary storage devices and interconnects, communications hardware interfaces, software, networking equipment, system maintenance, support services, IT security, and necessary infrastructure enhancements. This Exhibit represents a coordinated and centralized capital planning effort for the three NOAA HPC organizations, and is intended to improve the acquisition process and to achieve economies of scale through consolidation of system requirements and a reduced number of individual acquisitions.

NOAA's R&D HPCS resources enable scientists to attack long-lead-time problems associated with the physical processes that govern the behavior of the atmosphere and the ocean. Advanced climate models are the only means for distinguishing between natural and forced climate variations, assessing future impacts, and hence providing a capability to adapt to climate change and to explore mitigation strategies. These models are crucial for understanding some of the most critical climate issues of today. Major economic decisions of national importance are being made on issues impacted by climate without being based on the best possible science.

These resources will also be utilized for a number of shorter-range meteorological research projects, including the development of next generation weather and climate forecast models, National Test Bed, and Satellite Data Assimilation projects. They will also facilitate applied meteorological research and development for purposes of improving and creating short-term warning and weather forecast systems, models, and observing technology.

- 9. Did the Agency's Executive/Investment Committee approve this request? Yes
 - a. If "yes," what was the date of this approval? 5/15/2006
- 10. Did the Project Manager review this Exhibit? Yes
- 12. Has the agency developed and/or promoted cost effective, energy-efficient and environmentally sustainable techniques or practices for this project? No
 - 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
 - 1. If "yes," is an ESPC or UESC being used to help fund this investment? No
 - 2. If "yes," will this investment meet sustainable design principles? No

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:

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?)

Budget Performance Integration

* Performance measures linked to outcomes that impact the public such as improved hurricane, precipitation, and maritime forecasts.

* Measures tied to HPC system performance are used to monitor vendor contracts and to ensure that system standards, deliveries, and availability comply with agreed upon service levels.

* The NOAA HPC Board ensures HPC requirements and resources are maximized to provide the highest benefit to the Government and to NOAA's mission.

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? No

b. If "yes," what is the name of the PARTed program? Climate 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 FFMI compliance area? No

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 59

Software 6

Services 23

Other 12

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

23. Are the records produced by this investment appropriately scheduled with the National Archives and Records Administration's approval? No

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)									
<i>(Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)</i>									
	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	0	0	0					
Acquisition:	0	0	0	0					
Subtotal Planning & Acquisition:	0	0	0	0					
Operations & Maintenance:	0.131	24.368	23.466	24.368					
TOTAL:	0.131	24.368	23.466	24.368					
Government FTE Costs should not be included in the amounts provided above.									
Government FTE Costs	0.369	2.04	2.097	2.156					
Number of FTE represented by Costs:	3	18	18	18					

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?

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.

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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)
DG133H07C N0002	Firm Fixed Price	Yes	5/5/2006	10/2/2006	9/30/2009	61	No	Yes	Yes	NA	No	Yes		Redacted morie.gunter- henderson@ noaa.gov		

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:

This contract does not involve any development work. This contract will be used to lease hardware and software, provide support services, and make modifications to existing facilities.
It is a firm fixed price contract, and CLINS have been established and priced.

3. Do the contracts ensure Section 508 compliance? N/A
- a. Explain why: High Performance Computers are kept in designated areas and have traditionally been ruled exempt from section 508.
4. Is there an acquisition plan which has been approved in accordance with agency requirements? Yes
- a. If "yes," what is the date? 8/9/2004
- 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
2005	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Implementation of a high resolution version of CM2 coupled climate model	Climate models lack resolution to distinguish regional effects of climate change. Baseline is 2 degrees	Develop high resolution (1 degree) global coupled climate model to examine regional climate change	High-resolution climate model implemented and undergoing performance evaluation
2005	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Additional enhanced climate scenarios performed	1800 equivalent model years simulated to date	Simulate 3000 equivalent model years to clarify natural systems uptake of carbon and to provide climate information for assessment report	Over 3000 equivalent model years simulated
2005	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Resolution of WRF (Weather Research and Forecasting) model CONUS scale weather forecast mode	CONUS scale weather forecast model at 13kms	CONUS scale weather forecast model at 10kms	CONUS scale weather forecast model running at 5 km
2005	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social,	Processes and Activities	Productivity and Efficiency	Productivity	Contract benchmark suites at GFDL	64,000 cumulative contract benchmark suites delivered to date	Total contract benchmark suites delivered = 155,000	All contracted suites delivered

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Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	and environmental needs.							
2005	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Aggregate performance increase for FSL HPCS	Extant FSL HPCS Linpack Benchmark performance	Goal of 1.8-2.0X aggregate performance increase	1.85X performance increase
2005	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Information and Data	External Data Sharing	Number of terabytes of climate model data, with analysis tools, available via the web	2 terabytes of data available; minimal tools	5 terabytes of climate model data, and analysis tools, available via the web	6.8 terabytes of climate data available; display and download available via Live Access Server; analysis and graphical display provided by Grid Analysis and Display System
2006	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Determination of optimal WRF modeling core to support the new Rapid Refresh Function during simultaneous execution of WRF and WRF-RUC (Rapid Update Cycle)	Simultaneous execution of a single WRF core and a single WRF-RUC	Simultaneous execution of two WRF cores and one WRF-RUC	Simultaneous execution of two WRF-RUC cores and one WRF core; statistics have been compiled to facilitate a decision on which WRF-RUC core will become the standard.
2006	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Availability of the operational RUC secondary backup	Support NCEP as secondary backup for the operational RUC in high-availability mode at 99% availability	Support NCEP as secondary backup for the operational RUC with best effort, targeting minimum 95% availability, due to lack of funding	Maintained the operational RUC secondary backup at 98.9% availability.
2006	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Information and Technology Management	IT Infrastructure Maintenance	% availability of legacy HPCS at FSL	100% availability of legacy system for 6 months prior to delivery of replacement system (with funding)	Graceful degradation of legacy system though component cannibalization, maintaining minimum of 80% availability for entire year, due to lack of funding	Maintained 97% availability for iJet and 97.7% availability for eJet.
2006	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Information and Technology Management	IT Infrastructure Maintenance	Length of storage time before new data storage media must be purchased	Retain all data saved to the HSMS	Implement a data storage policy to age off data after 2.5 years in order to contain data storage costs due to lack of funding	Implemented 2.5 years data storage policy and reduced storage costs through reuse of tapes by more than \$7,000 annually at current usage rate.
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Customer Results	Timeliness and Responsiveness	Response Time	Response time	Escalation Levels : Level 0 = 1 business hour; Level 1 = 3 business hours; Level 2-3 = priority/issue dependant	These response times are specified in the HPC R&D contract. During first year of the contract the timeliness and effectiveness of escalation process will be monitored and adjustments	The contractor was successful in meeting these response times a majority of the time. The project team tracks help desk tickets on a weekly basis to ensure that the contractor is performing.

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Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
							made as necessary.	
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Concurrent execution of atmospheric models on the NOAA R&D HPCS	Atmospheric models run on the NOAA operational HPCS	Atmospheric models (NMM, WRF-EM, GFS) to run concurrently on the NOAA R&D HPCS	All running on the NOAA Boulder HPCS supporting research projects.
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Implement at least one new or updated component into the Earth System Model	Uncertainty in climate model projections remains higher than desirable	Decrease uncertainty in climate system processes and long-term climate projections measured through improvements in Earth System models	Completely new atmospheric physics and land models complement increased resolution in all Earth System Model components in the model being developed for the IPCC Fifth Assessment Report.
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Decadal predictive skill in North America surface temperature	Quantification of climate model validation is insufficient	Measure predictive skill to validate the reduction of uncertainty in climate models	Techniques for assimilating ocean observations into a coupled model to develop initial conditions for decadal prediction can replicate significant features of the ocean's circulation
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Perform enhanced climate scenarios designed to address specific decision issues regarding climate change	Perform climate model scenarios with current physics-only climate models, as resources permit.	Simulate 7800 equivalent model years to clarify natural systems uptake of carbon and to provide climate information for assessment report	Over 8000 equivalent model years of climate and Earth System model integrations have been completed
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Provide focused assessment reports based on climate scenarios	Contribute research findings to National and International climate assessments	Publish assessment report on a key climate impacts topic, incorporating climate scenario results	A draft of CCSP SAP 3.2 is complete and is currently under NRC review.
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	20 km resolution RUC Hybcst code performance	Existing performance	2x increase	1.8x performance increase.
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Reduced Atlantic Hurricane Forecast 48 Hour Track Errors (model capability)	142 Nautical Miles	128 Nautical Miles	

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Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	needs.							
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Improved 3 Day Precipitation Forecasts (%Accuracy, model capability)	17% (forecast precipitation accuracy)	19% (forecast precipitation accuracy)	19%
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Leverage high performance computing in other federal agencies to accelerate meeting mission goals	NOAA climate models run almost exclusively on NOAA HPC platforms	Port new atmospheric and high resolution coupled climate models to DOE HPC platforms	This port is complete, and a number of validation experiments and control integrations are underway
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Improved 1 day precipitation forecasts (% accuracy model capability)	30% (forecast precipitation accuracy)	32% (forecast accuracy)	31%
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Processes and Activities	Management and Innovation	Innovation and Improvement	Implementation of Integrated Management	Initial Integrated Management processes in place	Refined and more complete processes to be defined and implemented during FY07.	Resource allocation process successfully implemented. Process for collecting quarterly metrics implemented.
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Processes and Activities	Productivity and Efficiency	Productivity	Benchmark suites	63,073 benchmark suites	146,066 accumulated benchmark suites	167,052 delivered.
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Performance increase (X)	3.1X level of performance over current baseline offered at initial delivery	Successful acceptance of replacement system for ESRL that meets availability and enhanced Benchmark Performance requirements	3.28X level of performance delivered
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Performance increase (X)	1.76X level of performance over current baseline offered at initial delivery	Successful acceptance of replacement systems for GFDL that meets contracted availability and enhanced Benchmark Performance requirements	1.98x level of performance was delivered
2007	3.1 Advance understanding and predict changes in the Earth's environment to	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Performance Increase (X)	2.93X level of performance over current baseline offered at initial delivery	Successful acceptance of replacement system for NCEP that meets contracted	3.13X level of performance was delivered.

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	meet America's economic, social, and environmental needs.						availability and enhanced benchmark performance requirements	
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Efficiency	Accessibility	% of data availability	99%	At the discretion of the Government the Vendor will either deliver additional equipment to make up for any loss of availability below 99% or the Government will reduce its monthly lease payment by the % of time that the data was unavailable.	99%
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Information and Data	Data Storage	Terabytes (TB) of storage	127 TB	Upgrade in FY07 to 830 TB of disk space	847 TB was delivered.
2007	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Reliability and Availability	Availability	% of system available	97%	Vendor will deliver additional equipment to make up for any loss of availability below 97% or the Government will reduce its monthly lease payment by the % of time that the system was unavailable.	94% was achieved due to the late delivery of the system in Boulder and the numerical reproducibility problems encountered with the Princeton system.
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Customer Results	Timeliness and Responsiveness	Response Time	Help desk response time	Escalation Levels : Level 0 = 1 business hour; Level 1 = 3 business hours; Level 2-3 = priority/issue dependant	Reduced initial response time and improved time-to-completion.	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Complete coupled ocean/sea-ice model based on new ocean model code base (GUOM)	Current models are limited to a single type of vertical coordinate	The new Code Base (GUOM) uses both Eulerian and Lagrangian vertical coordinates in a unified dynamical core	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Implement at least one new or updated component into the Earth System Model	Uncertainty in climate model projections remains higher than desirable	Decrease uncertainty in climate system processes and long-term climate projections measured through improvements in Earth System models	
2008	3.1 Advance understanding and predict	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Decadal predictive skill in North America	Quantification of climate model validation is	Measure predictive skill to monitor the	

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Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	changes in the Earth's environment to meet America's economic, social, and environmental needs.				surface temperature	insufficient	reduction of uncertainty in climate models	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Perform enhanced climate scenarios designed to address specific decision issues regarding climate change	Perform climate model scenarios with current physics-only climate models, as resources permit.	Simulate 4000 equivalent model years towards climate change attribution	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Provide focused assessment reports based on climate scenarios	Contribute research findings to National and International climate assessments	Publish assessment report on a key climate impacts topic, incorporating climate scenario results	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Explicit thunderstorm prediction experiments	Not done currently	Experimental tests with a WRF-based high-resolution (3-5 km) prediction system	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	NCEP/EMC Climate Test Bed	NCEP/EMC Climate Test Bed	Develop and test the concept of multi-model ensembles for Seasonal to Interannual prediction.	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	NCEP/EMC National Integrated Drought Information System	Not done currently	Develop and test land surface and hydrological prediction systems to support the National Integrated Drought Information System.	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Joint Center for Satellite Data Assimilation	Not done currently	Develop assimilation of satellite data from advanced sounders in the NPOESS Preparatory Program and the operational European METOP suite	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Joint Center for Satellite Data Assimilation	Increase % data employed by forecast operations	Test and improve advanced observing strategies and instruments, including targeted observations and advanced wind and ocean	

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Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
							observing systems	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	NCEP/EMC Modeling Test Bed	Not done currently	Construct and test advanced data assimilation techniques for global model initial conditions	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Leverage high performance computing in other federal agencies to accelerate meeting mission goals	NOAA climate models run almost exclusively on NOAA HPC platforms	Complete validation experiments with ultra-high resolution atmospheric models and control runs of a high-resolution coupled climate model on DOE HPC platforms	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Processes and Activities	Cycle Time and Resource Time	Cycle Time	Continued progress toward producing an operational next-generation rapid refresh weather modeling capability to be transitioned to NWS operations	One non-cycled version running two times per day	Two cycled versions running hourly with verification and visualization	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Processes and Activities	Productivity and Efficiency	Productivity	Contract benchmark suites	146,066 benchmark suites in FY07	228,282 benchmark suites in FY08	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Performance Increase over Base (X)	4.2X level of performance over initial baseline	Successful acceptance of mid-life upgrade for HPCS sub-system located in Boulder that meets availability and enhanced benchmark performance requirements	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Performance Increase over Base (X)	2.79 X level of performance over initial baseline	Successful acceptance of mid-life upgrade for HPCS sub-system located in Princeton that meets availability and enhanced benchmark performance requirements	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Effectiveness	IT Contribution to Process, Customer, or Mission	Performance Increase over Base (X)	7.54 X level of performance over initial baseline	Successful acceptance of mid-life upgrade for HPCS sub-system located in Gaithersburg that meets availability and enhanced benchmark performance requirements	
2008	3.1 Advance	Technology	Efficiency	Accessibility	% of data	99%	At the discretion	

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Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.				availability		of the Government the vendor will either deliver additional equipment to make up for any loss of availability below 99% or the Government will reduce its monthly lease payments by the % of time the data was unavailable.	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Efficiency	Improvement	Robust Observing System Simulation Experiment (OSSE) capability	Basic tests completed with coarse resolution (40-km) RUC-based system	Rigorous tests completed with medium-resolution (20-km or less) WRF-based system	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Information and Data	Data Storage	Terabytes (TB) of storage	847 TB	1,497 TB of disk space	
2008	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Reliability and Availability	Availability	% of system availability	97%	At the discretion of the Government the vendor will either deliver additional equipment to make up for any loss of availability below 97% or the Government will reduce its monthly lease payments by the % of time the system was unavailable.	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Customer Results	Service Coverage	New Customers and Market Penetration	Expansion of Rapid Update Cycle (RUC) model domain	Current RUC domain includes the continental United States only	RUC domain to include Alaska and Hawaii	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Customer Results	Timeliness and Responsiveness	Response Time	Help desk response time	Escalation Levels: Level 0 = 1 business hour; Level 1 = 3 business hours; Levels 2-3 = priority/issue dependant	Reduced initial response time and improve time-to-completion	
2009	3.1 Advance understanding and predict changes in the Earth's environment to	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Implement at least one new or updated component into the Earth System Model	Uncertainty in climate model projections remains higher than desirable	Decrease uncertainty in climate system processes and long-term climate	

Exhibit 300: NOAA/OCIO/ NOAA R&D High Performance Computing System (Revision 15)

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	meet America's economic, social, and environmental needs.						projections measured through improvements in Earth System models	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Decadal predictive skill in North America surface temperature	Quantification of climate model validation is insufficient	Refine measures of predictive skill to monitor the reduction of uncertainty in climate models	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Perform enhanced climate scenarios designed to address specific decision issues regarding climate change	Perform climate model scenarios with current physics-only climate models, as resources permit.	Simulate 4000 equivalent model years towards abrupt climate change	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Provide focused assessment reports based on climate scenarios	Contribute research findings to National and International climate assessments	Publish assessment report on a key climate impacts topic, incorporating climate scenario results	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Flow-Following Finite Volume Icosahedral Model (FIM) capable of ingesting live data and producing realistic forecasts	FIM is in initial development	FIM running at 10KM resolution	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Hurricane Track Error	Reduce by 20% in 10 years	Reduce by 25% in 10 Years	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Environmental Management	Environmental Monitoring and Forecasting	Hurricane Intensity Error	Reduce by 8% in 10 years	Reduce by 12% in 10 years	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Mission and Business Results	Information and Technology Management	Lifecycle/Change Management	Weather and climate applications benchmark performance	Performance on existing GFDL and NCEP R&D systems	Complete negotiation for benchmark performance during contract Option Period	
2009	3.1 Advance	Processes and	Productivity and	Productivity	Contract	228,282	321,659	

Performance Information Table								
Fiscal Year	Strategic Goal(s) Supported	Measurement Area	Measurement Category	Measurement Grouping	Measurement Indicator	Baseline	Target	Actual Results
	understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Activities	Efficiency		benchmark suites	benchmark suites in FY08	benchmark suites in FY09	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Efficiency	Accessibility	% of data availability	99%	At the discretion of the Government the vendor will either deliver additional equipment to make up for any loss of availability below 99% or the Government will reduce its monthly lease payments by the % of time the data was unavailable.	
2009	3.1 Advance understanding and predict changes in the Earth's environment to meet America's economic, social, and environmental needs.	Technology	Reliability and Availability	Availability	% of system availability	97%	At the discretion of the Government the vendor will either deliver additional equipment to make up for any loss of availability below 97% or the Government will reduce its monthly lease payments by the % of time the system was unavailable.	

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: 5

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. Yes

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? Yes

a. If "yes," have those weaknesses been incorporated into the agency's plan of action and milestone process? Yes

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
NOAA/CIO/ NOAA R&D High Performance Computing System	No	No	No, because the system does not contain, process, or transmit personal identifying information.	No	No Because the system 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. Climate / NOAA R&D High Performance Computing System

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)
WW-MOD-SDE Support, Develop and Evaluate Modeling and Scientific Techniques	Support, develop, and evaluate new modeling and scientific techniques, and the testing and transition into operations to improve	Business Analytical Services	Knowledge Discovery	Modeling			No Reuse	10

Exhibit 300: NOAA/OCIO/ NOAA R&D High Performance Computing System (Revision 15)

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)
	accuracy, timeliness, and efficiency in responding to user requirements.							
CL-CLF-CCF Understand the processes that cause climate forcing	Discover, characterize, and understand (i) the atmospheric, oceanic, and terrestrial processes that influence the global carbon cycle, (ii) the atmospheric roles of the radiatively-important non-CO2 greenhouse gases and tropospheric ozone, (iii) the processes driving stratospheric ozone depletion, and (iv) the radiative properties and influence of atmospheric aerosols.	Business Analytical Services	Knowledge Discovery	Modeling			No Reuse	5
CL-CLF-RFC Deliver to stakeholders the needed information on radiative forcing of climate	Provide, in useful and understandable forms, the mutually agreed-upon information on the radiatively important gases and aerosols that is needed to support national and international policy decisions related to climate change, carbon management, and ozone-layer recovery.	Business Analytical Services	Knowledge Discovery	Modeling			No Reuse	10
WW-WWS-WCL Weather-Climate	Research and development to improve weekly-to-subseasonal weather and climate forecasts. Identify and model critical processes linking weather and climate scales.	Business Analytical Services	Knowledge Discovery	Modeling			No Reuse	3
WW-MOD-DTT Develop, Test, and Transition Capabilities	Develop, test, and transition new and upgraded capabilities and the next generation of operational models.	Business Analytical Services	Knowledge Discovery	Modeling			No Reuse	25
CL-CPP-CRD Applied Research and Development	To conduct applied research and field experimnts for improved understanding of climate	Business Analytical Services	Knowledge Discovery	Modeling			No Reuse	5

Exhibit 300: NOAA/OCIO/ NOAA R&D High Performance Computing System (Revision 15)

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)
	variability and change and predictability; improved Earth System Models; develop multi-model ensemble forecast and projection systems; develop new and improved forecasts and application products.							
CL-CPP-TEM Test and evaluate models	To define requirements for global climate observing systems to support operational climate outlooks and projection needs and to evaluate the effectiveness of current observing systems in meeting these needs.	Business Analytical Services	Knowledge Discovery	Modeling			No Reuse	10
WW-MOD-SDE Support, Develop and Evaluate Modeling and Scientific Techniques	Support, develop, and evaluate new modeling and scientific techniques, and the testing and transition into operations to improve accuracy, timeliness, and efficiency in responding to user requirements.	Business Analytical Services	Knowledge Discovery	Simulation			No Reuse	10
CL-CLF-CCF Understand the processes that cause climate forcing	Discover, characterize, and understand (i) the atmospheric, oceanic, and terrestrial processes that influence the global carbon cycle, (ii) the atmospheric roles of the radiatively-important non-CO2 greenhouse gases and tropospheric ozone, (iii) the processes driving stratospheric ozone depletion, and (iv) the radiative properties and influence of atmospheric aerosols.	Business Analytical Services	Knowledge Discovery	Simulation			No Reuse	5
CL-CLF-RFC Deliver to stakeholders the needed information on radiative forcing	Provide, in useful and understandable forms, the mutually agreed-upon information	Business Analytical Services	Knowledge Discovery	Simulation			No Reuse	10

Exhibit 300: NOAA/OCIO/ NOAA R&D High Performance Computing System (Revision 15)

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)
of climate	on the radiatively important gases and aerosols that is needed to support national and international policy decisions related to climate change, carbon management, and ozone-layer recovery.							
WW-WWS-WCL Weather-Climate	to-subseasonal weather and climate forecasts. Identify and model critical processes linking weather and climate scales.	Business Analytical Services	Knowledge Discovery	Simulation			No Reuse	2
CL-CPP-CRD Applied Research and Development	To conduct applied research and field experiemnts for improved understanding of climate variability and change and predictability; improved Earth System Models; develop multi-model ensemble forecast and projection systems; develop new and improved forecasts and application products.	Business Analytical Services	Knowledge Discovery	Simulation			No Reuse	5

- 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)
Simulation	Service Platform and Infrastructure	Database / Storage	Storage	
Modeling	Service Platform and Infrastructure	Database / Storage	Storage	
Modeling	Service Platform and Infrastructure	Hardware / Infrastructure	Network Devices / Standards	
Simulation	Service Platform and Infrastructure	Hardware / Infrastructure	Network Devices / Standards	
Simulation	Service Platform and Infrastructure	Hardware / Infrastructure	Servers / Computers	

Exhibit 300: NOAA/OCIO/ NOAA R&D High Performance Computing System (Revision 15)

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)
Modeling	Service Platform and Infrastructure	Hardware / Infrastructure	Servers / Computers	
Simulation	Service Platform and Infrastructure	Software Engineering	Modeling	
Modeling	Service Platform and Infrastructure	Software Engineering	Modeling	

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 III: For "Operation and Maintenance" investments ONLY (Steady State)**Section A: Risk Management (All Capital Assets)**

Part III should be completed only for investments identified as "Operation and Maintenance" (Steady State) in response to Question 6 in Part I, Section A above.

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? | 7/19/2007 |
| b. Has the Risk Management Plan been significantly changed since last year's submission to OMB? | Yes |
| c. If "yes," describe any significant changes: | |

As part of the projects regular review process the risk management plan has been updated for 2007. All risks have been reviewed along with their impacts and probabilities of occurrence and revised. A copy of the plan is available in the eCPIC resource library for this project.

- | | |
|---|--|
| 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? | |

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

- | | |
|---|----------|
| 1. Was operational analysis conducted? | Yes |
| a. If "yes," provide the date the analysis was completed. | 2/9/2007 |
| b. If "yes," what were the results? | |

This annual operational analysis report is a status review of the Research & Development (R&D) High Performance Computing System (HPCS) program in terms of financial performance, customer results and performance measures. It details financial and technical performance against established baselines/requirements and evaluates customer results. The program continues to meet established cost, schedule and performance parameters and directly facilitates NOAA's strategic goals to "Serve Society's Needs for Weather and Water Information" and "Understand climate variability and change to enhance society's ability to plan and respond".

In 2006 the R&D HPCS operated as three distinct computational systems managed by the Office of Ocean and Atmospheric Research (OAR) and the National Weather Service (NWS). Starting in FY2007 these three systems have been consolidated into a single NOAA HPCS and are now being managed in an integrated manner. The program management support for this project is provided by the NOAA Office of the Chief Information Officer. For the purpose of this report the 2006 operational analysis for the three legacy systems have been integrated into this single report.

I. Customer Results - significant improvements in model performance, enabled environmental literature to be published on schedule, and products were produced on time.

II. Strategic and Business Results

The R&D HPCS supported these NOAA strategic goals:

- o Weather and Water - Serves society's needs for weather and water information
- o Climate - Understand climate variability and change to enhance society's ability to plan and respond

III. Financial Performance

The WCOSS financial performance for 2006 shows no variance, lease costs followed the contractual baseline exactly. The WCOSS lease packages hardware, software, maintenance, support (including on-site personnel, training and travel) costs under a single invoice.

Performance for the months January through September was tracked against the base period of performance as defined in the contract.

The GFDL HPCS project FY06 spending deviated from the original plan by \$613K due to a \$500K funding cut to the High Performance Computing and Communications (HPCC) budget and additional cuts to the CCRI program. The HPCS support contract was cut by this amount, taken from reserve funds and application engineering services.

c. If "no," please explain why it was not conducted and if there are any plans to conduct operational analysis in the future:

2. Complete the following table to compare actual cost performance against the planned cost performance baseline. Milestones reported may include specific individual scheduled preventative and predictable corrective maintenance activities, or may be the total of planned annual operation and maintenance efforts).

a. What costs are included in the reported Cost/Schedule Performance information (Government Only/Contractor Only/Both)? Contractor and Government

2.b Comparison of Plan vs. Actual Performance Table:

Exhibit 300: NOAA/OCIO/ NOAA R&D High Performance Computing System (Revision 15)

Comparison of Plan vs. Actual Performance Table							
Milestone Number	Description of Milestone	Planned		Actual		Variance	
		Completion Date (mm/dd/yyyy)	Total Cost(\$M)	Completion Date (mm/dd/yyyy)	Total Cost(\$M)	Schedule (# days)	Cost(\$M)
1	FY06 Annual Operations review for Workstreams 1-6 (covered by current GFDL and NCEP Exhibit 300s)	9/30/2006	\$0	9/30/2006		0	
2	FY06 Annual Operations review for Workstreams 7-9	9/30/2006	\$0.5	9/30/2006	\$0.5	0	\$0
3	FY07 Installation and acceptance of R&D HPCS	9/30/2007	\$26.408	9/30/2007	\$26.408	0	\$0
4	FY08 Annual Operations review	9/30/2008	\$25.563				
5	FY09 Annual Operations review	9/30/2009	\$26.524	.0			