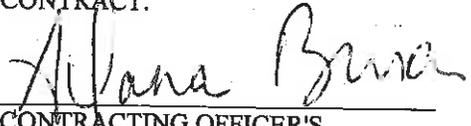


GODDARD SPACE FLIGHT CENTER		<b>TASK ORDER</b> (Instructions and Distribution on Reverse)		PAGE 1 OF 1
1. CONTRACTOR: <b>SSAI</b>		2. CONTRACT NO.: <b>NNG12HP06C</b>		3. TASK/REVISION NO.: <b>CY4 0 09</b>
4. JOB ORDER NO./PROJECT:		5. FLIGHT HARDWARE/SOFTWARE; CRITICAL GSA (IF, YES, OBTAIN BLOCK 16 CONCURRENCE): YES <input checked="" type="checkbox"/> NO		6. DESIGNATED FLIGHT ASSURANCE MGR.:
7. DESCRIPTION OF WORK TO BE PERFORMED (OBJECTIVES OR RESULTS DESIRED):  <b>GEOS DAS Data Production Operation</b>				
8. TASK DOCUMENTATION REQUIREMENTS/DELIVERABLE ITEMS:  <b>See Attached</b>				
9. PERFORMANCE/MILESTONE SCHEDULE:  <b>February 1, 2015 – January 31, 2016</b>				
10. QUALITY ASSURANCE REQUIREMENTS:				
11. TRAVEL, MATERIALS, ETC., KNOWN TO BE REQUIRED:				
12. OTHER (FUNDING, NTE, HOURS, ETC.):  Estimated Cost Fixed Fee Estimated Total Cost-Plus-Fixed Fee                    \$ 547,530				
13. TASK ORIGINATOR/MONITOR/CODE/PHONE:  Gi-kong Kim			18. THIS TASK ORDER IS ISSUED PURSUANT TO THE TERMS OF THE CONTRACT.   CONTRACTING OFFICER'S SIGNATURE/ <del>DATE</del> <b>A. Briscoe</b>  Contracting Officer  TYPED OR PRINTED NAME	
14. BRANCH APPROVAL:		15. DIVISION CONCURRENCE:		
16. CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE:  Stephen Cohn				
17. CONTRACTOR SIGNATURE:				

Science Systems and Applications, Inc.  
NNG12HP06C  
Task Order Statement of Work

Task Order Number: CY4\_09 Mod0

Task Order Title: GEOS DAS Data Production Operation

1.0 Task Monitor (TM):

Name: Gi-kong Kim  
Organization: GMAO:GMAO  
Email Address: gi-kong.kim@nasa.gov

2.0 Description of Work to be Performed

Updates from CY3 (Mod 1) to CY4 are indicated in red.

The GEOS DAS is currently in operation to produce atmospheric assimilated data products and forecast products in near real-time in support of EOS instrument teams and various field campaign missions. The operation of the current system is largely automated. The Contractor shall perform the near real-time DAS data production operation of the GEOS DAS. The system operation encompasses the production of assimilated and also forecast data products as well as GEOS DAS data reprocessing and multi-year re-analyses. The operational GEOS forward processing will have three separate streams: (1) FP-IT for NASA EOS instrument teams and authorized users; (2) FP for internal evaluation of the GEOS-5 system, interaction with other modeling centers, and real time support for field campaigns; and (3) G-5 CERES for the NASA CERES team. The operational data production of SMAP L-4 analysis will start soon after the SMAP satellite instrument checkout. The SMAP launch is scheduled for mid-January 2015. The Contractor shall implement the operational procedure for the real time data processing of SMAP L4 data. The 30-year reanalysis using GEOS-5 in support of the MERRA project will continue during the task performance period. A MERRA follow-on reanalysis (MERRA2) will continue. MERRA2 data production over the historical period is expected to be completed in early 2015. The MERRA2 forward processing will continue indefinitely.

A backup capability for the GEOS-5 forward processing systems will be implemented and operational at NAS. The GEOS system is expected to be upgraded periodically, once or twice a year typically, to improve the scientific data quality. It is expected that each GEOS system upgrade will require GEOS data reprocessing for the EOS instrument teams. GMAO will provide real-time support for field campaigns, typically one or two a year. The high performance computers (HPC) at NCCS used for the GEOS-5 data production may be replaced with a new architecture.

The Contractor shall perform the following subtasks for the GEOS systems.

1. The Contractor shall start the data production jobs on the computers, if necessary, and monitor the progress of the jobs until they are completed following established system operations procedures. The monitoring shall cover 8 hours of operation at the minimum every day including weekends and holidays. The task team lead shall be on the GEOS operations on-call team and help solve technical

problems with the aim of alleviating the workload of the on-call team members in the operational software team.

2. The Contractor shall log all the anomalies found during the operations monitoring. The Contractor shall submit a problem report describing the system anomalies that require changes in the HW or SW of the operational GEOS systems. The Contractor shall promptly report via email to the Government all incidents that resulted in a real time data production delay longer than 2 hours. The Contractor shall correct those operational problems promptly which have corrective instructions documented in the operations procedures and ensure the data production jobs are completed on schedule and data products are delivered to their destination in time.
3. The Contractor shall update the GEOS system operations information daily on the GMAO web page to reflect the up-to-date status of the system.
4. The Contractor shall update the operations procedure document as needed to incorporate procedural changes due to evolving GEOS systems or computing environment changes. Particularly, a new ops procedure will need to be developed when the GEOS data processing operations migrates to a new computer platform at NCCS. Except in response to unforeseen system anomalies when the system may require immediate software and/or procedural modifications, the operations monitoring staff should be fully trained in the updated procedures before the procedure update becomes effective. The task team lead shall work closely with the GMAO operational software team lead to continuously improve the efficiency of the operational procedures. The operations monitoring practices and the procedures will be reviewed by the Government every 6 months or as needed.
5. The Contractor shall maintain metrics on on-time product delivery/availability, time taken to resolve a particular problem, identification of source of delay (not organization, but function, i.e. data, network, etc ...).
6. The Contractor shall keep the Government informed of risks associated with operational data production (i.e. disk space issues, queue software problems, etc...)

### 3.0 Special Requirements

None

### 4.0 Performance/Milestone Schedule

The GMAO Contract Year 4 POP is February 01, 2015 - January 31, 2016

### 5.0 Deliverables/Reporting Requirements

Monthly report including the performance metrics described in subtask #5; operations monitoring procedures; operational anomaly reports; intranet operations status pages

### 6.0 Other Information Needed for Performance of Task

**Travel Authorized:** Local travel for training purposes, not to exceed 5 person-days, will be authorized at the request of the ATR or the GMAO Chief.

#### 7.0 Data Rights

N/A

#### 8.0 Safety

Staff on this task will comply with federal, state, local, and center safety regulations. This will be accomplished through management emphasis, technical training, and personal responsibility. Staff will participate in safety orientation and training in accordance with the contract Safety and Health Plan, and work within the requirements of that plan.

#### 9.0 Risk

Contractor shall provide ongoing risk assessment and mitigation in performance of the Task Order. Priorities shall be re-evaluated as appropriate with the TM. Cost and schedule performance shall be assessed on a regular basis (no less frequently than monthly) and significant variations discussed and acted on in consultation with the TM and COTR.

#### 10.0 Proposed Cost and Fixed Fee

In accordance with Paragraph B.5, of the contract, propose the Cost and Fixed Fee amount.