

1. CONTRACTOR: SSAI	2. CONTRACT NO.: NNG12HP08C	3. TASK/REVISION NO.: Task Order #072
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): DSCOVr EPIC Instrument Support		
8. TASK DOCUMENTATION REQUIREMENTS/DELIVERABLE ITEMS: (See Attached Task Order)		
9. PERFORMANCE/MILESTONE SCHEDULE: May 1, 2015 – April 30, 2016		
10. QUALITY ASSURANCE REQUIREMENTS: N/A		
11. TRAVEL, MATERIALS, ETC., KNOWN TO BE REQUIRED: (See Attached Task Order)		
12. OTHER (FUNDING, NTE, HOURS, ETC.): Total Cost: Fee: Total Price: \$28,372		
13. TASK ORIGINATOR/MONITOR/CODE/PHONE: Karin Blank/586.0/6-3074		18. THIS TASK ORDER IS ISSUED PURSUANT TO THE TERMS OF THE CONTRACT. <i>Ayana Briscoe</i> 5/19/15 CONTRACTING OFFICER'S SIGNATURE/ DATE Ayana A. Briscoe <u>Ayana A. Briscoe</u> Contracting Officer TYPED OR PRINTED NAME
14. BRANCH APPROVAL:	15. DIVISION CONCURRENCE:	
16. CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE: Joel Susskind		
17. CONTRACTOR SIGNATURE:		

Science Systems and Applications, Inc.
NNG12HP08C
Task Order Statement of Work

Task Order Number: CY4_072_Rev0

Task Order Title: DSCOVR EPIC Instrument Support

1.0 Task Monitor (TM):

Name: Karin Blank
Organization: 586: Science Data Systems Branch
Email Address: karin.b.blank@nasa.gov

2.0 Description of Work to be Performed

This task supports the Earth Polychromatic Imaging Camera (EPIC) instrument on the DSCOVR (Deep Space Climate Observatory) spacecraft. The contractor will provide programming and analysis support to do "sanity" checks on the DSCOVR EPIC camera. This effort will verify the feasibility of using data from the EPIC camera to perform atmospheric retrievals by doing simulations based on data from other spacecraft. The task will not produce scientific algorithms, but rather will obtain a rough approximation of the desired science quantities and provide an idea of the quality of the measured radiances. The contractor shall:

- Prepare radiative transfer tables suitable for observations from a Lagrange-1 viewpoint to enable Table Lookup of approximate values of the Ozone Index (O3I), Lambert Equivalent Reflectivity Index (LER), and Aerosol Index (AI) from the calculated radiances, $R_c(l)$, and the measured calibrated and geolocated radiances $R_M(l)$.
- Run a vector radiative transfer equation such as VLIDORT or TOMRAD to estimate the needed quantities. No attempt will be made to use accurate atmospheric or surface properties, just the specified approximate values or an existing climatology. Where possible, existing software will be used.
- Test the proposed simplified algorithms with climatologies of ozone, LER, and aerosol data created from existing satellite data (e.g., OMI and GOME2) to generate hyperspectral radiances, then use the EPIC filters' spectral functions to convolve the radiances into EPIC-like radiance measurements at the 317.5, 325, 340, and 388 nm channels for the entire 2048 x 2048 pixel CCD.
- Supply software that can ingest the simulated measured radiances and output the O3I, LER, and AI.
- Document the work performed.
- Deliverables include
 - Documented computer code written in Fortran 77, 90, or 95 that compiles via gfortran and runs on a Windows PC. The code shall consist of main programs, subroutines, ascii data files, and a make file.

- Instructions for running the software
- Document with a sample run including input and output files as well and a log of any screen print outs.

3.0 Special Requirements

None

4.0 Performance/Milestone Schedule

The SAS Contract Year 4 POP is May 01, 2015 - April 30, 2016

5.0 Deliverables/Reporting Requirements

- Contributions to scientific publications, workshops/conferences/symposia, both oral presentations and written contributions.
- Quarterly and annual reports.
- Delivery and availability of quality-controlled datasets and web-based material.
- Software and hardware documentation.
- Reports documenting participation in conferences, workshops, symposia, working groups and field activities.

6.0 Other Information Needed for Performance of Task

There are no travel requirements for this task.

7.0 Data Rights

N/A

8.0 Safety

Staff on this task shall comply with federal, state, local, and center safety regulations. This shall be accomplished through management emphasis, technical training, and personal responsibility. Staff shall 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 COR.

10.0 Proposed Cost and Fixed Fee

In accordance with Paragraph B.8 of the contract, propose the Cost and Fixed Fee amount.