

Systems Engineering Advance Services (SEAS)

All deliverables and requirements must follow the guidelines in NNG15CR66C with no exceptions

Task Order Statement of Work (SOW)

Date: 18 August 2020

Task Name: Code 670/673 Technology Support for Particle and Fields Instruments

Task No./Mod: 23/7

Task Monitor (TM): Barbara Giles

Contract number: NNG15CR66C

Contract SOW Reference: 3A. Instrument Systems Technology Services

Task Mod Summary:

Mod 0: establishes task, period of performance: 12/31/2015 – 12/31/2016.

Mod 1: extends period of performance: 12/31/2015 – 12/31/2017

Mod 2: extends period of performance: 12/31/2015 – 12/31/2018

Mod 3: administrative changes

Mod 4: administrative changes

Mod 5: extends period of performance: 12/31/2015 – 12/31/2019

Mod 6: extends period of performance: 12/31/2015 – 10/14/2020, per red lines below

Mod 7: extends period of performance: 12/31/2015 – 4/14/2021, per red lines below

I. Scope

a. Background

Code 670 has need for engineering technician services to support the development, test, integration, and analysis of space physics instrumentation for Heliophysics missions. Most recently, the 64 particle spectrometers of the Fast Plasma Investigation for the MMS mission were designed and built in the Building 21 laboratories. The division requires close-out engineering support for the FPI project and ongoing support for the design, analysis, and hardware development of hardware under R&T study for potential future flight.

b. Required skills/Knowledge:

- Knowledge of NASA instrument development requirements and procedures and hardware manufacturing policies and processes;
- Ability to review or develop fabrication, integration, and test processes and procedures to support instrument assembly, modification, or repair;
- Ability to oversee and advise on related equipment acquisition, installation, and maintenance;
- Ability to provide advanced development support, including hardware fabrication and assembly support, along with coordination and guidance throughout the builds, modifications or repair;
- Ability to provide day-to-day oversight and analysis of efforts to maintain related laboratory and test facilities; including safety training and documentation; and

- Detailed knowledge of MMS FPI DES instrument development history, issues, documentation, and ETU test equipment.

II. Period of Performance

(Tasks will be issued with no more than 12-month periods of performance unless otherwise justified and approved)

The period during which the work for this task shall be performed is from task award thru 14 ~~October 2020~~ April 2021.

III. Specific Tasks

- The contractor shall provide technical support for the fabrication, manufacturing, testing, and assembly of particle and fields instruments within the Code 670 laboratories;
- Manufacturing, assembly, and modifications of PWBs;
- Fabrication of GSE/Flight/Test harness and rework;
- Assist in the generation of WOA's, Documents and PR/PFR's; process and close work orders;
- Develop test and build processes and procedures as required;
- Oversee and support the organization/archival of equipment/documentation/photos related to assembly and testing for all instruments and subsystems supported;
- Facilitate calibration of all tools and equipment for flight hardware builds;
- Oversee technical support for associated instrument test equipment, test chambers, and clean benches – monthly testing, inspection, and audits.

IV. Deliverables/Schedules/Milestones

- The deliverable for this item is a monthly progress report.
- Schedules are determined by the assigned projects
- Attend meetings as required by the Team

V. Government Furnished Facilities, Equipment, Software and Other Resources

The Government will provide account and passwords to government-furnished workstations where existing versions of various relevant software packages shall be maintained. It shall be the contractor's responsibility to complete any GSFC required security-related training courses.

The contractor shall provide Systems Administration service and support equipment required for both onsite & offsite contractor functions.

VI. Facilities

All work will be performed on site at GSFC.

VII. ODC (Travel and Procurement)

~~May~~ While this task has included occasional travel, no travel is anticipated during this period of performance.

~~For CY2020, travel planning includes two trips (spring and fall) to Boulder, CO for one person, two days each.~~

VIII. Applicable function and title, sub-section/paragraph from the SEAS SOW

Under the SEAS Contract SOW:

Function 3 – Research and Technology Services

A. Instrument Systems Specific Task Orders

The Contractor shall provide system engineering services for the research and development of advanced analytical, engineering, integration, testing, and software engineering techniques including:

c. Particle and field Instrument design development and analysis