STATEMENT OF WORK

Commercial Off-The-Shelf (COTS) Satellite Tracking System

August 12, 2015

PR: 4200563104

Background

This procurement is for a Satellite Tracking System which will allow Goddard Space Flight Center (GSFC) to evaluate the potential of a Commercial Off-The-Shelf (COTS) telescope mount to be used as part of a low cost satellite optical communications ground station. The system will be "turn-key" and include the mount, telescope, camera, control computer and software. The system will be delivered to GSFC and training on the basic operation of the equipment will be provided. Initially the system will be transportable and mounted on a tripod. It is envisioned the system will be expanded in the future to include a larger telescope and permanently mounted in an observatory.

Scope

The contractor shall provide the following items as part of the System:

- Satellite Tracking Mount which shall have the capability of carrying a telescope payload of 220 pounds.
  - The telescope mount pointing accuracy shall be 10 arc-seconds or better.
  - The mount shall utilize absolute position encoders on both axes.
  - The mount shall have the capability of tracking Low Earth Orbiting Satellites such as the International Space Station.
- 10-inch class all reflector telescope system
  - The telescope shall be easily removable from the mount
  - The telescope shall be mounted to minimize flexure and maximize pointing and tracking accuracy.
- Video camera system
  - The camera system shall be used to evaluate the tracking accuracy of the system and be sensitive enough to record satellites of magnitude 8 (TBD) or fainter.
- Finder Telescope
  - The finder telescope shall permit initial mount alignment and a wide field of view for satellite acquisition if necessary.
- Field tripod
- 120 VAC power supplies for mount and computer.
- Laptop computer to control the mount and permit image acquisition.

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In addition to the hardware, the vendor shall:

- Acceptance test the telescope, mount, and integrate system prior to delivery at GSFC.
- Deliver the telescope system to GSFC and be demonstrated at the Goddard Geophysical and Astronomical Observatory (GGAO).
- Basic operator training for system operation shall be provided.

Deliverables

- System Hardware
- Component instruction manuals in both electronic and hard copy format.

Delivery Schedule

- System Delivery 4 months ARO