

## **Remote Sensing – Scientific and Engineering Research and Development Support Services**

### **PERSONNEL QUALIFICATIONS**

#### **Labor Categories, Personnel Qualifications, and Key Personnel**

**Program Manager (Key)** – B.S. or above in a Physical Science, Engineering, Mathematics or the equivalent degree in related field. At least five years managing scientific, engineering, computing and technical personnel working on R&D projects similar to the efforts set forth in the PWS.

**Information Technology/Information Assurance Specialist (Key)** – Assoc. Degree or above in Computer Science, Information Technology, Engineering, Physical Science, Mathematics, or equivalent degree in related field. The Information Technology specialist should possess at least three (3) years demonstrated experience in DoD compliant information assurance, IT systems and network trouble shooting, and maintaining software for computers running diverse operating systems, including Windows PC's, Macs, and a variety of different Linux distributions.

**Senior Payload Engineer (Key)** - B.Sc. or above in Physical Sciences, Engineering, Mathematics, or equivalent degree in related field. The Senior Payload Engineer will act as the primary point-of-contact for HREP operations issues, Problem Anomaly Report (PAR) representative for the payload, Security Requirements, Maintains Mission Operations procedural archive, HREP interface to individual instrument teams and interface to STP for operations coordination. As such the proposed Sr. Payload Engineer should have at least ten (10) experience in satellite operations, including command and control, mission planning, and anomaly resolution.

**Payload Engineer** - B.Sc. in Physical Sciences, Engineering, Mathematics, or equivalent degree in related field. The Payload Engineer is responsible for day-to-day operations of the HREP payload and executes commands. Reviews Instrument command requests and schedules as needed. Interface to POIC and completes data retrieval and processing. Posts data to HREP server for Instrument team retrieval. As such the proposed Payload Engineer should have at least three (3) years experience in satellite operations, including command and control, mission planning, and anomaly resolution.

**Research Scientists-1** – M.S. or above in a Physical Science, Engineering, Mathematics, or equivalent degree in related field. Experience with some combination of the FORTRAN, C, C++ and IDL programming languages. Any individual proposed in a Research Scientist-1 position should have some combination of (1) experience in radiative transfer, electromagnetic scattering, transmission, absorption and emission, especially experience in modeling or characterizing the interactions of electromagnetic radiation with atmospheric, geophysical, and man-made features such as smoke plumes, buildings, vegetation, water, and weather; (2) expertise in modeling or measuring the atmospheric, marine, or astronomical processes that are relevant to the NRL project being supported; (3) experience with the conceptual design, hardware design, modeling, testing, and operation of systems and components for remote sensing.

**Research Scientist-2** – M.S. or above in a Physical Science, Engineering, Mathematics, or equivalent degree in related field. Experience with some combination of the FORTRAN, C, C++ and IDL programming languages. Any individual proposed in a Research Scientist-2 position should have expertise in some combination of radio, IR, VIS, and X-ray astronomy, and with the data bases and analysis packages (such as AIPS) that are used in those fields. Radio astronomical or optical astronomical expertise should include experience in proposing observations at interferometric synthesis imaging arrays such as the VLA and/or the VLBA and/or NPOI, and with processing the data with AIPS and/or CASA. It is further desired that any Research Scientist proposed for efforts involving astronomy tasks have experience in correcting astronomical data for natural and man-made terrestrial artifacts. For radio astronomy tasks, experience setting up and testing hardware, such as antennas, is desired. It is desired that Research Scientist proposed for efforts involving image analysis and algorithm development tasks have demonstrated experience in the development and application of algorithms for analyzing imagery obtained by remote sensing. Experienced with software modeling and simulation tools, as well as the C, FORTRAN, C++ and IDL programming languages.

**Scientific Programmer** – B.S. or above in Physical Sciences, Engineering, Mathematics, Computer Science, or equivalent degree in related field. It is further desired that any individual in a Scientific Programmer position be fluent with some combination of the FORTRAN, C, C++, and IDL programming languages. At least three (3) years experience, preferably with programming for remote sensing applications including processing raw data into products and analysis of remote sensing products. Personnel should also have experience with image processing and modeling algorithms.

**Electronics Engineer** – B.Sc. or above in Electrical Engineering, Physical Sciences, Mathematics, or equivalent degree in related field. Five (5) years of demonstrated experience desired in specifying, developing, and documenting spaceborne, airborne and ground-based instrument electronics, especially radio frequency (RF) system design including active and passive systems, development, and test.

**Mechanical Engineer** – B.Sc. or above in Mechanical Engineering. Five (5) years of demonstrated experience desired in specifying, developing, and documenting instrument mounts and enclosures for spaceborne, airborne and ground-based instrumentation, chassis designs, printed wiring board designs, and equipment layouts. Specific experience on support equipment racks and interconnects diagrams. Specific experience in designing, planning, documenting, and installing complex ground enclosures for flight instrument command and control during flight operations, including wiring interconnects, power distribution, video and audio routing and distribution, and chassis design. Experience with mechanical design software.

**Technician** – Assoc. Degree or above in Electronics, Electrical Engineering, or Mechanical Engineering. Experience in assembling and test of electrical circuits and assemblies; assembly of housings and instrumentation boxes. Technician will support testing of instrumentation and field/aircraft deployment of instrumentation.