

## Task Order 10-12 Rev. 1

### **1.0 TASK TITLE: NT Infrastructure Support**

### **2.0 TASK DESCRIPTION:**

The contractor shall coordinate and conduct activities related to S&MA NT infrastructure functions and responsibilities. The contractor shall provide support to activities for authorized organizational functions that benefit all programs and projects and support the functions and responsibilities of the NT Division. Infrastructure functions include assessment of new and emerging technologies, Procurement Quality Assurance (PQA), performance of audits, EEE parts assurance, NASA Advisories and Alerts distribution and tracking, special processes engineering, and flight readiness assessments and supporting activities.

### **2.1 STATEMENT OF WORK REFERENCE**

Section 6.0 - JSC Project Support,  
Section 8.2 - Assurance Methodologies and Technologies

### **2.2 REQUIREMENTS**

#### **2.2.1 Procurement Quality Assurance (PQA) (WBS 1.1.1.1)**

The contractor shall assist NASA in the performance of PQA to verify JSC quality provisions are identified and implemented for each procurement including the following activities:

- a. Develop quality requirements and provisions recommendations for contracts.
- b. Review and make recommendations for approval on proposed requirements.
- c. Develop Government Source Inspection (GSI) delegation documents.
- d. Analyze Government, Agency, and JSC contractor plans and procedures.
- e. Assess milestone review data packages and generate Review Item Dispositions (RID's).
- f. Perform surveys and audits and generate reports (or inputs for reports) and assure inclusion of supplier audits/reports into the Supplier Assessment System.
- g. Perform problem assessments and recommend resolutions.
- h. Provide a liaison between suppliers and Government agencies, and provide technical recommendations.
- i. Track documentation produced and reviewed.
- j. Maintain Contract Administration Reimbursement Hours Reporting and Projections, and generate reports.
- k. Consolidate and analyze S&MA surveillance reports.
- l. Review purchase orders to verify proper inclusion of quality requirements and supplier qualifications. Utilize the Defense Contract Management Agency (DCMA) Quality Leading Indicator Reports to perform risk assessments for product quality requirements flowdown with the DCMA letters of delegation.
- m. Review purchase orders to determine if Government Source Inspection (GSI) is required. Develop GMIP plans in accordance with NPR 8735.2, Management of Government Quality Assurance Functions for NASA Contracts and coordinate with DCMA.
- n. Review purchase orders to determine appropriate quality instructions.

- o. Assure consistency of contractor and subcontractor activities with requirements of NPR 8735.2.
- p. Prepare DRAFT DCMA letters of delegation in accordance with NPR 8735.2.
- q. Review Purchase Cards to verify inclusion of Quality requirement.
- r. Manage and support the Procurement Quality Assurance Database.

## **2.2.2 Quality Engineering Audits and Surveillance (WBS 1.1.1.6)**

**2.2.2.1** The contractor shall provide administrative data-mining and ad-hoc reporting capability of S&MA's databases (which include QARC, QFED, GFE PRACA, PBS) to support the quality engineering and quality assurance's associated data analyses and evaluations in support of audits, surveillance, work flow (TPS's, DR's TRR's PRR's and SAR's), and certification of flight readiness activities.

**2.2.2.2** The contractor shall provide technical assistance in the revisions and expansion of the S&MA databases to support the S&MA continuous improvement activities relating to the Quality Engineering and Quality Assurance functions.

## **2.2.3 EEE Parts Assurance (WBS 1.1.1.2)**

The contractor shall provide EEE Parts Assurance.

- a. Recommend plans for EEE parts control policy and requirements, and work across JSC S&MA Directorate, NASA Centers, Programs, and Projects to assure proper implementation.
- b. Identify and track EEE parts issues by generating plans and implementing those plans to resolve issues.
- c. Provide representative to NASA Parts Steering Committees and participate with all NASA Centers in setting electronic parts policy guidelines by developing the NASA Standard Parts List, reviewing and providing comments on military specifications and NASA policy for EEE parts.

## **2.2.4 NASA Advisories and ALERT'S (WBS 1.1.1.3)**

The contractor shall support the JSC implementation of the NASA Advisories and Government-Industry Data Exchange Program (GIDEP)/Acute Launch Emergency Reliability Tip (ALERT) System.

- a. Establish and maintain the ALERT distribution list.
- b. Review ALERT's for applicability to JSC contracts, distribute, track, and review responses for adequacy.

## **2.2.5 Special Processes Engineering (WBS 1.1.1.4)**

The contractor shall provide support to the following tasks in the areas of Nondestructive Evaluation (NDE), electrical and electronics manufacturing, composite materials manufacturing, welding and brazing, precision cleaning and contamination control, and statistical processes:

- a. Prepare NDE plans and instructions, develop NDE techniques, and provide technical expertise to NDE inspection personnel performing NDE tasks.
- b. Perform NDE inspections.

- c. Review technical documents and provide recommendations to resolve potential process control issues (e.g., engineering changes, waivers/deviations, failure investigation reports, technical data submittals, engineering drawings, etc.)
- d. Provide technical expertise to metallic materials, nonmetallics such as RCC, TPS, adhesives, films coatings, and soft goods like Teflon, metallic issues such as fracture control and corrosion.
- e. Perform fracture control testing and analysis.
- f. Perform QA inspections utilizing the computer measurement machine.
- g. Develop and evaluate inspection requirements, special processes, and workmanship standards for the design and manufacture of high reliability electrical/electronics packages and systems for space flight applications.
- h. Develop and evaluate inspection requirements, evaluate test plans and results, and analyze failures in the design and manufacture of advanced composite lightweight materials.
- i. Evaluate industrial workmanship standards, specialized processes, and emerging technologies proposed for adoption by the NASA community for high reliability electrical/electronics packages and systems for space flight applications.
- j. Review welding and brazing work authorization documents and associated
- k. Engineering drawings to assure weldability as well as correctness of drawing notes, welding symbols, and NDT inspection requirements.
- l. Participate as special processes subject matter experts during surveys, vendor qualification evaluations, government source inspections, surveillance, and audits of JSC and contractor manufacturing facilities, including preparing checklists, documenting findings and observations, and providing recommended resolutions for identified problem conditions.
- m. Prepare special processes specifications and detailed process instructions.
- n. Process Quality Purchase Order Addendum for Gas Procurement (JSC Form 1313) forms for bottled compressed gas and specialty gas orders.
- o. Develop and evaluate inspection requirements, special processes (including NDE), and workmanship standards for design and manufacture of Micro-Electro-Mechanical Systems (MEMS).

#### **2.2.6 Flight Equipment Data System (FEDS) Customer Requirements (WBS 1.1.1.7)**

The contractor shall define and document customer/user requirements needed to support development of a consolidated data architecture and associated processes to facilitate NASA S&MA Certification of Flight Readiness (CoFR) activities. This effort will address the need to consolidate certain existing databases, systems and processes and will allow for future expansion to support additional applications and users.

#### **2.2.7 QARC Support and Flight Readiness**

The contractor shall establish and maintain configuration, status accounting and accessibility to S&MA data products created and delivered by engineering projects.

- a. Track requirements verification and certification status.
- b. Maintain and assess QARC documentation on flight item manufacturing and test results in order to report on the status of these items in support of Flight Readiness.
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## **2.3 Products**

The contractor shall provide applicable products, reports and analysis as stated in this Task Order. These products shall include the following:

- a. GSI delegation documents for NASA approval
- b. Survey and Audit reports
- c. Reimbursement Hours Reporting and Projection reports
- d. S&MA consolidated surveillance report analyses
- e. EEE Part Issue Resolution Plans
- f. Up-to-date ALERT Distribution List
- g. Special Processes Specifications and detailed process instructions
- h. Inspection requirements
- i. Special processes and workmanship standards
- j. FEDS data architecture
- k. Controlled accessible quality record

**3.0 PERIOD OF PERFORMANCE:** October 1, 2011 through September 30, 2012

## **4.0 ESTIMATED COST**

Contractor may provide travel, training, materials, and other non-labor resources as necessary to support task order requirements. Training may include selected professional discipline-based or spaceflight-based conferences with approval of the TMR.