

## **SECTION C - STATEMENT OF WORK FOR THE INFORMATION TECHNOLOGY SYSTEMS, ENGINEERING AND MANAGEMENT (ISEM) SUPPORT SERVICES TASK ORDER**

### **INTRODUCTION**

The vendor is to provide Information Technology (IT) services to components of NASA Headquarters (HQS) in support of Agency missions, programs, and Headquarters operations. The vendor is responsible for effectively and efficiently accomplishing the management, administrative, and technical tasks described in this Statement of Work (SOW). The vendor shall establish, implement, manage, and maintain IT services which are, on a continuing basis, responsive to a dynamic Headquarters environment, independent of changes in technologies or Headquarters missions, functions and organizational and management structures. In performing IT support, the vendor shall perform the SOW in an integrated, effective, efficient, and economical manner, with minimal additional actions required by customers.

Throughout this SOW, the terms: Agency, program (or programmatic), Headquarters operational (or institutional), IFMP, ODIN and customer survey are used and described below:

**Agency** - Activities associated with planning, directing, coordinating, and implementing NASA's missions and formulating and evaluating Agency policy and programs.

**Program** - Activities associated with overall allocation and management of resources for NASA's programs.

**HQ, HQS Operational** - Activities associated with assuring the capabilities to carry out the missions and functions of HQS as a NASA center.

**IFMP (Integrated Financial Management Project)** - The Integrated Financial Management (IFM) system is a standardized financial and related business management system, that will use a standard suite of integrated, COTS software products to support NASA's business processes.

**ODIN (Outsourcing Desktop Initiative for NASA)** - the ODIN vendor, where under contract, may be required to deliver comprehensive, end-to-end desktop, server, and intra-Center communications services, including associated capital infrastructure improvements, as well as maintenance enhancements to that infrastructure.

**Customer Survey** - This is the means used to measure the quality and timeliness of a deliverable.

In executing this contract, the vendor shall perform IT Services such as: (1) support Headquarters personnel in planning, developing, implementing, overseeing, and evaluating selected HQ or Agency IT activities; (2) operate, maintain and perform sustaining engineering for selected existing Headquarters IT resources; (3) plan, define, design, develop or acquire, implement, operate maintain and perform sustaining engineering for new, selected Headquarters IT resources and enhancements and upgrades to existing selected IT resources; and (4) provide

comprehensive support to Headquarters customers for selected IT services. A customer may be any Headquarters organization supported by this contract, such as a Headquarters staff or program office, other organizations or entities, which are supporting Headquarters missions and functions, or any individual within these, regardless of geographic location. Notwithstanding, the majority of the customers supported by this task order will be located in the NASA Headquarters Building at 300 E Street, S.W., Washington, DC.

The vendor shall be required to coordinate with existing IT and non-IT NASA Headquarters vendors (examples include IFMP vendors). This coordination shall ensure minimal disruption to the existing operations, optimal use of existing assets, optimal interface to the affected systems, and that customer satisfaction is maintained or improved.

Some of the work in this SOW is in the form of operations and maintenance (O&M) requirements. Accordingly, the vendor is responsible for assuring the provision and uninterrupted operation of information systems, equipment and software required to support HQS. Such responsibilities require the vendor to acquire and deliver information systems, equipment, and software including hardware and software maintenance.

The Headquarters Information Technology and Communications Division (HITCD) will manage the task order. HITCD is responsible for providing civil servant and vendor IT resources in support of Headquarters missions and functions.

This SOW describes the work to be performed by the ISEM vendor and represents a comprehensive set of requirements based on Headquarters operational needs and other firm, as well as projected activities. Elements 1.0 - 7.0 of this SOW constitute firm "core" requirements on behalf of the entire Headquarters organization. The vendor shall have in place capabilities to satisfy core requirements immediately upon the effective date of the ISEM task order. Element 8.0 of this SOW constitutes a transition task that will begin approximately thirty days before the start of the core work described in elements 1.0 - 7.0. Subject to the issuance of work orders, the vendor shall perform separate non-core work under SOW element 10.0 in support of individual Headquarters Offices. Performance monitors, appointed from either the HITCD or a Headquarters Office, as determined by the COTR and CO, will manage core and non-core tasking.

#### **STATEMENT OF WORK (SOW) ELEMENTS**

##### **1.0 MANAGEMENT AND ADMINISTRATION**

##### **2.0 INFORMATION TECHNOLOGY AND MANAGEMENT SUPPORT**

##### **3.0 APPLICATIONS DEVELOPMENT AND SUSTAINING ENGINEERING**

##### **4.0 SYSTEM ENGINEERING, INTEGRATION AND TELECOMMUNICATIONS SERVICES**

##### **5.0 NASA HEADQUARTERS COMPUTER CENTER (NHCC) SUPPORT**

##### **6.0 USER SERVICES**

##### **7.0 INFORMATION TECHNOLOGY SECURITY (ITS)**

##### **8.0 TRANSITION TO THE ISEM SUPPORT TASK**

##### **9.0 NOT USED**

##### **10.0 SPECIAL REQUIREMENTS FOR HEADQUARTERS' OFFICES**

## 1.0 MANAGEMENT AND ADMINISTRATION

1.0.1 The vendor shall perform the management and administrative tasks needed to satisfy the requirements of this task order. These tasks include: program management, resources management, service management, configuration management, and safety, reliability and quality assurance (SR&QA).

<b>1.0.2</b>	<b>Electronic Data and Document Interchange</b>
<b>Requirement</b>	A compatible electronic mail and file transfer capability to communicate with the COTR, CO, HITCD/performance monitors and HQ personnel
<b>Standard</b>	At task order start date, ability to electronically transmit documentation in a timely manner and in a format compatible to those used at NASA HQ
<b>Deliverable(s)</b>	E-mail messages and files
<b>Measurement Method</b>	Capability demonstration and customer complaints

## 1.1 PROGRAM MANAGEMENT

1.1.1 The vendor shall institute and maintain an effective, efficient, and responsive program management organization, which is responsible for management and oversight of vendor personnel, other task order resources, and task order performance, deliverables, and costs. A list of the deliverables required for performance of this SOW is at Attachment A, Deliverables Documentation.

<b>1.1.1.1</b>	<b>Information Technology Management Plan</b>
<b>Requirement</b>	Develop, submit, and maintain an acceptable IT Management Plan, which documents the vendor's policies, plans, and procedures to manage this contract.
<b>Standard</b>	Deliver ninety days after task order start.
<b>Deliverable(s)</b>	Information Technology Management Plan.
<b>Measurement Method</b>	Customer Survey

The vendor shall implement and maintain policies, plans, and procedures which:

1.1.1.2 Allow HITCD and Headquarters management to monitor and evaluate the overall effectiveness and efficiency of task order performance.

<b>1.1.1.3</b>	<b>Problem Alert</b>
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<b>Requirement</b>	Promptly alert the COTR, and HITCD/performance monitors of any problem(s), which may adversely impact on the timeliness, cost effectiveness, or quality of products or services delivered under this task order or which may impede or imperil task order performance.
<b>Standard</b>	Notify within one (1) business day of problem.
<b>Deliverable(s)</b>	Notification verbally or in writing.
<b>Measurement Method</b>	Customer survey for quality.

1.1.1.4 Assure continual assessments and identification of opportunities to improve the provision of IT services or reduce the cost of providing IT services.

1.1.2 Program Manager - The vendor shall appoint a Program Manager (PM), responsible and accountable for task order performance, who shall receive and execute the task order and tasks on behalf of the vendor. The PM shall:

1.1.2.1 Ensure the quality and timeliness of products and services delivered under this task order.

<b>1.1.2.1.1</b>	<b>Tactical Plan Milestones</b>
<b>Requirement</b>	Complete tactical plan milestones per the baselined schedule.
<b>Standard</b>	Per the baselined schedule complete 100% of tactical plan milestones that are within the vendor's span of control, and achieve customer satisfaction with quality.
<b>Deliverable(s)</b>	Tactical plan elements
<b>Measurement Method</b>	Customer survey

<b>1.1.2.1.2</b>	<b>Program Management Reporting and Reviews</b>
<b>Requirement</b>	Conduct daily operational status tagups and Service Request (SR) screenings, weekly Configuration Control Boards (CCB's), twice a month in-depth reviews, and other forums as required for proper coordination. Provide documentation for these forums.
<b>Standard</b>	Conduct meetings as required. Provide acceptable supporting documentation electronically.
<b>Deliverable(s)</b>	Meetings and documentation
<b>Measurement Method</b>	Customer survey for quality

<b>1.1.2.1.3</b>	<b>Headquarters Vendor Coordination</b>
<b>Requirement</b>	Ensure close coordination and communication with other Headquarters vendors.
<b>Standard</b>	Deliver seamless service across vendor boundaries with minimal Government intervention and achieve customer satisfaction with quality
<b>Deliverable(s)</b>	Well coordinated service delivery among HQ vendors
<b>Measurement</b>	Customer survey

<b>Method</b>	
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## 1.2 RESOURCES MANAGEMENT

1.2.1 General - The vendor shall institute and maintain resources management capabilities to manage effectively and efficiently the resources required to perform this SOW, including labor, equipment, materials, supplies, services, facilities, and costs. The vendor shall use the SOW to identify, separate, and collect labor hours and costs in resources management reports submitted to NASA.

1.2.2 Financial Management - The vendor shall manage the expenditure of labor hours, other resources, and related costs to ensure that these items are properly allocated and accounted for by specific tasks and SOW elements and that there is sufficient cost visibility for both the Government and the vendor to ensure that such are reasonable and appropriate. On the effective date of this task order the vendor shall have in place an adequate financial accounting (cost accrual) capability (i.e., an information system) which includes cost accounting, financial management, and time-keeping functions. It shall be capable of: (1) accruing labor hours and costs as they occur; (2) providing cost reporting; and (3) supporting routine and ad hoc queries, such as reports subdivided by Headquarters Office/organization funds source.

1.2.3 Logistics and Property Management - The vendor shall maintain the currency of equipment inventories using the NASA Equipment Management System (NEMS). The vendor shall adhere to the pertinent provisions and procedures of the latest NASA property management regulations.

<b>1.2.3.1</b>	<b>Logistics and Property Management</b>
<b>Requirement</b>	(1) Manage On-site Government Property (OSGP) in compliance with Government property regulations so as to ensure its adequate control, security, and use; and (2) Develop, submit, and maintain a Logistics and Property Management Plan
<b>Standard</b>	Maintain lost property rate at 0.25% or less per year based on original quantity of items. Submit inventories quarterly and submit the Property Management Plan ninety days after task order start; update as required by applicable regulations.
<b>Deliverable(s)</b>	Logistics and Property Management Plan and lost property survey reports
<b>Measurement Method</b>	Customer and vendor reported lost property rate

## 1.2.4 Facilities Management

1.2.4.1 The vendor shall (1) keep Government Furnished Facility (GFF) areas under the vendor's administration in a neat and orderly manner and (2) report any facility problems to the performance monitor and the Headquarters Facilities Management and Security Branch for attention within one (1) business day.

#### 1.2.4.2 The vendor shall:

- (1) Support IT-related Government facility modifications and schedule these activities to minimize disruption.
- (2) Obtain approval from the COTR and the CO before performing any facilities activities at a Headquarters owned or leased building. The ISEM vendor, in conjunction with the COTR and the CO, shall maintain contact with the Headquarters Facilities Management and Security Branch to ensure that work does not negatively affect other on-going services at NASA HQS of whatever type.
- (3) Maintain schedule and status information for Facility Work Requests submitted by the vendor.
- (4) Plan for future IT facility requirements or anticipated changes in Headquarters personnel or IT resource locations. Maintain documentation as a basis for requesting and recommending space and reallocation of space or interior partitions.

#### 1.2.5 Resources Management Reports and Reviews

The vendor shall develop and submit NASA 533 financial management reports. The vendor shall conduct a monthly resources management briefing for the COTR and performance monitors. The briefing shall include both a verbal and written analysis of anticipated workload and cost projections through the end of the task order period. The vendor shall address past month variances, year-to-date variances, and projected end-of-year variances. The vendor shall present the magnitude of the variances, the reasons for the variances, and plans for future months that will affect or be affected by the variances. As required by this SOW the vendor shall participate or prepare material in preparation for other resource reviews, meetings, etc. with Government personnel and prepare and provide periodic and ad-hoc reports to the COTR, CO, and performance monitors.

### 1.3 CONFIGURATION MANAGEMENT

The vendor shall establish and maintain a Configuration Management (CM) program, incorporating all practical portions of the existing HITCD CM practices. The IT Configuration Management Plan shall describe how CM will be established and implemented across the contract. The Plan shall address identification and documentation of configuration items, change control, baseline audits, and software release management. The vendor shall also support HITCD's administration of the Change Control Board (CCB); ensuring integration of all Headquarters vendors into the process; collecting, producing and delivering minutes of the CCB meetings within one (1) day of after the CCB meeting; and providing the Secretary to the CCB.

<b>1.3.1</b>	<b>Configuration Management (CM) Plan</b>
<b>Requirement</b>	<b>Develop, submit and maintain a Configuration Management (CM) Plan</b>
<b>Standard</b>	<b>Submit 90 days after task order start, achieve customer satisfaction with quality and update as required</b>

<b>Deliverable(s)</b>	CM Plan
<b>Measurement Method</b>	Customer survey

<b>1.3.2</b>	CCB Support
<b>Requirement</b>	Provide CCB minutes produced within one (1) day of the meeting
<b>Standard</b>	Obtain first time acceptance of minutes within one day of the CCB meeting
<b>Deliverable(s)</b>	CCB minutes
<b>Measurement Method</b>	Customer survey

#### 1.4 SAFETY, RELIABILITY AND QUALITY ASSURANCE

1.4.1 Safety - The vendor shall implement and maintain a comprehensive safety, housekeeping, and health program for all assigned areas and activities. In this regard, the vendor shall:

1.4.1.1 Develop, submit, implement, and maintain an IT Safety and Health Plan. The vendor shall submit reports on occupational injuries and illnesses experienced by vendor personnel in an Occupational Injuries and Illnesses Report.

1.4.1.2 Comply with applicable NASA safety standards and ensure the proper handling and/or disposition of hazardous materials and waste is observed.

1.4.1.3 Conduct safety inspections of the NHCC, the User Resource Center (URC), and other areas in the Headquarters building that are administered by the vendor. The results shall be reported to the COTR and the Headquarters Safety & Occupational Health Manager in a Safety Inspections Report.

1.4.1.4 Conduct periodic safety and health training for all vendor employees. The vendor is encouraged to actively participate in supporting NASA in improving the safety and health environment of Headquarters in addition to the vendor's facility (ies).

1.4.2 Safety, Reliability and Quality Assurance (SR&QA) -The vendor shall ensure the SR&QA of vendor provided products and services. The vendor is responsible for assuring conformance of products to requirements, methods, and standards established by NASA, including verification and validation of products and services delivered under this contract. The vendor shall develop, implement, and maintain SR&QA policies, plans, and procedures that ensure that products and services conform to task order requirements.

<b>1.4.3</b>	SR & QA Plan
<b>Requirement</b>	Develop, submit and maintain a SR & QA Plan
<b>Standard</b>	Submit a SR & QA Plan 90 days after basic period of performance start. Obtain customer acceptance with delivery
<b>Deliverable(s)</b>	SR & QA Plan

<b>Measurement Method</b>	Customer survey
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## 2.0 INFORMATION TECHNOLOGY AND MANAGEMENT SUPPORT

### 2.1 ASSESSMENTS OF POLICIES, PROCEDURES AND IT STANDARDS

2.1.1 The vendor shall provide technical input requested to complete analyses of proposed or existing Federal, Agency, programmatic, CIO and Headquarters operational policies, programs, processes, procedures, standards, and guidelines, e.g., IT standards proposed by the National Institutes for Standards and Technology (NIST), the Chief Information Officer (CIO), a Principal Center, or NASA Programs such as IFMS or the NASA Integrated Services Network (NISN). The vendor shall provide technical impact assessments as input to written responses to the NASA CIO Action Registry items, working group proposals, and other documents submitted to Code CI for review. When these tasks are assigned, a period of performance and the deliverable shall be specified.

2.1.2 The vendor shall recommend to the Government additions, deletions, and changes to Federal, Agency, programmatic, and Headquarters operational policies, processes, programs, procedures, standards, and guidelines which may improve the posture of the Agency, its programs and institutions, and Headquarters operations.

2.1.3 For the functional areas covered in this SOW, the vendor shall provide support to Headquarters personnel in: (1) applying policies, standards and practices; (2) promoting these policies and practices through workshops and conferences; and (3) publicizing programs and accomplishments.

2.1.4 The vendor shall provide technical support for IT meetings such as those of the NASA CIO Representatives Board, NASA Postmasters, the Headquarters ADP/T Board of Directors and the Headquarters Customer Advisory Committee. When technical expertise is required and as approved by the COTR, the vendor shall also attend with NASA personnel workshops and conferences in support of NASA Headquarters. This support is most often related to the functions of IT engineering and security.

<b>2.1.4.1</b>	<b>Government IT Resource and Management Support</b>
<b>Requirement</b>	Provide a comprehensive IT capability in support of Agency, programmatic, and Headquarters IT missions and functions and shall provide information to the Government that supports the Government in its role as a policy maker, implementer and evaluator
<b>Standard</b>	Meet delivery schedules and achieve customer satisfaction with quality of products
<b>Deliverable(s)</b>	Studies, analyses, assessments, recommendations and reviews
<b>Measurement Method</b>	Customer survey

### 2.2 SPECIAL TASKS

Subject to the issuance of service requests, the vendor shall be capable of responding to special IT and IT-related tasks, including studies, analyses, assessments, reviews, projects, etc. Special tasks are typically short-term and urgent in nature, have high-level performance goals and a recognized completion date. This may encompass: (1) programmatic and business process re-engineering studies; (2) applications design, development, test and evaluation (DDT&E) techniques and methodologies; (3) demonstrating proof-of-concept or developing prototypical information systems; (4) evolution, evaluation, and prototypes of Email and messaging architectures; (5) evolution, evaluation, and prototypes of authentication and encryption mechanisms; (6) technology demonstration support for the White House, Congress or other external organizations; and/or (7) technology demonstration support for NASA advanced programs.

### 2.3 IT PLANNING SUPPORT

- The vendor shall provide technical analyses in support of the annual development of operational, tactical and strategic IT plans.
- The vendor shall provide technical input needed to support the Government's conduct of trend and cost benefit analyses, technology reviews, benchmark analyses, post implementation reviews and other activities associated with the annual planning cycle.

<b>2.3.1</b>	<b>IT Planning</b>
<b>Requirement</b>	Support the analyses and development of operational, tactical and strategic IT plans
<b>Standard</b>	Meet delivery schedules and achieve customer satisfaction with quality of products
<b>Deliverable(s)</b>	Strategic, tactical and operational plan analyses
<b>Measurement Method</b>	Customer survey

### 2.4 INFORMATION MANAGEMENT

2.4.1 The vendor will support activities involved with: (1) planning, integrating, managing, and controlling data and information; (2) optimizing the performance and productivity of the Agency's programs and institutions, and Headquarters operational technical, management, and administrative processes through improved information management; (3) defining life-cycle needs for data and information (including interoperability, records retention, and archiving, among others); (4) identifying sources of information; and (5) developing information format, media, quantity, integrity, security, and timeliness requirements and standards.

2.4.2 The vendor will support the development, implementation, and maintenance of (or any portion thereof) Agency, programmatic, and Headquarters operational strategies and plans which facilitate the management of information resources, especially in relation to electronic creation, use, and dissemination of information. For example, support Headquarters ISO 9000, virtual file cabinets, and the electronic FOIA (Freedom of Information Act) process.

## **2.5 ENGINEERING AND COMMUNICATIONS MANAGEMENT**

2.5.1 The vendor shall perform support activities for mission, systems, and operational requirements and alternatives analyses and technology assessments for communications capabilities in support of Agency, programmatic, CIO and Headquarters operational, tactical, and strategic planning.

2.5.2 The vendor shall evaluate emerging communications and other technologies to determine functionality, feasibility, and merit. The vendor shall use modeling, market surveys, and prototyping in the evaluation process.

2.5.3 The vendor shall conduct and report the results of studies that include the development of business cases, hypothetical investigations, benchmarks, standards migration, pricing, and trade-off studies for communications systems.

2.5.4 The vendor shall conduct studies, analyses, and other assessments and provide recommendations about communications standards.

## **2.6 INFORMATION ENGINEERING, SOFTWARE MANAGEMENT AND ASSURANCE**

2.6.1 The vendor shall support the development, coordination, and review of standards and methodologies to guide the information engineering, management and assurance of software.

2.6.2 The vendor shall provide technical support necessary to tailor and implement policy, standards, and guidance as implemented within NASA programs and projects.

2.6.3 The vendor shall provide technical support and expertise in planning, conducting, and documenting technical assessments of programs and projects.

2.6.4 The vendor shall provide support in the development and implementation of long-range program plans and the complementary implementation plans, which provide technical direction and guidance.

2.6.5 The vendor shall provide technical support in defining and implementing a program of improvement in NASA information engineering, and software management and assurance.

2.6.6 The vendor shall provide specialized expertise in technologies and methods such as: (1) formal methods (e.g., computer-aided software engineering (CASE), etc.); (2) independent verification and validation (IV&V); (3) software reliability; (4) software reuse; and (5) software safety.

## **3.0 APPLICATIONS DEVELOPMENT AND SUSTAINING ENGINEERING**

### **3.0.1 Development**

The vendor shall perform software application development, application sustaining engineering, and application maintenance work necessary to meet the needs of NASA Headquarters, and in some instances to meet Agencywide needs. The work includes overall application lifecycle management, lifecycle development, development of and adherence to approved application architectures, project scheduling, and configuration management. In support of systems and applications development, the vendor shall acquire commercial, off-the-shelf (COTS) products and employ software reuse to the fullest extent feasible and practicable. GOTS (Government Off The Shelf) products shall also be considered as possible alternatives. New development shall be accomplished using modern tools and Internet development strategies where feasible.

### 3.0.1.1 Applications Categories

Applications for which the vendor shall provide support are categorized into four major areas. Each is described below:

- The Finance/Accounting/Budget applications constitute the tools used by Headquarters to formulate and execute budgets and operating plans, and perform the total accounting for Headquarters and the Agency. These systems are important for daily accounting transactions but are also particularly important during end-of-month, end-of-quarter, and end-of-year processing. A number of these current applications will be replaced during Phase I of NASA's Integrated Financial Management System (IFMS) implementation, which is being managed under the direction of the Chief Financial Officer. An example of an important application in this category is the Financial Accounting System, Teleprocessing (FAST), the NASA HQ accounting system, which provides for on-line update and retrieval of HQ accounting records and documents.
- The Payroll and Personnel applications provide the automated capability to manage NASA's human resources. A primary tool is the local Headquarters module of the NASA Personnel/Payroll System (NPPS). There are a variety of other applications that support Headquarters and NASA wide human resources activities, including the Workforce Information Management System (WIMS), which contains records for every civil service employee in NASA with data on personnel transactions such as hires, losses and promotions.
- The Property and the Procurement applications include a variety of important applications used to facilitate the NASA and Headquarters procurement and procurement analysis processes and to track NASA HQ assets. A key procurement application is the NASA Procurement Management System (NPMS), which provides the automated repository of information on NASA contracts, contractors, subcontractors and geographic distribution of funds associated with these contracts and subcontracts. Another important automated procurement system is the University Management Information System (UMIS), which provides the capability of tracking and maintaining the status of grants and contracts, awarded to colleges and universities to perform research and development work for NASA. The Maintenance Management System (MMS) tracks IT hardware assets at NASA HQ.
- The General and Administrative applications constitute a broad category of automated systems, which provide support for a number of Headquarters business activities and general office administration. A key example is the Headquarters Action Tracking System (HATS), a software application used across Headquarters to track and archive action items and correspondence. The

Headquarters Document Management System (HQDMS) is another example of a commonly used application with minor variations to meet the documentation organization, processing, storage, and retrieval needs of six different offices. The Legislative Affairs Database (LADS) tracks Congressional visits and provides reports on these visits. Also, web based surveys are used at Headquarters to collect information from employees. In addition, support is required to maintain pager lists used by Headquarters personnel.

#### 3.0.1.2 Application Environment

The vendor shall support existing ADABAS and COBOL applications that reside on the NASA ADP Consolidation Center's (NACC's) Amdahl host computer and existing INGRES and Oracle applications residing in the NHCC DEC Alpha environment. The vendor shall also support other existing applications that were developed using client-server architectures, server-based architectures with web-based front ends, and stand-alone microcomputer architectures, as well as more modern tools, for example, Cold Fusion, Access, Filemaker Pro, Oracle, and Visual Basic. In addition, the vendor shall be responsible for maintaining Headquarters web sites, providing enhancements to them and developing new web sites in response to service requests.

#### 3.0.1.3 Application Scope

The vendor shall perform application development activities that include the full range of application lifecycle management activities, including development of an application's architecture through data conversion and sustaining engineering and maintenance. The vendor shall support new application development using modern tools and Internet development strategies in accordance with the approved NASA Headquarters applications architecture.

#### 3.0.1.4 Life Cycle Process Reviews

The life cycle processes performed by the vendor shall include some or all the of the following key reviews:

- Requirements and release contents reviews.
- Preliminary and detailed design reviews.
- Test readiness reviews.
- Operational readiness reviews.
- Post implementation reviews.

3.0.1.5	Application Metrics
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<b>Requirement</b>	Propose metrics to measure trends and performance including but not limited to <ul style="list-style-type: none"> <li>• Monthly number of releases for each application</li> <li>• Monthly count of SRs received, completed and open</li> <li>• Monthly analysis of applications released</li> <li>• Monthly analysis of Service Center Calls by type</li> <li>• Monthly report of post Test Readiness Review (TRR) and Operational Readiness Review (ORR) problems by application and in aggregate</li> <li>• Monthly report of delivery days late or early</li> </ul>
<b>Standard</b>	Deliver per established schedule and achieve customer satisfaction with quality
<b>Deliverable(s)</b>	Application Metrics Reports
<b>Measurement Method</b>	Customer survey

### 3.1 REQUIREMENTS

The vendor shall:

- Collect (to various levels of detail, in writing and verbally), interpret, generate, and document in writing the application requirements.
- Schedule and conduct requirements reviews for the purposes of validating and documenting the NASA requirements and obtaining NASA approval of the documented application requirements.
- Document requirements for implementation by NASA and perhaps other vendors. This may require travel to other NASA Installations.
- Baseline the application requirements and maintain the baseline under configuration management control.
- Ensure that each requirement documented is independently testable and verifiable

3.1.1 The vendor shall provide an Applications Requirements Report for each new application and each subsequent release of that application. This report shall provide the specifications for the functional and detailed characteristics, performance, security, and interface requirements for an application.

### 3.2 DESIGN SPECIFICATION

The vendor shall

- Provide an Applications Design Specification document for each new application and each subsequent release for that application, as appropriate. This report shall provide the system functional design, the software components definition, system interfaces, data base specifications, and systems, equipment and software requirements, as appropriate.
- Conduct design reviews to include information on the design, design drivers, selection of architecture and platform, portability considerations, COTS usage, application interface specifications, potential capacity and performance problems, and other pertinent design information.

- Give maximum consideration to both the short and long term requirements, including the Headquarters dual PC and Macintosh environments. Web front ends shall always be considered as a design option.
- Perform an assessment as to the feasibility of using COTS, GOTS and/or custom code to satisfy the requirements of each software application being developed.

### 3.2.1 Problem Avoidance

Prior to coding and implementation, the vendor shall provide and use (e.g., for mainframe-resident applications) modeling/analysis techniques to identify and correct design errors and deficiencies, which could cause performance deficiencies or resource utilization and/or contention problems.

## 3.3 CODING

The vendor shall code application software based on requirements and design specifications approved by NASA. The vendor shall build software applications, establish baseline configurations, and perform such other tasks as are required to make the developed application ready for operational use. Formal configuration management controls shall be adhered to in coding application software.

Prior to NASA acceptance of the software application, the vendor shall prepare documentation, which typically contains the Software Version Description Document, the Security Certification Report, and an Application Implementation Plan, as well as other appropriate application or system documentation, e.g. User and Operations guide.

## 3.4 TEST AND VERIFICATION

The vendor shall

- Generate and use test plans, procedures, specifications, and reports. Test scripts and test procedures shall be repeatable and along with the test data, shall be under configuration control.
- Document the test results, deviations from test procedures, and all software anomalies following completion of the testing
- Make the test results available to NASA for review and/or audit upon request
- Prepare and conduct an acceptance test that demonstrates to the NASA customer the integrity of the application and prove that the application meets specified requirements

<b>3.4.1</b>	<b>Application Discrepancies</b>
<b>Requirement</b>	Provide near error free software
<b>Standard</b>	Incur no more than one (1) Discrepancy Report (DR) post TRR and no more than (1) post ORR DR per release.
<b>Deliverable(s)</b>	Monthly TRR/ORR Problem Report
<b>Measurement Method</b>	Vendor provided metrics and customer survey

3.4.2 The vendor shall provide a Test Plan and Procedures Document containing the test scripts, expected results, actual results, and any waivers.

### 3.5 TRAINING

The vendor shall provide training and related support to customers to facilitate use of the developed and supported applications. Training materials shall be provided by the ISEM vendor.

### 3.6 IMPLEMENTATION

The vendor shall implement applications in the customer's computing environment following a successful Operational Readiness Review and pertinent training. In conjunction with this work, the vendor shall:

- Deliver the User's and Operations Guide
- Provide customer access to the production software
- Baseline the final application documentation and source code and maintain the baseline under configuration management control
- Provide an Application Implementation Plan for each software application and release that describes how the software is to be installed, tested and accepted by the user.

<b>3.6.1</b>	Application(s) delivery
<b>Requirement</b>	Deliver all applications to the baselined schedule
<b>Standard</b>	Deliver applications on schedule and meet customer requirements, (as specified in approved requirements document)
<b>Deliverable(s)</b>	Application(s)
<b>Measurement Method</b>	Customer survey

### 3.7 CONFIGURATION MANAGEMENT AND CONTROL

3.7.1 The vendor shall establish application design, code, test scripts, planned test results, actual test results, and application documentation baselines and maintain the baselines under configuration management and version number control.

3.7.2 The vendor shall provide, update, augment, validate, and maintain current an ISEM Catalog of Supported Applications to aid application sharing and code re-use and to serve as a single document reference point for NASA and vendor management and staff for supported and active production applications. The ISEM Catalog of Supported Applications shall include applications that reside on all classes of computer platforms (e.g., mainframes, mini-computers, microcomputers) and networks. This catalog shall also include all web sites that are developed and maintained by the ISEM vendor. It shall be an automated catalog and there shall be an ability to print a hardcopy of the catalog.

<b>3.7.2.1</b>	Document delivery
<b>Requirement</b>	Describe software applications supported by the ISEM task order
<b>Standard</b>	Provide automated catalog 30 days after task order start. Update one day after each new application is released.
<b>Deliverable(s)</b>	ISEM Catalog of Supported Applications

<b>Measurement Method</b>	Customer survey
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3.7.3 The vendor shall provide, update, augment, validate, and maintain current an ISEM graphic depiction of supported and active production applications and Web sites. This graphic depiction will be used by NASA and vendor management and staff to see relationships and characteristics of the various production software applications. It will graphically illustrate the various supported production applications, their interfaces among themselves, the primary software under which each was developed, whether it has a PC or MAC version, or both, whether it is mainframe based and, if so, the software it was written in and the relative size in terms of lines of code, and other meaningful characteristics which may later be defined by NASA and the vendor.

<b>3.7.3.1</b>	Document delivery
<b>Requirement</b>	Graphically depict ISEM software applications
<b>Standard</b>	Provide document 120 days after task order start. Update annually.
<b>Deliverable(s)</b>	ISEM Graphic Application Depiction Document
<b>Measurement Method</b>	Customer survey

### 3.8 APPLICATION PERFORMANCE

The vendor shall provide tools and perform systems, performance, tuning, and capacity analysis studies for applications. The vendor shall use modeling and/or prototyping techniques to accomplish the sizing and quantifying of data. The vendor shall also support end-to-end, closed-loop performance and tuning testing.

### 3.9 OTHER STUDIES

The vendor shall perform other studies, analyses, assessments, evaluations, and other activities in support of application development including:

- Evaluation of methods and techniques to improve application modifications.
- Studies directed at potential pathways for migrating data and applications to a Structured Query Language (SQL), web-based environments or new applications architecture.
- Support to working groups involved in application development and implementation.
- Pre-release testing, when specifically approved by the performance monitor, of new software tools supplied by vendors.

### 3.10 INTERFACE CONTROL

The vendor shall coordinate with computer operations and system engineering organizations within Headquarters and other NASA Installations to properly treat operational and system requirements in the development of applications and in the planning of system capabilities. The vendor shall document, as appropriate, these interfaces via Interface Control Documents and/or Memoranda of Understanding.

### 3.11 APPLICATION STATUS REVIEWS

The vendor shall conduct a monthly application status review. The vendor may propose the format and full content of the Review Package, but NASA must agree with the format and content. The Monthly Review Package will be used by NASA and vendor management and staff as the primary application status source and as the focal point for periodic (monthly) applications reviews. The initial version is due the second Wednesday of the first full month following task order start date, with subsequent deliveries due monthly on the second Wednesday of the month. An electronic version for viewing shall be made available and at least four hardcopies shall be provided to NASA each month. At a minimum the Applications Monthly Review package shall contain:

- Metrics charts and graphs
- Metrics tables showing releases and Post ORR and DRR problems by month for the current evaluation period (releases shall be sorted alphabetically in the aggregate and also sorted alphabetically within each application category, and totals shall be provided)
- Schedules for applications currently in work
- A review focusing on the current life cycle phase and status of any problems and issues

### **3.12 DATA BASE MANAGEMENT SUPPORT**

The vendor shall provide data base management support for new and/or enhanced DBMS applications throughout the application life cycle. This support is typified by:

- Programming support for all applications of the DBMS.
- Collecting, analyzing, and screening selected DBMS data (at times from disparate data bases and application platforms).
- Support for trade-off studies regarding selection of COTS DBMS products.
- Data administration and data base administration (e.g., the analysis of data arrangement and new data requirements with respect to data format and DBMS capabilities, and the adherence to established standards and guidelines).
- Design and implementation of new data file structures and relations to meet requirements for data base expansion and efficient report generation.
- Support of any movement to an alternate DBMS or computer system.
- Data architecture design, implementation, and enforcement.
- Configuration Management.

### **3.13 DATA AND DATA BASE ADMINISTRATION**

The vendor shall perform the following data administration and data base administration activities.

#### **3.13.1 Data Administration**

- Support strategic information planning activities.
- Support implementation of data administration policies established by the Agency and Headquarters.
- Support implementation of access and security policies established by the Agency and Headquarters.
- Support implementation of standards established by the Agency and Headquarters.

- Support customer problem reporting and problem resolution.
- Support data modeling activities.

### 3.13.2 Data Base Administration

- Provide techniques to support access/security policies.
- Maintain data integrity.
- Perform data base backup and recovery including disaster recovery.
- Support logical database design.
- Support physical database design and implementation.
- Perform data base system performance analysis.
- Data base tuning.
- Data base planning.
- DBMS release management.
- Capacity planning.

### 3.13.3 Data Base Development

The vendor shall develop physical databases as specified in the logical database design and the physical database design. The vendor shall generate necessary test data to populate the databases and update the physical database designs to reflect the final product. The vendor shall develop a unit test procedure for software to be tested. Test data, and expected and actual results shall be under configuration control.

The Logical Data Base Design and the Physical Data Base Design shall be documented and presented at the PDR and CDR (or the single design review if PDR and CDR are combined into a single review). Data element and types, primary and secondary key fields, and dependencies among data shall be identified. Other pertinent characteristics shall be presented as determined by the vendor or directed by NASA.

## 3.14 APPLICATIONS SOFTWARE MANAGEMENT

The vendor shall develop application software and provide applications maintenance and sustaining engineering in accordance with the approved Software Management Guidebook (SMG) developed by the vendor. The SMG shall be provided by the vendor not later than 30 days after the basic task order start. The SMG shall consider size and complexity of applications, and address both object-oriented and traditional (e.g. waterfall, spiral, etc.) application development methodologies and shall be updated as appropriate. The vendor shall adhere to FIPS (Federal Information Processing Standards) and Agency Standards and propose other standards to be followed. This SMG is the baseline document that identifies the life cycle method or methods that will be used by the vendor and may include provisions for prototyping and rapid application development.

3.14.1 A Software Management Plan shall be provided by the vendor for each application release to document the lifecycle approach, i.e., applicable steps and phases, from the SMG that will be used for that release. The plan shall be followed for that release. The vendor shall collect, analyze, and report software metrics commensurate with the needs of monitoring each application.

### 3.15 PROTOTYPING

The vendor shall use prototyping and rapid application development (RAD) methods primarily where required to clarify application and system requirements and secondarily, where appropriate to reduce design, development, and implementation risks. Use of RAD and prototyping in no way reduces or eliminates the need to document or test an application before it goes into production.

### 3.16 INFORMATION ENGINEERING, COTS AND FLOW ANALYSIS

The vendor shall employ, where appropriate (i.e., effective, efficient, and economical), an information engineering methodology for software applications development.

"Information Engineering" means using an interlocking set of formal techniques for the planning, definition, design, development, implementation, and sustaining of data and applications on a Headquarters-wide basis, or in some instances, an Agency wide basis. Effective use of an information engineering methodology ensures linkage of data and IT requirements to business processes and Agencywide strategic goals and objectives.

The vendor shall conduct, where appropriate, information flow analyses (or a fully comparable methodology), which document the information processing and utilization activities for the enterprise. In conducting and documenting information flow analyses, the vendor is required to employ, where appropriate, state-of-the-art techniques, e.g., CASE tools, concurrent object-oriented programming, etc.

## 4.0 SYSTEM ENGINEERING, INTEGRATION and TELECOMMUNICATIONS SERVICES

### 4.1 SYSTEMS ENGINEERING AND INTEGRATION (SE&I)

Systems Engineering support at NASA Headquarters encompasses advanced technical support across a wide breadth of activities. The vendor must have detailed knowledge of emerging industry, Internet and NASA IT technologies in order to effectively support Headquarters or Agency decisions on strategic and tactical direction, systems integration, and on problems or anomalies escalated for analysis and recommendations. The vendor will also be required to conduct pathfinding efforts in support of developing or deploying new technologies and will be tasked with conducting IT security workshops, audits, and penetration tests at Headquarters and other Centers. In order to effectively maintain the Headquarters IT Security Perimeter, the vendor must have in-depth and current knowledge of threats, reporting and escalation procedures, as well as the Headquarters environment the vendor is required to protect. The vendor will also be required to maintain and operate an engineering lab for the use of all Headquarters customers. This operation requires the vendor to have detailed knowledge of the environments to be replicated or the new direction being contemplated. The vendor will be responsible for applying technologies in support of customer tasks encompassing deployment of web, multimedia, or virtual environments. Specific tasking in support of this work follows.

<b>4.0.1</b>	<b>System Engineering Performance Metrics</b>
<b>Requirement</b>	<b>Provide performance metrics for customer approval</b>

<b>Standard</b>	Delivered within 2 weeks of task order start for customer approval and then delivered within 3 days of the end-of-the-month and customer satisfied with quality
<b>Deliverable(s)</b>	Performance metrics proposal for customer approval and thereafter monthly
<b>Measurement Method</b>	Customer survey

#### 4.1.1 Project Support

The vendor shall provide SE&I support which ensures that proposed implementations provide an integrated approach with respect to existing Headquarters IT systems, other work in progress, and applicable policies, standards, and methodologies. This integrated approach shall encompass the architecture, equipment, software and data associated with the Headquarters environment. There may also be a requirement to enhance or extend a service or capability within Headquarters or to other NASA Installations or to customers outside the Agency. In addition, the vendor shall be responsible for staying current with evolving designs and implementations to ensure integration with other NASA systems or services (e.g. ODIN, IFMS, etc.).

<b>4.1.1.1</b>	<b>Project Schedule Adherence</b>
<b>Requirement</b>	Perform approved projects in accordance with baselined schedules
<b>Standard</b>	Meet 99% of all CCB approved milestones (SRR, PDR, CDR, TRR, ORR) for each project's baselined schedule and achieves customer satisfaction with quality of deliverable.
<b>Deliverable(s)</b>	Project Schedule Adherence Report: Monthly report that summarizes the schedule performance for all milestones
<b>Measurement Method</b>	Vendor provided metrics and customer survey

<b>4.1.1.2</b>	<b>Project Requirements Conformance</b>
<b>Requirement</b>	Implement all baselined and approved requirements for each project
<b>Standard</b>	Implement all requirements and achieve customer satisfied with quality
<b>Deliverable(s)</b>	Project Requirements Conformance Report: Monthly report that summarizes the requirements conformance for all the completed projects
<b>Measurement Method</b>	Vendor provided metrics and customer survey

#### 4.1.2 Headquarters IT Security Perimeter (HISP) Operations, Maintenance and Engineering Support

4.1.2.1 The vendor shall provide support of the operations and maintenance of the HISP. HISP refers to the routers, VLANs, firewalls, switches, monitoring systems and network devices, which form the IT Security Perimeter between the Headquarters campus network and Wide Area or Metropolitan Area Networks. The HISP, as an infrastructure, provides network connectivity to the Internet, Centers and

other entities for the Headquarters customer community. The HISP allows for implementing rules, filters, proxies and monitoring as an extension of Headquarters and Agency IT security policy. The vendor shall develop, acquire, sustain, operate, or recommend HISP network system service enhancements, upgrades, or new capabilities. Proposed implementations shall provide an integrated approach with respect to existing systems, other work in progress, and applicable policies, standards, and methodologies. The vendor shall support the network capabilities at levels that ensure that their availability requirements are satisfied. This support shall quickly respond to changes in technology, dynamic requirements and system, equipment, software, service, and carrier outages. The vendor shall advise the performance monitor as early as possible of the need for outages or reduced services due to IT Security incidents, investigation anomalous behaviors, equipment failure, or other contingencies that cannot be scheduled.

4.1.2.2 The vendor shall provide planning, definition, design, development, acquisition, implementation, maintenance and sustaining engineering support for new network systems and services including Wide Area Network (WAN) connectivity (via routers, switches, etc.) to external networks or Centers, the Internet and Metropolitan Area Network connections. The vendor shall also provide coordination and engineering support at NASA Headquarters for NASA Wide Area provider projects.

<b>4.1.2.3</b>	<b>Connectivity to Outside Networks</b>
<b>Requirement</b>	Maintain Internet connectivity and functionality at all times
<b>Standard</b>	Maintain connections to the Internet at an average of 6 MBPS throughput and incur no unplanned or unscheduled outages that are the result of any devices or services that are part of the Headquarters infrastructure
<b>Deliverable(s)</b>	Connectivity to the Internet at expected throughput
<b>Measurement Method</b>	Vendor provided metrics

#### 4.1.3 The Wide Area Network Operations Center (WANOC)

4.1.3.1 Description - The WANOC is located in the Headquarters Building, and is an integrated Headquarters control center that provides performance, utilization, access, change, and problem management support for critical Headquarters systems to include but not be limited to: border routers, firewalls, proxy servers, monitoring equipment and authentication mechanisms. Services monitored or supported by the WANOC include: HISP systems and subsystems; HISP routers and switches; External Network Connections to MAN sites; Internet services; Domain Name Servers; firewalls, DSUs & CSUs; Sniffers and monitoring devices; and other network specific services, and connections to the NISN routers located in Headquarters facility. The purpose of the WANOC is to maintain and assure the continuity of service to Headquarters customers and services; to assure protection from malicious attacks; to report anomalous network behaviors; to coordinate analysis to resolve either technical or security issues related to the networked services, including all network-based systems within the assigned logical boundaries of Headquarters; and to monitor for attempted unauthorized penetration (hacker attempts) into Headquarters systems. It also provides the single point-of-contact for resolving operations problems outside of the network responsibilities of Headquarters. The WANOC will also provide information on utilization of network resources and support NASA during the planning stages of network implementation as to network capacity, performance monitoring, etc.

4.1.3.2 The vendor shall ensure that the WANOC is capable of successfully performing all its responsibilities and duties as described by providing performance, capacity and anomalous behavior analysis, status and reporting on a 24X7 basis. This often requires the insertion of sniffer equipment into discrete network components or devices in order to identify and isolate anomalous conditions. Data harvested and additional facts often have to be escalated for further analysis and prompt resolution. The vendor shall provide on-call continuous support. The vendor shall respond to the automated pager system interfaced to NOC equipment within 15 minutes and arrive on-site, if necessary, within two hours of the initial page.

#### 4.1.4 Service Level Goal

The vendor shall monitor established networks service level goals for the Border Router, Firewalls, Proxy servers and other Headquarters network systems and subsystems that are part of the HISP and provide Operational Anomalies Summaries, Router & Firewall Subsystem Utilization Reports, ITS Activity Notifications and similar tracking and performance statistics in a timely manner.

<b>4.1.4.1</b>	<b>Suspicious Activities</b>
<b>Requirement</b>	Categorize activities as either security or configuration related on a 24x7 schedule, provide recommendations and take appropriate actions
<b>Standard</b>	Investigate 99% of all anomalous activities within one hour, report to the performance monitor and take appropriate action(s) during normal working hours and within 3 hours for after hour occurrences
<b>Deliverable(s)</b>	Suspicious Activities Report: Daily and monthly reports on the exact nature of the activity
<b>Measurement Method</b>	Vendor provided metrics

#### 4.1.5 Headquarters Communications Network (HCN) Consulting and Advisory Support

The vendor shall provide consulting in support of the operations and maintenance of the HCN. HCN refers to the set of VLANs, switches and network devices that reside behind the IT Security Perimeter and collectively provides a communications service infrastructure for the Headquarters building. As an infrastructure, the HCN provides network connectivity for Headquarters personnel on the Headquarters campus to services hosted within the Headquarters campus. The vendor shall provide the following support for the HCN and for LAN interfaces to the HCN:

- Act as consultant or advisor concerning the installation, configuration, testing, upgrade, operation, maintenance, and diagnoses and resolution of problems on the HCN, including Routers, Switches, all synchronous, asynchronous, and multiplexing services, all terminal servers, protocol converters, gateways, servers, routers, switches, and concentrators and, HCN network and inter-networking configurations, including firewall and firewall systems.
- Perform as required, an evaluation of the feasibility, applicability, and desirability of equipment, software, and service enhancements and upgrades to improve the HCN and services. Plan, define,

design, develop, acquire, implement, sustain and maintain HCN systems, equipment, software, and services, including enhancements, upgrades, and new capabilities.

#### 4.1.6 System Engineering Requirements

The vendor shall collect, interpret, generate, and document requirements for IT systems. The documented requirements may be implemented by the ISEM vendor, the Government, or another Government vendor.

#### 4.1.7 Systems Engineering Design

The vendor shall develop designs to meet the documented requirements. The vendor shall develop specifications for systems, components, equipment, and software, services and supplies that implement the design. Designs shall be consistent with Internet Engineering Task Force, Agency and or Headquarters standards and guidelines, as appropriate, including a rigorous application of design-to-cost methodology, and appropriate industry standards.

#### 4.1.8 Designs Reviews

The vendor shall conduct design reviews to ensure that design maximizes commonality, maximizes the use of COTS components, employs human factors engineering principles, includes state-of-the-art components where feasible and most effectively/efficiently uses available Headquarters IT resources. The vendor shall conduct design and specification reviews and/or submit the documents for approval. When appropriate, projects shall go through Preliminary Design Review (PDR), Critical Design Review (CDR) and, Operational Readiness Review (ORR). The vendor shall identify which new projects will require this focus.

#### 4.1.9 Technology Assessments

Subject to the issuance of service requests, the vendor shall conduct technology assessments that evaluate emerging network technologies and services and their applicability, feasibility, and cost-benefit to Headquarters or the Agency's communications requirements. The vendor shall deliver each assessment in a written document.

#### 4.1.10 Internet Engineering Research and Development

The vendor shall perform research and development activities that are extensible to the Internet community as well as NASA's community. These activities include but are not limited to: 1) the use of broadcast video and audio; 2) the use of on-demand video and audio; 3) Voice and video teleconferencing over the WAN using TCP/IP protocols or IETF standards; 4) Web-enabled front end systems associated with database-back end systems; 5) interactive Web applications; 6) Forms entry and data uploading across multiple WAN databases.

#### 4.1.11 Development and Integration Activities among Wide-Area, Metropolitan-Area, and Local-Area Networks

The vendor shall perform development and integration activities, which include preparation of and execution of pilot programs and phased-approach implementation of pilot programs to integrate selected R&D efforts into Code or Office, mainstream business practices. These activities should include but are not limited to: 1) application integration with web hosting (both local and WAN or MAN); 2) use of databases to generate query-based HTML code on demand; and 3) implementation of strongly authenticated and encrypted session capabilities into existing WAN, MAN and LAN configurations.

#### 4.1.12 The Systems Engineering Facility (SEF)

The SEF, located in the Headquarters Building, is an accessible but controlled facility to enable SE&I, testing, evaluation, maintenance, and operations of existing and proposed Headquarters network systems and services. The SEF provides platforms for testing alternatives for satisfying new communications requirements at Headquarters. As a result the SEF configurations must alternatively mirror the current Headquarters environment and possible future environments. The vendor shall operate and maintain the SEF. The vendor shall be responsible for coordinating and scheduling customers (e.g. ODIN, IFMS or other vendors) who use the facility. Reasonable effort must be made to assure that the facility is available for those who need it. The vendor will be responsible for assuring that the configurations match as closely as reasonably possible the actual conditions expected in deployment. The vendor shall setup, configure, and test major network equipment and software vendor products in use at Headquarters; test and integrate new vendor products with existing Headquarters network products; and benchmark and conduct demonstrations of emerging networking technologies and make recommendations to their customers and to the performance monitor.

<b>4.1.12.1</b>	<b>SEF Configuration and Availability</b>
<b>Requirement</b>	Testing shall be conducted in an environment that resembles the environment that the system will be deployed in and coordinated with the requestor. Availability to the SEF shall be provided through scheduling.
<b>Standard</b>	95% of the SEF configurations are appropriate for the applicable testing scenarios and available as scheduled by the requester.
<b>Deliverable(s)</b>	The SEF is available and configured to meet the requestors' requirement(s).
<b>Measurement Method</b>	Vendor provided metrics

<b>4.1.12.2</b>	<b>SEF Testing</b>
<b>Requirement</b>	Perform testing to determine compatibility with existing environment and provide test support when performing compatibility testing.
<b>Standard</b>	Test all new products for compatibility against the existing environment to avoid post deployment compatibility problems. Provide test support to avoid post deployment compatibility problems.
<b>Deliverable(s)</b>	SEF Test Results Report and SEF test support
<b>Measurement Method</b>	Vendor provided metrics and customer survey

## 4.2 TELECOMMUNICATIONS SERVICES

The vendor shall perform telecommunications support tasks including telephone service support for telecom billing oversight, pager and cellular telephone support as well as provide support for operation of video teleconferencing facilities. In addition, the vendor shall evaluate the effectiveness of operations and activities on an ongoing basis and recommend procedural changes for improvement, monitor internal operations and conduct quality control activities to ensure that services are being performed at the highest level, and maintain accurate and complete records.

### 4.2.1 Budget and Billing Oversight

NASA Headquarters, located at 300 E Street S. W., Washington, DC, uses the Washington Interagency Telecommunications System (WITS) contract (GS-00K89ADH0011) for local telephone service. Service provided is both digital and analog. Analog is mainly used for data and facsimile service. The vendor shall provide support in the planning, budgeting and administration of all telecommunications resources and shall provide support for all telecommunications billing processes.

<b>4.2.1.1</b>	<b>Telecommunications Billing Reconciliation</b>
<b>Requirement</b>	Verify telecommunications bills as to accuracy and appropriateness, obtain performance monitor's signature, and submit bills to GSFC for payment
<b>Standard</b>	Verify and certify all bills for payment within 5 working days of receipt
<b>Deliverable(s)</b>	Telecommunications Billing Reconciliation Report: Monthly report of telecommunication reconciliation activities showing among other items date bill received from GSFC, date verified, date certified and date transmitted to GSFC
<b>Measurement Method</b>	Customer survey

### 4.2.2 Pager and Cellular Telephone Support

The vendor shall issue local and nationwide pagers and cellular telephones and maintain associated records and be responsible for pager and cellular telephone control, accountability and distribution. NASA will acquire both pagers and cellular telephones.

<b>4.2.2.1</b>	<b>Pager and Cellular Telephone Issuance and Control (PCTIC)</b>
<b>Requirement</b>	Issue pagers and cellular telephones and complete paperwork for record keeping
<b>Standard</b>	Issue pagers and cellular telephones within 3 working days and provide monthly report within 3 business days of end-of-month showing number of pagers and cellular telephones issued, date requested and date issued
<b>Deliverable(s)</b>	PCTIC Monthly Report

<b>Measurement Method</b>	Vendor provided metrics and customer surveys
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#### 4.2.3 Video Teleconferencing System (VITS) Support

The vendor shall staff, operate, and maintain the two NASA Headquarters Video Teleconferencing Control Centers (VTCC). The vendor shall:

- Have an understanding of the functions of the teleconferencing facility with the ability to identify and troubleshoot equipment and environmental problems and correct minor malfunctions.
- Notify the Performance Monitor when NISN or other facility repairs are needed to the video teleconferencing equipment or environment.
- Operate all necessary equipment and facilities to maintain a video teleconference to include establishing conferences, recording conferences, controlling cameras, and monitoring audio/video quality.
- Interact effectively with other NASA VITS users and conference coordinators to ensure that video teleconferences are run in an effective and professional manner.
- When not engaged in teleconferencing activities, perform various functions related to conference support, including responding to telephone requests, scheduling video teleconferences, logging attendees, providing assistance and solving problems, and preparing the facility for teleconferences.

<b>4.2.3.1</b>	VITS Cost Analysis
<b>Requirement</b>	Calculate the cost avoidance from travel needed due to the use of VITS
<b>Standard</b>	Provide a monthly report within 3 days of end-of-month and customer satisfied with quality
<b>Deliverable(s)</b>	VITS Cost Analysis Report: Monthly report
<b>Measurement Method</b>	Vendor provided metrics and customer survey

<b>4.2.3.2</b>	VITS Customer Satisfaction Survey
<b>Requirement</b>	Evaluate the customer satisfaction using a survey passed out at the end of each conference
<b>Standard</b>	Provide a monthly report within 3 business days of end-of-month and maintain 90% of all responses in top two categories (4 or 5) for both technical and service
<b>Deliverable(s)</b>	VITS Customer Satisfaction Survey Report: Monthly report
<b>Measurement Method</b>	Vendor provided metrics and customer survey

## 5.0 NASA HEADQUARTERS COMPUTER CENTER (NHCC) SUPPORT

### 5.1 GENERAL

The vendor shall perform computer system service tasks associated with the NHCC mid-range systems at Headquarters and the Headquarters partition at the NASA ADP Consolidation Center (NACC) located in Huntsville, Alabama. These tasks include but are not limited to:

- Computer operations.
- System software installation, management and maintenance.
- Capacity planning and performance monitoring.
- Configuration management.
- Safety and security administration.
- Budget planning.
- Management of the Headquarters partition at the NACC.

## 5.2 COMPUTER OPERATIONS

The operation of the facility includes all of the equipment in the computer room or under control of the NHCC, e.g., the processors, disk storage equipment and tape library, on-line printers, data entry equipment and any equipment for the partition at the NACC facility in Huntsville, Alabama.

### 5.2.1 Production Job Support

The vendor shall perform the activities necessary for the accurate and timely processing of production-oriented computer jobs. These activities include the development, implementation and maintenance of standardized and documented procedures as required for each system and control of production libraries.

### 5.2.2 Production Operations Support

The vendor shall be responsible for all phases of operating NHCC computer systems. Responsibilities include, but are not limited to

- System booting.
- Communication systems initialization.
- Operator console communications and message response.
- Input and output media handling.
- Output quality control.
- Data storage equipment operation.
- File retention.
- Production control.
- Special operations request scheduling.
- Output distribution.
- Job scheduling and submission.
- Data entry.
- Files, databases and storage device backup.
- Supply stocking.
- Mail distribution.

<b>5.2.2.1</b>	<b>System Availability</b>
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<b>Requirement</b>	Ensure systems availability
<b>Standard</b>	Systems availability shall be maintained seven days a week, 24 hours a day, 99% of the time with a -2% variance/month
<b>Deliverable(s)</b>	System performance and monthly System Availability report
<b>Measurement Method</b>	Vendor provided metrics and customer survey

### 5.2.3 Production Shift Support

The NHCC systems must be available 24 hours a day, seven days per week. The NHCC must provide customer support from 6 AM to 6 PM after which time production jobs and backups shall be performed. With the prior approval of the COTR, operation during Government holidays will be scheduled at the request of the Performance Monitor.

<b>5.2.3.1</b>	<b>Job Output Processing Ratio</b>
<b>Requirement</b>	Perform all activities to insure accurate and timely delivery of output products to customers
<b>Standard</b>	Deliver 99% jobs within 1 business day
<b>Deliverable(s)</b>	Printed output and Job Output Processing Ratio Report
<b>Measurement Method</b>	Vendor provided metrics and customer survey

### 5.2.4 Environmental Control Support

The vendor shall continually monitor the environmental control systems for the NHCC to ensure safe operations.

### 5.2.5 Data Management Support

The vendor shall provide data entry services for Headquarters payroll processing every two weeks.

### 5.2.6 Customer Support

The vendor shall ensure an interactive interface among the customer community and programmers for requirements satisfaction and problem resolution.

<b>5.2.6.1</b>	<b>Problem Management</b>
<b>Requirement</b>	Respond (commence problem investigation) to problem notifications
<b>Standard</b>	Respond within 10 minutes during prime hours (6 am to 6 pm) and within 60 minutes for non-prime hours (6 pm to 6 am).
<b>Deliverable(s)</b>	Monthly report of response times to begin problem analysis
<b>Measurement Method</b>	Vendor provided metrics and customer survey

### 5.2.7 Equipment Upgrade Support

The vendor shall provide a semiannual evaluation of new commercially available equipment for use in the NHCC and provide recommendations to NASA management.

### **5.3 SYSTEM SOFTWARE INSTALLATION, MAINTENANCE AND MANAGEMENT**

This responsibility includes:

- Performance monitoring.
- Trouble shooting.
- Performance tuning.
- Implementing and maintaining updates, corrections and enhancements to subscription services and other program commercial software package.

#### **5.3.1 Software Support**

The vendor shall:

- Ensure NHCC and NACC software is in operating condition at the current versions with up-to-date maintenance applied.
- Install and/or make updates to system software at a time that will not affect user productivity.
- Develop and maintain required test procedures or simulations to properly test software upgrades, modifications and maintenance.
- Provide an ongoing program to evaluate new commercially available software and provide reports including recommendations to NASA management.
- Assure all operational support software modifications are installed, work as expected and that no problems have been detected.
- Prepare a system software implementation test and release plan for each release or software package update and present it for approval of the performance monitor.
- Maintain subscriptions to the OEM system software services.
- Review OEM web sites for failure and enhancement information and install updates or patches as appropriate.

#### **5.3.2 Technical Documentation**

The vendor shall develop, implement and/or update technical documentation for the NHCC and NACC partition to include:

- Procedures.
- Policies.
- Operations.
- Guidelines.
- Configuration management.

This documentation shall be maintained in hard copy format and kept at a central on-site location that allows access by Government and vendor personnel.

## 5.4 CAPACITY PLANNING AND PERFORMANCE MONITORING

The vendor shall develop, implement and maintain procedures, policies and standards to provide an effective performance and capacity planning function in concert with users needs.

<b>5.4.1</b>	Capacity Planning
<b>Requirement</b>	Provide capacity trend analysis and growth projections for all supported systems.
<b>Standard</b>	Provide a monthly report within 3 days of end-of month and customer satisfied with quality
<b>Deliverable(s)</b>	Monthly Capacity Planning Report
<b>Measurement Method</b>	Customer survey

### 5.4.2 Performance Monitoring

The vendor shall tune and monitor performance of all system software at the NHCC and shall monitor the NACC for software performance changes and notify the performance monitor accordingly.

<b>5.4.2.1</b>	NHCC System Assessment
<b>Requirement</b>	Provide a system assessment report for the NHCC systems
<b>Standard</b>	Provide a monthly report within 3 days of the end-of-the-month summarizing system performance, problems, and providing recommendations for improvements.
<b>Deliverable(s)</b>	Monthly NHCC System Assessment Report
<b>Measurement Method</b>	Customer survey

### 5.4.3 Performance Management

The vendor shall manage, install and maintain the performance monitoring and capacity planning tools at the NHCC and shall monitor the NACC for software performance and capacity planning changes and notify the performance monitor accordingly.

### 5.4.4 Performance Efficiency

The vendor shall tune systems and associated software for optimum performance.

### 5.4.5 Performance Effectiveness

The vendor shall assess, with appropriate recommendations, the adequacy and effectiveness of solutions to hardware and/or software problems that are degrading computer system performance.

<b>5.4.6</b>	System Performance Metrics
<b>Requirement</b>	Provide performance metrics for Government approval, which will demonstrate graphically the adequacy of system resources

<b>Standard</b>	Delivered within 3 days of the end-of-the-month and customer satisfied with quality
<b>Deliverable(s)</b>	Monthly System Performance Metrics Report
<b>Measurement Method</b>	Customer survey

## 5.5 CONFIGURATION MANAGEMENT (CM)

The vendor shall perform CM of all data processing hardware, software and documentation developed or maintained by and for the NHCC.

## 5.6 SAFETY AND SECURITY ADMINISTRATION

The vendor shall:

- Monitor the physical security of the NHCC and all sensitive unclassified automated information resources within the NHCC.
- Manage NHCC passwords.
- Work closely with Headquarters Security to control NHCC access provided to vendor and subcontractor personnel.
- Comply with the policies and procedures for NHCC physical security in accordance with established procedures.
- Validate that all security controls are in place prior to all new releases, updates, or patches to any system software.
- Ensure that a safe and healthy working environment is maintained.
- Ensure that all job-related injuries, accidents and illness are reported in a timely manner, and ensure that records and reports required by public law and NASA regulations are filed in a timely and efficient manner.
- Comply with the Occupational Safety and Health act of 1970 and published Occupational Safety and Health Administrator (OSHA) and NASA standards as set forth in NHB 1700.1, volume 10.

## 5.7 MANAGEMENT OF THE HEADQUARTERS PARTITION AT THE NACC

The vendor shall identify and coordinate partition changes, upgrades, and new software with the NACC vendor and perform testing of a new partition. Additionally the vendor shall participate in daily conferences with NACC personnel.

## 6.0 USER SERVICES

Delivery of IT services to the end user is a critical activity and an integral part of the Code CI mission. The vendor shall provide a consolidated approach to delivering a comprehensive range of end user support services for Headquarters employees.

## 6.1 SERVICE MODEL

The vendor shall provide quality support to NASA that: (1) as perceived by each individual customer, is competent, responsive, and timely; (2) anticipates issues, concerns, and problems and preemptively initiates resolution; (3) encourages and facilitates customer self-sufficiency; (4) effectively

disseminates information regarding available services and technologies; (5) understands the evolving information and IT requirements of the customer; and, (6) provides a method to obtain after-hours emergency support via a paging or other notification system.

<b>6.1.1</b>	<b>Service Management Plan</b>
<b>Requirement</b>	Develop, implement, and maintain a comprehensive Service Management Plan and ensure that all delivered services resulting from the plan are responsive to the customer. The plan shall outline service-ordering processes designed to meet the computing needs of all NASA Headquarters employees.
<b>Standard</b>	Deliver within two weeks of task order start. Update as required. Achieve customer satisfaction with quality of product.
<b>Deliverable(s)</b>	Service Management Plan
<b>Measurement Method</b>	Customer survey

<b>6.1.2</b>	<b>User Services Metrics</b>
<b>Requirement</b>	Propose, for Government approval, metrics that describe service delivery activities to measure task order performance with regard to service delivery, customer feedback, quality assurance and timely delivery of products and services.
<b>Standard</b>	Deliver within 30 days of task order start. Achieve customer satisfaction with quality of product.
<b>Deliverable(s)</b>	User Services Metrics Proposal
<b>Measurement Method</b>	Customer survey

<b>6.1.3</b>	<b>Customer Satisfaction Survey</b>
<b>Requirement</b>	Institute a customer satisfaction survey process to gather and report customer satisfaction. Upon completion of providing a customer service, the vendor will furnish the customer a survey form which the customer is requested to complete. At the end of each month, the vendor will provide reports that describe the customer ratings.
<b>Standard</b>	Deliver at task order start the customer satisfaction survey. Achieve a rating of "3" or better ("3" being synonymous with a "good" rating) on 98% of all customer survey responses. Achieve customer satisfaction with quality of product.
<b>Deliverable(s)</b>	Monthly Customer Satisfaction Survey Reports which include corrective actions for those surveys rated below the "good" service level.
<b>Measurement Method</b>	Customer survey

## 6.2 FORM REQUESTED SERVICES

- The vendor shall manage the Service Request (SR) system for all IT services provided to HQ customers, including requests processed by other vendor. As such, the vendor shall efficiently receive and promptly process all customer SRs in support of all IT-supported systems, equipment, software, and services. The vendor shall enter all SRs into the work management and tracking system within 24 hours of receipt and shall enter the agreed upon SR completion date within three business days of SR receipt. The vendor shall also perform the work for all SRs within the scope of this SOW. As such, the vendor shall:
- Coordinate the CCB date or the completion date of all service requests with the customer. Complete service requests by the approved completion date for which customer concurrence is obtained.
- Coordinate any extension of completion dates with the customer. The COTR must approve requests for additional extensions.
- Coordinate the closure of service requests with the customer. The vendor shall insure that service requests are closed within two weeks of completion.
- Coordinate approved completion dates with the customer. The customer has the right to disagree with the date proposed by the vendor. This shall be tracked as an unapproved completion date.

<b>6.2.1</b>	<b>Service Request Processing</b>
<b>Requirement</b>	Document the overall management and execution of the service request system.
<b>Standard</b>	Within two weeks of task order start, deliver a service request document that identifies the processes required to effectively execute and manage the service request process. Achieve customer satisfaction with quality of product.
<b>Deliverable(s)</b>	Service Request Processing, Policies, and Procedures/ Service Request Processing Report
<b>Measurement Method</b>	Customer survey

### 6.3 WORK MANAGEMENT TRACKING

The vendor shall implement and sustain a work management tracking system. The system shall be capable of capturing and reporting contractual metrics and other relevant data necessary to ensure that contractual requirements are met.

<b>6.3.1</b>	<b>Work Management Tracking System</b>
<b>Requirement</b>	Provide and maintain an automated work management system to manage all form requested and call in requests for service or assistance.
<b>Standard</b>	Deliver at task order start. Achieve customer satisfaction with quality of product. Update as required.

<b>Deliverable(s)</b>	Work Management Tracking System
<b>Measurement Method</b>	Customer survey

#### 6.4 SERVICE MANAGER PROGRAM

The vendor shall implement and manage a Service Manager program that provides comprehensive support in the planning for and execution of customer requirements. The Service Managers shall be knowledgeable of individual Code's mission, programs, and organizational structure, and work closely with the Code Points of Contact (POC's) and HITCD. The Service Managers shall assist the POC's in defining codes' requirements, developing, tracking and coordinating schedules for codes' activities and ensuring that configuration and inventory controls are maintained.

#### 6.5 HELP DESK

The vendor shall staff, operate, and maintain a telephonic Help Desk that ensures continuous support for consultation, problem reporting, and assistance (including maintenance) requests. This Help Desk shall provide support for calls. All requests through the HELP Desk will be tracked via a work management tracking system.

<b>6.5.1</b>	Help Desk Support
<b>Requirement</b>	Operate a Help Desk
<b>Standard</b>	The vendor shall operate the Help Desk from 6 am to 6 pm, Monday through Friday, excluding holidays. ISEM. Help Desk personnel answer in person 95% of all calls within 30 seconds.
<b>Deliverable(s)</b>	Help Desk Support
<b>Measurement Method</b>	User services metrics and customer survey

<b>6.5.2</b>	Response Time; Restore to Service – Single Customer
<b>Requirement</b>	Restore the customer back to the original operating condition prior to the problem report of failure.
<b>Standard</b>	Within 4 hours of the request for assistance, make initial contact with the customer; within 8 hours of the request for assistance, fully restore the customer to service via a workaround or an actual correction of the problem; within 72 hours complete permanent corrective actions for 95% of the requests for assistance. Achieve customer satisfaction with quality of the product.
<b>Deliverable(s)</b>	Monthly response time metric reports, customer survey results
<b>Measurement Method</b>	User services metrics and customer survey

<b>6.5.3</b>	Response Time; Restore to Service – Multiple Customer/Critical Project
<b>Requirement</b>	Restore multiple customers back to the original operating condition prior to the problem report or failure.
<b>Standard</b>	Within 30 minutes of the call, make an initial response; within 2 hours of the initial call, fully restore the customer to service via a workaround or an actual correction of the problem for 95% of the requests for assistance. Achieve customer satisfaction with quality of the product.
<b>Deliverable(s)</b>	Monthly metric reports, customer survey results
<b>Measurement Method</b>	User services metrics and customer survey

## 6.6 USER RESOURCE CENTER (URC)

The vendor shall operate and maintain an on-site walk-in User Resource Center that provides generalized and specialized IT information and assistance. The vendor shall keep abreast of current and emerging technologies that are relevant to the NASA IT environment and mission. The hours of operation of the User Resource Center shall be 7:30 AM to 5:00 PM, Monday through Friday excluding holidays.

## 6.7 CUSTOMER EDUCATION

The vendor shall manage and maintain a program designed to inform the HQ community of HQ IT and tactical plans, impacts, and benefits. As such, the vendor shall work across organizations and contracts to deliver accurate, timely and "user friendly" information through meetings, user groups, information exchanges, etc. This includes the establishment and maintenance of Headquarters-wide customer education and information dissemination activities to encompass the maintenance and management of the Code CI web page. Additionally, the vendor shall provide timely submissions to Heads Up, HIT, HQ Bulletin and coordination and support of the "IT Notice" distribution list.

### 6.7.1 Customer Training

The vendor shall provide training to customers for ISEM products using classes, videotapes and printed materials.

## 6.8 FORMS MANAGEMENT

The vendor shall define, develop, implement, and maintain both Agency and Headquarters operational forms. "Forms" refers to paper forms and forms produced by electronic means. In support of this activity, the vendor shall:

- Design, produce, publish, and maintain Agency and Headquarters forms in both electronic

media and hard copy.

- Maintain a library (electronic and hard copy) of Agency and Headquarters forms with electronic file transfer capability to NASA Headquarters organizations and field installations.

## 6.9 AUDIO/VISUAL (A/V) IT SUPPORT

Primary support for operating the HQ A/V equipment and facilities and for conducting electronic presentations is provided via another contract vehicle. However, the ISEM vendor shall serve as the IT expert for all events requiring audio-visual services at HQ. This support includes both on-site and off-site activities such as providing the necessary IT hardware and software, checking LAN connections, providing dedicated support for the entire length of a multi-day meetings, training the A/V vendor, and coordinating with multiple organizations and vendors. The vendor shall develop guidelines available at task order start for obtaining advance coordination for electronic presentation support, including hardware configuration, baselined product suite in use at Headquarters and other available tools.

## 6.10 HARDWARE MAINTENANCE

The vendor shall maintain in a fully operational condition all mid range and WAN IT systems and equipment at Headquarters. In support of this function, the vendor shall develop, submit, and implement an ISEM Maintenance Plan that describes the vendor's policies, plans, and procedures to affect its maintenance responsibilities. Additionally, the vendor shall notify the performance monitor before any maintenance, testing or other work is performed which will interrupt or otherwise adversely impact the Headquarters IT systems.

<b>6.10.1</b>	<b>ISEM Maintenance Plan</b>
<b>Requirement</b>	Develop and maintain an ISEM Maintenance Plan
<b>Standard</b>	Deliver plan within 30 days of task order start, achieve customer satisfaction with quality of product and update as required
<b>Deliverable(s)</b>	ISEM Maintenance Plan
<b>Measurement Method</b>	Customer survey

<b>6.10.2</b>	<b>Equipment Maintenance, Logistics and Relocation Metrics</b>
<b>Requirement</b>	Propose, for Government approval, metrics that describe equipment trends and related task order performance
<b>Standard</b>	Deliver within 30 days of task order start and achieve customer satisfaction with quality of product and deliver monthly thereafter.
<b>Deliverable(s)</b>	Metrics Proposal
<b>Measurement Method</b>	Customer Survey

### 6.10.3 After Hours Support and Emergency Requirements

The vendor shall respond to emergencies or other activities that require the performance of

services outside of the standard maintenance support hours of 7:30 AM to 5:00 PM, Monday through Friday excluding holidays.

#### 6.10.4 Documentation

The following documents are applicable to IT equipment maintenance support:

- NASA Handbook (NHB) 4200.2, NASA Equipment Management Manual
- NASA Handbook (NHB) 5300.4, Quality Program Provisions for Aeronautical and Space System Contractors

### 6.11 PREVENTIVE AND REMEDIAL HARDWARE MAINTENANCE

The vendor shall provide proactive preventative maintenance and remedial maintenance on all ISEM IT systems and equipment. If the ISEM vendor can't repair an item the ISEM vendor will provide a temporary replacement until the equipment or system can be replaced with an item that provides equal or better functionality. The vendor shall ensure that six (6) common HQ network color printers are checked daily and loaded with Government furnished paper, viewfoils and toner cartridges.

#### 6.11.1 Service Record

The vendor shall provide, maintain, and update work management tracking information, which contains all the pertinent information relative to a particular system. This shall include routine maintenance activities as well as documenting and correcting equipment failures.

#### 6.11.2 Spares

The vendor shall ensure that maintenance tools, diagnostics and spares are adequate to meet the NASA HQ requirements. The vendor shall provide, maintain, and track an inventory of spares and spare parts to accomplish repairs or replacement of defective equipment and parts. Essential spare parts and equipment shall be maintained on-site at the Headquarters building.

<b>6.11.3</b>	<b>Spare Parts Inventory</b>
<b>Requirement</b>	The Vendor shall have the capability in-place to acquire any out of stock parts within 24 hours.
<b>Standard</b>	Analysis of quantities that assures being able to make repairs within 24 hours.
<b>Deliverable(s)</b>	Deliver within 2 weeks of task order start and quarterly thereafter a Spare Parts Inventory List
<b>Measurement Method</b>	Customer survey

<b>6.11.4</b>	<b>Hardware Maintenance Service</b>
<b>Requirement</b>	Provide all hardware maintenance support on a 7 x 24 schedule.

<b>Standard</b>	Resolve 98% of the problems within 2 hours with the remainder resolved within 24 hours. Otherwise provide a workaround.
<b>Deliverable(s)</b>	Monthly Hardware Maintenance Service Report
<b>Measurement Method</b>	Vendor provided metrics and customer survey.

## 6.12 LOGISTICS AND PROPERTY MANAGEMENT

The vendor shall provide logistics and property management support to the Government in support of tasks and activities under this SOW. The vendor shall receive equipment, software, and related documentation being surplus by customers and shall reissue or dispose of these items in accordance with applicable Government property management regulations and policies. In this regard, the vendor shall provide support for property receipt, control, and accountability (e.g., preparation/validation of inventory documentation used as input to NEMS)

<b>6.12.1</b>	Property Management
<b>Requirement</b>	Submit NEMS changes to keep NEMS data current
<b>Standard</b>	NEMS changes shall be processed in 1 day and customer satisfied with quality of product.
<b>Deliverable(s)</b>	Monthly Property Management Report of equipment changes and associated dates
<b>Measurement Method</b>	Vendor provided metrics and customer survey

## 6.13 MOVES, RELOCATIONS AND EQUIPMENT EXCESS

In accordance with an approved SR, the vendor shall provide comprehensive moving services and prepare Headquarters IT systems and equipment for physical moves from one customer location to another. Preparation shall include the necessary activities to ensure the system is protected and proven operational at completion. Additionally, the vendor shall follow the Federal and NASA guidelines to properly collect and disposition equipment to be excessed.

<b>6.13.1</b>	Excessing Equipment
<b>Requirement</b>	Pick-up all ADP/T equipment identified for excess, restore it to a baseline configuration and process it for excess
<b>Standard</b>	Process excessed equipment within 3 business days and achieve customer satisfied with quality of product.
<b>Deliverable(s)</b>	End-of-month Equipment Excess Report
<b>Measurement Method</b>	Vendor provided metrics and customer survey

## 6.14 HEADQUARTERS INTEGRATED SECURITY SYSTEM (HISS)

The vendor shall troubleshoot all HISS reported problems and take corrective action. Corrective action may involve coordination with other vendors and appropriate subcontractors. The ISEM

vendor shall provide all hardware and software maintenance that make up the HISS. Upon completion of repairs, installations, enhancements, modifications, or upgrades to the HISS, the vendor shall verify the successful completion of the activity or activities and validate the integrity of the components and/or the system.

<b>6.14.1</b>	HISS Maintenance
<b>Requirement</b>	Provide all hardware and software maintenance support on a 7 x 24 schedule
<b>Standard</b>	Resolve 98% of the problems within 4 hours with the remainder resolved within 24 hours otherwise provide a workaround.
<b>Deliverable(s)</b>	Monthly HISS Maintenance Service Report
<b>Measurement Method</b>	Vendor provided metrics and customer survey

## **7.0 INFORMATION TECHNOLOGY SECURITY (ITS)**

The vendor shall provide comprehensive IT support to the Center ITS Manager (CITSM). The activities associated with this support are those for implementing the policies, processes, procedures and guidelines of the Computer Security Act of 1987, OMB Circular A-130, NPG 2810 and other Headquarters policies, processes, procedures and guidelines governing the protection of information resources. The vendor shall use IT to the fullest extent possible for developing procedures and guidance, conducting assessments, control reviews, and audits, and presenting awareness training. The over arching focus of this task is to provide oversight for security measures implemented to protect the Headquarters electronic infrastructure and network devices attached to the NASA Headquarters infrastructure, to identify vulnerabilities and to recommend actions to reduce and/or eliminate the documented vulnerabilities. The formulation of procedures and guidelines including the review/update of existing documentation will provide the basis for the conduct of control reviews that will document system compliance. Besides providing for continual monitoring of system compliance with policy and procedures, this task provides for the formal conduct of audits and incident response as required by Federal law.

### **7.1 STANDARDS AND PROCEDURES**

The vendor shall develop and maintain security standards and procedures for a broad range of IT operations and support in accordance with Federal and NASA policies and guidelines. Categories include but are not limited to: User-id and password controls, account creation/deletion controls, operating systems and compliance implementation and monitoring controls, network operations and compliance monitoring controls, personnel screening procedures, incident response and reporting controls, contingency planning and application development security controls, auditing metrics and controls review checklists.

### **7.2 AUDITING OF SYSTEMS OPERATIONS**

The vendor shall develop and conduct periodic audits of all operational systems to determine compliance with Agency policy, standards and procedures. The vendor shall develop an audit schedule

semi-annually. The vendor shall develop detailed reports of system audits. These reports shall identify vulnerabilities found during the audit and recommend corrective actions.

<b>7.2.1</b>	<b>System Audits</b>
<b>Requirement</b>	Develop and conduct periodic audits of all operational systems
<b>Standard</b>	Audit all general support systems on an annual basis, identify deficiencies and recommend corrective actions
<b>Deliverable(s)</b>	Annual System Audit Report
<b>Measurement Method</b>	Customer survey

### **7.3 SUPPORT OF THE ITS WORKING GROUP**

The vendor shall attend weekly NASA ITS Managers conferences and NASA ITS Working Group Meetings.

### **7.4 SUPPORT SECURITY TRAINING**

The vendor shall ensure that its employees with access to NASA information resources receive annual IT security awareness training in NASA IT Security policies, procedures, computer ethics, and best practices. In addition, the vendor shall support the development and presentation of IT security training for NASA Headquarters civil servant IT users.

The vendor shall employ an effective method for communicating to all its employees and ensuring that they understand any ITS policies and guidance provided by the IT CITSM and/or Center CIO (CCIO) as part of the new employee briefing process. Further, the vendor shall ensure that all employees certify that they have read and understand any new ITS policy and guidance provided by the CITSM and CCIO over the duration of the task order.

The vendor shall ensure that employees performing duties as system and network administrators in addition to performing routine maintenance possess specific IT security skills. These skills include: use of software security tools, analysis of logging and audit data, response to and reporting of computer or network incidents, preservation of electronic evidence, and recovery to a safe state of operation. Vendors are responsible for providing training to employees to whom they plan to assign system administrator roles. That training must provide the employees with a full level of proficiency to meet all NASA system administrator's functional requirements. The vendor must also have methods or processes to document that employees have mastered the training material or have the required knowledge and skills. This applies to all system administrator requirements that exist today or that may be developed over the duration of the task order.

### **7.5 INCIDENT RESPONSE AND REPORTING**

The vendor shall provide 24-hour support (after hours on-call only) for the identification and mitigation of incidents. The vendor shall notify the CITSM or other official as appropriate on incidents impacting or affecting HQ IT operations. The vendor will document all incidents where vendor's time has been expended in the response to a user or system notification or alert, take corrective action and provide the final report to the CITSM within 24 hours of incident resolution.

<b>7.5.1</b>	<b>Incident Response</b>
<b>Requirement</b>	Provide 24-hour support for the identification and mitigation of all incidents.
<b>Standard</b>	Respond within 1 hour during normal work hours (weekdays from 6 am to 6 pm) and within 3 hours for after hour occurrences (weekdays from 6 pm to 6 am, and weekends and holidays), take appropriate corrective action and accurately document the incident
<b>Deliverable(s)</b>	Incident Report (Individual and monthly)
<b>Measurement Method</b>	Vendor provided metrics and customer survey

## 7.6 SYSTEMS AND NETWORK MONITORING

The vendor shall develop a plan to monitor all network components and systems at Headquarters. The plan shall include the monitoring methodology, tools to be used, frequency of monitoring, and reporting of results. The vendor shall on a monthly basis prepare a statement on the status of ITS at Headquarters. The report shall include recommendations or changes that will improve ITS.

<b>7.6.1</b>	<b>Network Monitoring Plan</b>
<b>Requirement</b>	Develop a plan to monitor all network components and systems at Headquarters
<b>Standard</b>	Deliver 90 days after task order start, and achieve customer satisfaction with quality; Update as required
<b>Deliverable(s)</b>	Network Monitoring Plan
<b>Measurement Method</b>	Customer survey

## 7.7 ARCHITECTURAL RECOMMENDATIONS

The vendor shall evaluate and recommend architectural changes, processes and tools to improve the IT security environment of NASA Headquarters. Emphasis is on the tactical plan initiatives, including but not limited to, Headquarters Server Architecture (server farm), Headquarters Communications Networked Switched Architecture, Firewall, Network Operations Center, Remote Access, and Desktop Access Control.

## 7.8 HEADQUARTERS PENETRATION TESTING

The vendor shall conduct Headquarters penetration testing. These tests may include attack simulations, running automated scanning tools, or conducting physical inspections. Penetration testing support may include planning and conducting workshops on developing tools by which to identify, categorize and quantify IT security threats.

<b>7.8.1</b>	<b>HQ Penetration Testing</b>
<b>Requirement</b>	Conduct annual HQ penetration testing
<b>Standard</b>	Perform penetration testing annually, identify vulnerabilities, and recommend and/or implement corrective action(s)
<b>Deliverable(s)</b>	Test report
<b>Measurement Method</b>	Customer survey

## **7.9 GENERAL AUTOMATED SUPPORT SYSTEMS AND MAJOR APPLICATIONS SECURITY PLANS**

The vendor shall assist operations and support staff as well as applications owners in the development and publication of Security Plans as required under OMB Cir. A-130 Appendix III, and the NPG 2810.

## **7.10 SECURITY EVALUATIONS**

The vendor shall provide security evaluations for each new or significantly modified Headquarters automated application system prior to deployment.

## **7.11 CENTER SECURITY PLAN**

The vendor shall develop an annual security plan for NASA Headquarters as a center in compliance with NPG 2810. The vendor shall develop and maintain a procedure to accomplish the recording and tracking of all IT Security Plans for general support systems and major applications required for NASA Headquarters. Reports will be provided quarterly to the HQITSM on the status of IT Security Plans for general support systems and major applications.

## **7.12 INFRASTRUCTURE PROTECTION SUPPORT**

The vendor shall develop, implement and maintain infrastructure protection procedures that specify actions necessary for the continued operation of the electronic infrastructure at NASA Headquarters in case of disruption of services.

<b>7.12.1</b>	<b>HQ Critical Infrastructure Protection Plan</b>
<b>Requirement</b>	Develop, maintain, update and exercise annually a HQ Critical IT Infrastructure Protection Plan in accordance with PDD 63
<b>Standard</b>	Deliver initial plan 90 days after task order start, update as required, accurately describing local conditions and customer acceptance
<b>Deliverable(s)</b>	HQ Critical IT Infrastructure Protection Plan
<b>Measurement Method</b>	Customer survey

## **7.13 VENDOR SECURITY PROGRAM**

The vendor shall prepare, implement, and maintain a Security Management Plan that addresses the vendor's policies, plans, and procedures for physical, personnel, communications, and IT security. The ITS portion of the plan shall address the security measures and safeguards to be provided for all IT resources acquired or used by the vendor and subject to this task order.

## **7.14 PERSONNEL SECURITY SCREENING**

In addition to complying with any functional and technical security requirements set forth in this task order, the vendor shall initiate personnel screening checks for each vendor employee requiring unescorted or unsupervised physical or electronic access to restricted or limited areas, or sensitive NASA systems, programs, and data.

The vendor shall ensure that all such employees have at least a National Agency Check investigation. The vendor shall submit a personnel security questionnaire (NASA Form 531, Name Check Request for National Agency Check (NAC) investigation and Standard Form 85P, Questionnaire for Public Trust Positions, (for specified sensitive positions) to the HQ IT Security Manager (HQITSM) no later than one week of hire date. The HQITSM will review the SF 85P and clear each form. Once cleared the applicant will be scheduled for Fingerprinting by the Center Chief of Security. The HQ Center Chief of Security will provide all required forms necessary to complete the background screening.

When employee access is necessary prior to the completion of a NAC, the vendor employee will be granted interim access based on review of the completed SF 85P by the HQITSM and presumption the responses on the SF 85P are truthful. In the event that the NAC is not satisfactory, access will be immediately withdrawn. Note: Full background screening may not be required for employees with recent or current Federal Government investigations.

The vendor shall have an employee checkout process that ensures (1) the return of badges, keys, electronic access devices and NASA equipment; (2) notification to NASA within three working days for normal terminations and by the close of business for terminations for cause to disable any user accounts or network accesses that may have been granted to the employee. The vendor shall ensure that the terminated employee has no continuing access to systems under the operation of the vendor for NASA. Any access must be disabled the day the employee separates from the vendor.

Granting a resident alien (foreign national) access to NASA resources requires special authorization. In most instances foreign nationals are not permitted access to sensitive systems or data. The vendor shall obtain authorization from the Center Chief of Security prior to the hiring of a resident alien or granting access to NASA IT systems and networks.

#### **7.15 SANITIZING MEDIA**

The vendor shall develop procedures and implementation plans that ensure that IT resources leaving control of an assigned user (such as being reassigned, repaired, replaced, excessed) has all NASA data and sensitive application software removed by a NASA- approved technique. NASA-owned applications acquired via a "site license" or "server license" shall be removed prior to the resources leaving NASA's use. Damaged IT storage media for which data recovery is not possible will be degaussed or destroyed.

#### **7.16 ACCESS TO VENDOR SITES**

The vendor shall allow NASA access to the vendor's and sub-contractor's facilities, installations, technical capabilities, operations, documentation, records, databases and personnel to the extent required to carry out a program of IT inspection and audit to safeguard against threats and hazards to the integrity, availability and confidentiality of NASA data and to perform Quality Assurance monitoring for this task order.

#### **7.17 NETWORK AND SYSTEM VULNERABILITY TESTING**

The vendor shall conduct and document vulnerability testing conducted as a required task in accordance with NPG 2810 and any current IT security requirements. The results of these tests shall be provided to the HQ IT Security Manager. Any vendor system(s) connected to a NASA network or operated by the vendor for NASA may be subject to vulnerability assessment or penetration testing as part of the Center's IT security compliance assessment and the vendor may be required to assist in the completion of these activities.

A decision to accept any residual risk will be the responsibility of NASA. The vendor shall notify the NASA system owner and the NASA data owner within 5 working days if new or unanticipated threats or hazards are discovered by the vendor, made known to the vendor, or if existing safeguards fail to function effectively. The vendor shall make appropriate risk reduction recommendations to the NASA system owner and/or the NASA data owner and document the risk or modifications in the IT Security Plan.

## **8.0 TRANSITION TO THE INFORMATION TECHNOLOGY SYSTEMS, ENGINEERING AND MANAGEMENT (ISEM) SUPPORT TASK**

### **8.1 INTRODUCTION**

The purpose of this task is for the ISEM vendor to: (1) Become able to assume the responsibilities of the incumbent vendor upon expiration of NASW-4962 with no degradation of service, and (2) Conclude successful negotiations with NASA Headquarters for performing the optional and unique IT tasks comprising element 10.0 of the ISEM SOW.

### **8.2 SPECIFIC REQUIREMENTS**

8.2.1 The vendor shall execute the Transition Plan submitted as part of the vendor's response to the NASA Headquarters ISEM TORFP. The vendor shall obtain Government approval of the plan and implement and perform this transition task according to the approved Transition Plan.

8.2.2 The vendor shall establish interfaces among all affected Government and incumbent vendor personnel, e.g., CO, COTR, customers and performance monitors.

8.2.3 The vendor shall review the work being performed under NASW-4962 and be sufficiently familiar with the requirements and substance thereof, status of work and deliverables to assume responsibility and accountability for same upon the start of the ISEM task order basic period of performance.

8.2.4 The vendor shall observe the ongoing operations of Government and incumbent vendor personnel and be sufficiently familiar with them to assume responsibility and accountability for them without degradation of service. This includes a working knowledge of the software development environment. The vendor shall observe the incumbent vendor's personnel operating various facilities, e.g., the NHCC, the NOC, the WANOC and the SEF among others, to gain insight prior to the start of the ISEM task order basic period of performance.

8.2.5 The vendor shall devote special efforts to gaining working level knowledge of the varied and unique tasks comprising element 10.0 of this SOW. These tasks directly support the singular requirements of NASA Headquarters offices. The vendor shall establish close liaison with the customers of these tasks and become versed in their requirements. The vendor shall negotiate the effort required to support these tasks with NASA Headquarters. The results of these negotiations shall become part of the ISEM task order.

8.2.6 The vendor shall develop a Space Utilization Plan for the concourse level of the Headquarters building being used to meet the requirements of this SOW. This plan shall be finalized such that immediately following the completion of this task element, ISEM vendor personnel are in place in the concourse at the beginning of the basic period of performance and ready to perform work without any degradation of service.

8.2.7 The vendor shall establish a Software Development Environment Utilization Plan. This plan shall address how software development and maintenance shall be sustained without any degradation of performance taking into account hardware and software being furnished by the Government (if use of that software is part of the vendor's proposal).

8.2.8 The vendor shall give weekly status briefings to the COTR and shall provide a Transition Report which details and confirms the vendor's readiness to assume full responsibility for all tasks comprising elements 1.0 – 7.0 and 10.0 of the ISEM SOW no later than 3 days prior to the completion date of this transition task.

### 8.3 METRICS

<b>8.3.1</b>	<b>Transition Plan Milestones</b>
<b>Requirement</b>	Complete transition plan milestones per baselined schedule in the Transition Plan.
<b>Standard</b>	Per the baselined schedule, complete 100% of transition plan milestones that are within the ISEM vendor's span of control.
<b>Deliverable(s)</b>	Transition Report
<b>Measurement Method</b>	Customer survey of successful completion of transition milestones and quality of Transition Report

<b>8.3.2</b>	<b>Program Management Reports and Reviews</b>
<b>Requirement</b>	Conduct weekly status briefings to review progress with respect to transition performance objectives and schedules, through the last week of the contract. Provide documentation for these briefings.
<b>Standard</b>	Conduct meetings as required. Provide documentation electronically.
<b>Deliverable(s)</b>	Meetings and documentation
<b>Measurement Method</b>	Customer satisfaction survey

<b>8.3.3</b>	<b>Support 10.0 Tasks</b>
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<b>Requirement</b>	Negotiate staffing levels, price and skill mix for existing 10.0 tasks.
<b>Standard</b>	Complete 100% of determining the required staffing levels, skill mix and the price to perform each 10.0 tasks and submit proposals for Government approval not later than 10 calendar days after effective date of ISEM award. Ensure close coordination and communication with other Headquarters vendors.
<b>Deliverable(s)</b>	Priced tasks
<b>Measurement Method</b>	Customer survey

## 9.0 NOT USED

## 10.0 SPECIAL REQUIREMENTS FOR HEADQUARTERS OFFICES

**10.1 Scope** - Subject to the issuance of task orders, the vendor shall provide support to individual or multiple Headquarters offices for their special requirements. The scope of this support spans the full range of work described in Sections 1.0 – 7.0 of this SOW. However, primary support will be provided for the following functional areas:

- Software applications development and maintenance
- Web site development and maintenance
- Specialized IT security support
- Customer training
- Internet technologies research
- IT operational, tactical and strategic planning support
- Project management

**10.2 Tasking Process** - The process by which these tasks are executed requires the Headquarters office code to develop a specification of the requirements and deliverables. This task(s) will be transmitted to the vendor as a task request. The vendor shall respond within 5 days of receipt of the task request with a technical and cost proposal. The vendor shall begin execution of the task upon receipt of Government approval. All tasks in effect at the end of a fiscal year are generally renewed by submitting new task descriptions and following the above process. New tasks may be initiated at any time during the fiscal year by following this same process.

<b>10.3</b>	<b>Task Response</b>
<b>Requirement</b>	Deliver a response to the task that includes performance outcomes, pricing, labor mix and hours, phasing and any technical changes to the task specifications and requirements
<b>Standard</b>	Delivered within 5 days and customer can make decision based on task response
<b>Deliverable(s)</b>	Technical and Cost Proposal
<b>Measurement Method</b>	Customer survey

<b>10.4</b>	Task Performance
<b>Requirement</b>	Complete 10.0 tasks in an cost efficient, service-oriented manner
<b>Standard</b>	As determined by each 10.0 task
<b>Deliverable(s)</b>	Per vendor response to the tasking process
<b>Measurement Method</b>	Customer survey

**(a) Alert System for the NASA Administrator**

The NASA Administrator very often receives inquiries while at home. They consist of phone calls and faxes from the news media, from the executive office, from congressional committee staff or from congressional members themselves. Many of the questions need fast answers and are at a level of detail for which the Administrator does not have the reference materials rapidly at hand. The Administrator then has to call various deputies to get access to the level of detail he needs. This is very time consuming and labor intensive.

Comparable situations involving short response times have been handled differently in other situations. Spacecraft controllers, the individuals who monitor spacecraft onboard functions and other automatic systems, have recently benefited from an expert system-based notification system that has freed the controllers from the tiresome duty of monitoring an otherwise healthy spacecraft just to catch anomalies. These automated systems monitor onboard sensors and contact appropriate system or flight engineers when a satellite requires human intervention. If the primary engineer has not responded within a specified time period, the automated system alerts a second engineer. This continues until the system receives a response.

These automated alert and notification systems can be impressive with a measure of exactness and redundancy which is presently missing in the human-managed alert tree used by the NASA Administrator's staff. The benefits of using such a system during the weekend or holiday periods would be savings of time and effort on behalf of the individuals who would otherwise have to staff the NASA front office to respond to inquiries from the Administrator – inquiries which may or may not occur on any given weekend or holiday.

Satellite systems can be triggered by a variety of alerts and can use well-defined rules sets for the expert system or inference engine. Whether or not such capabilities can be ported to a human alert system for finding appropriate staff support for the Administrator and getting that staff support to call with appropriate information is the topic of this subtask.

The Administrator has defined a set of requirements for such a system:

1. Must be accessible by the Administrator through a voice (phone call, either hard wired or cellular) or through a web browser interface;
2. Must provide nearly complete reliability with respect to voice recognition capabilities (must not be spoofed by a recording or other reproduction of the actual voice);
3. Must include C2-level authentication through either voice or web interfaces;
4. Needs to use a set of rules to determine which knowledgeable individual to contact;
5. Needs to have sufficient intelligence (or inference engine support) to allow for notification and call-back and for the likelihood that one or more of the individuals in the alert tree will not respond;
6. Must keep a log of the actions associated with each instance of a request and be able to use the voice or web interface to repeat these log items upon request.
7. Rules set or inference engine needs to be sufficiently sophisticated so that the Administrator or members of the Administrator's staff can modify the rules set without needing a systems or database engineer;
8. Inference paths need to be available in a manner similar to a flow chart.
9. System should respond in the following manner to authorized individuals:

## Attachment J.13.2 - Representative Tasks

Administrator calls system, which authenticates via voice. Administrator asks system to find expert in particular area. System acknowledges it understands requirement and has begun tracking. System then uses expert tools to find notification tree and begins at top of tree with alert. System notifies Administrator when it determines an appropriate and knowledgeable individual has been found, notified and has responded. System calls Administrator back after it determines that the identified individual should have contacted the Administrator to verify this has occurred. If this has not occurred, system responds with either additional alert to same individual or begins at that point in the alert tree and continues downward. System keeps Administrator informed of actions as system decision tree actions are executed.

Same set of requirements is true for a web-based interface. Web and voice interfaces can be interchanged, one for the other, at any point in this process. If the Administrator changes methods or changes phone numbers (as would be the case on travel), the system will note changes and keep tracking.

Following a pilot period during which the Administrator will be the only individual authorized to query the system and only specific staff will be authorized to input to the database and add and modify the rules set, a broader demonstration and prototype use of the system will be conducted to include up to an additional 12 persons authorized to query the system and a larger number of individuals authorized to input information and modify the rules.

Following a successful prototype demonstration, the system will be brought to a production status while maintaining the capability to continue with development activities associated with either increased sophistication of the inference engine or of the methods used for initial query and subsequent response and call-back.

The lessons learned and prototype engineering and software/hardware configurations produced for this requirement will be reduced to the common component level and a standardized alert system module will be developed and made available to other NASA offices and facilities, and to other U.S. Government agencies.

Time available for analysis, engineering, test and pilot deployment is 6 months from initiation of the project to delivery of the working prototype. The broader demonstration and prototype use of the system will be for an additional 6 months. Production status must be achieved within 12 months of project initiation.

Funding for this system is at the hardware/software equivalent of a major new web server deployment or of a major new document management system deployment. Existing NASA HQ site-wide license authority for software will be used whenever and wherever possible. Deviations from the existing HQ infrastructure standards or baseline hardware and software are to be avoided completely, and if not, exceptions must be based on return-on-investment analysis. A cost analysis also will be produced which includes the on-going maintenance costs expected to keep such a system operational. The cost analysis will also include projected costs for replacement or for upgrades and will cover capacity planning.

**(b) Time and Attendance Tracking System (TATS)**

A requirement exists to automate the NASA Headquarters time and attendance report to facilitate the accurate recording, validation, certification and reporting of an employee's time and attendance on a bi-weekly basis. The contractor shall provide analysis, design, development, testing, training and sustaining engineering support for this COTS or custom designed application. The application must interface with the NASA Personnel/Payroll System (NPPS) maintained and operated at the NASA ADP Consolidation Center (NACC) located at the Marshall Space Flight Center (MSFC).

The system shall:

1. Generate an on-line template (form) for each employee to fill out for each scheduled pay period in the current fiscal year.
2. Be remotely accessible to provide employees dial-in access from off-site.
3. Provide access controls and security using passwords to ensure positive identification of each employee completing the report.
4. Provide for recording the following types of hours:
  - a. Leave
    - i. Annual
    - ii. Sick
    - iii. Absence Without Authorization
    - iv. Administrative
    - v. Military
    - vi. Holiday
  - b. Hours Worked
    - i. Regular
    - ii. Overtime
    - iii. Night Differential
    - iv. Holiday
    - v. Compensatory
    - vi. Credit
  - c. Compensatory Time Used
    - vii. Regular
    - viii. Religious
5. Provide for the recording of the following:
  - a. The employee's planned/approved work schedule
  - b. The employee's actual schedule which includes:
    - i. Time In
    - ii. Time Out
    - iii. Time In (Second Occurrence)
    - iv. Time Out (Second Occurrence)
    - v. Overtime
    - vi. Night Differential
    - vii. Compensatory Time
    - viii. Leave:
      1. Annual
      2. Sick

**Attachment J.13.2 - Representative Tasks**

3. Compensatory Time
4. Without Pay
5. Absence Without Authorization
- ix. Holiday Charged
- x. Restored Annual Leave
- xi. Other Leave:
  1. A - Admin
  2. C - Court
  3. E - Excused
  4. J - Jury
6. Provide the following record identification:
  - a. Employee's Name (Last, First, Initial, Title)
  - b. Pay Block
  - c. Social Security Number
  - d. Organization Code
  - e. Period Number
  - f. Pay Period Beginning Date
  - g. Pay Period Ending Date
7. Provide for certification (approval) of leave records by a primary or alternate certifier.
8. Provide for recording hours for 7 calendar days per week for 2 consecutive weeks and provide summary totals for each week and the entire pay-period.
9. Provide a method for certifying time and attendance reports in "mass" or individually for each certification group. A certification group is comprised of all employees assigned to the same organizational unit. Mass certification will "lock" the data from alteration for all employees within the certification group.
10. Provide a bi-weekly summary report for each organization that will include summary information on hours worked, leave taken and leave balances, including compensatory time earned or taken.
11. Provide access to prior pay period records within the current pay year and enable adjustments to be made by authorized payroll employees.
12. Be developed using a WEB-based interface that can be accessed via Netscape or Internet Explorer on a desktop workstation.
13. Provide for the archiving of all prior-year records after completion of processing of the second pay period for the new pay year in accordance with the established pay and leave schedule.
14. Have the capacity to support 500 concurrent users and shall be available 24 hours per day, 7 days per week.
15. Have the capability of supporting up to 1500 employees per pay period.

The contractor shall provide training for all HQ employees and provide training at a rate of 300 employees per week for 5 consecutive weeks. Documentation requirements include:

- a. Project Management Plan
- b. Requirements Specification
- c. Design Specification
- d. Test Plan and Procedures
- e. Training Materials
- f. User's Guide (On-Line Preferred)

#### **Attachment J.13.2 - Representative Tasks**

Delivery of a prototype capability to demonstrate all the required features shall be 9 months after task start. The prototype will be tested with a Headquarters pilot group for 6 months during which all deficiencies will be corrected. Deployment of a fully operational system will be within 3 months of the completion of the prototype testing.

### **(c) Collaboration System for Agencywide Application**

As ever increasing needs continue to rise for new and improved electronic collaboration among NASA Centers, Headquarters and its partners, a new collaboration requirement has been identified for assessment and implementation.

At a functional level this collaboration system shall

- provide NASA centers and partners with a standards-based method for collaboration
- include the ability to work on text documents and to retain version and change control
- work on spreadsheets with the ability to add rows or cells in a controlled manner
- support video on demand and video broadcasts
- accommodate centers and external sites (industrial, educational and foreign)
- be extensible in order to add more features and more users
- be resilient to malicious attack or accidental compromise
- include the ability to authenticate, revoke and restore and delegate privileges
- ensure that system integrity is not compromised and that the IT Security of the center or site which uses the system is not jeopardized

Specific requirements for collaboration are:

- Data archiving
- Scheduling of resources
- Strongly authenticated, standards-based, widely accepted application sharing with session encryption to ensure integrity and privacy
- Leveraging as much existing infrastructure as possible
- Quality services
- Prompt and effective monitoring, management and user support
- Tracking ability and accountability
- Local access for monitoring
- Ability to alert all centers or central support body on anomalous behavior
- Ability to shut down in the event of a security incident or anomalous behavior at a center's discretion
- Ability to grant, revoke, limit, and restore user authorization, authentication from anywhere quickly (24 to 48 Hours)
- Granularity in profile as to what users can access
- Directory mechanism as to who is authorized for what type of access
- Support for NASA external users and foreign nationals
- Maintenance of the security level of a center's infrastructure
- Application security
- Protocol security
- End client security (local and remote nodes)
- Network security (local and remote)
- Operational accounting procedures to include
  - Time stamp, distribution, bytes, port, protocol,
  - Room location, phone number
- Configuration Management
  - Change management

#### **Attachment J.13.2 - Representative Tasks**

- Address space/network control
- Event monitoring
- Multi-platform support

The first usage of this new system will include all the Code M Centers and Headquarters. This shall occur 6 months after task start. The balance of the NASA centers shall be operational 3 months later. Deviations from the existing Headquarters infrastructure standards or baseline hardware and software are to be avoided completely, and, if not, exceptions must be based on return-on-investment analysis. Documentation for using this system shall be produced and delivered to all NASA Centers such that the Centers have sufficient time to activate the appropriate elements at their locations to meet their individual first usage milestone.

<u>Deliverable Name</u>	<u>1<sup>st</sup> Delivered (1)</u>	<u>Updates (1)</u>
<b>SOW ELEMENT 1.0</b>		
Information Technology Management Plan	90 days after basic task order start	none
Problem Alerts	1 day after awareness	n/a
Program Management Report and Reviews	various deliveries	n/a
Logistics and Property Management Plan	90 days after basic task order start	as needed
Configuration Management (CM) Plan	90 days after basic task order start	as needed
Safety, Reliability and Quality Assurance Plan (3)	90 days after basic task order start	as needed
Change Control Board (CCB) minutes	within 1 day of CCB meeting	as needed
<b>SOW ELEMENT 2.0</b>		
Studies, analyses, assessments, recommendations and reviews	as needed	as needed
Strategic, Tactical, & Operational plan Analysis	as needed	as needed
<b>SOW ELEMENT 3.0</b>		
Catalog of Supported applications	30 days after basic task order start	as needed
Graphic Applications Depiction Document	120 after basic task order start date	annually
Application Review Package	2nd Wednesday of the month	2 <sup>nd</sup> Wednesday
Software Management Guide	30 days after basic task order start	n/a
Logical and Physical Data Base Designs	Due at PDR and CDR	n/a
Application Code	Due at Acceptance	n/a
User and Operations Guide	Due at Acceptance	n/a
Training Materials	Due at training	n/a
Application Metrics Reports	30 days after basic task order start	monthly
Application Requirements Report	Due at Acceptance	n/a
Application Design Specification	Due at Acceptance	n/a
Software Version Description Document	Due at Acceptance	n/a
Security Certification Report	Due at Acceptance	n/a
Application Implementation Plan	Due at Acceptance	n/a
Test Plan and Procedures Document	Due at Acceptance	n/a
Monthly TRR/ORR Problem Report	end of 1 <sup>st</sup> month of basic period	monthly
Interface Control Documents	as needed	as needed
<b>SOW ELEMENT 4.0</b>		
Suspicious Activity Reporting	daily (as needed) and at month end	monthly
Technology Assessment Reporting	as needed	as needed
System Engineering Performance Metrics	14 days after basic task order start	monthly
Project Schedule Adherence report	end of 1st month of basic period	monthly
Project Requirements Conformance Report	end of 1st month of basic period	monthly
Suspicious Activities Report	end of 1st month of basic period	monthly
SEF Test Results Report	at test completion	n/a
ViTS Cost Analysis Report	end of 1st month of basic period	monthly
ViTS Customer Satisfaction Survey Report	end of 1st month of basic period	monthly
Pager and Cellular Telephone Issuance and Control Report	end of 1 <sup>st</sup> month of basic period	monthly
Telecommunications Billing Reconciliation Report	end of 1st month of basic period	monthly

**SOW ELEMENT 5.0**

System Availability Report	end of 1st month of basic period	monthly
Job Output Processing Ratio Report	end of 1st month of basic period	monthly
Problem Management Report	end of 1st month of basic period	monthly
Disaster Recovery Plan	90 days after basic task order starts	as needed
Capacity Planning Report	end of 1st month of basic period	monthly
NHCC System Assessment Report	end of 1st month of basic period	monthly
System Performance Metrics Report	end of 1st month of basic period	monthly
Equipment Upgrade Support Report	as needed	as needed

**SOW ELEMENT 6.0**

Service Management Plan	14 days after basic task order starts	as needed
Service Request Processing Document	14 days after basic task order starts	as needed
Audio Visual Support Guidelines	at basic task order start	as needed
User Services Metrics	end of 1st month of basic period	monthly
Customer Satisfaction Survey Report	at basic task order start	monthly
Corrective Actions Report	end of 1 <sup>st</sup> month of basic period	as needed
Equipment Maintenance, Logistics and Relocation Metrics	end of 1st month of basic period	monthly
ISEM Maintenance Plan	end of 1st month of basic period	as needed
Spare Parts Inventory	2 weeks after basic task order start	quarterly
Property Management Report	end of 1st month of basic period	monthly
HISS Maintenance Report	end of 1st month of basic period	monthly
Hardware Maintenance Service Report	end of 1 <sup>st</sup> month of basic period	monthly
Equipment Excess Report	end of 1st month of basic period	monthly

**SOW ELEMENT 7.0**

Penetration Test Results	at test completion	n/a
Incident Reports	within 24 hours	consolidated monthly
Network Monitoring Plan	90 days after basic task order start	as needed
IT Security Awareness Training Materials	as needed	n/a
Systems Audit Schedule	6 months after basic task order start	semi-annually
System Audit Report	end of 1 <sup>st</sup> year	annually
Support Systems Security Plans	Due at acceptance	quarterly
NASA HQ Security Plan	120 days after basic task order start	annually
HQ Critical Infrastructure Protection Plan	90 days after basic task order start	as needed
Security Management Plan	90 days after basic task order start	as needed

**SOW ELEMENT 8.0**

Space Utilization Plan	start of basic task order	n/a
Software Development Environment Utilization Plan	start of basic task order	n/a
Transition Report	3 days prior to basic task order start	n/a

**SOW ELEMENT 9.0 - Not used.**

No deliverables

**SOW ELEMENT 10.0**

Task Order Response(s)	5 days after Task(s) receipt	n/a
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Notes: (1) Basic Task Order start is defined as the beginning of the first full year of performance.

**TASK PRICING RATES**

Submit rates for each prime and subcontractor. Modify as needed, according to proposed labor mix and vendor's team composition.

1. **Direct Labor Rates.** The Contractor shall use the direct labor rates specified below for pricing all proposals in response to this task order.

Labor Category	Basic Rate/hr	Option 2 Rate/hr	Option 3 Rate/hr	Option 4 Rate/hr	Option 5 Rate/hr
On-site	\$	\$	\$	\$	\$
Off-site	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$

Notes: Labor categories should be unburdened direct labor categories which apply to both the effort in the representative tasks and the SOW. Assume contract start date of 1 June 2000.

2. **Indirect Cost Rates.** The Contractor shall use the indirect rates as specified below for pricing all proposals in response to this task order.

Indirect Expense	Basic Rate	Option 2 Rate	Option 3 Rate	Option 4 Rate	Option 5 Rate
Fringe Benefits	%	%	%	%	%
Overhead	%	%	%	%	%
General & Admin	%	%	%	%	%
Other - list:	%	%	%	%	%

Notes: The Offeror shall provide a description of what is included in their proposed indirect pools and the bases of application for each indirect rate.

3. **Maximum Award Fee Percentage**  
(for all Cost Plus Award Fee items issued under this task order)

\_\_\_\_\_ % (Offeror to propose)

(End of Attachment)

**RESERVED FOR**

**ISEM Transition Plan**

**RESERVED**  
**FOR**  
**ISEM Subcontracting Plan**

**Lists of potential ISEM Government Furnished Property/Government Furnished Equipment and Installation Accountable Government Property:**

- a. See Bidder's Library file: BE55-IS
- b. See Bidder's Library file: BO114-IS
- c. See Bidder's Library file: BO-113-IS
- d. See Bidder's Library file: BO-128-IS
- e. See Bidder's Library file: BA-103-IS
- f. See Bidder's Library file: BA-104-IS
- g. See Bidder's Library file: BA-107-IS
- h. See Bidder's Library file: BA-108-IS
- i. See Bidder's Library file: BA-109-IS
- j. See Bidder's Library file: BO-156-IS

Actual Installation Accountable Government Property and Government Furnished Property/Government Furnished Equipment will be determined based on vendor's proposal.

AGP: TBD

GFE/GFP: TBD

**RESERVED FOR**

**ISEM Safety and Health Plan**

**ISEM Attachments J.13.9 through J.13.12:**

Monthly Contractor Financial Management Reports (NF 533 M),

Quarterly Contractor Financial Management Reports (NF 533Q),

Subcontracting Report for Individual Contracts (SF 294),

Summary Subcontracting Report (SF 295),

Are available at :<http://procure.arc.nasa.gov/Acq/Forms/Index.html>