Core
Statement of Work

National Geospatial-Intelligence Agency
Enterprise Engineering Contract

(Third Award Term Option Period)

3 March 2009
Version 3.0

(20090708)

Table of Contents

1.0   Scope

This Statement of Work (SOW) describes the required enterprise engineering activities for the National Geospatial-Intelligence Agency (NGA) Enterprise Engineering Contract. The Enterprise Engineering (EE) Contractor will serve as the enterprise steward across NGA and the National System for Geospatial-Intelligence (NSG). Their purview extends across NGA mission and corporate systems and processes as they play a critical role in effecting transformation.

The NIMA Enterprise Transformation Integrated Process Team (NETIPT) Report contained specific recommendations for achieving and accelerating transformation. Regarding the acquisition of systems and services, the NETIPT realized the need for an all-encompassing engineering services contract to guide the transformation of NGA into the premier Geospatial-Intelligence provider. The Enterprise Engineering contract defines the "What", "When" and "How" of transformational capabilities. From a government perspective, the Chief Architect and Chief Engineer will ensure that NGA's transformation is properly executed; they will work closely with the Enterprise Engineering Contractor to do so. To that end, the following specific engineering focus areas are required of the Enterprise Engineering contract in order to support the Government in accomplishing the overall transformation of NGA. These tasks include:

- Enterprise Strategic Planning
- Enterprise Architecture (Operational, Technical, and Enterprise Data Engineering), to include the Now (Baselined), Next (Programmed), and After Next Architectures
- Corporate and Mission Business Processes, including Process Improvement, Process Re-engineering, and Horizontal Fusion/Integration across organizational boundaries
- Organizational Change Management
- Technical Planning and Policy, to include Chief Information Officer (CIO) support
- System Engineering and Analysis of the NSG end-to-end capabilities and interfaces with community and user systems
- Technology Insertion to facilitate and accelerate transformation
- Performance Modeling, and Measurement
- Enterprise Needs and Requirements Management
- Enterprise Engineering Tools
- Enterprise Risk Management
- Enterprise Configuration Management
- Independent Verification and Validation
- Image and Quality & Utility
- Image Test Data Development
- Readiness Reviews
- System and Technical Interface to Customers, to include coordination support for processes and services transformation
- Life Cycle Cost Estimates (LCCE), Independent cost and Budget analysis, Business Case development and analysis and Cost modeling

In addition, the Enterprise Engineering contract will have the normal Program and Contract Management tasks (e.g., organization, staffing, security, cost control and reporting). The work tasks outlined above are organized in Section 3 under four categories: Strategic, Tactical, Operational, and

Special Studies and Contingencies. The first three categories support three perspectives for the system engineering of the Enterprise.

1.1   Strategic. The strategic perspective considers the fast-paced changing environment. It is imperative that a coherent strategy guides the enterprise, more than ever. Effective strategic planning can be an elusive goal regardless of the scope of transformation. The creation of the strategy itself is not usually the bigger obstacle in building an enterprise around a coherent guiding philosophy. Rather; it's the failure to execute this vision. The importance of measuring strategy when seeking to align and focus an organization across all its resources is critical. The role of the Chief Engineer, Chief Architect, and Enterprise Engineering Contractor in ensuring that a strategic perspective is at the center of NGA's measurement processes is a critical one, and as such, these tasks are all aimed at ensuring that strategic considerations are assessed across the enterprise.

1.2   Tactical. The tactical perspective is a companion challenge to a strategic perspective. It provides for the service to be responsive to the strategies and needs of the business units it purports to serve. A strategic perspective alone, not withstanding the intent of providing benefits from a crosscutting view could end up becoming bureaucratic, unresponsive and inflexible. The strategic perspective absent a mission focus (i.e., the tactical perspective) would not deliver the desired benefits to its stakeholders. A balance between a strategic perspective and a tactical perspective is required to align the strategies of the Enterprise to the mission the enterprise supports so that they add value and are responsive to the customers they serve. As such, the tasks contained in Section 3 are all aimed at ensuring that the focus on delivery and closure is balanced against the broader perspective.

1.3   Operational. The operational perspective, aside from the strategic and tactical perspectives, is equally important in that the execution phase of the contract not be forgotten. It is difficult to focus on the mission when trying to overcome difficulties of cost, or schedule, or performance. Managing the contract successfully and effortlessly allows those who are focused on the strategic or tactical issues the freedom to drive those issues to conclusion, absent from distraction. Hence the need for a concise set of management tasks and activities which provides the framework against which the contract may be measured and conducted.

1.4   Special Studies and Contingencies. The last category, Special Studies and Contingencies, provides for those unknown tasks resulting from rapidly changing environments and situations.

1.5   Background

NGA's mission is to "provide timely, relevant, and accurate Geospatial-Intelligence in support of national security." Transformation within NGA is essential if it hopes to continue to satisfy all of its customer needs for Geospatial-Intelligence. The speed and tempo set by our adversaries, the evolving nature of warfare, and the rapid changes in technology make it essential that NGA act with a sense of urgency. It cannot undertake transformation activities recklessly, but must increase the rate at which it conceives and implements new solutions for customer's needs while at the same time modernizing its internal processes and capabilities.

Transformation in technology alone will not provide NGA with the degree of flexibility required nor allow it to fully realize its potential as the nation's premier producer of Geospatial-Intelligence.

3

Significant changes must also be made in Doctrine, Business Processes, Organization, Training, Materiel, Leadership, Personnel, and Facilities. To that end, the Enterprise Engineering Contractor will assist NGA in achieving its desired future state and help set the direction NGA must take to transform.

NGA has centered its transformation on Corporate Performance Measurement categories so as to directly link transformation to performance improvements. These categories reflect a balanced view of the Agency, and cut across all Key Components. This naturally includes those activities that support NGA's internal customers (NGA workforce) who in turn can create higher value products and services for external customers, U.S. Departments and Agencies. The Enterprise Engineering contractor will play a critical role in measuring and monitoring progress in those categories, as well as performing business case analysis to consider and evaluate alternative plans and paths. The Enterprise Engineering contractor must and will provide de-conflicted investment advice to the NGA executive officers, serving as an honest broker of current and planned activities.

Specific areas in which the Enterprise Engineer will support NGA's transformation include:

A. Engineering Solutions:

- Developing, establishing, reviewing, documenting, and refining the new NSG business strategy, business model and business processes and rules based on the new NSG business model. This applies to both corporate and mission business processes.
- Defining the NGA enterprise architecture, including operational, technical, and high-level systems views, and associated performance analysis parameters
- Ensure NGA's Geospatial Assurance Program is adequate to answer the threat
- Developing Geospatial-Intelligence conceptual data models and standards
- Defining, supporting and negotiating NSG end-to-end operational, technical, and performance requirements and interfaces
- Overseeing NSG standards development activities
- Overseeing the development and maintenance of NGA's Corporate Performance Measurement Analysis and Reporting Program
- Evaluating cost and/or budget impacts of NGA activities
- Ensuring that system capabilities and data migration plans are in accordance with architectural guidelines and standards
- Ensuring Legacy/Heritage capabilities and requirements transfer efficiently to new architecture development
- Ensuring community airborne and commercial capabilities are thoroughly integrated into the NSG
- Managing a robust and flexible technology insertion planning process that balances stability and change in a manner that is responsive to dynamic mission needs
- Developing and managing a unified NGA enterprise test strategy and processes
- Conducting Independent Verification and Validation (IV&V) of satisfaction of requirements and interoperability
- Assess and maintain image quality and utility for new processing and sensor capabilities

4

- Performing readiness assessments for transitioning new capability and upgrade deliveries into operation
- Undertaking engineering tasks in support of NGA senior executives
- Ensuring business processes and system capabilities synchronize with mandated Community and DoD directives and initiatives
- Managing the organizational changes that transformation brings to NGA and the NSG to garner stakeholder and user buy-in (i.e. communications and training)
- Performing lifecycle systems engineering for the end-to-end NSG system architecture for adding new capabilities, integrating new imagery and data sources, and responding to other drivers of change such a policies and regulations.
- Coordinating the operational and technical views of the architecture with the NSG system views to ensure the NSG architecture is complete.
- Provide support to Engineering Solutions
- Be tactically-focused providing engineering expertise to support ongoing and future missions
- Develop, document and manage enterprise and system requirements
- Develop, document and manage system and technical interfaces to customers, including coordination support for processes and services transformation
- Develop and manage a unified NGA enterprise test strategy and process
- Conduct Independent Verification and Validation (IV&V) to ensure satisfaction of requirements and interoperability assessing readiness for transitioning capabilities into operations
- Provide enterprise security support to NGA and certification and accreditation (C&A) security support for DS transition and DCM
- Manage technology insertion planning that balances stability and change in a manner that is responsive to dynamic mission needs and accelerates transformation
- Provide system engineering and analysis of the NSG end-to-end capabilities and interface with community and user systems
- Conduct performance modeling and measurements
- Provide integrated team support to major projects (DCM. Airborne, CI etc)

B. Enterprise Control Solutions:

- Overseeing the development and maintenance of NGA's Corporate Performance Measurement Analysis and Reporting Program.
- Focus on technical and management baseline maintenance
- Implement enterprise configuration management, enterprise risk and opportunity management, readiness, and integrated schedule management so that NGA can achieve its program cost, schedule, and technical objectives
- Deploy and sustain Integrated Data Environments for use by the entire enterprise
- Deploy and sustain Enterprise Engineering tools
- Perform lifecycle issue resolution for transitioning systems through the use of ILS checklists.
- Provide enterprise O&S planning guidance through conducting enterprise-wide O&S systems supportability analysis and crafting an NGA O&S supportability plan
- Provide long term ILS strategy and coordination support for Legacy Heritage Migration and New Campus (NCE) planning.

5

- Ensuring business processes and systems capabilities synchronize with mandated Community and DoD directives and initiatives.
- Managing the change that transformation brings to the NSG to garner stakeholder and user buy-in (i.e. communications and training).

C. Transformation Solutions:

- Strategically focus on the engineering and customer environment
- Define and maintain the Enterprise Architecture (Operational, Technical and Information Views)
- Develop and oversee GEOINT conceptual data models and standards
- Ensure NGA's geospatial assurance program is adequate to answer the threat
- Define, support, and coordinate high-level, end-to-end operational, technical, and performance requirements and interfaces supported by BPR and process improvement
- Develop, establish, review, document, and refine the new NSG business model and corporate and mission business processes, including process improvement and horizontal integration across organizational boundaries
- Ensure that business processes and system capabilities synchronize with mandated Community and DoD directives and initiatives
- Provide enterprise planning and policy support to P,A, & E and the Chief Information Officer
- Perform Independent Cost Estimation and Budget Analysis for NGA
- Provide top-down, graphically-oriented strategic plan where NGA is today and where we are going during the FYDP. Provide a decision-making framework that allows for alternatives trade-offs, using a set of Enterprise measures in a repeatable manner showing transition of systems to target state, identification of Agency requirements at each instance of the evolving architecture.
- Provide modeling and simulation support to recurring and ad hoc studies and analyses in collaboration with NGA offices, DoD, the Intelligence Community and Executive and Legislative oversight entities.
- Provide enterprise-level planning, control, and project management for the large-scale migration and transformation of NGA's infrastructure during the BRAC-mandated move to NCE.

The Enterprise Engineering (EE) Contractor will facilitate the application of consistent, unified systems engineering principles, evolve technical, operational, and high-level systems views, and assure adherence to the standards in the technical architecture. The EE Contractor will have a greater guiding role with more responsibility than past NGA engineering contracts. This strategy moves NGA from segmented systems engineering support tasks to a unified *enterprise* engineering approach.

It is intended that the EE Contractor manage and ensure the end-to-end integrity of the NSG, provide an operational description and requirements specification of the planned NSG that will include: Concept of Operations (CONOPS), operational scenarios, intended deployment of capabilities over operational nodes, connectivity among these capabilities and nodes, interfaces to external systems and users, and system behavior in terms of use cases and data flows. The Enterprise Engineering Contractor will also manage the end-to-end integrity of the NGA corporate business capabilities and processes and provide

descriptions, requirements, integration recommendations, and interface specifications, considering both the Materiel and non-Materiel aspects of Enterprise operations.

It is intended that the Enterprise Engineering Contractor document and establish a roadmap and schedule for the corporate and mission processes, the architecture, the test strategies, the security environment, the conceptual data model and the CONOPS. The Enterprise Engineering Contractor will ensure that the roadmaps converge at a common point in the same timeframe to efficiently deliver a performance capability. The Enterprise Engineering Contractor will chair or moderate permanent or ad hoc forums to facilitate and support the Government in accomplishment of NGA's mission and functions.

2.0   Applicable Documents

Many of the documents listed are revised periodically. Dates associated with the documents reflect current versions as of the writing of this Statement of Work. Contractor shall track changes to these documents and work with the latest applicable versions.

2.1   Compliance Documents

- DoD Directive 5000.01, The Defense Acquisition System, May 12, 2003; *Certified Current as of November 20, 2007*
- DoD Instruction 5000.02, Operation of the Defense Acquisition System, December 8, 2008
- CJCSI 3170.01F, Joint Capabilities Integration and Development System, May 1, 2007;
- CJCSM 3170.01C, "Operation of the Joint Capabilities Integration and Development System," May 1, 2007;
- CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008;
- DoD Directive 4630.5, Interoperability and Supportability of Information Technology and National Security Systems, May 5, 2004;
- DoD Instruction 4630.8, Procedures for Interoperability and Supportability of Information Technology and National Security Systems, June 30, 2004;
- DoD Architecture Framework (DoDAF), April 23, 2007;
- DoD Directive 8100.1, Global Information Grid (GIG) Overarching Policy, September 19, 2002;
- DoD Directive 8320.02, Data Sharing in a Net Centric Department of Defense, December 2, 2004 - Certified Current as of April 23, 2007;
- DoD Instruction 8500.2, Information Assurance (IA) Implementation, February 6, 2003;
- DoD Instruction 8510.1-M; Department of Defense Information Technology Security Certification and Accreditation Process (DITSCAP) Application Manual; July 31, 2000;
- DoD Directive 5015.2, DoD Records Management Program, March 6, 2000;
- DoD Instruction 5200.1-R, "Information Security Program", January 1997;
- DoD Instruction 5220.22-M; National Industrial Security Program Operating Manual (NISPOM), February 28, 2006;
- NSG Operational Requirements Document (NORD) Defining NGA's Programmatic Responsibilities to the NSG, February 2004;
- Imagery and Geospatial-Information Capstone Requirements Document (IGCRD);

7

- Operational Requirements Document (ORD) for the Future Imagery Architecture (FIA);
- OMB Circular A-130 Management of Federal Information Resources Revised -- November 28, 2000, and Appendix III, Security of Federal Automated Information Resources, January 2001;
- Title 40 US Code, Chapter 25, Information Technology Management (ITM) [Formerly Clinger-Cohen Act (PL. 104-106) which replaced Information Technology Management Reform Act (ITMRA)];
- Government Performance and Results Act (GPRA) of 1993;
- Government Paperwork Elimination Act (GPEA) of 1998;
- Director of Central Intelligence Directive (DCID) 6/3, "Protecting Sensitive Compartmented Information within Information Systems Manual", May 2002;
- Net-Centric Operations and Warfare Reference Model (NCOW-RM);
- Defense Information Technology Standards Registry (DISR);
- NGA's Acquisition Director Memorandum, "Image Quality Responsibilities", May 2002;
- DoD CIO Information System Security Policy Series
  - DoD CIO Guidance and Policy Memorandum # 12-8430"Acquiring Commercially Available Software";
  - DoD CIO Memorandum Public Key Infrastructure (PKI) Policy Update;
  - DoD Public Key Infrastructure (PKI) Guidance and Policy Memorandum;
  - DoD CIO Memorandum Public Key Enabling (PKE) of Applications, Web Servers, and Networks for the Department of Defense;
  - DoD CIO Memorandum Update to the Revised Defense Message System Transition Plan;
  - DoD CIO Memorandum Policy for the Acquisition, Certification and Accreditation of DoD-wide Managed Enterprise Services, dated 09 March, 2006
- IC CIO Information System Security Policy Series
  - IC CIO Intelligence Community Email Policy, June 1999;
  - IC CIO Intelligence Community Directory Services Policy, October 1999;
  - IC CIO Intelligence Community Metadata Compliance Planning, January 2004;

- NGA Information Management policies to include the following:
  - NI 8010.3R5 Certification and Accreditation of Information Systems, December 2003;
  - NI 8010.11R3 NGA-Controlled Computer Network Connectivity at Contractor and Other Facilities, December 2003;
  - NI 8400.1R5 Information Technology Purchases, August 2004;
  - NI 8400.3R2 Information Technology Investment Portfolio Management, January 2004;
  - NI 8400.4R4 Implementation of Sec 508 of the Rehabilitation Act, January 2004;
  - NI 8410.1R3 Implementation of Mobile Code, December 2003;
  - NI 8420.3R3 Firewall Policy and Implementation, December 2003;

2.2   Reference Documents

- DoD Defense Acquisition Guidebook (DoDI 5000.02), https://akss.dau.mil/dag/welcome.asp
- Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, Subject: Evolutionary Acquisition and Spiral Development; April 12, 2002
- American National Standards Institute, EIA 748-98;

- MIL-HDBK-1785, Systems Security Engineering Program Management Requirements, August 1995;
- "National Security Agency Security Recommendation Guides", http://www.nsa.gov/ia/guidance/security_configuration_guides/index.shtml
- NIMA Services Demarcation Transformation Plan;
- Joint Vision 2020;
- Joint Vision 2010;
- NIMA NETIPT Final Report, August 2002:
- NGA Statement of Strategic Intent (Annually Promulgated);
- NGA Transformation Execution Plan;
- NGA Acquisition & Technology (AT) Migration Plan;
- NGA Corporate Transformation Business Plan;
- Imagery and Geospatial Community (IGC) 2010 Concept of Operations (CONOPS);
- NGA Geospatial-Intelligence Capstone Concept;
- NGA Commercial Imagery CONOPS;
- NGA Future Multi-Intelligence CONOPS;
- NGA-IMINT Joint Processes Manual (JPM);
- NGA-IMINT Joint System Engineering Process Manual;
- NGA Configuration Management Plan;
- NGA Enterprise Network Description and Requirements Document;
- Statement of Requirements (SOR) for the Future Imagery Architecture (FIA);
- Systems Operations Concept (SOC) for the Future Imagery Architecture (FIA);
- NSG Systems Training Management Plan;
- Intelligence Community System for Information Sharing (ICSIS) Phase One CONOPS, Version 1, January 2002;
- NGA Enterprise Information Assurance Program Plan (EIAPP);
- Federal Information Security Management Act of 2002;
- Appendix 1, CDRL's delivered, base contract period
- Geospatial Intelligence (GEOINT) Basic Doctrine, Publication 1-0, September 2006

3.0   Requirements

This Statement of Work contains a broad scope of work that will be executed over the course of period of performance by the EE Contractor. Specific tasking activity performed by the Contractor shall be executed at the direction of the Government.

3.1   Strategic

3.1.1   Enterprise Architecture
General

The EE Contractor shall evolve (in harmony with the appropriate implementation contractors) and maintain the Enterprise Architecture views (Now, Next and After

Next) in accordance with appropriate architecture frameworks (e.g., the Department of Defense Architecture Framework (DoDAF) and the Federal Enterprise Architecture Framework [FEAF]). The required set of views will be negotiated between the Contractor and the Government. At a minimum the following architecture views will be considered:

- Overview and Summary Information (AV-1)
- Integrated Dictionary (AV-2)
- High-Level Operational Concept Graphic (OV-1)
- Operational Node Connectivity Description (OV-2)
- Operational Information Exchange Matrix (OV-3)
- Operational Activity Model (OV-5)
- Business Rules (OV-6a)
- Operational Event-Trace Description (OV-6c)
- Systems Interface Description (SV-1)
- Systems Functionality Description (SV-4)
- Operational Activity to Systems Function Traceability Matrix (SV-5)
- Systems Data Exchange Matrix (SV-6)
- Technical Standards Profile (TV-1)
- Technical Standards Forecast (TV-2)

The architecture views shall be evolved and maintained using a Government approved Enterprise Architecture suite of tools. The Contractor shall support internal and external coordination of the architecture views.

The Contractor shall develop an integrated Information Architecture strategy and view based on the Net Centric Operational Warfare (NCOW) Reference Model, DoDAF artifacts, and ODNI architecture guidance.

The Contractor shall capture, define, and maintain corporate business and mission processes for NGA and NSG "as is" state and for the "to be" products and services. The "to be" products shall cover "Next" and "After Next" time frames.

The Contractor shall consider doctrine, organization, training and education, materiel, leadership, personnel and facilities (DOTMLPF) when defining the Enterprise Architecture.

The Contractor shall coordinate identification of the Enterprise Architecture features with appropriate NGA organizations and provide a cross-reference trace of features to applicable frameworks (e.g. Federal Enterprise Architecture Framework [FEAF], Global Information Grid [GIG]) and report the results at formal program reviews.

The Contractor shall support the NGA Chief Architect in assuring that any (systems) implementation contractor's system views of the Enterprise Architecture are congruent

with the All, Operational, Technical and high-level Systems views of the Enterprise Architecture, and NSG concept of operations.

The Contractor shall provide architecture-based analysis support and technical analysis to NGA's Enterprise Architecture Council (EAC) as deemed necessary by the Government.

The Contractor shall provide security-engineering support for the incorporation of information assurance into all Enterprise Architecture (EA) artifacts and development of information assurance specific EA artifacts (for example, an Enterprise Technical Risk Assessment). The Contractor shall assist in the implementation of the Enterprise Security Engineering Process for all of NGA. Contractor shall provide security-engineering analysis for the enterprise, to include analysis of new blocks, programs, and capabilities.

The Contractor shall provide continuing analysis of the Enterprise Architecture for potential counterintelligence threats.

Operational View

The Contractor shall support development of the NSG operational architecture and the coordination of the architecture within NGA and externally with NSG stakeholders and partners.

The Contractor shall support the development, evolution, and maintenance of NSG CONOPS and associated operational views of the Enterprise Architecture.

Business Subset of Operational View

The Contractor shall decompose, refine, and maintain the NGA/NSG business model, identifying NSG user relationships and their information needs.

The Contractor shall capture and maintain key NGA business rules.

The Contractor shall establish and maintain the documentation and evaluation of key business threads for NGA in support of the corporate performance measurement, analysis and reporting program, addressing performance of both mission and corporate areas of the enterprise.

The Contractor shall use value chain, activity chain, value stream, and other appropriate analysis techniques to identify the total cost of doing business in support of the corporate performance measurement, analysis and reporting program.

Technical View

The Contractor shall support the evolution, definition and maintenance of the technical view of the Enterprise Architecture.

11

The Contractor shall support the implementation of the standards roadmap developed by the NGA Center for Geospatial Intelligence Standards (NCGIS).

The Contractor shall identify and recommend standards for interoperability and all areas of evolving standards and languages that should be considered for future incorporation into NSG with rationale and estimates of benefits vs. impacts with recommended timelines.

The Contractor shall support the development and implementation of the open data content, exchange, and implementation standards for Geospatial Intelligence. These open standards shall rely primarily on commercial exchange standards that ensure interoperability across the NSG.

The Contractor shall support the NCGIS in updating acquisition guidance and in updating the DISR, the TV-1, and the TV-2, within the scope of GEOINT-related standards.

Data Model

The Contractor shall evolve and maintain the NSG logical and conceptual data models consistent with best industry practices, to include defining data content and interoperability.

The Contractor shall provide and maintain an enterprise repository suite. The repository suite will be capable of maintaining traceability among the enterprise architecture, BPR, ENR, standards and enterprise capabilities artifacts. The Contractor shall populate the repository with NGA DoDAF Operational, Technical and System views; BPR process maps; conceptual and logical data models; and physical data models as provided by the implementation program offices. Relationships and linkages between artifacts as defined by their stewards shall also be populated.

The Contractor shall develop and maintain a roadmap for data model evolution.

The Contractor shall evaluate architectural changes based on a data and standards view.

The Contractor shall support the Government in monitoring compliance with the NSG conceptual data model.

The Contractor shall coordinate with the GeoScout Contractor to maintain referential integrity of the conceptual data model.

The Contractor shall support the data migration plan as provided by the development and implementation program offices through the use of the enterprise repository suite. The Contractor shall populate the repository with legacy/heritage data and target schemas as provided by their stewards.

3.1.2 After Next Architecture

The Contractor shall provide support for the future Architectures and Initiatives development. The Contractor shall provide systems engineering planning, execution, and integration support for the After Next Architecture Study and other studies as directed. The Contractor shall contribute Now and Next systems data, cost data, Modeling and Simulation collaboration, and impacts of programmatic changes to the NSG Program Baseline as input to the After Next Architecture Study and other studies. The Contractor shall employ solution implementation development and system/service requirements changes to NSG Program Baseline.

The Contractor shall provide technical interface support in assessments for future weapons systems, and associated impacts for Geospatial-Intelligence needs, and the total cost of ownership for service weapons systems that have general or unique requirements.

3.1.3 Corporate and Mission Business Processes

The Contractor shall decompose key business processes and process relationships necessary to transform NSG and NGA, identifying the appropriate level of business processes and functions.

The Contractor shall develop in both network-centric and data-centric terms, the next level of the Business Model including any additional related tasks that are required for the Business Model.

The Contractor shall identify performance measures and targets to track evolution of the NSG toward the Business model and recommend updates and modifications to KPPs in the NSG ORD and other equivalent requirements documents.

The Contractor shall conduct business process reengineering activities across NGA and make recommendations to the appropriate NGA management to enhance NGA's Materiel and non-Materiel baselines, and better utilize NGA's resources. The recommended processes shall be reviewed with NGA's mission partners to ensure they are complementary and with the applicable implementation contractors to assess any ongoing or planned modernization impacts.

The Contractor shall support the definition of Geospatial-Intelligence Assurance (GA) attributes reflective of the quality, integrity, and safety of the NGA mission information.

The Contractor shall support the NGA Center for Geospatial-Intelligence Standards (NCGIS) in cross-organizational efforts to define/refine GA attributes and potential methods for their capture or generation.

The Contractor shall support the NGA Center for Geospatial-Intelligence Standards (NCGIS) and GA team to define system requirements reflective of needs that allow both generation and retention of GA attributes, visualization tools and processes.

13

The Contractor shall establish and refine governance processes of the Enterprise Architecture (EA) in concert with the NGA Enterprise Architect.

The Contractor shall establish and refine governance processes of Enterprise Engineering in concert with the NGA Chief Engineer.

The Contractor shall establish and refine roles and alignment of business processes and Information Technology (IT).

The Contractor shall, in coordination with NGA organizations, work with the NSG stakeholders and partners to identify, recommend, and establish new business processes/practices to take advantage of new technology and more efficient and effective ways of doing business. The approach shall address the need to gain customer and end-user buy-in to new business processes, practices, and technologies. The Contractor shall review recommended process changes with the NGA Key Components and applicable implementation contractors to assess any ongoing or planned modernization impacts.

The Contractor shall perform an Enterprise assessment for any proposed business process changes resulting from solution implementation (including but not limited to Block insertions) recommendations.

3.1.4 Chief Information Officer Support

The Contractor shall ensure compliance of Enterprise Engineering contract support activities with Title 40 US Code, Chapter 25, Information Technology Management (ITM), Government Paperwork Elimination Act, Government Performance and Results Act, and other germane guidance relative to public law or oversight authorities such as Office of the Secretary of Defense for Command and Control, Communications and Intelligence or Intelligence Community Management Staff, etc. Additionally the Contractor shall stay abreast of initiatives and decisions that impact the Chief Information Officer (CIO) and provide recommendations as appropriate.

The Contractor shall ensure traceability of all activities under this contract with NGA's management and tracking of Information Technology (IT) and Information Services (IS) investment and expenses consistent with investment portfolio practices at NGA.

The Contractor shall identify and review industry and government best practices for IT/IS management and oversight. The Contractor shall recommend promising new practices, processes and methodologies to the CIO for consideration and adoption. The Contractor shall develop business cases and implementation framework for the recommendations requiring further consideration, as requested by the CIO.

The Contractor shall provide studies, analysis and implementation of functions and practices relevant to the CIO upon request.

The Contractor shall conduct planning and review of CIO support and other relevant sections of this contract and provide status as appropriate at program reviews.

The Contractor shall be responsible for complying with and monitoring its execution in accordance with the program-specific section of the NGA Enterprise Information Assurance Program Plan (EIAPP) developed annually as a part of the NGA reporting requirements under the Federal Information Security Management Act (FISMA). The Contractor shall also provide input to the modification or development of each EIAPP revision. The Contractor input shall be limited to the Information Assurance/Information Systems Security (INFOSEC) resources needed (funded/unfounded) to achieve program-specific Information Assurance requirements as contained in DoD Instruction 8510.1.

3.1.5 Technical Planning

The Contractor shall support NGA, in its work with NSG stakeholders and partner organizations in the development of future materiel (system) and non-materiel plans/concepts/architectures in response to mission, technical or operational drivers in the future budgets (POM/IPBS and beyond).

The Contractor shall provide end-to-end engineering and analysis between NGA and external partners, to include functional and performance analysis.

The Contractor shall prepare baseline change requests (e.g., Requests For Change) to define and document changes to the enterprise-level architecture and capabilities; evaluate alternatives; identify technical issues; understand impacts within and external to the enterprise; and identify risks and develop of risk mitigation plans

The Contractor shall support NGA in the development of NSG enterprise level capabilities, requirements, and cost impacts in support of planning and analysis against future concepts, mission, technical or operational events (e.g., future sensors, significant mission and operational changes, breakthroughs in technology, etc.).

The Contractor shall analyze the effects that significant mission, technology or operational changes have on NSG system, networks, and architecture in order to develop a migration strategy to support program development and budget/program planning.

The Contractor shall support NGA in the assessment of NSG architectural impacts based on emerging customer needs discovered through the community processes and boards (including the Defense Acquisition Board (DAB), Joint Requirements Oversight Council (JROC), etc.) for new weapons, systems, or processes with Geospatial Intelligence needs.

The Contractor shall support NGA elements in developing strategic and/or future planning documents to include but not limited to NSG and Enterprise CONOPS; NSG Statement of Strategic Intent, NSG/NGA Strategic Plans; Capability Development

Documents; NSG sequencing plans and other roll-out plans; and community directed documents (i.e. Joint Capabilities Integration and Development System documents such as Initial Capability Documents and Capability Development Documents). Contractor shall also develop appropriate enterprise CONOPS governance protocols and define procedures that ensure their inclusion within the NGA Process Improvement initiative.

The Contractor shall support NGA in coordinating changes to implementation plans and requirements across the NSG with appropriate NGA O&S, Heritage/Legacy, and applicable implementation contractors.

The Contractor, in coordination with appropriate NGA offices, and contractors, shall develop mid- and long-range migration plans/strategies for system to system (to include networks), corporate, enterprise, and community wide activities (network and communication, data migration, long term archival, etc.)

The Contractor shall assess whether NSG capabilities migration plans can be implemented with acceptable risks.

The Contractor shall define and support establishing data migration strategies and plans, and methods for validating data and integrity of migrated data.

The Contractor shall, in coordination with appropriate NGA offices, draft and coordinate upon approval a technical program baseline each year to serve as the guiding technical foundation for NSG acquisition program development and assess the impacts of significant technological/programmatic change to that baseline.

The Contractor shall provide the necessary expertise to develop independent cost estimates and validate cost estimates provided from other sources as directed by the Government in support of the NGA's Chief Architect and other NGA offices.

The Contractor shall support NGA offices in conducting schedule, performance, and cost trades, and cost-benefit analysis to serve as the basis for programmatic decisions and planning.

The Contractor shall develop and support the roll-out of cross-enterprise integration and decision-making frameworks.

The Contractor shall support NGA offices in the development of enterprise level planning schedules.

The Contractor shall develop, evolve, and maintain NGA's single integrated Corporate and NSG Enterprise Master Schedule (CDRL A003) to include all activities and training that affect the program baseline. The Contractor shall include milestones and activities in the Master Schedule linked to show dependencies and shall coordinate with appropriate implementation contractors to de-conflict NSG system input as schedule

changes are received. The Contractor shall maintain configuration control of the schedule and provide traceability of changes for historical records.

The Contractor shall insure that the Master Schedule Database supports critical path analysis for the Enterprise, Projects and Segments. The Contractor shall provide a capability, for Government only access, which links the Master Schedule entries with their associated costs.

The Contractor shall recommend a standardized list of level 0 and 1 Milestone events to be used by NGA and associated Contractors and shall monitor compliance with the approved list.

The Contractor shall perform comprehensive security engineering in support of architecture development and enterprise level planning and programming.

The Contractor shall, in coordination with the Implementation Contractors developed Enterprise Security Architecture, develop the NSG Information Security and Assurance Concept of Operations (CONOPS) and support implementation monitoring and compliance oversight. The Contractor shall provide updates to the CONOPS as required.

The Contractor shall develop operational scenarios and corresponding data threads to support early test design and test planning.

The Contractor shall develop and maintain an Information Support Plan (ISP) [using DoDI 4630.8, CJCSI 6212.01D and the DoD Defense Acquisition Guidebook for content guidance (or updated DoD guidance)]. The Enterprise Engineering Contractor shall coordinate with the implementation contractors as necessary to obtain required information to periodically update the ISP.

The Contractor shall assist the Government in the planning and allocation of requirements and capabilities to future solution implementation vehicles, to include the assessment of the implementation contractors' recommended approaches to business process changes, technology insertion and system transitions, and the associated business cases.

The Contractor shall perform Enterprise communications and network analysis and evaluation, and propose efficiencies for the topology, protocols, configuration items, trade analysis, strategies, and long-term plans.

The contractor shall support the development of an integrated plan for the move to the New Campus – East. The plan will support a seamless transition (i.e. continuity of operations) to the new campus and will factor in the transition of people, process, systems and data.

The Contractor shall support NGA offices with the NSG Mission Systems Transition (MST). EE support to NSG Mission Systems Transition is comprised of five tasks. These tasks need not be performed sequentially. All work will be done in close coordination with the MST GPOCs and the MST contractor leadership.

- Task One: Developing Mission Systems Transition Plans. EE shall develop and socialize with NGA enterprise stakeholders' mission systems transition plans for those systems that are impacted by BRAC.
- Task Two: Coordination with Affected Stakeholders. EE shall work with the NGA Key Components (KCs) and Provisioning organizations throughout the transition planning effort. EE shall communicate proactively with stakeholders impacted by the transition plans being developed.
- Task Three: Oversight and Coordination of Plan Execution. Once an integrated transition plan has been developed, EE shall monitor progress of the plan execution to ensure that key project milestones are met, that schedule changes are communicated across all impacted systems, and that key dependencies are satisfied prior to commencement of critical project activities.
- Task Four: Conduct Engineering Analysis for Bundling Opportunities. EE shall conduct application migration and modernization analysis and engineering for the legacy IT environment to be migrated. EE shall identify emerging application and migration technologies, trends, and practices; assess their ability to reduce the migration risk of the applications and entities that shall be migrated.
- Task Five: Establish and Implement MST Governance Strategy. EE shall develop and implement the MST governance strategy where primary stakeholders are engaged for the coordination of critical IT decisions that could impact their workforce or mission space.

All MST deliverables shall be provided in formats that have been mutually agreed upon by the government and the EE contractor.

3.1.6 Horizontal Fusion/Integration

The Contractor shall provide support to projects, programs, or activities crosscutting organization functions or temporal focus (for example; data migration and consolidation, image quality, security engineering, commercial imagery). Contract integration and engineering for these efforts shall be one of the methods supporting horizontal fusion for NGA and NSG CONOPS.

The Contractor shall provide crosscutting analysis for approved new capabilities, technologies and programs to provide a complete enterprise approach assessment. The Contractor shall support analysis of NGA capital investment plans and business cases, as directed by the Government, to determine the value of the business and data processes, and to identify impacts to the total cost of ownership and return on government assets.

3.1.7 Organizational Change Management

The contractor shall provide organizational change management leadership and support to *enterprise-wide* initiatives. Organizational change management activities may

18

include stakeholder engagement, organizational design, culture assessment and culture transition planning, organizational analysis and effectiveness, communications, leadership development, facilitation, and training strategy, training development, and training delivery.

3.2 Tactical

3.2.1 Enterprise Needs and Requirements (ENR) Management

The Contractor shall use processes and best practices consistent with NGA's use of the Federal Aviation Administration Integrated Capability Maturity Model (FAA-iCMM) Level 3 or higher. The process shall define the activities of all process participants, including the Contractor's, the Government's, and requirements implementers (Heritage/Legacy Contractors, and other Solution Providers). The Contractor shall continue to work on developing and implementing the ENR process, which will replace the ENR process previously delivered as CDRL A007. The Contractor shall deliver a white paper that outlines the basic components and concepts for the new ENR process. After the Government's review of the white paper, the Contractor shall incorporate government guidance for modifications to the ENR concept and shall deliver a description of the ENR process and procedures consistent with FAA-iCMM and at the same level of detail as the original CDRL A007.

The Contractor shall include as input to the ENR management processes: (1) Proposed and approved changes to the Enterprise Architecture (All, Operational, Technical, and System Views); (2) Proposed and approved changes to NSG and NGA-corporate business processes; (3) Mission analyses conducted by the Contractor and NSG stakeholders; (4) Proposed and approved changes to the Requirements Generation System's mission area integrated architectures; (5) Proposed and approved changes to the NGA Operational Requirements Document, and the Capabilities Development Documents (CDD); (6) the Requirements Generation System's mission area focused and capabilities-based document and Operational Requirements Documents from NSG stakeholders; (7) Direct, specific requests from NSG stakeholders; and (8) Specific requirements issues raised by NGA corporate business application and NSG implementers. The Contractor shall provide an output capability from the ENR management process that produces precise statements of requirements, including rationale, design constraints, performance, interface requirements descriptions, risk, cost, schedule, and technical implications in:

Recommendations for changes to the Enterprise Architecture, NSG and NGA corporate business processes to be reported periodically.

- DoD Requirements Generation System's mission area integrated architectures.
- NSG Operational Requirements Document (NORD), or other equivalent requirements documents (including the Key Performance Parameters).
- NGA corporate business requirements.
- NGA Enterprise-level required capabilities

- NSG system- and service-level requirements.

The Contractor shall manage, monitor, measure, and control the ENR management process, process outputs, and related tools to ensure they remain responsive, effective, and efficient.

The Contractor shall provide ENR process and requirements database interface requirements to NSG Stakeholders and appropriate contractors.

The Contractor shall provide initial and periodic refresher training to all ENR process participants in accordance with the approved process.

The Contractor shall conduct mission analyses that are comprehensive, iterative, inclusive of stakeholder needs, and are systematic analyses of inputs on an as-required basis.

The Contractor shall support the implementation of the Operations and Sustainment (O&S) Framework.

The Contractor shall make available engineering resources for the purpose of planning and ensuring the execution of the O&S Framework interfaces to solution providers and Enterprise Engineering processes and functions.

The Contractor shall provide for special studies collaboration with government and contractor O&S planning, production, and COR staffs.

The Contractor may propose, review, coordinate, and arbitrate new systems interface and service standards affecting O&S, but ensures these initiatives are tested prior to deployment.

The Contractor shall support O&S requirements for advanced and integrated risk analyses, performance reporting, network and system analyses to ensure optimum sustainment of the Agency's IT infrastructure.

The Contractor shall ensure all requirements documented in the NSG Operational Requirements Document, Enterprise Required Capabilities Document, and NSG system-and service-level documents are necessary, complete, correct, compatible, consistent, unambiguous, and traceable to higher-level requirements.

The Contractor shall maintain an automated, comprehensive database of requirements information that is used by the Government and the Contractor to conduct the ENR analyses. The Contractor shall include in the requirements database the ENR process inputs and outputs, baseline requirements documents, requirements traceability matrices, and any other information considered necessary for the conduct of ENR analyses. The Contractor shall provide web-based access to the requirements database and associated tools on-demand by the Government, NSG stakeholders, and NSG

implementers. The Contractor shall include references for each enterprise level requirement to the relevant NSG KPP or Corporate performance measures and the responsible office.

The Contractor shall migrate existing NGA and NSG requirements into the requirements database.

The Contractor shall report ENR process measurements and any recommended process improvements to the Government as appropriate at formal program reviews.

The Contractor shall implement process improvements approved by the Government.

The Contractor shall provide updates to the ENR Process Descriptions, updates to process metrics, training to ENR process participants, updates to tools and databases, and actual use of the updated process for each Government approved implementation.

The Contractor shall provide for the sharing of requirements and solution analysis information between requirements working groups, such as those of the NGA Requirements Analysis Team (NRAT) and the Technology Analysis Group (TAG), a working group of the Rapid Innovation Council Support Team (RICST).

3.2.2   Performance Modeling and Measurements

The Contractor shall in coordination with appropriate NGA offices, acquire, develop, evolve, and maintain data, reports, models and simulations to support all aspects of the Enterprise Architecture, to include but not limited to:

- NGA corporate and NSG performance
- Source allocation broker and tasking processes.
- Source collection, ingest and dissemination
- Throughput and delay associated with Information Exchange Requirements (required, specified, and actual).
- Processing, Input, and Output loading associated with all architectural components (e.g. segments) (required, specified, and actual).
- Communications network offered load, throughput, and delay (required, specified, and actual).
- Reliability, Maintainability, Availability (RMA) model of each architectural component and the architecture as a whole.
- Image Chain Analysis (ICA)
- Business Process Models
- Data Models

The Contractor shall use actual data when available and these models and simulations to predict future performance and performance shortfalls based on established requirements or specified trade criteria. The Contractor shall report these predictions and recommendations for issue resolution at appropriate program reviews.

The Contractor shall coordinate periodic Technical Exchange Meetings (TEMs) to validate their modeling and simulation activities with Subject Matter Experts (SMEs) as required.

The Contractor shall capture, maintain, monitor, analyze, and evaluate performance metrics and related business rule metrics.

The Contractor shall develop and maintain business process models that both identify bottlenecks and target investment areas that support Government's decisions on business process re-engineering.

The Contractor shall report performance metrics and modeling trends and issues monthly at program reviews and related fora. Reports at program reviews shall include recommendations for Government and Contractor actions based on the reported results.

3.2.3   Enterprise Engineering Tools

The Contractor shall consider tools such as, but not limited to, requirements management, configuration management, modeling and simulation, data engineering, workflow, cost estimating, and other architecture tools for inclusion in a standard tool suite. The Contractor shall ensure the standard tools suite will be integrated, consistent with industry best practices, and that the standard tools suite shall provide support for all Enterprise Engineering aspects of this contract. The Contractor shall consider the tools already in use and any known planned future tools when making their recommendation. The Contractor shall procure/implement tools upon Government approval and make recommendations to the Government for changes or additions to the standard tools suite as appropriate. As changes are approved Contractor shall continue to maintain CDRL A012 to reflect all changes.

3.2.4   Technology Insertion

The Contractor shall manage NGA's Technology Insertion process. This support shall include staffing to support analysis of technical insertion candidates presented to the Technology Assessment Group (TAG) and acting as Secretariat to the Rapid Insertion Council Support Team (RICST).

Contractor shall provide a technical pros/cons evaluation of each technical insertion candidate that includes: (1) an analysis of the technology's suitability based on its ability to meet an NGA requirement captured within the ENR process or a capability shortfall existing within NGA's current or future Enterprise Architecture; (2) an assessment of the technology's value to the Agency as measured by the criteria within the NGA Value Model; (3) the life-cycle costs of developing, integrating/inserting, and sustaining the technology; and, (4) impacts of technology insertion change to NGA's vision, mission, production, future system or service acquisitions, or any aspect of the Enterprise Architecture. The evaluation shall consider the business cases provided by NGA Directorates, Implementation, Heritage/Legacy and O&S Contractors and include a recommended priority for insertion.

The Contractor shall provide support to the Chief Engineer through oversight and the IV&V process for all technology insertion items.

The Contractor shall provide for the sharing of requirements and solution analysis information between requirements working groups, such as those of the NGA Requirements Analysis Team (NRAT) and the Technology Analysis Group (TAG), a working group of the Rapid Innovation Council Support Team (RICST) as stated in section 3.2.1.13 above.

3.2.5 Enterprise Risk Management

The integrated Enterprise Risk Management process should use processes and best practices consistent with NGA's use of the Federal Aviation Administration Integrated Capability Maturity Model Level 3 or higher. The Contractor shall provide an ongoing review of the process and propose updates and improvements as required. The Contractor shall execute and maintain the current NGA Risk Management process.

The Contractor shall coordinate with the Implementation, Heritage/Legacy, and O&S Contractors on NSG risk issues that impact the enterprise-level risk issues at combined monthly risk review meetings.

The Contractor shall continuously assess the risks associated with the end-to-end NSG, facilitate and perform risk mitigation efforts and analysis, and recommend and monitor risk mitigation activities.

3.2.6 Enterprise Configuration Management

The Contractor shall provide an ongoing review of the process and propose updates and improvements as required. The Contractor shall execute and maintain the NGA Configuration Management process.

The Contractor shall execute improvements and expansions of the Configuration Management process.

The Contractor shall manage the Enterprise level CM board process.

The Contractor shall coordinate with NGA and the Implementation, Heritage/Legacy, and O&S Contractors on NSG CM issues that impact the enterprise-level CM process at a combined monthly CM review meeting.

The Contractor shall maintain CM control of the enterprise architecture and functional and allocated baselines developed or maintained under this contract.

The Contractor shall provide support to the Consolidated System Engineering Requirements Board (CSERB), or similar replacement adjudication board, for: tracking, status and closure of Deficiency and Problem Reports (generated by the ITF and the NGA customers); and, action item assignments, tracking, and adjudication.

The Contractor shall provide web-based limited access to the enterprise configuration, and associated tools, to NSG Stakeholders and NSG implementers.

3.2.7 Independent Verification and Validation.

The Contractor shall support NGA's test organizations and the ITF to provide the independent verification and validation test function for NGA and DOD Intelligence Information Systems. The Contractor shall manage, facilitate and execute the NGA Enterprise Engineering test and evaluation (T&E) processes.

The Contractor shall verify that Implementation Contractors, Heritage/Legacy Contractors, and all Directorate test plans are complete and address the Enterprise integration of other requirements, as appropriate.

The Contractor shall provide IV&V input and updates to the Enterprise Master Schedule (maintained by the Team E contractor) as required.

The Contractor shall verify the requirements traceability and the cross-references of the verification methods for all NGA-generated NSG requirements documents.

The Contractor shall provide Test Planning and Execution (or witnessing) support to the ITF.

The Contractor shall generate test reports that reflect the results of site(s) and ITF testing for formal IV&V tests, including DoDIIS Beta 1 tests. The test reports shall capture the results of a formal test to include the following: purpose of the test, test dates, test location, participants, equipment profiles, software version numbers, network configurations, any other ancillary information deemed necessary, results of the test activity (Pass, Pass with Liens, or Fail), identification of all Problem Reports/Deficiency Reports with priority, and final recommendation to the MDA.

The Contractor shall provide ITF environment support to include planning, scheduling, prioritizing, and shall specify and assist with ITF configurations as identified for each test plan.

The Contractor shall provide Enterprise test issue investigation (analysis, inspection).

The Contractor shall conduct Independent Verification and Validation (IV&V) for satisfaction of requirements, operability of interfaces, and readiness assessment for new capability deliveries.

The Contractor shall, in coordination with Implementation Contractors and as directed by the Government, develop and coordinate IV&V test plans. The Contractor shall determine the test conditions required to drive enterprise-level integration activities, assuring these conditions are addressed in the plans.

The Contractor shall coordinate with and assist external test agencies responsible for joint interoperability T&E.

The Contractor shall review and analyze NGA-endorsed external interface requirements documents for new and Heritage/Legacy Test articles and identify those articles that require external test agency certification activities.

The Contractor shall maintain an Enterprise-level Test and Evaluation Master Plan (TEMP) (CDRL A019), in coordination with the NGA Government test organization; Mission Partners; and Implementation, Heritage/Legacy, Mission Partners, and O&S Contractors.

The Contractor shall use and refine the Government-approved TEMP to analyze Enterprise and NSG requirements documents and CONOPS.

The Contractor shall provide annexes to the TEMP to reflect capability updates to the enterprise baseline to include test strategy, approach, and resource requirements.

The Contractor shall coordinate changes to the TEMP with developers of new capabilities.

The Contractor shall provide a process to ensure image quality is tested and supported. The Contractor shall maintain and control operational and other test imagery, test plans, and test reports relating to image quality assessments and evaluations

3.2.8   Image Quality and Utility

The Contractor shall support NGA's Image Quality & Utility program to provide the Product Quality Assurance (PQA) function for NGA, the NSG and DOD Intelligence Information Systems.

The Contractor shall develop and maintain manage NGA Enterprise Engineering Product Quality Assurance (PQA) processes.

The Contractor shall provide IQ&U studies, evaluations and assessments for new NSG delivery and processing capabilities and as required, support IQ anomaly investigation and problem resolution

The Contractor shall maintain and control, evaluation plans, and assessment reports in support of image quality and utility assessments and evaluations and provide PQA readiness recommendations for transitions.

3.2.9   Readiness Reviews

The Contractor shall in coordination with appropriate implementation, Heritage/Legacy, and O&S Contractors, NSG users and partners, and non-materiel providers where appropriate, to develop, maintain and document a Readiness Process to

provide visibility and understanding sufficient for supporting the Government's milestone decision activities.

The Contractor shall provide support to the Government in coordinating, facilitating, and executing readiness.

The Contractor shall develop a checklist and identify entrance and exit criteria for each readiness review that are traceable to the KPPs (or similar performance measures) and other requirements documented in the NSG Operational Requirements Document. The Contractor shall review the checklist, and related entrance and exit criteria, with the Program Office and the appropriate implementation, Heritage/Legacy and O&S Contractors consistent with the Government approved readiness process.

The Contractor shall develop recommended attendees, agendas, minutes and recommended action items for Readiness Reviews. The Contractor shall distribute agendas, minutes, and action items after Government approval.

The Contractor shall provide independent assessments of status and readiness to proceed to the next milestone, consistent with the Government approved readiness process.

The Contractor shall review and enhance Readiness Checklists to include review of appropriate non-materiel elements that support capabilities being delivered.

3.2.10 System and Technical Interface to NSG Users

The Contractor shall provide system and technical interface support to NGA Directorates and offices for various user missions, unique needs and environments (such as Commands and Services).

The Contractor shall assist NGA in resolving user system and technical interface issues.

The Contractor shall make accessible to the user, via a web-based site, information on NGA system information, technical briefings, and related material, in accordance with Government direction.

The Contractor shall develop, support, and execute a set of processes to consolidate and simplify NSG user management specific to each Command's needs. Process shall provide for a single focused communication for each Command that extracts and consolidates information from implementation contractors,, Heritage/Legacy, O&S, and any other sources specific to the Command.

The Contractor shall integrate detailed system and service deployment schedules in the Master Schedule for all NSG stakeholders and communicate proposed changes to that baseline schedule.

The Contractor shall work with the various NSG user sites to develop/obtain mission, functions, architectures, CONOPS, site plans and organizational interfaces to facilitate systems and technical planning, capabilities delineation, requirements definition, and adjudication. The Contractor shall work with the appropriate implementation contractors as necessary to derive the requisite information.

The Contractor shall support NGA in representing unique user needs, interests, and concerns at various systems and technical fora, as directed by the Government.

The Contractor shall develop, evolve, and maintain an Image Product Quality and Utility capability to monitor and assess NSG image delivery/processing and to assure end-to-end product quality. The Contractor shall develop the required image quality and utility standards and guidelines to assure NSG Product Quality compliance.

The contractor will assure that NGA image quality KPPs and requirements are included/referenced in future NSG capabilities/requirements

The Contractor shall aggregate and maintain the configuration management details for NGA maintained systems at each site, which shall include at a minimum, NGA baselines, network configurations, applications, desktop configurations, and external interfaces.

The Contractor shall provide engineering support and analyses to joint system engineering activities, including joint engineering review boards, working groups, risk management, schedule management, performance modeling, and test/demonstration planning, as determined by the Government.

The Contractor shall support the development of operational concepts, plans and programs that incorporate the NSG enterprise level plans and programs.

The Contractor shall support the development and prioritization of research and development, technical, system, operational, data and training requirements associated with ongoing analysis and production operations.

The Contractor shall support the interaction between the Analysis and Production Directorate's internal requirements management process and the NSG requirements management process to include all associated requirements, technology insertion, engineering, cost analysis, configuration management and transition integration.

The Contractor shall support the operational and systems engineering needed to assess the potential affect of proposed changes to the NSG on current operations, training and facilities.

The Contractor shall support the development of operational analysis and production flows that maximize the functional and performance capabilities of the NSG to include

data stewardship, conflation, population and maintenance strategies that result in improved currency, accuracy, coverage and content of Geospatial-Intelligence.

The Contractor shall support the transition planning and decommissioning of existing operational systems.

The Contractor shall support the measurement of Analysis and Production operations against the NSG ORD KPPs (or similar performance measures) and other agency level corporate performance measures.

3.2.11 Coordination Support for Processes and Services Transformations

The Contractor shall provide NGA with coordination support for the following:

- Disestablishing products and services that are no longer the most effective solution for the customer
- To introduce and incorporate new services and products, and assist in development of CONOPS as needed
- To rapidly insert new processes and models in response to demands for surge or crisis production
- Transition to new business processes
- To maximize the value of customer generated data sent to NSG for incorporation

3.2.12 Organization Change Management

The Contractor shall provide organizational change management leadership and support to *NGA KC organizations and NGA transformational programs*, which may include activities such as stakeholder engagement, organizational design, culture assessment and culture transition planning, organizational analysis and effectiveness, communications, leadership development, facilitation, and training strategy, training development, and training delivery.

3.3 Operational

3.3.1 Program Management

The Contractor shall implement at contract award, their Government approved Management Plan to plan, monitor, and control technical, cost, and schedule performance.

The Contractor shall manage the work activities of this contract, avoiding duplication with other NGA efforts and ensuring integrated work efforts across tools, processes, products and resources.

The Contractor shall ensure that engineering efforts are accomplished in a disciplined approach consistent with industry standards.

The Contractor shall develop and propose, at appropriate program reviews, innovative alternatives for System Engineering challenges while constantly increasing the efficiency of resource utilization.

The Contractor shall provide key technical leadership to the engineering activities.

The Contractor shall interface with NGA organizations, Oversight organizations, NSG stakeholders and partners.

The Contractor shall provide appropriately skilled personnel, as identified in the Contractor's approved Management Plan.

The Contractor shall maintain a facility/facilities within the National Capitol Region (NCR) with capacity to house personnel proposed for the NCR and at other locations as may be required. The Contractor shall ensure all facilities (both prime and sub-contractor) used in support of the contract are cleared for the level of security (SCIF and AIS system accreditation at SI/TK level) required to perform the work under this contract and in accordance with the Government's industry security program. The Contractor shall ensure that the necessary communications infrastructure is in place within the facilities to enable ready certification of voice and data access at the level of security required to perform the work under this contract.

The Contractor shall have contingency operations and disaster recovery plans for these facilities, to include any government data being developed or maintained.

The Contractor shall have collaborative capability with subcontractors when subcontractors are not co-located with the prime.

The Contractor shall host and support formal and informal reviews and meetings as directed by the CO, COR, and NGA Program Manager to include Periodic Enterprise Engineering Program Reviews, Joint Program Management, Executive Sessions and weekly progress reviews at the contractor facility. The Program Reviews shall report progress, status, issues, and findings of work performed, or special related topics. The Contractor shall propose agenda topics for Government approval. The Contractor shall submit proposed agendas to the Government five workdays before Executive Sessions and Progress Reviews and 30 days before Program Reviews. The Contractor shall prepare and submit meeting minutes for approval not later than ten days following the meeting. (CDRL A021)

The Contractor shall communicate Enterprise Engineering program and activity status and dependencies at appropriate fora.

The Contractor shall not purchase Government property without receiving prior approval from the Contracting Officer. When authorization has been granted the contractor shall perform a cost benefit analysis and use GSA Pricing when it clearly affords the best price and conditions for the Government. The Contractor shall

coordinate with the COR to ensure NGA Standard equipment/software is purchased by Enterprise Engineering. All NGA non-standard equipment/software must be granted a waiver before such items may be purchased.

The Contractor shall provide an Integrated Data Environment (IDE) consisting of the tools, schedules, information systems, models and simulations, databases, and other data products/deliverables of this contract. The IDE shall be accessible to NGA organizations and contractors as determined by the Government.

The Contractor shall ensure that all assigned personnel are cleared to the appropriate level of the program to which they are assigned, to include ISSA clearances for the Special Access Programs (SAP) that may require ISSA interface.

3.3.2   Contract Cost Control

Contract Status Report (CDRL A022)
The Contractor shall provide a delivery schedule for the Cost Reports which is consistent with its corporate Accounting/Fiscal Calendar. (See Contract Section F-5) Monthly Status Reports (CDRL A022) shall be submitted to the Contracting Officer on the frequency specified in the table below. Such reports shall be contractor format. Failure to submit reports may result in delaying invoice payments.

Title	Frequency	No. Copies
Contract Status Report (CER)	Monthly / The Monday following the 4th Friday of the Month	1 electronic to IDE on the 4th Friday / 8 hardcopies on the Mon following the 4th Friday
Contract Funds Status Report	Monthly / The Monday following the 4th Friday of the Month	1 electronic to IDE on the 4th Friday / 8 hardcopies on the Mon following the 4th Friday
Technical Volume (Six Blocks)	Monthly / The Monday following the 4th Friday of the Month	1 electronic / 8 hardcopies on the Mon following the 4th Friday

The Contractor shall maintain a cost control and reporting system providing the Government visibility down to the WBS and/or ECP level for each CLIN identifying planned/budgeted and actual hours and cost status for the contract through the end of the reporting period. The Contractor shall provide a narrative analysis of deviations and corrective actions in the event that the variance of reported data is $\pm$ 10% of the planned amounts.

3.3.3   Functional Process Improvement
The process improvement program shall employ processes and best practices consistent with a FAA-iCMM (or equivalent process maturity model) Level 3 (or equivalent level) or higher, and appropriate for NGA's systems engineering, acquisition management, Operation and Sustainment, and life cycle support (to include training) responsibilities.

The Contractor shall define, develop, and assess process maturity and progress using a nationally recognized integrated maturity model appropriate for NGA's systems engineering, acquisition management and life cycle support responsibilities.

The Contractor shall provide Enterprise Engineering support such that the key results of pre-existing process improvement initiatives are used as appropriate in migrating NGA to a FAA-iCMM (or equivalent process maturity model) Level 3 (or equivalent level) capability. The Contractor shall identify any opportunities for improving processes and shall implement those process improvements as approved by the Government.

The Contractor shall develop or procure, after government approval, requisite process documents, procedures, guidebooks, templates and procure tools necessary to implement and monitor compliance with the processes and procedures.

The Contractor shall in coordination with Director of Training and Doctrine develop and conduct process improvement training for NGA personnel.

The Contractor shall monitor and audit compliance of NGA and associated contractors with the Government approved and implemented processes.

3.4   Special Studies and Contingencies

3.4.1   Ad Hoc Studies

The Contractor shall perform ad hoc studies, analysis, and contingency engineering support activities as determined by the Government. The Contractor shall provide associated technical reports and papers (CDRL A021), as requested by the Government.