

## UNCLASSIFIED

|   |         |         |         |   |         |         |         |         |
|---|---------|---------|---------|---|---------|---------|---------|---------|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification</b> |         |         |         | Date: May 2009  |         |         |         |         |
| Appropriation/Budget Activity<br>RDT&E, Defense-Wide/05 |         |         |         | R-1 Item Nomenclature<br>Global Combat Support System/PE 0303141K |         |         |         |         |
| Cost (\$ in millions)                                   | FY 2008 | FY 2009 | FY 2010 | FY 2011   | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
| Global Combat Support System/CS01                       | 17.536  | 18.370  | 18.431  |   |         |         |         |         |

**A. Mission Description and Budget Item Justification:**

The Global Combat Support System (Combatant Command/Joint Task Force) [GCSS (CC/JTF)] is an initiative that provides end-to-end visibility of retail and unit level Combat Support (CS) capability up through the National Strategic Level, facilitating information interoperability across and between CS and Command and Control (C2) functions. GCSS(CC/JTF) provides decision makers with fused CS data and C2 information on the same workstation, with access to joint logistics applications that allow the warfighter to plan, execute, and control logistics operations. GCSS (CC/JTF) provides the critical information technology capabilities required to move and sustain joint forces throughout the spectrum of military operations. GCSS (CC/JTF) uses a web-based Portal environment with Single Sign On (SSO) access (Public Key Infrastructure / Common Access Card) to meet the Focused Logistics tenets and to implement the vision of Network Centric Warfare.

Within the GCSS Family of Systems (FoS), Defense Information Systems Agency (DISA) is responsible for two main efforts: System Architecture and Engineering for the GCSS FoS, and development, integration, fielding, operation and maintenance of the GCSS (CC/JTF). GCSS (CC/JTF) provides enhanced CS situational awareness to the joint warfighter by integrating CS information with C2 information to provide the joint warfighter with the ability to plan, execute, monitor, and control logistics operations. GCSS (CC/JTF) provides applications, decision support tools, and visualization mechanisms to enable the joint logistics warfighter to assess and analyze information to rapidly make critical decisions. GCSS (CC/JTF) significantly increases access to information stored in multiple databases via a SSO web portal application, using a Secret Internet Protocol Router Network (SIPRNet) Public Key Infrastructure (PKI) certificate and for the Non-secure Internet Protocol Router Network (NIPRNet) capability, a Common Access Card (CAC). The GCSS (CC/JTF) infrastructure provides secure web-access, discrete user account administration, data mediation, and enterprise management features that facilitate delivery of capabilities to meet the vision of a net-centric architecture to better support the warfighter.

During FY 2009 through FY 2010, the Program will continue its transition to a service-oriented architecture (SOA) in a net-centric environment, which includes enhancements of the Portal, integrated data environment, Business Intelligence (BI), Workflow, Knowledge Management, Web Service Management, and security tools. The new net-centric environment also includes implementation of a more robust Continuity of Operations Plan (COOP), Contingency Site, Enterprise System Management (ESM), and security (e.g., intrusion detection on GCSS strategic servers and next generation guards) processes and tools. Increment 7 will implement an SOA, enabling development of fully net-enabled capabilities and

R-1 Line Item No. 123

Page 1 of 9

UNCLASSIFIED

UNCLASSIFIED

|   |         |         |         |   |         |         |         |         |
|---|---------|---------|---------|---|---------|---------|---------|---------|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification</b> |         |         |         | Date: May 2009  |         |         |         |         |
| Appropriation/Budget Activity<br>RDT&E, Defense-Wide/05 |         |         |         | R-1 Item Nomenclature<br>Global Combat Support System/PE 0303141K |         |         |         |         |
| Cost (\$ in millions)                                   | FY 2008 | FY 2009 | FY 2010 | FY 2011   | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
| Global Combat Support System/CS01                       | 17.536  | 18.370  | 18.431  |   |         |         |         |         |

also accelerates the introduction of new data source and application development and integration; permits greater flexibility for the joint logistics warfighter in how they evaluate and view fused data; increases dynamic report capability; provides more rapid exposure of data to communities of interest; and, enhances the security posture of the system. System architecture and engineering support to GCSS FoS focuses on the integration of new technologies that improve interoperability and data sharing at the Combatant Command and Joint Task Force levels. If funding is not provided, system development and testing will be significantly diminished due to not having the funds required to support R&D contract efforts, denying the joint logistic warfighter required capabilities.

|                |                         |                         |                         |
|----------------|-------------------------|-------------------------|-------------------------|
| Subtotal Cost: | <u>FY 2008</u><br>2.249 | <u>FY 2009</u><br>2.401 | <u>FY 2010</u><br>2.571 |
|----------------|-------------------------|-------------------------|-------------------------|

System Architecture and Engineering - This effort involves system architecture and engineering for the GCSS (CC/JTF) and for the GCSS FoS. During FY 2008, funds were used to complete system and data architecture for the GCSS FoS, improving interoperability and information sharing at the Combatant Command and Joint Task Force levels. Funds were also used to complete system development, Operational Test and Evaluation, and fielding of GCSS (CC/JTF) SIPRNet v6.1.

Additionally, funds were used to conduct initial requirements analysis and development of Increment 7. Increment 7, continues the transition to a more net-centric, capabilities-driven environment providing the warfighter with more robust functionality to support planning, execution, and control of the flow of assets to and through the theater of operation. It integrates disparate COTS tools, in a secure architecture framework that assures both user authentication and security among and within the various layers of the GCSS (CC/JTF) architecture to authoritative data sources.

|                |                          |                          |                          |
|----------------|--------------------------|--------------------------|--------------------------|
| Subtotal Cost: | <u>FY 2008</u><br>15.287 | <u>FY 2009</u><br>15.969 | <u>FY 2010</u><br>15.860 |
|----------------|--------------------------|--------------------------|--------------------------|

## UNCLASSIFIED

|   |         |         |         |   |         |         |         |         |
|---|---------|---------|---------|---|---------|---------|---------|---------|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification</b> |         |         |         | Date: May 2009  |         |         |         |         |
| Appropriation/Budget Activity<br>RDT&E, Defense-Wide/05 |         |         |         | R-1 Item Nomenclature<br>Global Combat Support System/PE 0303141K |         |         |         |         |
| Cost (\$ in millions)                                   | FY 2008 | FY 2009 | FY 2010 | FY 2011   | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
| Global Combat Support System/CS01                       | 17.536  | 18.370  | 18.431  |   |         |         |         |         |

GCSS (CC/JTF) - In 2008, Increment 7 was based on the v6.1 architecture and utilized an agile development methodology to rapidly deliver critical capability to the joint logistics warfighter. The agile development methodology allowed the Program to deliver critical capabilities annually, along with smaller sub-releases as required, replacing the traditional "block" approach of releasing capabilities/functionality every 18 months.

GCSS (CC/JTF) Increment 7 provided a more robust net-centric, net-enabled, service-oriented architecture. The objective was to leverage enterprise level services; provide capabilities on the Global Information Grid (GIG) allowing access to applications on the network to authorized users; and, reduce the point-to-point data connections to a more seamless, transparent discovery process through service contracts. Capabilities included the Joint Engineer Planning and Execution System (JEPES), which allowed the warfighter to determine civil engineering support requirements and document Civil Engineering Support Plans; real-time, map-based displays and charts via an interactive mapping capability; and, the CENTCOM Logistic Common Operational Picture which allows the warfighter to track fuels, munitions, and intra-theater distribution assets. Additionally, the Program enhanced existing system and functional capabilities and applications, and the integration of external applications via SSO, or federating external applications via Unified Resource Locator.

**B. Program Change Summary:**

|                            | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> |
|----------------------------|----------------|----------------|----------------|
| FY 2009 President's Budget | 17.939         | 18.604         | 19.408         |
| FY 2010 Budget Estimate    | 17.536         | 18.370         | 18.431         |
| Total Adjustments          | -0.403         | -0.234         | -0.977         |

Change Summary Explanation: FY 2008 adjustments reflect a realignment of funding to emerging mission critical requirements within the Agency. FY 2009 reflects reductions of -\$0.184 million in support of FFRDC's and -\$0.050 million for Economic Assumptions. The FY 2010 adjustments reflect a realignment of funding to emerging mission critical requirements within the Agency and revised inflation rates.

## UNCLASSIFIED

|   |         |         |         |         |   |         |         |         |  |
|---|---------|---------|---------|---------|---|---------|---------|---------|--|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification</b> |         |         |         |         | Date: May 2009  |         |         |         |  |
| Appropriation/Budget Activity<br>RDT&E, Defense-Wide/05 |         |         |         |         | R-1 Item Nomenclature<br>Global Combat Support System/PE 0303141K |         |         |         |  |
| Cost (\$ in millions)                                   | FY 2008 | FY 2009 | FY 2010 | FY 2011 | FY 2012   | FY 2013 | FY 2014 | FY 2015 |  |
| Global Combat Support System/CS01                       | 17.536  | 18.370  | 18.431  |         |   |         |         |         |  |

**C. Other Program Funding Summary:**

|                 | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> |
|-----------------|----------------|----------------|----------------|
| O&M, DW         | 15.512         | 17.843         | 16.195         |
| Procurement, DW | 1.886          | 2.780          | 2.820          |

**D. Acquisition Strategy:** GCSS (CC/JTF) strives to maximize system performance, promotes the use of commercial services, shifts risk away from the government, and attempts to achieve savings. To realize these goals, a Performance Based Services Acquisition Task Order for Software Development & Integration (SD&I) services was awarded. The intent of the Task Order is to improve the software development and integration process by using a single system integrator who is responsible for effectively executing the associated processes and delivering exceptional products to support the warfighter.

Each discrete GCSS (CC/JTF) functional area (e.g., testing, performance metrics, Program Management Office (PMO) support) individually contracts for its own products (hardware, software, etc.) while the bulk of services (software development activities, fielding, and testing) falls under the SD&I Task Order. GCSS (CC/JTF) uses a mix of contract types for the various task orders, which includes Firm Fixed Price (FFP), Cost Plus Fixed Fee (CPFF), and Cost Plus Award Fee (CPAF). When CPAF contracts are awarded, the objective criteria will be utilized, whenever possible, to measure contract performance and the work to be performed is neither feasible nor effective to devise predetermined objective incentive targets applicable to cost, schedule and technical performance. The SD&I effort incorporates a hybrid of Firm Fixed Price and Cost Plus Award Fee elements, which mitigates risks associated with cost.

**E. Performance Metrics:** GCSS (CC/JTF) develops and fields capabilities that are based upon Joint Staff validated, approved, and prioritized functional requirements derived from the approved GCSS (CC/JTF) Capability Development Document. All of these requirements and goals are translated into releases with specific capabilities, which have established cost, schedule, and performance parameters. Additionally, GCSS (CC/JTF) has an approved Acquisition Program Baseline for the Increment, which baselines cost, schedule, and performance metrics specific to each capability release.

UNCLASSIFIED

|   |         |         |         |   |         |         |         |         |
|---|---------|---------|---------|---|---------|---------|---------|---------|
| <b>Exhibit R-2, RDT&amp;E Budget Item Justification</b> |         |         |         | Date: May 2009  |         |         |         |         |
| Appropriation/Budget Activity<br>RDT&E, Defense-Wide/05 |         |         |         | R-1 Item Nomenclature<br>Global Combat Support System/PE 0303141K |         |         |         |         |
| Cost (\$ in millions)                                   | FY 2008 | FY 2009 | FY 2010 | FY 2011   | FY 2012 | FY 2013 | FY 2014 | FY 2015 |
| Global Combat Support System/CS01                       | 17.536  | 18.370  | 18.431  |   |         |         |         |         |

Metrics are gathered through several sources and include functional user's satisfaction surveys, local system administrator feedback, and customer surveys. For each release, GCSS (CC/JTF) gathers metrics from the strategic servers throughout the lifecycle of the release. Metrics and requirements are also gathered directly by the GCSS Customer Requirements Team and the GCSS Fielding and Installation Team during onsite training/installations. GCSS (CC/JTF) also gathers metrics on a routine basis directly from the strategic servers. These metrics are analyzed by the PMO to ensure that Key Performance Parameters (KPPs) continue to be met and/or determine whether system enhancements/capabilities could be of benefit to the warfighter. Future capabilities include tools that allow GCSS (CC/JTF) to refine and enhance the type of performance metrics that can be gathered and analyzed. This becomes increasingly important as GCSS (CC/JTF) continues to integrate additional data sources and federated applications, and completes the implementation of the integrated data environment, Business Intelligence and Knowledge Management tools. This postures and allows GCSS (CC/JTF) to directly support DoD's Net-Centric Vision of exposing and consuming web services. However, performance is key in this type of environment and as GCSS (CC/JTF) usage increases and new capability increments are fielded, GCSS (CC/JTF) will continue to gather metrics to ensure the system is meeting established KPPs and the customer's requirements.

## UNCLASSIFIED

| Exhibit R-3 RDT&E Project Cost Analysis |                        |                                |                 |                 |            |              |            |              |            | Date: May 2009                    |            |                          |                    |                          |
|---|------------------------|--------------------------------|-----------------|-----------------|------------|--------------|------------|--------------|------------|-----------------------------------|------------|--------------------------|--------------------|--------------------------|
| Appropriation/Budget Activity           |                        |                                |                 | Program Element |            |              |            |              |            | Project Name and Number           |            |                          |                    |                          |
| RDT&E, Defense-Wide/05                  |                        |                                |                 | PE 0303141K     |            |              |            |              |            | Global Combat Support System/CS01 |            |                          |                    |                          |
| Cost Category                           | Contract Method & Type | Performing Activity & Location | Total           | FY08            | FY08       | FY09         | FY09       | FY10         | FY10       | FY11                              | FY11       | Cost to Complete (\$000) | Total Cost (\$000) | Target Value of Contract |
|   |                        |                                | PY Cost (\$000) | Cost (\$000)    | Award Date | Cost (\$000) | Award Date | Cost (\$000) | Award Date | Cost (\$000)                      | Award Date |                          |                    |                          |
| Management Services                     | FFRDC                  | MITRE, Vienna, VA              | 15.142          | 0.602           | 11/07      | 0.678        | 11/08      | 0.600        | 11/09      |                                   |            | Cont 'g                  | 17.572             | 17.572                   |
|   | CPFF                   | UMD, Eastern Shore MD          | 1.021           | N/A             | 05/08      | N/A          | 05/09      | N/A          | 05/10      |                                   |            | Cont 'g                  | 1.021              | 1.021                    |
|   | MIPR                   | IDA, Alexandria, VA            | 0.749           | N/A             | 01/08      | N/A          | 01/09      | N/A          | 01/10      |                                   |            | Cont 'g                  | 0.749              | 0.749                    |
|   | MIPR                   | JFCOM, Norfolk, VA             | 0.100           | N/A             | N/A        | N/A          | N/A        | N/A          | N/A        |                                   |            | N/A                      | 0.100              | 0.100                    |
| Product Development                     | T&M                    | ENTERWORKS, Sterling, VA       | 8.745           | N/A             | N/A        | N/A          | N/A        | N/A          | N/A        |                                   |            | N/A                      | 8.745              | 8.745                    |
|   | T&M                    | WFI (DSI), Manassas, VA        | 4.125           | N/A             | N/A        | N/A          | N/A        | N/A          | N/A        |                                   |            | N/A                      | 4.125              | 4.125                    |
|   | FFP/CPAF               | NGMS, Reston, VA               | 23.038          | 12.630          | 11/07      | 13.040       | 11/08      | 13.042       | 11/09      |                                   |            | Cont 'g                  | 74.765             | 74.765                   |
|   | T&M                    | SAIC, Falls Church, VA         | 19.064          | N/A             | N/A        | N/A          | N/A        | N/A          | N/A        |                                   |            | N/A                      | 19.064             | 19.064                   |
|   | CPFF                   | NGIT, Reston, VA               | 18.997          | 1.300           | N/A        | 1.372        | N/A        | 1.413        | N/A        |                                   |            | Cont 'g                  | 24.482             | 24.482                   |
|   | T&M/CPFF               | UNISYS, Falls Church, VA       | 7.613           | 1.181           | 02/08      | 1.240        | 02/09      | 1.115        | 02/10      |                                   |            | Cont 'g                  | 12.268             | 12.268                   |
|   | MIPR                   | FGM, Reston, VA                | 5.482           | N/A             | N/A        | N/A          | N/A        | N/A          | N/A        |                                   |            | 0.000                    | 5.482              | 5.482                    |
|   | FFP                    | Merlin, McLean, VA             | 1.664           | N/A             | N/A        | N/A          | N/A        | N/A          | N/A        |                                   |            | 0.000                    | 1.664              | 1.664                    |
|   | MIPR                   | JDTC, Ft Eustis, VA            | 1.502           | 0.421           | 11/07      | 0.500        | 11/08      | 0.551        | 11/09      |                                   |            | Cont 'g                  | 3.474              | 3.474                    |
|   | MIPR                   | CSC, Norfolk, VA               | 0.300           | N/A             | 03/08      | N/A          | 03/09      | N/A          | 03/10      |                                   |            | Cont 'g                  | 0.300              | 0.300                    |
| Test & Evaluation                       | CPFF                   | COMTEK, Sterling VA            | 3.902           | N/A             | 03/08      | N/A          | 03/09      | N/A          | 03/10      |                                   |            | Cont 'g                  | 3.902              | 3.902                    |

R-1 Line Item No. 123

(Exhibit R-3, page 6 of 9)

UNCLASSIFIED

UNCLASSIFIED

| Exhibit R-3 RDT&E Project Cost Analysis |                        |                                |                 |                 |            |              |            |              |            | Date: May 2009                    |            |                          |                    |                          |
|---|------------------------|--------------------------------|-----------------|-----------------|------------|--------------|------------|--------------|------------|-----------------------------------|------------|--------------------------|--------------------|--------------------------|
| Appropriation/Budget Activity           |                        |                                |                 | Program Element |            |              |            |              |            | Project Name and Number           |            |                          |                    |                          |
| RDT&E, Defense-Wide/05                  |                        |                                |                 | PE 0303141K     |            |              |            |              |            | Global Combat Support System/CS01 |            |                          |                    |                          |
| Cost Category                           | Contract Method & Type | Performing Activity & Location | Total           | FY08            | FY08       | FY09         | FY09       | FY10         | FY10       | FY11                              | FY11       | Cost to Complete (\$000) | Total Cost (\$000) | Target Value of Contract |
|   |                        |                                | PY Cost (\$000) | Cost (\$000)    | Award Date | Cost (\$000) | Award Date | Cost (\$000) | Award Date | Cost (\$000)                      | Award Date |                          |                    |                          |
|   | MIPR                   | SSO, Montgomery                | 0.500           | N/A             | 10/07      | N/A          | 10/08      | N/A          | 10/09      |                                   |            | Cont'g                   | 0.500              | 0.500                    |
|   | MIPR                   | NSA                            | N/A             | N/A             | 08/08      | N/A          | 08/09      | N/A          | 08/10      |                                   |            | Cont'g                   | N/A                | N/A                      |
|   | MIPR                   | DIA                            | 0.276           | 0.210           | 10/07      | 0.250        | 10/08      | 0.338        | 10/09      |                                   |            | Cont'g                   | 1.398              | 1.398                    |
|   | NexGen                 | Pragmatics                     | 0.764           | 0.430           | 06/08      | 0.490        | 06/09      | 0.550        | 06/10      |                                   |            | Cont'g                   | 2.733              | 2.733                    |
|   | MIPR                   | JITC, Ft. Huachuca, AZ         | 0.500           | 0.762           | 11/07      | 0.800        | 11/08      | 0.822        | 11/09      |                                   |            | Cont'g                   | 3.684              | 3.684                    |
| Total                                   |                        |                                | 113.484         | 17.536          |            | 18.370       |            | 18.431       |            |                                   |            |                          | 186.028            | 186.028                  |

R-1 Line Item No. 123

(Exhibit R-3, page 7 of 9)

UNCLASSIFIED

| Exhibit R-4, RDT&E Program Schedule Profile                                     |         |   |   |   |         |   |   |  |         |   |   |   |         | Date: May 2009 |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
|---|---------|---|---|---|---------|---|---|--|---------|---|---|---|---------|----------------|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|--|
| Appropriation/Budget Activity<br>RDT&E, Defense-Wide, 05                        |         |   |   |   |         |   |   | Program Element Number and Name<br>PE 0303141K, Global Combat Support System |         |   |   |   |         |                |   | Project Number and Name<br>CS01, Global Combat Support System |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Fiscal Year   | FY 2008 |   |   |   | FY 2009 |   |   |  | FY 2010 |   |   |   | FY 2011 |                |   |   | FY 2012 |   |   |   | FY 2013 |   |   |   | FY 2014 |   |   |   | FY 2015 |   |   |   |  |
|   | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4  | 1       | 2 | 3 | 4 | 1       | 2              | 3 | 4   | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 | 1       | 2 | 3 | 4 |  |
| Acquisition Events - Milestone B/C  |         | △ |   |   |         |   |   |  |         |   |   |   |         |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Engineering Events & Milestones - SW System Repts Review (SSRR)                 |         | △ |   |   |         | △ |   |  |         |   | △ |   |         |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Preliminary Decision Review (PDR)   |         |   | △ |   |         |   | △ |  |         |   |   | △ |         |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Critical Decision Review (CDR)  |         |   | △ |   |         |   | △ |  |         |   |   | △ |         |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Developmental Test & Evaluation (DT&E)  |         |   | △ |   |         |   | △ |  |         |   |   | △ |         |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Contractor Integration Test (CIT)   |         |   |   | △ |         |   |   | △  |         |   |   |   | △       |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Accept/Security Testing   |         |   |   |   |         | △ |   |  |         |   | △ |   |         |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Operational Test & Evaluation (OT&E) - Operational Test Readiness Review (OTRR) |         |   |   |   |         | △ |   |  |         |   | △ |   |         |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |
| Fielding Decision   |         |   |   |   |         |   | △ |  |         |   |   | △ |         |                |   |   |         |   |   |   |         |   |   |   |         |   |   |   |         |   |   |   |  |

R-1 Line Item No. 123

(Exhibit R-2a, Page 8 of 9)

## UNCLASSIFIED

| Exhibit R-4a, RDT&E Program Schedule Detail |   | Date: May 2009                     |                |                |                |                |                |                |
|---|---|------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Appropriation/Budget Activity               | Program Element and Name                  | Project Number and Name            |                |                |                |                |                |                |
| RDT&E, Defense-Wide, 05                     | PE 0303141K, Global Combat Support System | CS01, Global Combat Support System |                |                |                |                |                |                |
| <u>Schedule Profile</u>                     | <u>FY 2008</u>                            | <u>FY 2009</u>                     | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> |
| Acquisition Events - Milestone B/C          | 2Q  |                                    |                |                |                |                |                |                |
| Engineering Events & Milestones             |   |                                    |                |                |                |                |                |                |
| - Software Sys Requirements Review          | 2Q  | 2Q                                 | 2Q             |                |                |                |                |                |
| - Preliminary Design Review                 | 3Q  | 3Q                                 | 3Q             |                |                |                |                |                |
| - Critical Design Review                    | 3Q  | 3Q                                 | 3Q             |                |                |                |                |                |
| Developmental Test & Evaluation             | 3Q  | 3Q                                 | 3Q             |                |                |                |                |                |
| Contractor Integration Test                 | 4Q  | 4Q                                 | 4Q             |                |                |                |                |                |
| Accept/Security Testing                     |   | 1Q                                 | 1Q             |                |                |                |                |                |
| Operational Test & Evaluation               |   | 1Q                                 | 1Q             |                |                |                |                |                |
| Operational Test Readiness Review           |   |                                    |                |                |                |                |                |                |
| Fielding Decision                           |   | 2Q                                 | 2Q             |                |                |                |                |                |