UNITED STATES TRANSPORTATION COMMAND (USTRANSCOM)

SOLICITATION NUMBER HTC711-06-R-0002

CONTRACT NO. HTC711-06-C-0001

28 June 2006

DEFENSE ENTERPRISE ACCOUNTING AND MANAGEMENT SYSTEM (DEAMS) DATA WAREHOUSE

SOLICITATION, OFFER AND AWARD

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING DO-C9

PAGE: 1   OF PAGES: 1

2. CONTRACT NUMBER	3. SOLICITATION NUMBER	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NUMBER
HTC711-06-C-0001	HTC711-06-R-0002	☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP)	13APR2006	F3ST966068A100

7. ISSUED BY   CODE: HTC711

USTRANSCOM/TCAQ
508 Scott Drive, Bldg. 1911
Scott AFB, IL 62225-5015

8. ADDRESS OFFER TO (If other than Item 7)

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and **4** copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in **505 Ward Drive, Bldg. 1911, Room 314** until **16:00** local time **5-15-06**

(Hour) (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE (NO COLLECT CALLS)			C. E-MAIL ADDRESS
	Lisa A. Gross	AREA CODE 618	NUMBER 256-4300	EXT.	lisa.gross@ustranscom.mil

11. TABLE OF CONTENTS

## OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within **60** calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)	10 CALENDAR DAYS (%) -0-	20 CALENDAR DAYS (%) -0-	30 CALENDAR DAYS (%) NET	CALENDAR DAYS (%) -0-

14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):

AMENDMENT NO.	DATE	AMENDMENT NO.	DATE
0001	03 MAY 06		
0002	08 MAY 06		

15A. NAME AND ADDRESS OF OFFEROR	CODE 1B054 FACILITY 1B054	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
	Northrop Grumman Mission Systems 12900 Federal Systems Park Drive Fairfax, VA 22033-4411 Duns No. 15-279-1505	John S. Freck Division Director, Contract Operations

15B. TELEPHONE NUMBER			15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. ☒	17. SIGNATURE	18. OFFER DATE
AREA CODE 703	NUMBER 968-1000	EXT.			17 MAY 2006

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT $2,040,290.00	21. ACCOUNTING AND APPROPRIATION See Schedule

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: ☐ 10 U.S.C. 2304(c)( ) ☐ 41 U.S.C. 253(c)( )	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ITEM

24. ADMINISTERED BY (If other than Item 7) CODE	25. PAYMENT WILL BE MADE BY CODE F67100
	DEFENSE FINANCE & ACCOUNTING ATTN: DFAS-BAASD/CC PO BOX 369020 Columbus, OH 43236-9020

26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA	28. AWARD DATE
LISA A GROSS, Contracting Officer	(Signature of Contracting Officer)	28 Jun 2006

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

STANDARD FORM 33 (REV. 9-97)
Prescribed by GSA - FAR (48 CFR) 53.214(c)

SOLICITATION, OFFER AND AWARD	1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING DO-C9	PAGE 1	OF	PAGES 50

2. CONTRACT NO. HTC711-06-C-0001	3. SOLICITATION NO.	4. TYPE OF SOLICITATION [ ] SEALED BID (IFB) [ ] NEGOTIATED (RFP)	5. DATE ISSUED	6. REQUISITION/PURCHASE NO. F3ST966068A100

7. ISSUED BY CODE HTC711 USTRANSCOM COMMAND ACQUISITION 508 SCOTT DR SCOTT AFB IL 62265-5357 TEL: 618-256-4300 FAX: 618-256-4702	8. ADDRESS OFFER TO (If other than Item 7) CODE **See Item 7** TEL: FAX:

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and_____ copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in _____ until _____ local time_____
(Hour) (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE (Include area code) (NO COLLECT CALLS)	C. E-MAIL ADDRESS

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13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)	Net 30 Days

14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE 1B054 FACILITY 1B054 NORTHROP GRUMMAN SPACE & MISSION SYSTEMS CRESS, BROOKE 12900 FEDERAL SYSTEMS PARK DRIVE FAIRFAX VA 22033-4411	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print) CRESS, BROOKE / SALES REP

15B. TELEPHONE NO (Include area code) 703-803-5729	15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE. [ ]	17. SIGNATURE	18. OFFER DATE

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT $2,040,290.00 EST	21. ACCOUNTING AND APPROPRIATION See Schedule

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: [ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) 0	ITEM Section G

24. ADMINISTERED BY (If other than Item 7) CODE **See Item 7**	25. PAYMENT WILL BE MADE BY CODE F67100 DEFENSE FINANCE AND ACCOUNTING SERVICE ATTN: DFAS-BAASD/CC PO BOX 369020 COLUMBUS OH 43236-9020

26. NAME OF CONTRACTING OFFICER (Type or print) LISA A. GROSS TEL: 618-256-4300 EMAIL: Lisa.Gross@ustranscom.mil	27. UNITED STATES OF AMERICA (Signature of Contracting Officer)	28. AWARD DATE 28-Jun-2006

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

Section B - Supplies or Services and Prices

ITEM NO 0001	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

DEAMS-DATA Warehouse Services
COST
Labor
FOB: Destination
MILSTRIP: F3ST966068A100
PURCHASE REQUEST NUMBER: F3ST966068A100
SIGNAL CODE: A

				ESTIMATED COST	$1,582,268.00 (EST.)

ITEM NO 000101	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

DEAMS-DATA Warehouse Services
COST
Funding for Labor Item 0001 - FY04
FOB: Destination
PURCHASE REQUEST NUMBER: F3ST966068A100
SIGNAL CODE: A

				ESTIMATED COST	$ (EST.)

ACRN AA $76,037.49
CIN: F3ST966068A100000101

ITEM NO 000102	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

DEAMS-DATA Warehouse Services
COST
Funding for Labor Item 0001 - FY05
FOB: Destination
PURCHASE REQUEST NUMBER: F3ST966068A100
SIGNAL CODE: A

				ESTIMATED COST	$ (EST.)

ACRN AB $1,087,928.00
CIN: F3ST966068A100000102

ITEM NO 000103	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

DEAMS-DATA Warehouse Services
COST
Funding for Labor Item 0001 - FY06
FOB: Destination
PURCHASE REQUEST NUMBER: F3ST966068A100
SIGNAL CODE: A

				ESTIMATED COST	$ (EST.)

ACRN AC $418,302.51
CIN: F3ST966068A100000103

ITEM NO 0002	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

Travel
COST
Travel in accordance with statement of work paragraph 4.7
FOB: Destination
MILSTRIP: F3ST966068A101
PURCHASE REQUEST NUMBER: F3ST966068A100
SIGNAL CODE: A

				ESTIMATED COST	$29,070.00 (EST.)

ITEM NO 000201	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

Travel
COST
Travel in accordance with statement of work paragraph 4.7
FOB: Destination
PURCHASE REQUEST NUMBER: F3ST966068A100
SIGNAL CODE: A

				ESTIMATED COST	$ (EST.)

ACRN AC $29,070.00

CIN: F3ST966068A100000201

ITEM NO 0003	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT
	Other Direct Costs				
	COST				
	ODCs in accordance with PWS paragraph 4.1				
	FOB: Destination				
	MILSTRIP: F3ST966068A102				
	PURCHASE REQUEST NUMBER: F3ST966068A100				
	SIGNAL CODE: A				
			ESTIMATED COST		$64,930.00 (EST.)

ITEM NO 000301	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT
	Other Direct Costs				
	COST				
	ODCs in accordance with PWS paragraph 4.1				
	FOB: Destination				
	PURCHASE REQUEST NUMBER: F3ST966068A100				
	SIGNAL CODE: A				
			ESTIMATED COST		$ (EST.)

ACRN AC $64,930.00
CIN: F3ST966068A100000301

ITEM NO 0004	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

Additional ODC

COST

FOB: Destination

MILSTRIP: F3ST966068A103

PURCHASE REQUEST NUMBER: F3ST966068A100

SIGNAL CODE: A

				ESTIMATED COST	$177,010.00 (EST.)

ITEM NO 000401	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

Additional ODC

COST

FOB: Destination

PURCHASE REQUEST NUMBER: F3ST966068A100

SIGNAL CODE: A

				ESTIMATED COST	$ (EST.)
					$177,010.00

ACRN AC

CIN: F3ST966068A100000401

ITEM NO 0005	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

Base Fee = 2%

COST

Base Fee applicable to contract cost. (Excluding Award Fee)

FOB: Destination

MILSTRIP: F3ST966068A104

PURCHASE REQUEST NUMBER: F3ST966068A100

SIGNAL CODE: A

				ESTIMATED COST	$37,012.00 (EST.)

ITEM NO 000501	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

Base Fee = 2%

COST

Base Fee applicable to contract cost. (Excluding Award Fee)

FOB: Destination

PURCHASE REQUEST NUMBER: F3ST966068A100

SIGNAL CODE: A

		ESTIMATED COST	$ (EST.)

ACRN AC
CIN: F3ST966068A100000501

$37,012.00

ITEM NO 0006	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

Award Fee

COST

NOTE: The contractor will be notified by modification of the amount approved to bill under this award fee clin.

FOB: Destination

MILSTRIP: F3ST966068A105

PURCHASE REQUEST NUMBER: F3ST966068A100

SIGNAL CODE: A

ESTIMATED COST $150,000.00 (EST.)

ITEM NO 000601	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT

Award Fee

COST

NOTE: The contractor will be notified by modification of the amount approved to bill under this award fee clin.

FOB: Destination

PURCHASE REQUEST NUMBER: F3ST966068A100

SIGNAL CODE: A

ESTIMATED COST $ (EST.)

ACRN AC
CIN: F3ST966068A100000601

$150,000.00

SECTION C
Performance Work Statement
For
USTRANSCOM DEAMS Data Warehouse
2-28-06

1.0 DESCRIPTION OF SERVICES

1.1 SCOPE

1.1.1 This Performance Work Statement (PWS) proposes to conduct an evaluation of the current version of the Transportation Financial Management System (TFMS) program release, determine the required changes to meet the stated objectives, and implement those changes. This action includes completing interfaces, revising the data model, confirming capability to meet the system requirements and documenting all actions. Additionally, the effort will include completing the requisite reports for basic financial analysis for all three Transportation Component Commands (TCCs), as well as, USTRANSCOM and the Defense Courier Service (DCS). The completion of this effort will result in a Financial Data Warehouse and reporting capability that meets all increment I objectives (listed in paragraph 1.2 and 1.3) for the system.

1.1.2 The overall development objective is to build on the successes accomplished during the previous periods with the implementation of USTRANSCOM financial interfaces and related financial applications. The financial application provides both financial and operational data in a format that enables USTRANSCOM managers to make more informed financial decisions. The application solution leverages existing systems, interfaces and infrastructure including the Enterprise Data Warehouse (EDW). This allows operational users a better understanding of transportation financial impacts relative to operations.

1.1.3 There are three major efforts to support USTC Financial Reporting System development: The "back-end" includes developing the Data Warehouse, the Extract, Transform, and Load (ETL) processes, and completing the source system interfaces. These efforts include: sourcing, obtaining, storing data in the warehouse, and providing accurate and useable data to the reporting section in a usable fashion. This development works as part of a combined system to produce a unified solution designed to meet the program objectives. The "front-end" or Report Generation application development efforts define the design of reports, screens, standard queries, and a methodology for executing ad hoc queries to support the functional user. The overarching, Integrated Change Management module, focuses on configuration and change management activities within the program. Although these subsystems have separate responsibilities, they must be interoperable to allow communication with each other to deliver the final solution.

The system overview and background are attached in the USTRANSCOM Financial Reporting System Summary Overview document provided. Attachment 1

1.2 SPECIFIC TASKS

1.2.1 IMPLEMENTATION PHASES

1.2.2 Re-engineering and Validation

1.2.2.1 Conduct a Review of Documentation and Implementation:

1.2.2.1.1 Business Discovery. The contractor shall review the extensive financial documentation in respect to the requirements to determine those areas that need further concentration. The contractor shall conduct interviews, program assessments, and conduct working sessions to facilitate a single understanding of the USTRANSCOM financial management process. Prior to any outside meetings or interviews, the contractor shall clearly show the desired result of the effort to the PM. The contractor shall provide the PM with the following: identify the missing

information the contractor whishes to investigate, the current information relating to the subject area, the plan to capture the data, and an impact assessment on the missing information with respect to the overall development. The PM will match the information required with the proper source and schedule the meetings in accordance with the developer's timelines. The documentation resulting from this effort should identify required data, rules, and processes pertinent to warehouse operations. The resulting business processes and rules are to be stored in a retrievable and reusable fashion. The resulting data definitions shall be incorporated into the data dictionary to include source of the data, any associated calculations or relationship to reference tables. Documentation should provide enough information to identify decisions made to modify the current design solution, provide a rationale to justify changes and describe the overall impact of the changes.

1.2.2.1.2 Information Discovery. Subsequent to business discovery and data analysis, the contractor shall identify systems likely to serve as sources of data to populate the data and information requirements in the EDW warehouse (Air Force CRIS System, Army SDDC TFMS-M System, and the Navy Oracle FMS Accounting system). The contractor shall work with system owners to create/revise Interface Requirement Definition Documents (IRDDs), as well as, other applicable requirements and interface documentation as deemed appropriate by the Program Manager. Task is complete when all data elements, sources of data, and required interface elements are identified, documented and the supporting documentation is delivered to the COR.

1.2.2.1.3 Configuration Management Process The contractor shall establish a configuration management capability to track requirements vs. deliverables and maintain versioning control of documents, software, and system components. This process will be accessible to the users and enable them to identify capabilities already fielded and capabilities scheduled to be fielded in future releases. This information will contain all aspects of the program required for each fielding increment, and identification of those that have changed, and a method of monitoring/identifying the specifics of the change. Additionally, upon completion of the Configuration Management Process, the contractor shall submit a baseline configuration for approval by the COR.

1.2.2.2 Re-engineer Solution to Meet Stated Requirements

1.2.2.2.1 Logical Data Model (LDM). The contractor shall evaluate the current data model to determine sufficiency for further development or revise and document a LDM representation of the business entities, attributes, and primary and foreign keys necessary to implement Increment I. Logical modeling is to be completed in accordance with USTRANSCOM Enterprise Architecture (EA),(reference USTC Corporate Data Office) and shall be delivered to the Program Management Office (PMO) for final review. Included in this task is the integration of logical models with existing warehouse operational models and delivery of a data dictionary to describe the model.

1.2.2.2.2 Physical Data Modeling. The contractor shall review the LDM and provide supporting documentation as to the changes from the LDM to the PDM in order to provide the most efficient physical implementation of the LDM which best supports the system requirements, with all atomic- level data stored for reusability in future phases.

1.2.2.3 Establish Change Management Process and Submit Design Changes for Approval.

1.2.2.3.1 The change management capability shall allow the user to directly access an error or change request page from anywhere in the system. Additionally, all relevant information will be populated on the form of the contractor's choice to minimize the amount of data the user must submit.

1.2.2.3.2 The change management capability shall allow users and the reviewing/ approval chain to access the capability from outside the Reporting Application via the web to enter requests for new capabilities, review/approve requested changes, or comment on actions already in the process.

1.2.2.3.3 The change management capability shall be integrated into the configuration management capability so any changes addressed by future releases will be identified in the configuration management process and they will provide a link between the two subsystems.

1.2.3 Increment I Financial Management consists of obtaining, storing, integrating, and presenting financial data. It shall consist of developing the financial warehouse and a reporting application to support analyses of

USTRANSCOM expense and revenue data for all Transportation Working Capital Fund (TWCF) business areas at the transaction-level. The following tasks are related to the implementation of Increment I:

1.2.3.1 The Contractor Shall Conduct Data Analysis. The analysis shall be conducted on current interfaces to assess and document data completeness for the USTRANSCOM financial reporting application. The USTRANSCOM financial application requirements shall be used to assist in developing a data extraction and drill-down capability. The contractor shall provide documentation to identify data shortfalls from among the data sources, document the reason for the data shortfall, prescribe a potential resolution to the shortfall, and identify the impact of the shortfall on USTRANSCOM financial application development progress. Documentation may include change requests to source system interfaces, changes to the LDM, and/or change submissions to the USTRANSCOM Master Model.

1.2.3.2 Interface/Load Code Creation. The contractor shall create/revise automated interfaces from source systems to the Warehouse in accordance with (IAW) USTRANSCOM EDW standard implementation within USTC J6 Documentation and Teradata Production Operations Procedures obtained from the PMO. Scripts will be tested, and implemented to ensure timely automated loading of the warehouse. All code is to be tested, to ensure that no syntactic or documented logic errors exist. The code will be evaluated for efficient use of system resources and proper coding practices IAW Software Engineering Process (SEP) and Capability Maturity Model (CMM) Level III expectations.

1.2.3.3 Documentation. The contractor shall maintain and identify versioning for any documentation associated with the USTRANSCOM financial warehouse, project events, and interface manuals. The contractor shall develop the USTRANSCOM application systems manual outlining USTRANSCOM financial application functionality, to include, trouble-shooting, system layout, software functionality, process documentation, and hardware specifics. The contractor shall document all work in Increment I IAW acceptable business standards for software (CMM Level III).

1.2.3.4 Test and Evaluation. The contractor shall be responsible for designing and implementing an incremental Developmental Test and Evaluation (DT&E) effort. The contractor shall coordinate his efforts with the PM to ensure the integration of DT&E with the User's Initial Operational Testing. The contractor shall write the USTRANSCOM financial application test plans and procedures to include recommendations and justifications for additional tests, adjustments to current tests, and /or removal of any tests. Additionally, the developer shall be responsible for assisting the PM in developing scripts to accomplish the accepted tests. The appropriate test scripts and documentation shall accompany all additional tests submitted for approval by the developer. The COR will validate all test plans, test cases, scripts, and documentation and integrate the recommended changes to the final test plans. Following execution of the Design Test & Evaluation (DT&E), the contractor shall provide a final DT&E test report of the USTRANSCOM financial application code accompanied by all supporting documentation and test run outputs.

1.2.3.4.1 The contractor shall provide needed support for Operational Test and Evaluation (OT&E).

1.2.3.4.2 The contractor shall provide setup disk with instructions for the installation and integration of USTRANSCOM financial application on the production system on the USTRANSCOM LAN or testbed. During the installation, the contractor shall provide phone and on-site support as necessary.

1.2.3.5 Training. The contractor shall provide training for Government representatives, application administrator, and backups (not to exceed 8 people) responsible for operating the installed application. The training will be limited to the pre-Final Operating Capability (FOC) period of the contract. The contractor shall develop Compact Disc (CD) or Online training instructional media *for the application users and administrative personnel* and shall instruct personnel in the use of the training materials. Subsequent to each session, the contractor shall provide a utilization report detailing trainee participation, comments, and recommendations on software functionality and an evaluation of training effectiveness. Prior to implementing training, the contractor shall provide training proposals, materials, and concepts for Government review and approval. Training requirement discussions will be on-going between contractor and Program Manager to meet the latest requirements.

1.2.3.6 Preliminary Design Review (PDR) and Critical Design Review (CDR). The contractor shall conduct a Preliminary Design Review (PDR), before the code creation portion of the phase begins. The contractor shall conduct a Critical Design Review (CDR) before the test portion of the phase begins. The Program Manager approval is required after each review. In addition, during the review, the contractor shall update the Program Manager on the process the contractor shall use to sustain Phase software code after implementation. Upon completion of the review, the Program Manager will approve or disapprove the demonstrated capabilities and final design, and provide comments back to the contractor within 5 workdays of receipt of the draft. Formal minutes shall be drafted by the contractor and staffed for approval and signed by the Program Manager within 5 workdays after meeting.

1.2.3.7 Meetings. The contractor shall provide formal minutes of meetings and discussions to the PM within 2 workdays of the event. The contractor shall maintain and track all minutes. The contractor shall track action items resulting from these events. The PM will initial all actionable items prior to the contractor undertaking any of these actions.

1.3 ADDITIONAL REQUIREMENTS

1.3.1 Management Tasks. This effort accomplishes the warehouse construction or back-end effort. The contractor shall provide the following to manage the development tasks. In order to insure a successful outcome, there are many technical, managerial, and evaluation meetings and tasks which could impact the developer's timelines. The Government reserves the right to hold all meetings, combine meetings, or cancel meetings based on content, contractor performance, and contractors schedule. The outcome will provide the best possible status of the project to the Government with the least impact on the development. The contractor shall be prepared to provide all information required for the meeting to the COR weather or not the meeting is held. The COR will inform the contractor of meeting changes at least five workdays prior to the scheduled meeting start time.

1.3.1.1. Task Order Management Plan (TOMP). The contractor shall prepare a TOMP to describe the technical approach, organizational resources, and management controls required to meet cost, performance, and schedule requirements throughout TO execution using resource management tracking, Critical Path Scheduling, and Work Breakdown Structure (WBS) tools.

1.3.1.2 Monthly Status Report (MSR). The contractor shall provide a monthly status report monitoring the quality assurance, configuration management, and security management efforts applied to the TO. The monthly status report shall list, by each active task, the accomplishments of the reporting period by contractor name and hours worked against each task, describe the objectives for the next reporting period, and provide an overall evaluation of the task order to date including a bar and graph chart of the resources used for the current period and year-to-date with a delta below. This section of the report shall show the plan dollars and hours burn rate vs. the actual burn rate and associated delta by month. The report shall list the deliverables for each task and any issues, problem areas, or items that require COR review.

1.3.1.3 Work Breakdown Structure. The contractor shall develop a program WBS to provide a framework for program and technical planning, cost estimating, resource allocation, performance measurements, and status reporting. The schedule risk shall be analyzed based on the project critical path. The WBS and associated WBS dictionary shall define the total application to be developed or produced; display the total process as a product-oriented family tree composed of hardware, software, services, data, and facilities; and relate the elements of work to each other and to the end product. The contractor shall develop a Configuration Management process for control of releases, source code, and documents. Submit the Configuration Management Plan to the COR for approval.. The contractor shall suggest changes to the WBS and evaluate progress toward delivery of the USTRANSCOM financial integration process.

1.3.1.4 Resource Management Tracking (RMT). The contractor shall provide monthly updates to the RMT product to the PMO. The product shall include schedule, assigned resources (labor category/hrs) with cost factors, reference the baseline approved by both the COR and the contractor at the start of the program, and updates to the work completed. The net change of resources required to complete the work, and any revisions to overall schedule resulting from the changes will be reflected in the Incentive Award computation for that portion of the schedule. The contractor shall use a mutually agreed upon product which has the functionality seen in Microsoft Project, but Microsoft Project is not required. The contractor shall deliver a copy of the RMT reports not later than one week

after the final reporting day of the month. The RMT report will be based on the designated level of the WBS agreed upon by the contractor and the COR. The information is intended to be collected at levels depending on the method used to create the WBS and not at levels below WBS Level III. The information should include the time required, resources, time per resource and the cost of the resource. This information will be used to compare estimated cost of work planned to actual cost/schedule of work completed. Additionally, any changes in schedule will show the impact on the overall project through task dependencies identified in the project tracker.

1.3.1.5 In-Process Reviews (IPR). The contractor shall conduct IPRs monthly, or at the Program Manager's request. The IPR summarizes the project status, progress, concerns and impacts, recommendations for developing project software documentation, or other issues affecting the on-going effort. The contractor shall deliver IPR minutes and a copy of the presentation slides. At a minimum, the minutes should reflect a record of meeting activity, decisions made, date, location, and attendees. Issues requiring immediate or urgent Government actions should be highlighted with an impact on the program if not completed by a set date.

1.3.1.6 Technical Interchange Meeting (TIM). The contractor shall conduct a TIM at a Government location within five (5) workdays of contract award to document project requirements, schedule, and other technical issues. Formal minutes shall be drafted by the contractor submitted to the PM for approval, and signed by the PM within 3 workdays after meeting (reference paragraph above about minutes). The monthly, or as required, the contractor shall provide a TIM agenda 2 work days prior to any meeting. The agenda will have a list of issues and proposed recommendations with pros and cons for each recommendation. The contractor will only bring key personnel to meetings.

1.3.2 Maintenance Tasks. The contractor shall provide the following efforts in reference to maintaining the current production system during development and continuing maintenance on the production system as future increments are moved to production:

1.3.2.1 Code Maintenance. The contractor shall modify existing interfaces to meet changes to feeder systems when required. USTRANSCOM EDW is the repository for data received from developed interfaces.

1.3.2.2 System Maintenance Support. The contractor shall provide technical support of all production level software releases. Support is to include interaction with the USTRANSCOM EDW Management Team for database, system, and quality administration. Support also includes interaction with application end-users, to support retrieval and display of accurate information in an understandable and repeatable format.

1.3.2.3 Problem Resolution. The contractor shall resolve any documented outstanding software problems that arise during phase development and implementation. Such problems may be identified by the result of deliverable inspection, user input, or test results. Changes will be addressed in the configuration management process and/or the change management process as needed.

1.4 DELIVERABLES

Contract deliverables will require a close teaming between the COR and the contractor development team. The COR will provide the input outline in the table at 3.2.1, entitled Government furnished. This will ensure that the contractor has sufficient time and resources to meet deliverable timelines. The Government will have the right to use, distribute as it sees fit, and modify as needed, any software and source code developed under this contract. The Government also will be given any documentation, acceptance testing and testing reports associated with the development of any software under this contract. The Government owns all rights to work and deliverables produced under this contract. Deliverable dates will be included in the contract award as agreed upon in the contractor's technical proposal. Contractor shall submit deliverable schedule with proposed deliverable dates in the technical proposal, see Attachment 5.

Task Number	Contractor Task/ Deliverable	Deliverable Date
1.2.2.1.1	Business Discovery. Business Processes Business Rules	
1.2.2.1.2/	Information Discovery Data Analysis	

1.2.3.1	Data Shortfall Documentation	
1.2.2.1.3	Configuration Management Plan	
1.2.2.1.3	Change Management Requirements Baseline	
1.2.2.1.3	Configuration Management Capability	
1.2.2.2.1	Logical Data Modeling Data Dictionary	
1.2.2.2.2	Physical Data Modeling/ Implementation	
1.2.2.3	Change Management Plan	
1.2.2.3	Change Management Capability	
1.2.3	Financial Management. System Incremental Delivery	
1.2.3.2	Code creation. Interface Code Extract/Transform/Load Scripts	
1.2.3.3	Documentation User Manuals System Administration Guide System Troubleshooting Guide System/Interface Documentation Software Design Document Software Requirement Document Change Management Documentation Configuration Management Documentation	
1.2.3.4	Testing. Test Plans and Procedures Test Reports Developmental Test Documentation	
1.2.3.5	Training Materials Training Sessions	
1.2.3.6	Design Reviews PDR/CDR Minutes	
1.3.1.1	Task Order Management Plan	
1.3.1.2	Task Order Management Monthly Status Report	
1.3.1.3	Work Breakdown Structure	
1.3.1.4	Resource Management Tracking (RMT)	
1.3.1.5	IPR Presentation Materials	
1.3.1.5/ 1.3.1.6	IPR/TIM Reports/Meeting Minutes	
1.3.1.6	TIM Presentation Materials	
1.3.2	Current System Maintenance	

The contractor shall deliver all products, reports, schedules, graphics, and spreadsheets in the current TCJ6 version of Microsoft Word, Project, Power Point, Excel, or other applicable application. Each deliverable shall be made in both hard copy and upon a 3.5" high-density diskette or CD, at Government discretion with a typewritten identifying label displaying the appropriate contract number and deliverable title.

Once a deliverable is submitted, the COR will provide comments on the deliverables, if any, to the contractor within five (5) working days. The contractor shall make modifications and return the deliverable to the COR within five (5) working days.

- 1 copy of transmittal letter without the deliverable to the Contracting Officer

- 1 copy of the transmittal letter and the deliverable to the COR

2.0 SERVICE DELIVERY SUMMARY (SDS)

The SDS for this PWS serves as a point of reference for both the contractor and the Government to measure the value of services provided.

Performance Objective	PWS Para	Performance Threshold

The contractor shall immediately inform the Government of any potential risks to cost, schedule, or performance once identified. Risk mitigation plan(s) will be submitted to the PM for mutual concurrence on the recommended actions.	1.3.& 1.4	Contractor shall develop a risk mitigation plan for 100% of all risks likely to impact deliverable schedule, cost, or technical solution and provide to the PM within 5 days of identification of the risk.
The contractor shall document all business processes and rules used for system development in a reusable and retainable fashion. The documentation shall contain all associated software code.	1.2 & 1.3	Contractor will identify, store and detail 100% of all process and business rules, to include the software code. The rules will be maintained by automated means and made available to the PM.
The contractor shall meet the timelines for all deliverables associated with the contract to include those additional efforts identified during the course of the contract to facilitate system development.	1.4	Deliverables provided to the PM shall be on time and error free, to include semantic errors, 98% of the time. The deliverable shall pass technical inspection by the PM 90% of the time.
Increment Deliverable Performance		
Maintainability		
Contractor will deliver maintainable code as measured by the ease to correct/implement a change required to adjust a single item in the system	1.2.3.2	Software error corrections over 7 days and Software Changes over 30 Days as percentage of errors/ Changes not to exceed 5%.
Supportability		
Contractor will document system and code to minimize time and effort required to identify and fix errors or change the system	1.2.3.2	100% of all software Code is documented both internally and within system documentation to identify function, process and logic flow.
Contractor will document system and code to minimize time and effort required to identify and fix errors or change the system	1.2.3.2	Software documentation allows troubleshooting to identify and locate the error causing failure within five minutes of starting troubleshooting over 95% of the time.
System is self-auditable	1.2.3.2	Software is able to produce output to identify successful/unsuccessful runs, identify errors and location of failure for unsuccessful run, have, error recovery procedures to ensure the rerun will resume operations at the appropriate point. Error recovery actions must meet the above criteria 98% of the time.

3.0 GOVERNMENT FURNISHED EQUIPMENT (GFE)/GOVERNMENT FURNINSHED INFORMATION (GFI)

3.1 GOVERNMENT FURNISHED INFORMATION

Program Documentation
PMO support for WBS creation
Reporting format
Business/Systems Subject Matter Experts
Business/System documentation
Logical Data Standards Subject Matter Experts
Logical Data Model Approval
EDW Architecture Requirements
EDW Interface standards

3.2 COMPUTER HARDWARE, SOFTWARE & OTHER EQUIPMENT

The Government will furnish the contractor access to Government development server to complete this tasking. The server supports the EDW platform, running the current release version of Teradata Relational Data Base Management System (RDBMS). Software shall be compatible with Transportation Logical Data Model (TLDM), other existing applications, and the Business Enterprise Architecture's current release. The contractor shall build the USTRANSCOM financial application according to design requirements identified in the USTRANSCOM Enterprise Architecture, Transportation Logical Data Model, and the DOD Data Model.

3.2.1 GOVERNMENT DELIVERABLES

Task Number	Contractor Task	Government Input	Delivery Date
1.3.1.3	WBS	PMO Support	Contract Award
1.3.1.4	Resource Management Tracking (RMT)	Reporting Format	Within 30 days of award
1.2.2.1.1	Business/Information Discovery	Business/System Documentation	Upon phase initiation
1.2.2.1.1	Business/Information Discovery	Business/System SME Access	Upon phase initiation
1.2.2.2.1	Logical Data Modeling	LDM Standards SME Access	Upon phase initiation
1.2.2.2.1	Logical Data Modeling	LDM Approval	Upon phase initiation
1.2.3.2	Interface/Code Creation	EDW Architecture Requirements	Upon phase initiation
1.2.3.2	Interface/Code Creation	EDW Interface Standards	Upon phase initiation
1.2.3.6	Design Reviews	PDR and CDR Approval	Within 10 days of respective design review

3.2.2 The contractor shall specify any equipment required in addition to the development NCR Server and Teradata RDBMS provided by the Government.

3.2.3 The Government shall provide the contractor access to personnel with USTRANSCOM technical and/or functional expertise and documentation.

3.2.4 The contractor shall submit a formal request for information/support for any items required, but not listed in tables of this PWS. This is to be submitted as soon as a need has been identified, in order to minimally impact to the program schedule.

3.2.5 The contractor shall submit a formal request for clarification for any items delivered by the Government (listed in tables) which does not meet the contractor's need in meeting project requirements. Requests will be delivered to the COR within five (5) working days. Any GFE/GFI that is not subject of a request for clarification within five (5) working days of being provided is to be considered accepted by the contractor.

4.0 GENERAL INFORMATION

4.1 ODC Software Required

The Contractor shall provide additional software as necessary to meet technical, functional, and legal responsibilities of the PMO. These requirements shall be reviewed and directed IAW approved Monthly Status Reports signed by the Program Manager.
(ie hardware/services T1 line/help desk/Commercial software etc)

4.2 PERIOD OF PERFORMANCE

Period of Performance is for one year (365 days) from award date.

4.3 PLACE OF PERFORMANCE

The primary place of performance is the contractor facility, which shall be within 50 miles of the DEAMS office. Other place of performance is the DEAMS Office at 16 Executive Dr. Suite 200, Fairview Height, IL

The following skill sets need to be located within 50 miles of the DEAMS office:
Program Manager, Key Member of the Technical Team and Business Analyst.

4.4 HOURS OF WORK

Work hours shall be consistent with Government personnel duty hours and holiday schedule, normally 7:00 a.m. until 4:00 p.m. Central time, Monday through Friday. The Program Manager or his Contract Officer Representative (COR) will approve in writing all exceptions to the hours of work.

4.5 CONTRACTOR STAFFING CHANGES

In the event a change in contractor staffing is required, the contractor's replacement personnel shall meet all qualifications identified in the generic resumes as approved by the Government as part of the contractor's technical proposal. The contractor shall identify to the COR the qualifications of all proposed contractor replacement personnel prior to employment.

4.6 SPECIAL SECURITY CONSIDERATIONS

4.6.1: Security. The contractor will require access to Government information in the performance of this contract. The contractor may be required to have access to information classified at the SECRET level. The contractor will require access to secured buildings requiring SECRET level clearance for unescorted access. The contractor shall not divulge any information, including but not limited to, financial, planning, programming, or budgeting information without the express consent of the Government. The contractor shall observe and comply with security provisions at Scott AFB, USTRANSCOM, and any other Government installations where performance is required. Identification badges shall be worn and displayed at all times. Contract Security Classification Specification, DD Form 254, is required.

4.6.2: Non-Public Information. In performance of this contract, the contractor may obtain access to sensitive, non-public information. The contractor agrees: (a) to use and protect such information from unauthorized disclosure in accordance with the Federal Acquisition Regulation (FAR); (b) to use and disclose such information only for the purpose of performing this contract and to not use or disclose such information for any personal or commercial purpose; (c) to obtain permission of the COR before disclosing/discussing such information with a third party; (d) to return any non-public, sensitive information no longer required for contractor performance; and (e) to advise the COR of any unauthorized release of such information. Upon request, the contractor shall have its employees assigned to this contract execute a non-disclosure agreement for delivery to the Government.

4.7. TRAVEL

Performance under this PWS may require the contractor to travel outside the place of performance to provide required training or attend various meetings on a Cost Reimbursable Basis. All travel shall be approved by the COR in advance. Travel costs shall not exceed the estimated amounts established in the associated Contract Line Item Numbers (CLINS). Incurred contractor travel costs will be reimbursed by the Government to the contractor in accordance with Joint Travel Regulations (JTR), Federal Travel Regulations (FTR) and FAR cost principles. The airfare shall be the prevailing rates for commercial airline or tourist class. When required, the

most reasonable means of ground transportation i.e., taxi, bus, or car rental, shall be used. The following trips per year are anticipated for training.

Location	No. Trips	No. Days	# Of People
DFAS (Denver CO)	5	5	1
SDDC (Washington DC)	5	5	1
MSC (Washington DC)	5	5	2
DCS (Washington DC)	2	5	1

5.0 ATTACHMENTS

1. USTRANSCOM Financial Reporting System Summary Overview
2. System Design Document (SDD)
3. System Requirement Document (SRD)
4. Mission Need Statement
5. Deliverable Schedule (dates to be filled in by contractor)

USTC Financial Reporting System Summary Overview
FINAL

The USTRANSCOM mission is to provide air, land, and sea transportation for the Department of Defense (DOD), both during peace and war. The Commander of USTRANSCOM (CDRTRANS) is tasked as the single manager of the Defense Transportation System (DTS). Therefore, an important functional requirement is the integration of information from the Transportation Component Commands (TCC): Military Sealift Command (MSC), Air Mobility Command (AMC) and Surface Deployment and Distribution Command (SDDC) and the Defense Courier Service (DCS) by direction of Deputy CDR. By implementing USTRANSCOM Data Warehouse and Reporting Application, sufficient resources and information will be available to decision-makers to enhance the DTS effectiveness and efficiency.

The purpose of the system is to provide the data and reporting capabilities required by the USTC Financial Mangers, decision makers, and business analysts in order to assist daily financial management and decision making.

The Transportation Component Commands' (TCC) major Transportation Working Capital Fund (TWCF) business area outputs are defined in the USTRANSCOM budget submission as follows:

AMC	(Phase I/Proof of Concept)	SDDC	
	Channel Passenger		Liner Ocean
	Channel Cargo		Port Operations
	SAAM		Traffic Management
	Exercises		Global POV
	Training		Cost Reimbursable
MSC		DSC	
	Afloat Prepo		
	Strategic Surge		
	Petroleum Tankers		
	Chartered Cargo (MTON)		
	Chartered Cargo (Per Diem)		

The following section describes the program and the proposed methodology to meet the objectives set forth for the program. These requirements are for the final system solution and should be used as a guide for tradeoff analysis during development.

Program Goals: The USTRANSCOM Financial Application provides the following capabilities/features at its end state.

- Establish a data warehouse that brings together financial, logistics, operational and other support systems and eliminates legacy system "islands of automation."

- Achieve USTRANSCOM integrated financial processes and standardized business rules and the financial controls necessary to efficiently and effectively operate the DTS.
- Provide the Commander, USTRANSCOM, financial management information needed to manage transportation operations financed by TWCF.
- Provide managers with relevant and reliable information relating to costs of outputs and activities.
- Ensure consistency between general financial reports and actual costs used by managers.
- Ensure the accuracy of cost information to assist managers in making decisions and evaluating performance.
- Evaluate financial performance and produce the Net Operating Result (NOR) for the business areas applicable to each TCC.
- Automate and standardize transportation financial business processes.
- Create accurate and credible budgets and customer rates.
- Provide current cost and revenue data to the TCC's and USTRANSCOM.

SYSTEM STRUCTURE: The system is envisioned to be designed in three functional groupings. The Back End or Data Group consists of those actions to source, obtain, extract, and store the financial data required to complete the program objectives. This sections allows a financial view of the represented data and will give the user the ability to tie the financial data to operational data stored in other areas of the warehouse. The Front End or Reporting Group gathers the required data from the back end and displays the data on screen for reporting or ad-hoc query capabilities by the user. The reporting functions will allow users to store report formats and request a publish/subscribe function to have these reports delivered to them or available on a consistent timeframe. Finally, the Change Management Group will allow users to interactively view the functionality provided by the system and to request changes to the system as it is fielded. This function will also allow the Program/Functional managers the capability to track, evaluate and approve change requests and provide the user a date/version that the change was implemented with. Graphically the system will perform these functions:
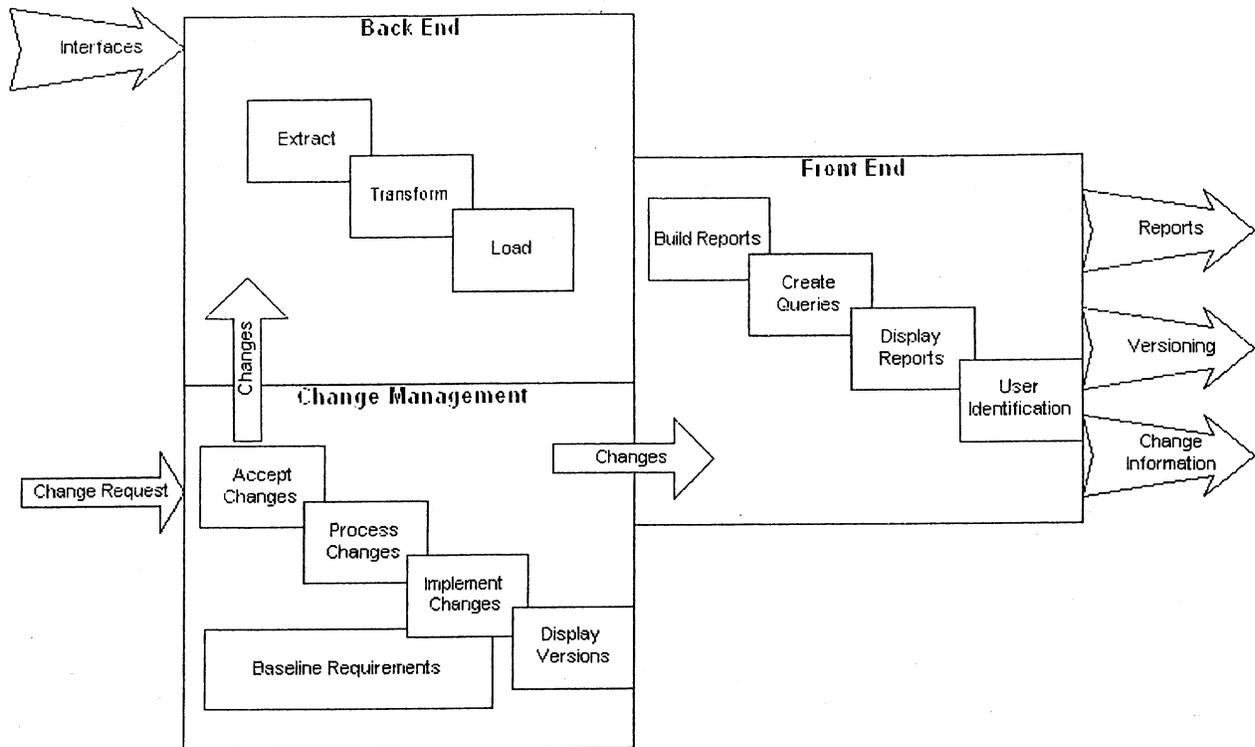
The functions are grouped into this top level functional decomposition.
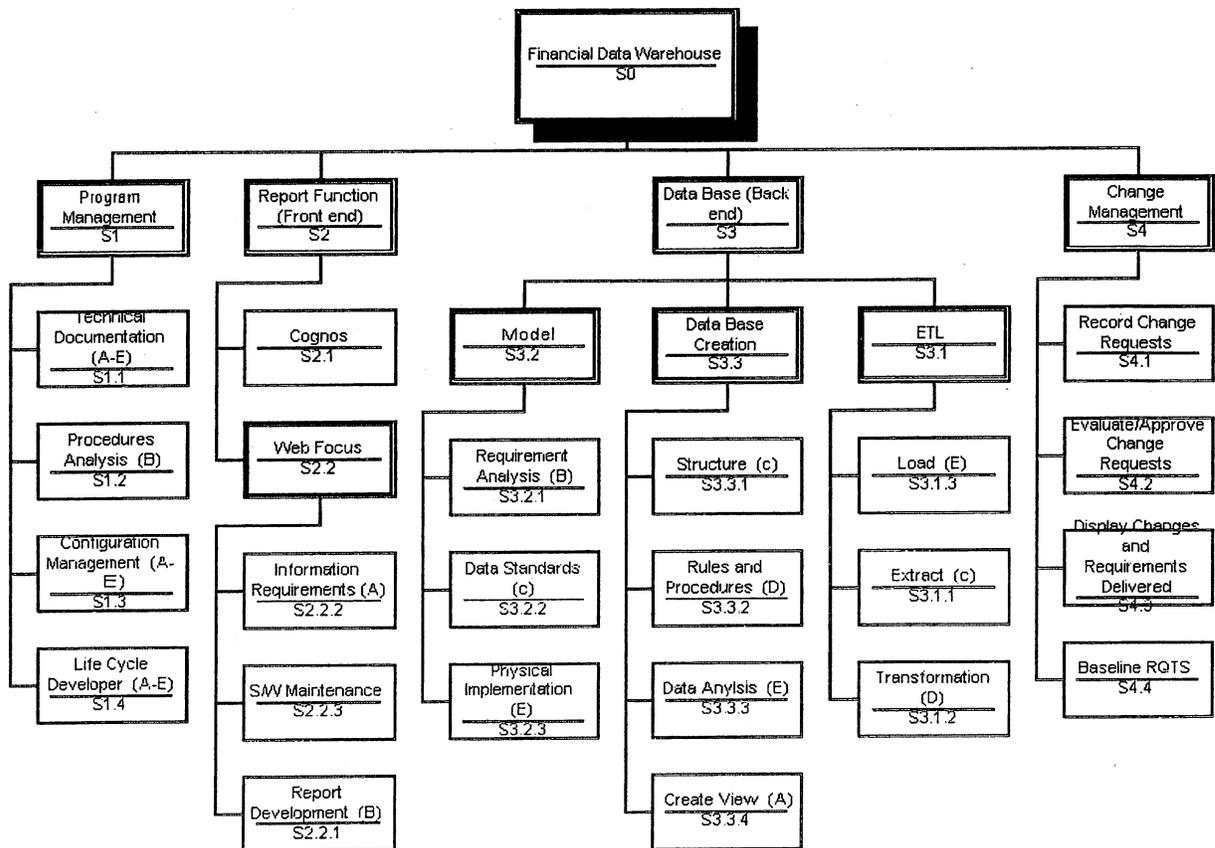
USTRANSCOM FINANCIAL REPORTING AND DATA WAREHOUSE APPLICATION
satisfies the following USTRANSCOM financial management requirements:

Design Considerations:
- Design the system to accommodate rapid fault checking and ease of changes integration through the use of well-documented code, support programs or other actions, which will reduce the overall supportability costs of the final system.
- Supports requirements identified in A Guide to Federal Requirements for Financial Management Systems and in accordance with Generally Accepted Accounting Principles (GAAP).
- Provides an audit trail defined as the ability to identify the source for each and every transaction.
- Provides adequate system documentation (functional and technical).
- Software developed and delivered by the contractor to the government follows the configuration management processes and tools of the USTRANSCOM Enterprise Data Warehouse (EDW) team. Current software and previous versions/releases are to be maintained in the event that current releases do not meet the technical or functional requirements of USTRANSCOM.
- Software shall be developed/delivered to the government in accordance with the PM Configuration Management Policies and Procedures. Functionalities released and software problems resolved per software version shall be in accordance with the direction of this CM process. The government also shall be given any documentation, acceptance testing and testing reports associated with the development of any software under this contract.

System – Warehouse Requirements:
- Interfaces with the existing financial management structure.
- Interacts with other financial management systems through standard electronic system interfaces to provide a comprehensive financial management information environment.
- Standardizes data elements as defined by Defense Data Dictionary System (DDDS).

System – Report Application Requirements:
- Provides on-line query capability that allows users to define their own output.
- Provides an organized, user-friendly capability to take high-level summary numbers, such as those reported by DFAS on the Report of Operations (Annual Report AR 1307), and drill down to transaction-level data to assist users in financial analysis to include identifying the major reasons for cost changes, develop detailed trend analyses, and to isolate significant abnormalities.
- Provides the financial aspects of a selected transportation movement to allow the transportation manager to make informed decisions.
- Links cost and revenue information to operational data to produce consistent and reliable reports and performance measures.
- Supports ad hoc business queries for profitability and cost analysis. The system will identify appropriate variable and fixed costs for management to assess the cost impacts of alternative cost of movements. Appropriate uses could include monitoring day-to-day

movements, or determining the optimal cost/operational mix in Joint Chief of Staff (JCS) exercises, contingency movements, etc.

- Collects accurate, complete, reliable, and consistent information.
- Provide for command reporting requirements.
- Provide information to support command-level policy decisions.
- Supports preparation and execution of command budgets, linking comparison of the budget to actual performance by business area in accordance with Office of the Secretary of Defense (OSD) and other budgetary reporting requirements.
- Facilitates preparation of financial statements and other financial reports in accordance with federal accounting and reporting standards.
- Provides information to DOD agencies for budgeting, analysis, and government-wide reporting including consolidated financial statements.
- Provides improved forecasting and allocation of resource capabilities.
- Provides report functionality identified as:
  - Net Operating Result (NOR)
  - Accumulated Operating Result (AOR)
  - Stages of Revenue
  - Accrued
  - Billed
  - Collected
  - Stages of Cost/Expenses
  - Committed
  - Obligated
  - Expensed
  - Account Receivables
  - Account Payables
  - Aged Reports

System – Change Management
- Provide an ability to track the requirements being used to develop the system
- Provide the ability to accept and track change requests from users/developers/decision makers
- Provide online capability to monitor the status of change requests
- Provide capability to display the capabilities of the current system and those capabilities to be included with future releases
- Provide an ability to automatically link web-page information to the change request if requested from inside the system
- Provide capability to identify when the change was completed and what version it was released with

USTRANSCOM FINANCIAL REPORTING AND DATA WAREHOUSE APPLICATION will deliver required capability via four major developmental increments.

Increment 1	Financial Management	
Spiral	Action	Completion Date
Spiral 1	**Complete AMC Interface to EDW**	**August 2003**
Spiral 2	**Complete SDDC Interface to EDW**	**August 2004**
Spiral 3	**Complete MSC Interface to EDW**	**June 2005**
Increment 2	**Budget Management**	
Spiral	**Action**	**Completion Date**
Spiral 1	Incorporate Budget Targets into Reports; Rate Support	June 2005
Spiral 2	Create Budget Exhibits	October 2005
Spiral 3	Create Budgets	June 2006
Increment 3	**Financial Analysis**	
Spiral	**Action**	**Completion Date**
Spiral 1	Cash Management	July 2007
Increment 4	**Incorporate Defense Enterprise Accounting Management Sytem (DEAMS)**	
Spiral	**Action**	**Completion Date**
Spiral 1	DEAMS (AMC); DEAMS Reporting and Functions	October 2006
Spiral 2	DEAMS (SDDC)	October 2007
Spiral 3	DEAMS (MSC)	October 2008

Increment I will directly interface USTRANSCOM Financial Reporting and Data Warehouse Application with TCC financial systems to collect transportation transaction-level financial data; integrate and warehouse the data; and provide analysts and managers a single source for TCC financial management data. The integrated data will provide USTRANSCOM analysts the capability to more precisely identify trends, analyze financial performance, provide decision-makers more timely data, and allow for more accurate forecasting of transportation resources.

This increment focuses on the acquisition, integration, and presentation of the TCC's TWCF financial data.
USTRANSCOM Financial Reporting and Data Warehouse Application will use automated interfaces between the TCC financial management systems and USTRANSCOM Enterprise Data Warehouse (EDW) to provide transaction-level cost and revenue data as part of the command's

overall Corporate Data Environment (CDE) and for CFO use. Additionally, the financial reporting application will extract, display, integrate, and analyze transportation financial management data.

Increment I Capabilities Delivered:

Provides overall transportation expense and revenue data at the transaction-level.
Provides transportation expense and revenue data for a specific transportation event at the transaction-level.
Identifies expense allocation data.
Provides for structured business queries.
Provides sufficient data to enable decision-makers to better understand transportation financial impacts relative to operations.
The ability to link financial data to operational data associated with a selected transportation movement allowing the transportation manager to make more informed decisions.
The capability to link cost and revenue information to operational data and performance measures using the same time period to produce consistent and reliable data.
A set of structured business queries and limited Ad hoc reports to conduct profitability and cost analyses. The system shall identify appropriate variable and fixed costs for management to assess the cost impacts of alternative cost of movements ("What if" drills). Appropriate uses could include monitoring movements, or in determining the optimal cost/operational mix in Joint Chief of Staff (JCS) exercises, contingency movements, etc.
Collection of reliable and integrated data to produce coherent and consistent information for command reporting requirements.
Reliable information for transportation managers to make command-level policy decisions.
The ability to prepare and execute command budgets, comparing budget to actual performance by business area to fulfill the Office of the Secretary of Defense (OSD) and other budgetary reporting requirements.
Reliable information to DOD agencies for budgeting, analyses, and government-wide reporting to include consolidated financial statements.
The ability to complete audit trails -- trace all transactions to their source and drill-down capability.

Increment II Budget Management

At Increment II, USTRANSCOM Financial Reporting and Data Warehouse Application will expand its capabilities to include a budget module consisting of the financial application warehouse structure with all atomic-level data, e.g., ability to parse data down to the individual transaction, stored for reusability. The module will be used throughout USTRANSCOM to create and manage budgets throughout the budgeting process. The budget module facilitates user construction of local budget submissions and budget exhibits for OSD submissions based on a common, integrated set of business rules managed by TCJ8. The module will allow budgeters to build exhibits from screen shots and allow TCCs to modify exhibits as required by OSD. Ultimately, the data will sustain analyses to develop more accurate TWCF transportation rates for each TCC. To accomplish this, the USTRANSCOM Financial Reporting and Data

Warehouse Application must integrate the Transportation Web Based Budgeting System - Redesigned (TWBBS-R) into its overall solution.

Increment II Capabilities Delivered:

Integrated Planned vs. Actual Budget Analysis
Support OSD budget process
Provide Net Operating Result (NOR) for a singular selected movement
Conduct trend analyses

Increment III Financial Analysis

Increment III will further enhance USTRANSCOM's ability to conduct more sophisticated financial analyses and provide next generation financial management. USTRANSCOM Financial Reporting and Data Warehouse Application will provide data to identify and analyze TWCF cash flows by identifying transportation events that were not correctly billed or collected. To effectively manage cash flow analysts will require data identifying customer billing, monetary collections for work accomplished, and disbursement data. In addition, financial analysts can calculate USTRANSCOM's Return on Investment (ROI), which provides a single comparative number identifying the estimated return for each dollar invested. Completion of Increments II and III signal attainment of Full Operating Capability (FOC).

Increment III Capabilities Delivered:

Cash-flow Analysis
Analyze and Reduce Aged Receivables
Overall Health of the Enterprise

Increment IV Defense Enterprise Accounting Management System (DEAMS)

USTRANSCOM Financial Reporting and Data Warehouse Application will eventually integrate the DEAMS solution as DEAMS develops and replaces the current TCC financial systems. Currently, USTRANSCOM, Air Force, and OSD are collaborating to develop the Defense Enterprise Accounting Management System (DEAMS) as their accounting and financial management system to collect and provide accurate information in near real-time. DEAMS' main objective is to implement standardized business processes re-engineered around industry best business practices and CFO Act compliant standard financial software. DEAMS will potentially expand to functionally support DOD agencies.

As DEAMS evolves, USTRANSCOM Financial Reporting and Data Warehouse Application will replace its data feeds from the TCC legacy systems with data extracted from DEAMS. Each TCC interface with USTRANSCOM Financial Reporting and Data Warehouse Application Will be archived and maintain the historical information required to meet DEAMS audit and research requirements. This distinguishes USTRANSCOM Financial Reporting and Data Warehouse Application as a critical component in the future financial solution by providing a capability to conduct routine reporting, analysis, and historical research for DEAMS. Additional

capabilities will be realized in future releases as USTRANSCOM Financial Reporting and Data Warehouse Application expands its capabilities to include cash management and budgetary analysis. The resulting solution will be a total financial solution fully capable of addressing all aspects of finance and accounting.

In addition, the USTRANSCOM Financial Reporting and Data Warehouse Application will be modified to encompass the requirements and changes afforded by a DEAMS deployment. The timing for deployment of DEAMS across USTRANSCOM is dependent upon the pace of DEAMS development. The projected schedule for initiating deployment of DEAMS is October 2006. Subsequent deployments at SDDC and MSC will occur at 1 year intervals. As DEAMS is implemented at each TCC, the current interfaces will be archived.

Increment IV Capabilities Delivered
Reporting requirements as defined by Program Analysis and Financial Management Directorate (TCJ8) satisfied via the interfaces include:
Net Operating Result (NOR)
Accumulated Operating Result (AOR)
Stages of Revenue
Accrued
Billed
Collected
Stages of Cost/Expenses
Committed
Obligated
Expensed
Account Receivables
Account Payables
Aged Reports

System Environment
The system will be fielded as part of a multi-system environment adding to the overall capabilities of the data warehouse. The system will be using the same hardware and software platform as BDSS for development and production. The environment is managed by the Data Warehouse Team to provide administrative support, technical support, and to maintain system and software configuration. All activities must be IAW the stated Data Warehouse policy. Fielding and testing requirements must be coordinated with other sections using the environment to ensure proper support is available and the fielding will not adversely affect other users actions. The development and production environments are part of the USTC Network and must be accessed through a certified VPN approved by USTC J6-O. At this time, no separate area exists for testing, but a testing environment has been planned for and the developers will be notified when it becomes functional.

Transportation Financial Management System (TFMS)

System Design Document (SDD)

Version 2.2.1

December 8, 2005

Attachment 2

Table of Contents

1. Scope

1.1. Identification: Transportation Financial Management System v 2.2.1

1.2. System Overview

> 1.2.1. TFMS is a financial data warehouse developed to provide resource managers at all levels within USTRANSCOM with an accurate understanding of the status of the Transportation Working Capital Fund.

> 1.2.2. TFMS extracts data from the financial management systems of the three TCCs. The data is transformed to conform to a standardized data model and loaded into a Teradata database. Financial managers access the data via a web based application (WebFOCUS from Information Builders Incorporated (IBI)) to generate standardized reports or conduct ad hoc analysis.

1.3. Document Overview:

> 1.3.1. Purpose: The document records the current technical design and configuration of the TFMS. The purpose of the document is to provide information of sufficient detail to enable an estimate of the effort required to bring the project to completion and achieve the user's goals.

> 1.3.2. The document is organized as follows

>> 1.3.2.1. Referenced documents - contains links to a directory of relevant system documents.

>> 1.3.2.2. Design decisions - describes the history of the project and the decisions that led to the development of the current application.

>> 1.3.2.3. Architectural design describes the system architecture at the high level

>> 1.3.2.4. Detailed design documents the design of individual architectural components

>> 1.3.2.5. Requirements traceability

>> 1.3.2.6. Additional information

2. Referenced Documents

2.1. TFMS Narrative: <u>SRS_SDD Reference Documents\TFMS Architecture Narative v1.1.doc</u>

2.2. System Requirements: <u>Requirements for the USTRANSCOM Transportation Financial Management System_051208.doc</u>

2.3. Interface Requirement Design Documents

    2.3.1. SDDC: <u>SRS_SDD Reference Documents\Interface Requirement Design Documents\SDDC\SDDC_TFMS DO040817_IRDD.doc</u>

    2.3.2. AMC – ASIFICS: <u>SRS_SDD Reference Documents\Interface Requirement Design Documents\AMC\ASIFICS\FINAL TFMS-ASIFICS IRDD v 1.1 22 SEP 04.doc</u>

    2.3.3. MSC: <u>SRS_SDD Reference Documents\Interface Requirement Design Documents\MSC\DO050401_TFMS-MSC IRDD_v3.1.doc</u>

2.4. Data Model (requires ErWin): <u>SRS_SDD Reference Documents\153_TFMS_19JAN2005.ER1</u>

2.5. Data Analysis Documents: <u>SRS_SDD Reference Documents\TFMS Data Analysis.doc</u>

3. Project History and Design Decisions

3.1. Project History

    3.1.1. TFMS Phase I – AMC

        3.1.1.1. The initial effort (Proof of Concept) consisted of developing a financial application to support analyses of AMC TWCF expense allocations, revenue and expense data, and flying hours for all AMC TWCF business areas. The AMC business areas are - Channel Cargo, Channel Passenger, Exercises, SAAM, and Training.

        3.1.1.2. Phase I Deliverables consisted of a Visual Basic prototype offering a mock-up of the J8 FMR Budget report with break-outs of individual categories; and a Teradata back-end consisting of 73 tables (most of which have never been populated or were populated with mock-up data); and an ERWin model primarily consisting of to-be entities.

        3.1.1.3. The front-end was demonstrated to J8 and feedback from the superusers was incorporated in Phase II development.

        3.1.1.4. The source systems for TFMS v1.0 were ASIFICS and the under-development GAFS-STH data-feed.

3.1.1.5. The primary impact of TFMS Phase I was increased visibility for the TFMS project. The reports from Phase I did not reconcile to the source system or reconciled due to mock-up efforts.

3.1.2. Team changes: NCR was the prime contractor for Phase I and laid out the technical approach. Sumaria was the subcontractor and developed the Visual Basic front-end and the mock-up tables needed to populate front-end reports. After Phase I was completed, Sumaria and the DataTech Group entered competing bids for the TFMS Project Phase II. The Government instructed Sumaria and the DataTech Group to share in the Phase II efforts.

3.2. TFMS Phase II – SDDC

3.2.1. Phase II - Military Surface Deployment and Distribution Command (SDDC) consists of acquisition, integration, and presentation of financial data. It consists of developing the financial application to support analyses of MTMC expense and revenue data for all TWCF business areas at a transaction level. The SDDC business areas include Cargo Operations, Cost Reimbursable, Global POV, Liner Ocean Transportation, and Traffic Management.

3.2.2. The purpose of Phase II was to build on the initial effort of development and implementation of a USTRANSCOM financial application to generate Net Operating Results (NOR). The initial effort resulted in Proof of Concept.

3.2.3. Sumaria was the primary contractor with the DataTech Group as the subcontractor. DataTech Group as the Teradata experts would develop the back-end processing, and Sumaria would develop the front-end.

3.2.4. In May, 2004, the government decided the front-end would be WebFOCUS.

3.2.5. Phase II Deliverables include TFMS v2.0, v2.1, v2.2, and v2.2.1.

3.2.6. TFMS v2.0 consisted of a WebFOCUS prototype offering a J8 FMR Budget report with break-outs of individual categories; and a Teradata back-end consisting of 110 tables (most of which have never been populated or were populated with mock-up data); and an ERWin model primarily consisting of to-be entities.

3.2.6.1. The TFMS v2.0 was delivered in September 2004. The front-end was demonstrated to SDDC's J8 by Sumaria. Feedback from the superusers was incorporated in later Phase II deliverables.

3.2.6.2. The DataTech Group involvement in the TFMS Project was officially terminated in September 2004. Sumaria took over responsibility for both the front-end and back-end for the remainder of FY2005. The team size was halved and a new Technical Lead was appointed.

3.2.6.3. The Government requested a change in technical leadership and in November, 2004 and a new Technical Lead was appointed.

3.2.6.4. The TFMS v2.0 reports did not reconcile to the source system or reconciled due to mock-up efforts. The government stated it was dissatisfied with the results of the TFMS v2.0 deliverable and stated the requirement that the detailed and summary transaction tables reconcile to SDDC's TFMS-M system.

3.2.7. TFMS v2.1

3.2.7.1. TFMS v2.1 deliverable consisted of a WebFOCUS prototype offering a J8 FMR Budget report with break-outs of individual categories; and a Teradata back-end consisting of 27 staging tables, a detailed transaction table, and a summarized transaction table (the remainder of the 110 tables from v2.0 were retained as a courtesy); and an ERWin model primarily consisting of to-be entities.

3.2.7.2. The TFMS v2.1 was delivered in January 2005. The TFMS v2.1 reports reconciled to SDDC's TFMS-M General Ledger transaction table (GL_JE_LINES) as required by the government.

3.2.7.3. Plans were made to migrate TFMS v2.1 processes to production after JITC Interoperability Testing was completed.

3.2.7.4. JITC Interoperability Testing started in February, 2005 on the development environment. This hampered on-going development so the developer worked on documenting the processes to-date and to develop the strategy for Phase III (MSC).

3.2.7.5. The USTRANSCOM EDW Steering Committee requested changes to the TFMS v2.1 process to suit their pending recommendations.

3.2.8. TFMS v2.2

3.2.8.1. The TFMS v2.2 deliverable was identical to the TFMS v2.1 process except for table and view creations, and the code

wrapper. These changes fulfilled the EDW Steering Committee's requests.

3.2.8.2. TFMS v2.2 was delivered in February 2005. These changes were unit-tested and system-tested and turned over to the JITC testing team.

3.2.8.3. The reconciliation proofs to SDDC's TFMS-M General Ledger transactions was documented by he developer and tested by the PMO. The government directed the developer to expand upon the operational side of TFMS.

3.2.8.4. A high-level business classification strategy was developed and implemented in TFMS v2.2.1.

3.2.9. TFMS v2.2.1

3.2.9.1. The TFMS v2.2.1 deliverable was identical to the TFMS v2.1 process except for the business classification logic.

3.2.9.2. TFMS v2.2.1 was delivered in March 2005. These changes were unit-tested and system-tested and turned over to the JITC testing team.

3.2.9.3. The primary impact of TFMS Phase II was reports that reconciled to the source systems, and increased functionality for the TFMS project. TFMS v2.2.1 was migrated to production.

3.2.10. Project Changes

3.2.10.1. The Cost Allocation project was terminated during Phase II. The data from the Cost Allocation project was to have replaced the ASIFICS and GAFS-STH feed from TFMS Phase I. A senior member of the development team departed the group.

3.2.10.2. The developer lead determined the back-end processes from TFMS v2.2.1 was not appropriate for TFMS v3.0 nor could it be the framework capable for future development. The developer redesigned the back-end processes and streamlined the development efforts.

3.2.10.3. The government was to acquire MSC data access on or before the start of Phase III.

3.2.11. FMS Phase III – MSC

3.2.11.1. Phase III - Military Sealift Command (MSC) consists of acquisition, integration, and presentation of financial data. It consists of developing the financial application to support analyses of MSC expense and revenue data for all TWCF business areas at a transaction level. At the government's direction it was also to merge the Phase I, Phase II, and new development for Phase III. This phase was authorized in April 2005 and partially-funded in May 2005.

3.2.11.2. The option to fund continued development in FY06 was not exercised and the developer initiated project close out in fourth quarter of FY05. The development team was released at the end of the FY and the project has been suspended since that time.

4. Architectural Design

4.1. Components

4.1.1. Warehouse Data Model: The data model for v 2.2.1 is at <u>SRS SDD Reference Documents\153 TFMS 19JAN2005.ER1</u>

4.1.1.1. AMC: Data from AMC is extracted in accordance with the IRDDs linked below. ASIFICS data is moving daily. The CRIS process is not considered reliable at this time.

4.1.1.2. CRIS: <u>SRS SDD Reference Documents\Interface Requirement Design Documents\AMC\CRIS\CRIS-EDW IRD Nov 02.doc</u>

4.1.1.3. ASIFICS: <u>SRS SDD Reference Documents\Interface Requirement Design Documents\AMC\ASIFICS\FINAL TFMS-ASIFICS IRDD v 1.1 22 SEP 04.doc</u>

4.1.1.4. MSC: Data from MSC will be extracted in accordance with the IRDD <u>SRS SDD Reference Documents\Interface Requirement Design Documents\MSC\DO050401 TFMS-MSC IRDD v3.1.doc</u>. This interface is not in production as of publication date.

4.1.1.5. SDDC: The SDDC interface is in production and running intermittently. A description of the process is at <u>SRS SDD Reference Documents\Interface Requirement Design Documents\SDDC\SDDC TFMS DO040817 IRDD.doc</u>

4.1.2. Application and User Interface: The user interface and application are provided by the WebFocus COTS product. A complete description of the features and functionality of the TFMS user

interface is provided in the users manual link at <u>SRS SDD</u>
<u>Reference Documents\DO050331 UM v2.2.1.doc</u>

4.2. Concept of Execution: TFMS concept and data flows are depicted on the
diagram below.

    4.2.1. Extracted data is pulled from the source systems at the TCCs (1
and 2 on the diagram).

    4.2.2. The TFMS Load Server ("Marvin") transforms and loads the data
into the warehouse tables (3-5 on diagram).

    4.2.3. The WebFocus server accesses the data in the warehouse to
provide the formatted reports and ad hoc queries required by users
(6,7 and output arrow to users on diagram).

    4.2.4. The user interface is web based and consists of a screen that allows
users to select from a variety of standard reports or to specify
parameters graphically for ad hoc reports. WebFOCUS executes
SQL joins and queries based on the parameters and displays the
information for the user in a variety of formats.

5. TFMS Data Interface and Data Flow
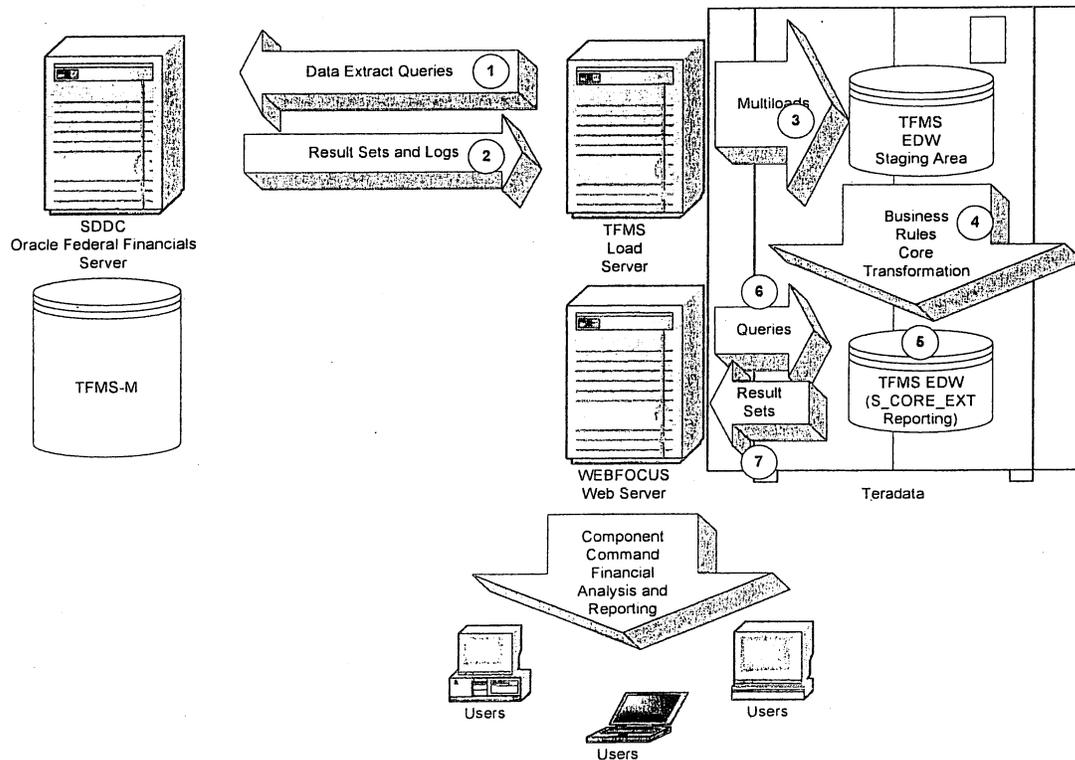
6. Detailed Design

6.1. ETL: Source code for the ETL process is at <u>SRS SDD Reference</u>
<u>Documents\TFMS Code\ETL Code</u>

6.2. User interface (WebFOCUS) source code is at <u>SRS SDD Reference</u>
<u>Documents\TFMS Code\WebFocus</u>

SYSTEM REQUIREMENTS DOCUMENT (SRD)

FOR THE

USTRANSCOM TRANSPORTATION FINANCIAL MANAGEMENT SYSTEM (TFMS)

Department of Defense
United States Transportation Command
Command, Control, Communications, and Computers

USTRANSCOM TCJ6
Scott Air Force Base, Illinois

8 December 2005

TFMS Requirements (DRAFT)
8 Dec 2005

Table of Contents

1. Introduction

The Transportation Financial Management System (TFMS) provides the US Transportation Command (USTRANSCOM) commanders and resource managers essential information on the status of the Transportation Working Capital Fund (TWCF). The project has been underway since 1999 and experienced significant changes in technology, architecture, and development teams. This document identifies the requirements to bring the project to completion.

2. Overview

TFMS is a financial data warehouse coupled to a web based COTS decision support system (DSS) -- currently the WebFocus/COGNOS. The warehouse contains transportation financial transaction-level data and budget information extracted from the 3 subordinate Transportation Component Commands (TCCs) -- Air Mobility Command (AMC), Military Sealift Command (MSC), and Surface Deployment and Distribution Command (SDDC). Data is extracted once daily from the TCCs, transformed and loaded into the warehouse. Resource managers and decision makers access the information via the decision support system, enabling user access to standardized reports and supporting creation of ad hoc queries to provide non-standard information to resource managers and decision makers.

3. End State Vision

TFMS enables USTRANSCOM to discern the command's daily financial health and status of funds by providing integrated transaction-level transportation cost and revenue data, supporting operational data, and accurate financial decision support information through an integrated financial reporting system.

4. References

4.1. Capability Development Document (CDD): SRS_SDD Reference Documents\Ver 3 19 Oct Staffed CDD v5.doc

4.2. Information Support Plan (ISP): SRS_SDD Reference Documents\Stage I Response Latest Update V 3. TFMS ISP 30 Mar 05.doc

4.3. Architecture Document: SRS_SDD Reference Documents\TFMS Architecture Narative v1.1.doc

4.4. Joint Financial Management Improvement Program (JFMIP): http://www.jfmip.gov/jfmip/download/document/0404_Framework_Final.pdf

5. Stakeholders

5.1.1. United States Transportation Command (USTRANSCOM)

5.1.1.1. Director, Command, Control, Communications & Computer Systems (TCJ6)

5.1.1.2. Director, Command, Control, Communications & Computer Systems (C4S) Programs Division (TCJ6P)

5.1.1.3. Director, Program Analysis and Financial Management (TCJ8)

5.1.1.4. Director, Command, Control, Communications & Computer Systems (C4S) Programs Division, Business Systems Branch (TCJ6PI):

5.1.2. Air Mobility Command (AMC/A8):

5.1.3. Military Surface Deployment and Distribution Command (SDDC)

5.1.3.1. Government Program Manager: HQ SDDC SDG8-A

5.1.3.1.1. Technical Lead: HQ SDDC SDG6-PT

5.1.4. Military Sealift Command (MSC)

5.1.5. TFMS Project Manager: USTRANSCOM J6-PI

6. User Characteristics

6.1.1. The user population consists of USTRANSCOM J8 financial managers, lead analysts, directorate resource advisors, and TCC FM end-users. The total potential user base exceeds 150. Number of simultaneous users is not known.

6.1.2. Users are knowledgeable of financial tracking and reporting requirements, spreadsheet proficient, and knowledgeable of the TWCF policy and procedures.

7. User Objectives

7.1.1. Deploy a system that enables users to analyze high-level summary numbers, such as those reported by DFAS on the Report of Operations (Annual Report AR 1307), by drilling to transaction-level data to identify the major reasons for cost changes, develop detailed trend analyses, and isolate significant abnormalities.

7.1.2. Provide the financial aspects of selected transportation movements to allow the transportation manager to make informed decisions.

7.1.3. Link cost and revenue information to operational data and performance measures to produce consistent and reliable data.

7.1.4. Support ad hoc profitability and cost analysis queries. The system will identify variable and fixed costs to assess the transportation cost impacts and aid in determining less costly alternative modes of transportation. Appropriate uses could include monitoring day-to-day movements, or determining the optimal cost/operational mix in Joint Chief of Staff (JCS) exercises, contingency movements, etc.

7.1.5. Collect accurate, complete, reliable, and consistent information.

7.1.6. Provide for command reporting requirements.

7.1.7. Support command-level policy decisions.

7.1.8. Support preparation and execution of command budgets, linking comparison of the budget to actual performance by business area in accordance with Office of the Secretary of Defense (OSD) and other budgetary reporting requirements.

7.1.9. Facilitate preparation of financial statements and other financial reports in accordance with federal accounting and reporting standards.

7.1.10. Provide information to DOD agencies for budgeting, analysis, and government-wide reporting including consolidated financial statements.

7.1.11. Interface with the existing financial management structure.

7.1.12. Interact with other financial management systems through standard electronic system interfaces to provide a comprehensive financial management information environment.

7.1.13. Provide forecasting and allocation of resource capabilities.

7.1.14. Provide on-line query capability that allows users to define their own output.

7.1.15. Support requirements identified in *A Guide to Federal Requirements for Financial Management Systems* and in accordance with Generally Accepted Accounting Principles (GAAP).

7.1.16. Standardize data elements as defined by Defense Data Dictionary System (DDDS).

7.1.17. Provide a complete audit trail to trace all transactions to their source.

7.1.18. Provide adequate system documentation (functional and technical).

7.1.19. Provide a systems design that accommodates rapid system changes.

8. Constraints

8.1.1. TFMS version 2.2.1 shall be used as the starting point for development.

8.1.2. The user interface shall be developed using an Apache based web platform to support Information Builders Inc. WebFocus COTS product as a user configured reports handler and COGNOS PowerPlay to provide user-configured ad hoc query capability.

8.1.3. The database shall be Teradata.

8.1.4. Issues relating to these constraints must be identified and communicated to the project manager.

9. Business Discovery

9.1.1. USTRANSCOM projects and sustains military forces and equipment worldwide. The command provides air, land, and sea transportation for the Department of Defense (DOD) and other government agencies in time of peace and war. The command provides the synchronized transportation, distribution, and sustainment that enables projection of national power whenever and wherever needed.

9.1.2. USTRANSCOM executes its responsibilities via its Transportation Component Commands (TCCs). The command employs DOD organic assets and/or commercially contracted services within the structure of the Defense Transportation System (DTS) to transport personnel and materiel.

9.1.2.1. AMC provides common-user and exclusive-use airlift, aerial refueling, and aero medical evacuation transportation services to deploy, employ, sustain, and redeploy U.S. forces worldwide. AMC enables the "global" in the Air Force's "global vigilance, reach, and power," by providing exceptional support to the warfighter.

9.1.2.2. SDDC provides surface distribution services for the warfighter worldwide and around the clock. Services SDDC delivers include Surface Distribution Operations, Sea Port Operations and Management, and Deployment Engineering. SDDC also provides services for passenger movement, personal property, and privately owned vehicle shipments.

9.1.2.3. MSC provides ocean transportation to support the USTRANSCOM mission, both in time of peace and time of war. It provides both common-user, strategic sealift capability and theater-specific prepositioned support through four distinct business areas (Tanker Operations, Dry Cargo, Strategic Surge, and Afloat Prepositioned Force) to deliver mobility forces and assets in force structure packages designed to seamlessly transition from peace to war.

9.1.3. Figure 1 represents the entire Defense Transportation System (DTS) from movement requirements generation to delivery of personnel and materiel. It also includes Command and Control (C2), In-Transit Visibility (ITV), movement type, nodes, and financial management factors.

"To-Be" Defense Transportation System High-Level View
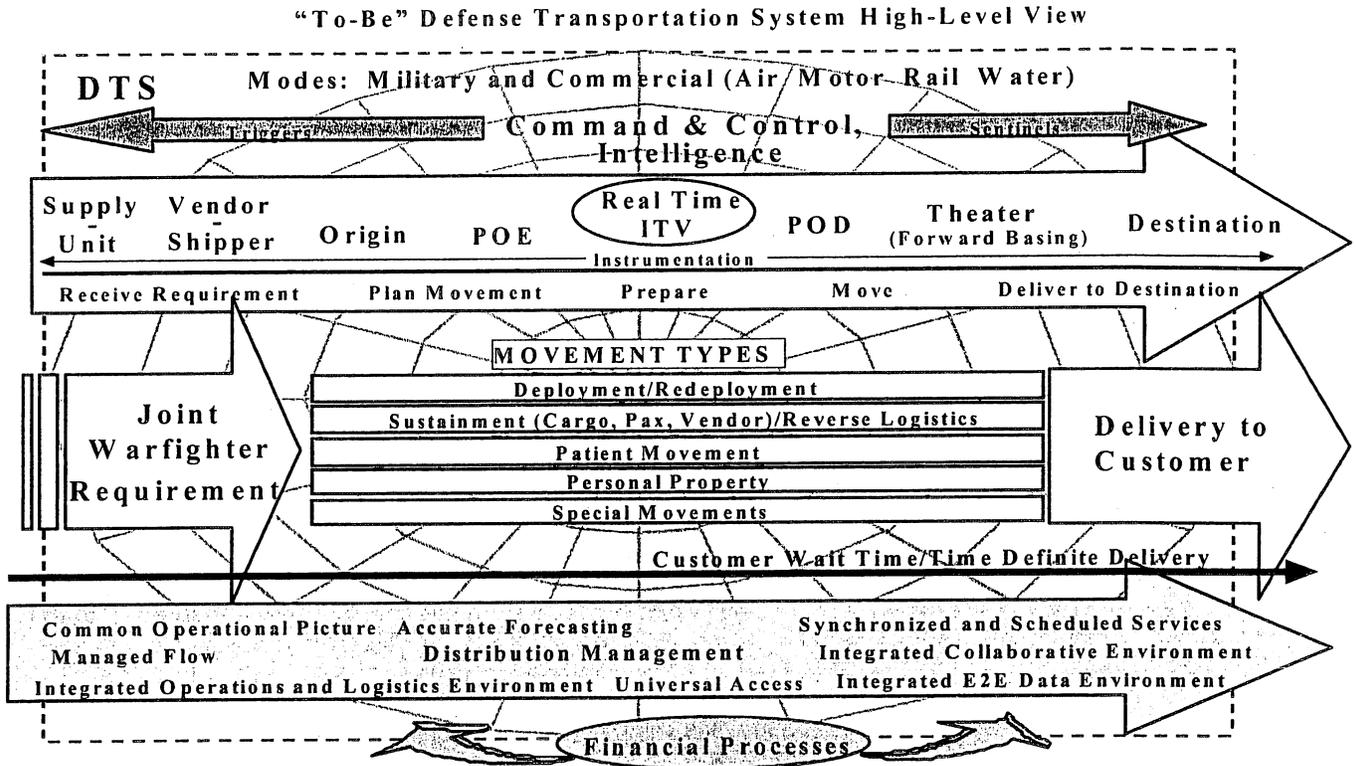
Figure 1 The Defense Transportation System

9.1.4. Figure 1 also describes the processes required to accomplish financial management activities and supports the DTS as it moves DOD cargo, supplies, equipment, personal property, and personnel (including patients) in peace and war.

9.1.5. The area contained within the dotted line delineates the scope of the DTS and the functions and activities impacting it. The types of movements/major business areas may involve several means of transport, to include inland surface transportation (rail, road, and inland waterway), sea transport (coastal and ocean), air transportation, or pipelines. The lower portion of Figure 1 illustrates that financial processes implemented within the DTS cut across all movement types and major business areas. The proposed Transportation Financial Management System (TFMS) focuses on the Figure 1 processes aligned with the TWCF and included within the dotted lines, excluding patient movement and a small portion of personal property movement.

10. Information Discovery

10.1.1. The TCCs provide both transaction- and summary-level data to TFMS via their financial management systems (FMS). Transaction-level data records contain identifying information, at the most basic/atomic-level, concerning individual movements of cargo and personnel, i.e., a single piece of cargo being shipped or the data supporting stevedore operations at a specified port. Summary-level data aggregates facts concerning a number of separate movements or events, usually across a given time period.

10.1.2. This data is interfaced with the TCC financial management systems which process the data to support financial management assessments and accounting transactions. TFMS extracts data processed by the TCC financial systems, transforms the data and loads it to the warehouse via the Extract, Transform, and Load (ETL) process. TFMS will also normalize Service/TCC non-standard data elements by converting that data to a Standard Fiscal Code (SFC), and providing USTRANSCOM the capability to more accurately and relatively assess, translate, and report transportation financial data.

11. Information Sources

11.1. The TFMS Systems Interface Description (SV-1) is at Figure 2. The diagram identifies the interfaces between systems and system nodes. The TCC systems interfaced with the TFMS data warehouse are Key Interfaces since they span organizational boundaries and are mission-critical per criteria defined in DOD Architecture Framework (DODAF), Volume II.
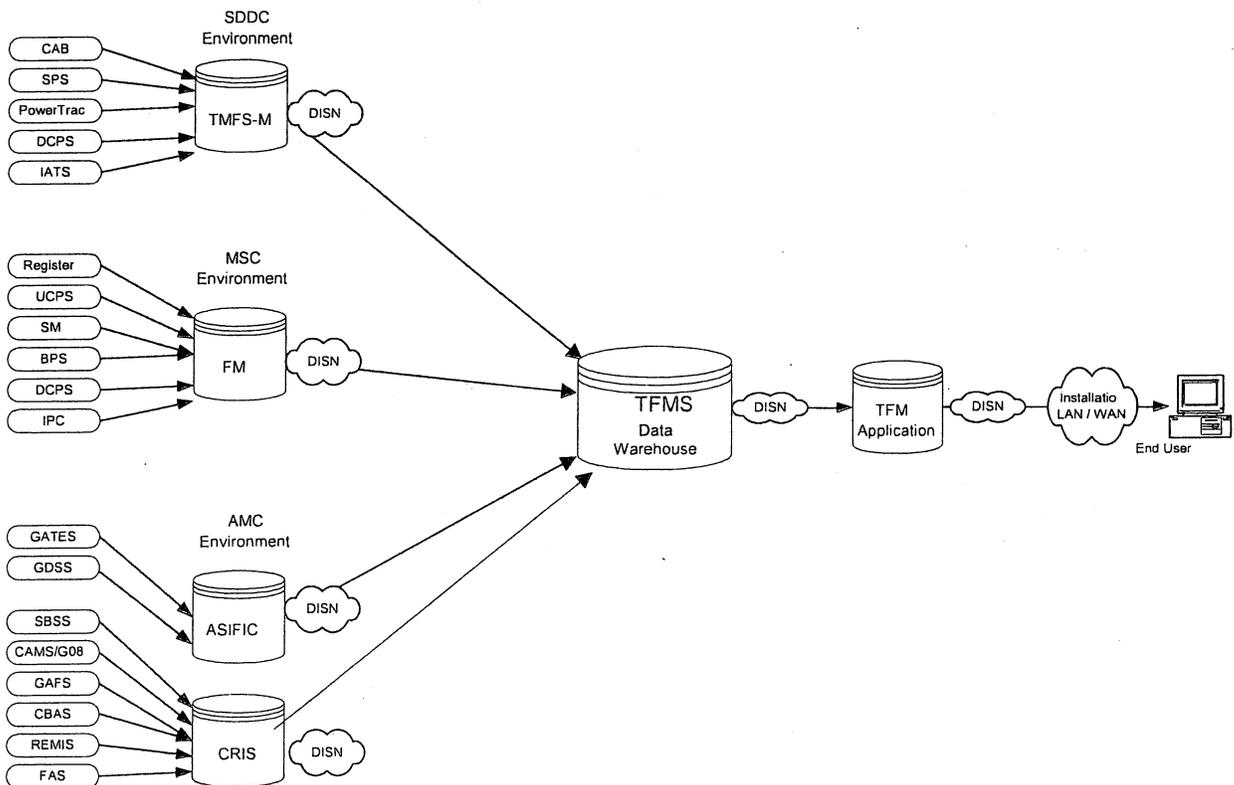
11.1.1. The left side of the TFMS diagram reflects DTS source systems providing data to TCC financial systems (e.g., MSC's FMS, SDDC's TFMS-M, and AMC's ASIFICS; or TCC management information systems such as CRIS). These TCC source systems are not part of TFMS effort, but are depicted to more precisely identify the sources of operational data which are transformed and processed into financial management data within the TCC financial systems. The TCC financial systems feed data into the TFMS Data Warehouse (center of the diagram).

11.1.2. The TFMS Data Warehouse stores the financial management data to be accessed via the TFMS application and used for analysis by USTRANSCOM analysts. The end-user need not be physically located near the TFMS; the only requirement will be access to the Internet/Non-Classified Internet Protocol Router Network (NIPRNET). Internet/DOD NIPRNET and an Internet address associated with a military organization; i.e., a ".mil" address.

11.1.3. The TCC financial management systems communicate with TFMS via the NIPRNET, through the Scott AFB NIPRNET gateway router and firewall located in the Scott AFB computer facility and to the USTRANSCOM router and firewalls to the Load Server. Communications will be encrypted via "S Tunnel" on the NIPRNET over Defense Information Systems Network (DISN). The TFMS ETL process will pull data through the USTRANSCOM/TCJ6-OS firewall to the TFMS Load server, in a Win 2K environment. Data will then be loaded to the TFMS database server (T-Data Nodes) using scheduled batch cycles.

12. Source Systems for TFMS Information

12.1.1. As depicted in Figure 2, transactional data originates in the systems used to initiate transportation movements and relates financial information germane to that specific movement. These systems reside in several locations, but their data is aggregated in the financial management systems of the TCC that controls the movement. Key systems interfacing with TFMS are:

12.1.1.1. TFMS-M

SDDC employs the Transportation Financial Management System (TFMS-M) as its Transportation Working Capital Fund (TWCF) financial system. TFMS-M comprises Oracle Federal Financial (OFF) suite of modules and the Projects Accounting module to process payments, costs, revenues, and generally account for financial management events for SDDC's business lines. OFF is a tightly integrated family of software modules functioning to address the specific financial management requirements of government agencies and departments. The OFF/TFMS-M functionality includes core accounting requirements such as funds control, general ledger, accounts payable, accounts receivable, and financial reporting. TFMS-M interfaces with other systems (e.g., travel, payroll, disbursing, transportation, and non-core accounting support systems) that generate financial events such as transportation substantiation payments, cost, workload, purchase requests, property management, and inventory control. TFMS-M will:
- Support completion of an audit trail by tracing transactions to their source;
- Match accrued expenditures to obligations prior to disbursement;

- Collect and provide accurate information on a near real-time basis;
- Facilitate the preparation of financial statements and other financial reports in accordance with federal accounting and reporting standards.
- Provide data to support
- Support preparation and execution of command budgets.

12.1.1.2. CAB

Cargo and Billing (CAB) system is the primary source of financial transaction data processed within TFMS-M. CAB supports SDDC's non-core financial business functions related to port handling, cargo handling by DOD stevedores, ocean carrier shipments, and privately owned vehicle transportation. All rates are input to CAB where calculations are accomplished to determine final cost. In conjunction with TFMS-M, CAB enables SDDC to accurately bill customers and pay commercial transportation providers for services rendered in the movement of surface cargo. CAB edits incoming transportation operational data, and associates contract cost and DTS billing rates to produce cost and sales files. To support Liner operations, CAB interfaces with TFMS-M and the Worldwide Port System (WPS) and Integrated Booking System- Commercial Sealift Solution (CSS). For non-MRM15 containers CAB is fed by WPS – not IBS. For MRM15 (MRM15 deals only with containers outbound from CONUS), CAB is fed by IBS-CSS. IBS-CSS was developed when the MRM15 process was mandated (FY01). Strictly speaking CAB gets no data from IBS. WPS and IBS-CSS feed CAB.

CAB also supports receipt of commercial industry invoices from vendors supporting SDDC operations. SDDC employs CAB to interface transactions to / from TFMS-M system for the Liner, Port Handling, and GPC lines of business CAB receives a diskette for GPC events. POV contractors have remote access to CAB. WPS and IBS-CSS send data via File Transfer protocol (FTP) to CAB. Major CAB functional components:

Table 1 CAB Functionality

CAB Functionality	
Cargo Data Retrieval	Cargo Data Validation
Ocean Carrier Payment Rate Data Import	Data Entry
Billing Detail Data Preparation	Contractor Payment Validation Data Preparation
Foreign Currency Conversions	Billing Rate Adjustments
Transaction Adjustment Processing	Audit Trail
Archive Data	Reporting
Interface transactional data to TFMS-M	

CAB Data Flows

CAB interfaces operational, invoice, and billing data to staging tables and ultimately to the TFMS-M Accounts Payable (AP) tables. TFMS-M uses these tables to develop and match approved Oracle invoices and purchase

orders (in the PO module) for payment and billing processes. Subsequently, the AP module interfaces expense information to the General Ledger (GL) and Projects (PA) modules. Expenses accrued in CAB, for which there is no vendor invoice, are interfaced to PA. Revenue and billing information from CAB, including revenue accruals, is interfaced to Oracle PA, which will then forward billing information to the Accounts Receivable (AR) module for collection and posting. The system records receipts and substantiation for payment and billing. To that end, CAB acts as the front-end edit to ensure only valid billing information is passed to Accounts Receivable. In addition, CAB provides functionality for processing the Global Privately Owned Vehicles Contract (GPC) transactions

12.1.1.3. ASIFICS

ASIFICS is a billing system that supports revenue accounting, analysis functions necessary for the financial management of the HQ AMC Airlift Service. This system performs the functions of data collection, revenue computation, billing, accounts receivable, accounts aging, disputed billing research. It accomplishes, revenue computation, billing, and accounts receivable functions that enable analysts to research and resolve disputed bills and to review historical revenue data for future tariff development.

ASIFICS performs the functions:

Data Collection	Disputed Bill Research
Revenue Computation	Financial Statement Preparation
Billing	Accrual Accounting
A/R Subsidiary Ledger	Accounts Payable
Tariff Development	Headquarters Costs
Analytical Reports	Budget Preparation
Accounts Receivable Aging	Budget Execution

ASIFICS generated reports include:

- Accounts Receivable Aging Report: This report is sent to AMC/A8 , AMC/A7 TCJ8

- Suspense File of Channel Movement Not Billed: This report is sent to AMCFSS/FMPD to research and clear the suspense.

- Bill Register: This report lists billed accounts receivable.

- Manifest Reports

The diagram below traces the route of AMC financial data.

TWCF - Transportation Working Capital Fund
GATES - Global Air Transportation Execution System
RGATES - Remote Global Air Transportation Execution System
RCAPS - Remote Consolidated Aerial Port System
AHS - Air History System
COINS - Commercial Operations Integrated System
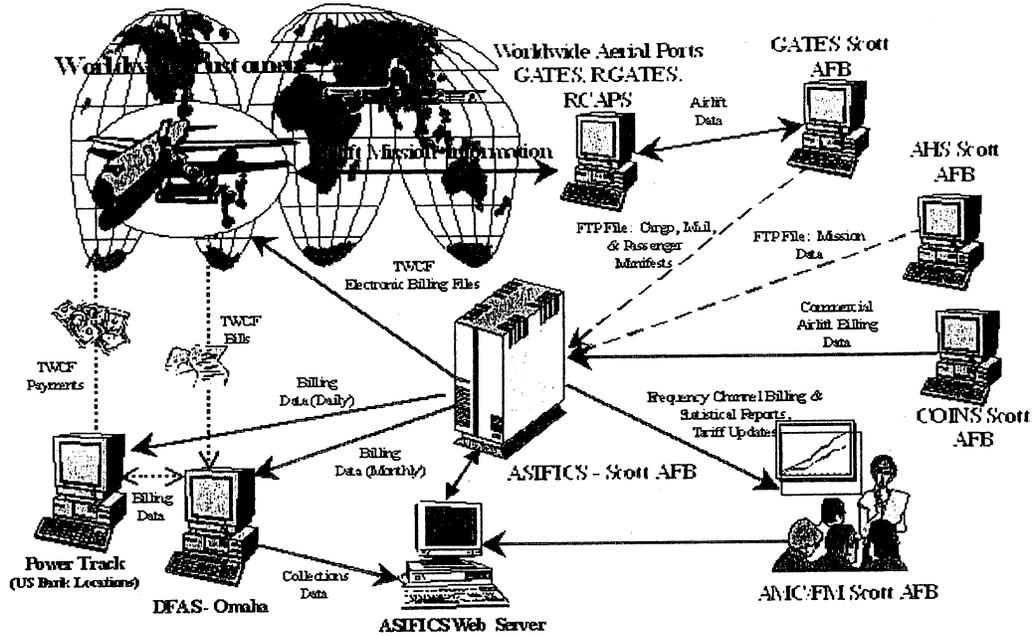
12.1.1.4. CRIS

CRIS is a web-based query, reporting and analysis tool that is used to access a data warehouse of information from various legacy financial systems, plus other functional area legacy systems such as the Standard Base Supply System (SBSS), the Fuels Automated System (FAS) and the Reliability and Maintainability Information System (REMIS).

Developed by HQ ACC, CRIS is hosted on a cross-functional relational read-only data warehouse and currently focuses on command-level and base-level FM, DO, and LG reporting functions.

Data available for analysis includes previous day's transactions from Defense Finance & Accounting Service (DFAS) field sites, daily feed regarding fuels consumption by Mission Design Series (MDS) and tail number, daily update of flying hour information, base supply transactions, and budget receipts.

12.1.1.5. GAFS

The General Accounting and Finance System (GAFS) is the Air Force standard base-level accounting system for appropriated funds.. Expense data is generated in GAFS-BQ and interfaced to CRIS. TFMS will extract GAFS data from CRIS and use it as the source for AMC TWCF expense data.

12.1.1.6. FMS

MSC uses an Oracle Federal Financials (OFF) database to record, monitor, analyze, and report its financial position. In 2000 MSC implemented Financial Management System (FMS), which is its OFF database. OFF is a tightly integrated family of software modules functioning to address the specific financial management requirements of government agencies and departments. OFF includes the Oracle federalized software modules: General Ledger (GL), Accounts Receivable (AR), Accounts Payable (AP), and Purchasing (PO) – purchase orders. Also included in FMS are three non-federalized Oracle modules: Project Accounting (PA), Fixed Assets (FA), and Inventory (IN).

MSC uses two web-based front-end Oracle applications:

Internet Procurement (iP) to input requisitions electronically, and

Internet Supplier Portal (ISP) for vendors to input AP invoices electronically.

MSC also created a data warehouse, Financial Data Mart (FDM), which provides the Net Operating Result (NOR) on each of MSC's ships at EOM from data obtained from FMS.

13. Data Analysis

13.1. Data Model : Logical and physical data model SRS_SDD Reference Documents\153_TFMS_19JAN2005.ER1 (Requires ErWin to view. To view tables select Logical from the drop down. Click Edit > Subject Area on the menu bar to select the tables to view.)

13.2. Data Element Mapping:

13.2.1. Data element mapping is at SRS_SDD Reference Documents\TFMS Data Analysis.doc

13.2.2. Spreadsheets referred to in the Data Analysis Document are at SRS_SDD Reference Documents\Data Analysis Supporting Documents

13.3. ETL: ETL documentation is at SRS_SDD Reference Documents\Extract Transform and Load

14. System Interfaces: Interface Requirement Design Documents are at SRS_SDD Reference Documents\Interface Requirement Design Documents

15. Requirements: For the purpose of readability, requirements are divided into three groups as follows;

Data In: Tasks necessary to populate the TFMS data warehouse and deals primarily with the extract, transform, and load (ETL) processes.

Data Out: The tasks necessary to enable users to access and analyze data in TFMS.

Environment: The regulatory and policy standards not specifically addressed in the two previous sections.

16. Data In

16.1. The system shall interface with designated source systems at the three TCCs and extract data elements from the source systems.

16.2. The source data will be transformed and loaded into a common USTRANSCOM data model that relates financial activity to operational activity at the transaction level. The intent of the requirement is to establish a common data framework and not to replicate individual TCC data models into TFMS.

16.3. The system's logical data model shall enable comparison of financial results between TCCs and aggregation of results into an accurate representation of USTC financial condition.

16.4. The system shall establish relationships between summary and transactional data enabling users to conduct low level data analysis by 'drilling down' from summary to individual transactional data.

16.5. The system shall identify and extract budget projections from TWBBS-R and load it into the TFMS.

16.6. The system shall compare budget projections to execution data at the TCC and USTC consolidated level.

16.7. The system shall apply indirect cost allocation algorithms from each TCC to movements originated or tracked by that TCC.

16.8. The system shall identify components of cost and revenue at the mission or event level and associate these data elements to relevant operational mission data enabling computation of Net Operating Result at the operational event level.

16.9. The system shall identify all elements of cost; direct, indirect, fixed, and variable costs.

16.10. The ETL processes shall generate data quality metrics measuring accuracy, completeness, consistency, timeliness and currency. Examples include;

16.10.1. Validating data transfer against reference system – to verify extraction

16.10.2. Validating loaded data against source system – to ensure consistency across interfaces

16.10.3. Summarizing data over the standard time periods - to ensure accuracy and completeness of transfer and data store

16.11. The system shall employ standard data elements as defined by the Defense Data Dictionary.

17. Data Out

17.1. The system shall provide a web based graphical user interface using the WebFocus application. The user interface will be developed with the maximum feasible user participation.

17.2. Users at the USTRANSCOM level shall be able to view all data. Users at the organizational level shall be able to view only data relevant to their organization and USTRANSCOM consolidated standard reports

17.3. The system shall provide supporting details of the consolidated AR1307 and SF133 reports. The system shall provide financial metrics identified by J8.

17.4. The system shall identify and display all financial elements of a user identified transportation movement or event.

17.5. The system shall identify standard time periods to be used for analysis and ensure consistency with TCC systems or inform the user of the reason for differences between TFMS and TCC systems. The system shall enable the user to analyze financial data over varying time periods established by user input.

17.6. The system shall generate reports of receivables by age and customer

17.7. The system shall provide information about projects and programs from inception to closeout. The data warehouse will maintain a minimum of two years of accumulated financial data beginning with FY 2004.

17.8. The system shall provide a report on program costs broken out by organization, business area, program segment and sub-element.

17.9. The system shall provide reports that include the following: WBS, budget authority, beginning of year plan, initial AOB, accrued AOB, commitments, obligations, costs, outlays, uncommitted and unobligated.

17.10. The system shall provide a report on commitments by contract and/or vendor.

17.11. The system shall provide the ability to report status of obligations by appropriation, program, and any other sub-elements, sorted by program.

17.12. The system shall provide the ability to report on status of obligations data and other financial and accounting data that is filtered at user specified lower organizational levels.

17.13. The system shall provide the ability to report on year to date costs and revenues for all business areas.

17.14. The system shall provide monthly aggregates of spending by command, business area, accounts and sub-accounts.

17.15. The system shall provide the ability to report financial data by user selected dimensions to include command, project or program, account and geographic region.

17.16. The system shall be capable of reporting the estimated work to be done by the end of the fiscal year.

17.17. The system shall provide reports of accounting data based on data contained in segments of the accounting sub-elements in source systems.

17.18. The system shall provide reports that show aggregations of spending by contract, vendor, or other user designated organization.

17.19. The system shall provide the ability to compare year-to-date values and prior year-to-date values.

17.20. The system shall provide status of commitments, obligations, costs, outlays, and ECOR. This data should be available at different levels (e.g., from the command down to the contract ID number).

17.21. The system shall provide the ability to perform projections to end-of-year.

17.22. The system shall provide the capability to create monthly graphs of obligations, costs, and balances.

17.23. The system shall be able to aggregate and display the total costs associated with a program, activity, or project.

17.24. The system shall provide the ability to report on status of obligation data and all levels of organization for which it is recorded.

17.25. The system shall provide the ability to report life-of-project costs each year of a project.

17.26. The system shall be able to report on aggregations of spending at the activity level.

17.27. The system shall provide the ability to report on the entire history for a given project or program task

17.28. The system shall provide the ability to report on the AOB.

17.29. The system shall provide reports that show aggregated funding plans by user designated organization or activity.

17.30. The system shall provide user ability to select data dimensions for ad hoc queries.

17.31. The system shall enable compilation of critical performance measures used by TCCs to analyze financial performance.

17.32. The system shall identify to user components (data elements) algorithms and relational measurement definitions of derived or calculated data contained in command reports and metrics.

17.33. When derived, calculated, or summarized data is presented to the user, the system shall be able to identify to users the data elements, algorithms, and relational measurement definitions from which it was generated.

17.34. The system shall identify to the user data dimensions associated with business queries – conveyance, commodity code, route etc.

17.35. The system shall enable users to generate ad hoc queries by selecting from desired business areas and other data dimensions presented by the user interface. Query

results will be provided to users on screen. Users shall be able to select the format to display results in by selecting html, PDF, or spreadsheet format.

17.36. The system shall display multiple user selected data values in graphic format to enable trend determination and analysis of one value relative to another.

17.37. The system shall enable users to establish performance measures (thresholds and triggers) and apply them to ad hoc queries.

17.38. The system shall enable users to print formatted reports and query results from a printer connected to the network or export them to text, pdf, or spreadsheet files for saving on the local machine or network drive.

17.39. The system shall be delivered with a detailed user's manual and training package. The user documentation must be of sufficient quality to enable a qualified user to generate standard reports without formal training.

18. Environment

18.1. The system shall achieve and maintain CFO compliance as defined in the Joint Financial Management Improvement Program (JFMIP). Data produced by TFMS will be in compliance with JFMIP requirements as stated in Appendix F of the CDD. Data re-produced (reported) by TFMS will be compliant based on the level of compliance achieved by the source system. Questions relating to specific JFMIP requirements shall be addressed to the PMO.

18.2. The system shall achieve the key performance parameters (KPPs) identified in Appendix A of the CDD.

18.3. The system shall be developed using fully commented code. Comments will contain sufficient detail to explain the function of the module, user or system inputs, data elements called or generated, and algorithms implemented. Each code module will be annotated with the originator and summary and date of changes.

18.4. The system shall be delivered with complete technical documentation of sufficient quality to enable ongoing maintenance and development operations.

18.5. The developer shall submit a software development management plan prior to commencing development. The plan must be approved by the PMO prior to commencement of development.

18.6. The developer shall identify for the PMO's approval system development tools and programming methods to be utilized throughout the project.

18.7. The developer shall create and maintain a requirements traceability matrix. The matrix will relate system design to requirements and record changes to requirements over the life of the project.

18.8. The change management process detailed in the TFMS Configuration Management Plan shall be followed. No requirement will be considered to be changed without the

PMO signature on a written record detailing the reason for the change and the impact on the project.

18.9. The data model will be registered with the USTRANSCOM CDO.

18.10. System interfaces shall comply with standards in the DOD Information Technology Standards Registry (DISR), Version 6.0, October 3 2003, and conform to USTC technical requirements.

19. **Use Cases:** Two high level use cases are identified. User interaction with TFMS is described. Alternate paths are not detailed. See user scenarios below to identify likely parameters and data dimensions.

19.1. User requests standard report

J8 Analyst	TFMS
1. Requests standard report	2. displays list of available reports and requests report ID
3. provides report id	4. requests 'as of' date

5. provides 'as of' date	displays report requested, unless
	    report type not valid
	    'as of' date not valid
	        c. no data available for 'as of' date

	7. SUCCESS EXIT

19.2. User requests ad-hoc information.

J8 Analyst	TFMS
1. Requests ad-hoc report	2. displays entry criteria (data dimensions)
3. selects from entry criteria	4. requests 'as of' date

5. provides 'as of' date	displays information categories available for user to select from unless
	    'as of' date not valid
	        b. no data available for 'as of' date

7. selects information categories to include in report	8. requests parameters for information categories

9. provides parameters for information categories	Locates information corresponding to categories and parameters
	
	presents information requested, unless
	    invalid parameters provided
	    data not available for parameters provided.
	SUCCESS EXIT

20. **Data Dimensions for Analysis**

20.1. Users must be able to organize and analyze data across a variety of data dimensions. The following graphics depict data and information groupings that support the user analysis observed during requirements gathering. This is not an all inclusive list. They

TFMS Requirements
8 Dec 2005

are included as examples of subject areas, information categories and sub-categories that users employ to establish their framework for financial analysis.

Organization Structure   **Business Activity**   **Reports**

Operations (Actual)

- Air Mobility Command (AMC) Organic AC
- Commercial Augmentation AC
- Military Augmentation
  - Reserve
  - Guard
  - Active

Cargo → **Channel Cargo** → **Contingency** → **SAAM** → **POV** → **CJCS Exercise**

POL/Surge → **Preposition**

Passenger → **Channel Pax**   **Contingency**   **SAAM**   **CJCS Exercise**

Training → **AFRC** → **JA/ATT** → **Active Duty** → **National Guard**

Organization Structure   **Business Activity**   **Reports**

Accounting/ Finance

Revenue → **Rated** → **Cost Reimbursable** → **Accts Receivable** → **Collections** → **Adjustments**

Expense → **Direct** → **Indirect** → **Disbursing** → **Accts Payable** → **Allocations** → **PP&E**

21. User Scenarios: The following scenarios are included to provide examples of the type of ad hoc query generated by TFMS users.

User Scenario	Information Required	Comments

1. Determine monthly cost by carrier.	Carrier Type
	Vendor
	POE/POD
	Customer
	Amount of cargo being carried.
	Elements of cost
	    Revenue
	        Rate structure
	        Dimension and quantity of cargo
	    Expense
	        Cost/hour to operate
	        Indicrect costs
	Load capacity of carrier
	Total # of flying hours.
	
	Information Not Now Available (GAP):
	Mission
	    Need to be able to identify missions in system at various levels of detail. May present as an overall single item or as multiple individual items consolidated by a larger mission number.
	    (Look for relationship via project or task.)
	
	    TCN (individual) may have to map to TCN(collective).
	
	Customer information
	    Need all customer info -- relate it to TAC codes.
	    Must identify if item is being shipped on behalf of someone.
	    Define requester and receiver.	

2. Determine receivables by customer	Same as Determine Monthly Cost by Carrier (Item 1) plus Movement Cargo Customer Vendor Shipper Accounting Documents Contract	Area of interest is collection and payment history. Handling of disuputes and write offs must be defined.

User Scenario	Information Required	Comments

3. Compare costs between TCCs	Business areas
	Conveyance
	Expense types – direct and indirect
	EOR/EEIC object classes
	Stevedoring expenses
	Information Not Now Available (GAP):
	    Port costs and allocations.
	    Ports where a facilities charge is assessed.
		Need to determine how the expenses are related to cargo/pax movement by TCC.
		Determine % of overhead factored into cost of movement.
		What is % of total movement by TCCs?
		Allocation of overhead is key issue. Must understand at what level of allocation the TCC assesses overhead and how is it depicted in terms of direct and indirect?

4. Determine efficiency of a specific channel	Carrier Type
	Vendor
	POE/POD
	Customer
	Amount of cargo being carried.
	Elements of cost
	    Revenue
	        Rate structure
	        Dimension and quantity of cargo
	    Expense
	        Cost/hour to operate
	Load capacity of carrier
	Total # of flying hours.
		This is a difficult scenario. Tough to determine channel efficiency – may not be doable.
		Can determine utilization but determination of actual cost may be difficult.
		If actual cost can't be determined, may not be able to compute NOR. May attempt to reach cost by looking at aircraft type.

5. Determine usage rate and cost for a specific aircraft type	See item 1.	Can be accomplished with information available in system.
6. Determine NOR for a single mission	See item 1.	Must allocate indirect costs to a single mission or leg to be able to calculate.
7. Determine NOR for a specific location and/or transportation route.	See item 1.	See comment in 6 above.
8. Determine shipping cost by commodity for a specific conveyance.	See item 1.	Should be able to depict costs broken out by direct and indirect.
9. Determine the usage rate necessary to achieve positive NOR for a given channel.	See item 1.	

22. **Current Situation:**

22.1. TFMS version 2.2.1 is installed and in limited production.

22.2. The TFMS data model consists of 183 tables. Of these, 102 are not populated.

22.3. ETL processes to gather data from the TCCs are running intermittently. There are no procedures in place to monitor the function of the ETL processes or validate the completion and accuracy of the data transfer from the source systems.

22.3.1. The SDDC ETL process is functional. Data quality and reliability metrics need to be established and enforced.

22.3.2. The AMC ETL process is partially functional. ASIFICS data is being extracted to the staging tables. No measures of accuracy or reliability of the transform and load process exist. The TFMS - CRIS interface is designed and an MOA is signed but there is no functional interface

22.3.3. The MSC ETL process is not functional and needs validation to ensure it meets information requirements. MSC indicates it is prepared to provide data on a monthly basis beginning in 4th quarter of CY 05.

22.4. The TFMS application development environment is in place. A test environment is not established. The TFMS production environment is operational.

22.5. Access to TFMS is infrequent. Twenty -nine TFMS user accounts are established. Two business users are accessing data in the TFMS environment. No use of the WebFocus interface or functionality is reported. Business value is being provided by a COGNOS expert working face-to-face with J8 users to extract and analyze specific data from Cargo and Billing (CAB) using PowerPlay.

22.6. The TFMS user interface exists and is capable of generating a variety of standardized reports for SDDC and USTRANSCOM. The reports are of limited utility due to absence of budget information from all systems and incomplete financial data from AMC and MSC.

23. **The Way Ahead:** The current application must be completed to provide the value required by the command. To complete TFMS the following high level tasks need to be accomplished:

23.1. Establish a common data model that allows comparison and aggregation of financial results at the three TCCs.

23.2. Develop/update the Extract, Transform, and Load (ETL) processes for the TCCs. As necessary, modify existing ETL procedures and IRDDs to populate the data model with results from FY 2003-Year to date and ensure reliable transfer of data from the TCCs on a daily basis going forward.

23.3. Enable the web based user interface to provide ad hoc query and reporting.

23.4. Document the application (technical and functional) and train users.

MISSION NEEDS STATEMENT (MNS)

For The

USTRANSCOM
TRANSPORTATION FINANCIAL MANAGEMENT SYSTEM (TFMS)

ACAT III

Department of Defense
United States Transportation Command
Program Analysis and Financial Management
USTRANSCOM TCJ8
Scott Air Force Base, Illinois

12 January 2001

Attachment 4

BACK OF COVER PAGE

USTRANSCOM Transportation Financial Management (TFMS)
Mission Needs Statement

12 January 2001

Submitted: Approved:
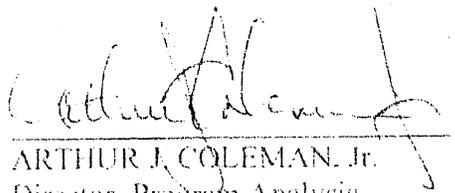
ARTHUR J. COLEMAN, Jr.   DANIEL G. BROWN
Director, Program Analysis   Lieutenant General, U.S. Army
  and Financial Management   Deputy Commander in Chief
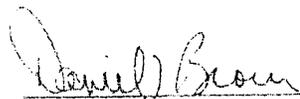
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TABLE OF CONTENTS

Paragraph/Title   **Page**

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UNITED STATES TRANSPORTATION COMMAND

MISSION NEEDS STATEMENT (MNS)

For The

TRANSPORTATION FINANCIAL MANAGEMENT SYSTEM (TFMS)
Cost Accounting Capability

ACAT III

1. DEFENSE PLANNING GUIDANCE ELEMENT

The need for TFMS stems initially from Defense Planning Guidance, April 1999, Goal 2: to "achieve a 21st Century Infrastructure." The Joint Vision 2010 Information Superiority goals and United States Transportation Command's (USTRANSCOM's) 1999 Strategic Guidance state that budget pressures and technological advances will force continued competition from the private sector and will "require continued streamlining of Defense Transportation System (DTS) practices." USTRANSCOM Strategic Objective 5.1 identifies a desired end state with integrated financial processes and standardized business rules, and the "financial control necessary to effectively and efficiently operate the DTS." The TFMS is needed to satisfy these requirements for USTRANSCOM and its components. Current systems are not integrated, compatible, or standardized across the Command, nor do they provide adequate means of financial control.

2. MISSION AND THREAT ANALYSIS

2.1 Background

Prior to USTRANSCOM receiving its peacetime mission as the common user transportation manager in February 1992, transportation financial management was exclusively the responsibility of the Services. Since that time, USTRANSCOM's management responsibilities and need for financial information have steadily increased to include separate cash anti-deficiency act liability. Problems related to fulfilling Federal fiduciary and reporting responsibilities are documented in a growing number of external audits and reports. In December of 1999, General Accounting Office (GAO) Draft Audit Report (GAO Code 709361/OSD Case 1922), "Defense Transportation: More Reliable Information Key to Managing Airlift Services More Efficiently," identified an inability of Air Mobility Command to identify or account for 26% of their TWCF (Transportation Working Capital Fund) costs, "in violation" of Defense Working Capital Funds rules. In September 1998, Department of Defense (DOD) IG Report Number 98-205 records the "...incomplete capture of financial data that affect financial reports and the inability to reconcile reports with the general ledger..." at Military Sealift Command (MSC). Additionally, the report declared the Transportation Component Commands' (TCCs') "fragmented reporting process" as non-compliant with DOD regulations. Systemic deficiencies which drive USTRANSCOM to be fiscally non-compliant also prohibit leaders and decision makers from having the information necessary to efficiently manage the DTS. Without improved visibility of cash receipts and disbursements, the TWCF will remain vulnerable to large unexpected swings in cash resources, resulting in statutory (1517) violations.

2.2 Mission

The mission of the USTRANSCOM Chief Financial Officer (CFO) is to ensure sound financial management policies and practices are implemented, enabling the TCCs to execute their missions and roles in the DTS environment, and facilitating customer base understanding of how they will be charged for TWCF services provided to them. In addition, USTRANSCOM's CFO responsibilities include: budget formulation and execution for USTRANSCOM and the TCCs; direct support for cost analysis, management control, and audit liaison support to USTRANSCOM and TCCs; and guidance for rate standardization. To effectively execute financial management responsibilities, the CFO must have the capability to know the daily financial health and funding status of the command.

2.3 Needs/Deficiencies

The effectiveness of USTRANSCOM and DOD with respect to statutory financial management responsibilities is diminished due to lack of capability identified below:

- The Chief Financial Officer's (CFO) Act of 1990 requires annual submission of fully auditable CFO Reports, using standard fiscal code (SFC). Existing legacy system data fields do not comply with SFC, nor are the data fields standard across the Services. These result in human intervention to translate non-standard code to standard code before reports can be developed, analyzed, and audited per law.

- Current financial management procedures and processes require the staff to perform extensive manual re-entry of data due to lack of automation. In most cases, the staff receives the financial data from each TCC in paper copy form. Once the data is entered into spreadsheets for manipulation, data integrity checks/comparisons must be made to ensure induced errors are removed.

- CINCTRANSCOM must be aware of the cost of operation to ensure sufficient revenue is generated to cover the cost of operating the DTS, yet also ensure that the customer is not paying more than necessary for services provided by the TCCs. No central database exists which can bring the necessary data together from a wide variety of financial, logistics, operations, and support systems.

- Similarly, warfighters continue to demand just-in-time logistics, increasing the requirement for transportation systems to provide 'agile' logistics to the force, which in turn increases the requirement for agile and accurate financial management. As a partial response to the above findings, USTRANSCOM's Joint Transportation CIM Center (JTCC) produced Feasibility of a Single Transportation Accounting and Financial Management System, dated 24 August 1999, which recommends development of an integrated TWCF managerial cost accounting capability for USTRANSCOM and TCCs by June 2002. The TFMS Program Office was established within USTRANSCOM J6 to achieve that mission.

- Financial and operational data will be collected from TCC and other DOD systems. To correctly execute financial and fiduciary responsibilities, the data from disparate systems must be integrated into one database/warehouse. This capability does not exist today. The functions supported by the information technology are inherently governmental responsibilities and not candidates for performance by private sector sources.

2.4 Threat

Overall hostile threat from a foreign entity is deemed to be very low. Other security threat issues are described below. These threats will be managed and mitigated through the DODI 5200.40, *DOD Information Technology Security Certification and Accreditation Process (DITSCAP)*:

- USTC/J2-P conducted a review of Defense Intelligence Agency-validated threats to determine potential impact on TFMS. None were found to be applicable.

- Corruption or destruction of data is the greatest threat to the financial management and fiduciary missions. Any accidental or intentional unauthorized manipulation of the data will have a significant impact on the ability of the Command to execute an auditable financial management environment on a day-to-day basis. Although the bulk of the data will be archived for such scenarios, the length of time to restore corrupted data with follow-on action to update transactions during the down time leaves the Command vulnerable to violations of Federal law for over obligation of funds.

- There is a probability that an individual or non-governmental organization might want to "hi-jack" financial data via virus attacks to gain a competitive edge in future contracts or to determine possible problem areas impacting overall mission of the command.

- The candidate system will process data over worldwide networks and exchange data in electronic transactions that will put it at risk for data interception and loss of data due to natural disasters and adverse environmental impacts.

3. NON-MATERIAL ALTERNATIVES

CINCTRANS needs greater visibility into the activities that drive transportation costs. Currently, USTRANSCOM relies on TCC "cost driver" briefings to determine areas for special cost scrutiny. However, the USTRANSCOM feasibility study identified a need for greater consistency and visibility into cost activities. The previously referenced GAO report expanded that view by recommending architecture that either "integrates existing data elements or determines new systems and new methods for capturing costs." Existing procedures (non-integrated spreadsheets, out of date or erroneous reports, and phone calls) cannot satisfy the requirements of running an 'agile' transportation operation.

The Program Management Office chartered an ongoing mission needs/requirements analysis to identify management information needs, insufficiencies in required data, and standing business practices and processes that contribute to the current environment. Present findings include: (1) multiple sources for the same data (data redundancy); (2) numerous non-integrated processes and adjustments/journal vouchers allowing analysts to reach varied answers to the same questions; (3) extensive manual re-entries of the same data into a myriad of spreadsheets which potentially compromises data integrity; (4) lack of drill-down capability to provide detailed information from existing non-integrated systems. These factors increase the probability for the loss of core data, time necessary to process information to address ad hoc inquiries, and time required to complete financial analyses.

Solving the information need for USTRANSCOM financial data requires more than nonmaterial alternatives because data must be integrated. Therefore, existing technical solutions or a developed solution will be required.

Therefore, an integration of an information technology solution with improvements to business processes and practices is indicated to implement a managerial cost accounting capability for USTRANSCOM.

4. POTENTIAL MATERIEL ALTERNATIVES

All TFMS solutions will require process standardization as well as a massive, comprehensive data integration effort. Alternatives to consider fall under these general development approaches:

- Consider a Government off-the-shelf (GOTS) approach: TCC data will be stored in the DFAS Corporate Database (DCD). USTRANSCOM will use data from DCD in TFMS developed applications to satisfy financial management information needs.

- Consider a COTS approach: USTRANSCOM will develop separate solutions for the TCCs and HQ modeled after the MSC experience with Oracle Government Financials and Oracle Projects.

- Consider a Government developed solution: USTRANSCOM will develop the applications and platforms necessary to fulfill USTRANSCOM Financial Management needs.

5. CONSTRAINTS

Each of the following need to be addressed:

- Any system will be built according to design requirements included in the DOD Joint Technical Architecture (JTA), DFAS Corporate Information Infrastructure (DCII), Defense Information Infrastructure – Common Operating Environment (DII COE) USTRANSCOM Enterprise Architecture, and the Transportation Logical Data Model.

- TFMS security characteristics will comply with USTRANSCOM information security requirements. The system will be developed primarily for use on Unclassified DOD networks.

- A development approach will be employed to achieve initial operational capability (IOC) by June 2002, IAW the USTRANSCOM JTCC recommendation of August 1999.

Key boundary conditions to be considered for implementing a TFMS capability for the USTRANSCOM include:

- Facilities. This need can be satisfied by an information technology (IT) capability that will be accommodated easily in existing facilities in USTRANSCOM components and headquarters.

- Logistics support. It is expected the solution to TFMS will be supported by third party maintenance support regardless of the acquisition method.

- Manpower, personnel, and training. The IT solution to TFMS must be operated by existing accounting and finance personnel. It is not expected the solution will impact existing manpower or personnel requirements, because productivity enhancements will not be nearly as significant as correction of data deficiencies. Training developed to support integration of TFMS into the workforce will need to be computer based with extensive use of help files and on-line tutorials. Formal coursework must be minimized.

- Command, control, communications, and intelligence interfaces. TFMS must be interoperable with both DFAS accounting and Service transportation systems. A known goal of DFAS is to implement the DCII, which will require the TFMS solution to be interoperable. Also, many Service transportation systems were built to legacy standards, which further require backward-compatible interoperable standards.

- Security, standardization, and interoperability. The IT solution for TFMS must be secure to at least the Sensitive But Unclassified level of protection. Additionally, TFMS must pass "net-worthiness certification" to operate. With respect to standardization, TFMS must be flexible enough to achieve technical interfaces as described above plus meet requirements of DII-COE. All applicants of a system that must be integrated into a DII platform shall be at least DII COE Integration and Runtime Specifications (I&RTS) Level 5 compliant (software is segmented, uses DII COE Kernel, and is installed via COE tools) with a goal of achieving Level 8. It is not expected there will be any interoperability needs with other U.S. government agencies, non-government organizations, or other allies and friendly nations.

6. JOINT POTENTIAL DESIGNATOR

TFMS is a joint program. The major stakeholders are HQ USTRANSCOM, TCCs, and DFAS.

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AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

	1. CONTRACT ID CODE S	PAGE OF PAGES 1 / 4

2. AMENDMENT/MODIFICATION NO. P00002	3. EFFECTIVE DATE 28-Nov-2006	4. REQUISITION/PURCHASE REQ. NO. F3ST968088A100	5. PROJECT NO.(If applicable)

6. ISSUED BY	CODE	HTC711	7. ADMINISTERED BY (If other than item 6)	CODE	

USTRANSCOM COMMAND ACQUISITION
508 SCOTT DR
SCOTT AFB IL 62265-5357

See Item 6

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)	9A. AMENDMENT OF SOLICITATION NO.

NORTHROP GRUMMAN SPACE & MISSION SYSTEMS
CRESS, BROOKE
12900 FEDERAL SYSTEMS PARK DRIVE
FAIRFAX VA 22033-4411

9B. DATED (SEE ITEM 11)

X **10A. MOD. OF CONTRACT/ORDER NO.** HTC711-06-C-0001

CODE 1B054	FACILITY CODE 1B054	X	10B. DATED (SEE ITEM 13) 28-Jun-2006

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:
(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: Mutual Agreement of both parties
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return __1__ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: tcgrosla077

This is a bilateral modification to incorporate a revised deliverable schedule. This is a no cost modification and does not extend the period of performance.

All others remain the same.

Point of contact for this action is Ms. Lisa Gross. She can be reached at (618) 256-6259 or by e-mail at lisa.gross@ustranscom.mil.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Brooke Cress, Contracts Administrator	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) TEL: Lisa A. Gross EMAIL:

15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED 11/28/06	16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED 28 Nov 06

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

Atch 5 to sec C

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:
    <u>REVISED DEL SCHEDULE</u>

Table 2-5. Schedule of Deliverables

Task Number	Contractor Task/ Deliverable	Deliverable Date
1.2.2.1.1	Business Discovery, Processes, and Rules	4 Aug 2006
1.2.2.1.2/1.2.3.1	Information Discovery, Data Analysis, and Data Shortfall Documentation	13 Sept 2006
1.2.2.1.3	Configuration Management Plan	27 Jul 2006
1.2.2.1.3	Change Management Requirements Baseline	31 Oct 2006
1.2.2.1.3	Configuration Management Capability	20 Apr 2007
1.2.2.2.1	Draft Logical Data Modeling and Data Dictionary	13 Nov 2006
1.2.2.2.1	Logical Data Modeling and Data Dictionary (milestone 1)	13 Dec 2006
1.2.2.2.2	Physical Data Model	28 Dec 2006
1.2.2.2.2	Physical Data Modeling and Implementation	8 Mar 2007
1.2.2.3	Change Management Plan	3 Aug 2006
1.2.2.3	Change Management Capability (via GUI)	25 May 2007
1.2.3	Financial Management and System Incremental Delivery	28 May 2007
1.2.3.2	Interface/Load Code Creation Extract/Transform/Load Scripts	8 Mar 2007
1.2.3.3	Documentation User Manuals	26 Mar 2007
1.2.3.3	System Administration Guide	16 Feb 2007
1.2.3.3	System Troubleshooting Guide	16 Apr 2007
1.2.3.3	Software Design Document	28 May 2007
1.2.3.3	System/Interface Documentation	15 Feb 2007
1.2.3.3	Software Requirement Document Changes	21 Nov 2006
1.2.3.3	Configuration Management Plan Documentation	27 Jul 2006
1.2.3.4	Test Plans and Procedures	4 Oct 2006
1.2.3.4	Test Reports	14 May 2007
1.2.3.4	Developmental Test Documentation	8 Feb 2007
1.2.3.5	Training Materials	19 Apr 2007
1.2.3.5	Training Sessions	19 Apr 2007
1.2.3.6	Design Reviews and PDR/CDR Minutes	5 working days following review completion
1.3.1.1	Task Order Management Plan (TOMP)	Draft – 10 days after contract award Final – 5 days following

		receipt of government comments
1.3.1.2	Task Order Management Monthly Status Report (MSR)	10th working day of each month following contract award
1.3.1.3	Work Breakdown Structure (WBS)	10 days after contract award
1.3.1.4	Resource Management Tracking (RMT)	10th working day of each month following contract award.
1.3.1.5	IPR Presentation Materials	2 working days prior to the meeting
1.3.1.5/1.3.1.6	IPR/TIM Reports and Meeting Minutes	2 working days after the meeting
1.3.1.6	TIM Presentation Materials	2 working days prior to the meeting
1.3.2	Current System Maintenance	9 Mar 2007

(End of Summary of Changes)

<u>SECTION D</u>

SECTION D
PACKAGING AND MARKING

PACKAGING AND MARKING

Preservation, packaging, and packing of deliverable items called for herein shall be accomplished in accordance with Performance Work Statement paragraph 1.4.

SECTION E

SECTION E
INSPECTION AND ACCEPTANCE

The following clause is incorporated by reference:

NUMBER   CLAUSE TITLE

52.246-5   INSPECTION OF SERVICES--COST-REIMBURSEMENT (APR 1984)
                      (IAW FAR 46.305)

The following clause is incorporated in full text:

252.246-7000   MATERIAL INSPECTION AND RECEIVING REPORT (MAR 2003)
                            (IAW DFARS 246.370)

(a) At the time of each delivery of supplies or services under this contract, the Contractor shall prepare and furnish to the Government a material inspection and receiving report in the manner and to the extent required by Appendix F, Material Inspection and Receiving Report, of the Defense FAR Supplement.

(b) Contractor submission of the material inspection and receiving information required by Appendix F of the Defense FAR Supplement by using the Wide Area WorkFlow-Receipt and Acceptance (WAWF-RA) electronic form (see paragraph (b)(1) of the clause at 252.232-7003) fulfills the requirement for a material inspection and receiving report (DD Form 250).

(End of clause)

INSPECTION AND ACCEPTANCE (IAW FAR 46.401(b) and 46.503)

Inspection and acceptance will be at 16 Executive Plaza, Fairview Heights, IL and the contractor's facility. All services performed and deliverables submitted by the contractor under the provisions of the Performance Work Statement (PWS) shall be inspected and accepted by the Contracting Officer's Representative (COR) at "destination". Data Warehouse services, Travel, ODC, Award/Base Fees shall be evidenced by execution of WAWF Invoice and Receiving Report, submitted by the contractor upon completion of the contract. The COR shall forward a copy of any invoices completed to the Contracting Officer. The name, office symbol, and telephone number of each COR appointed for this contract will be furnished by the Contracting Officer to the contractor in writing within thirty (30) calendar days after contract award.

INSPECTION AND ACCEPTANCE CRITERIA

All deliverables shall be inspected and validated for conformance with the terms of the Performance Work Statement (PWS) by a COR designated by the Government contracting officer. The COR will review and approve all technical aspects of the project, including all deliverables prior to final acceptance. The contractor shall correct all deficiencies identified by the COR, corrective actions taken will be identified to the COR. Prior to delivery to USTRANSCOM, all deliverables shall be reviewed and signed by the contractor. USTRANSCOM will review all deliverables received, and will return any deliverables having deficiencies to the contractor within five (5) working days of receipt, unless otherwise noted in this statement of work. The contractor shall make the corrections and deliver the final revised deliverables to USTRANSCOM at no additional cost to the Government within five (5) days of receipt of the initial draft.

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government
000101	Destination	Government	Destination	Government
000102	Destination	Government	Destination	Government
000103	Destination	Government	Destination	Government
0002	Destination	Government	Destination	Government
000201	Destination	Government	Destination	Government
0003	Destination	Government	Destination	Government
000301	Destination	Government	Destination	Government
0004	Destination	Government	Destination	Government
000401	Destination	Government	Destination	Government
0005	Destination	Government	Destination	Government
000501	Destination	Government	Destination	Government
0006	Destination	Government	Destination	Government
000601	Destination	Government	Destination	Government

SECTION F

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**SECTION F
DELIVERIES OR PERFORMANCE**

</div>

CLAUSE INCORPORATED BY RERERENCE

52.242-15   STOP-WORK ORDER (AUG 1989) (IAW FAR 42.1305(b))

52.242-15   ALTERNATE I (APR 1984) (IAW FAR 42.1305(b)(2))

52.247-34   F.O.B. DESTINATION (NOV 1991) (IAW FAR 47.303-6(c))

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 01-JUL-2006 TO 30-JUN-2007	N/A	USTC/J8 RALEY, MIKE 508 SCOTT DR BLDG 1900 SCOTT AFB IL 62225-5357 618-622-5756 FOB: Destination	F3ST96
000101	POP 01-JUL-2006 TO 30-JUN-2007	N/A	N/A FOB: Destination	
000102	POP 01-JUL-2006 TO 30-JUN-2007	N/A	N/A FOB: Destination	
000103	POP 01-JUL-2006 TO 30-JUN-2007	N/A	N/A FOB: Destination	
0002	POP 01-JUL-2006 TO 30-JUN-2007	N/A	USTC/J8 RALEY, MIKE 508 SCOTT DR BLDG 1900 SCOTT AFB IL 62225-5357 618-622-5756 FOB: Destination	F3ST96
000201	POP 01-JUL-2006 TO 30-JUN-2007	N/A	N/A FOB: Destination	

0003	POP 01-JUL-2006 TO 30-JUN-2007	N/A	USTC/J8 RALEY, MIKE 508 SCOTT DR BLDG 1900 SCOTT AFB IL 62225-5357 618-622-5756 FOB: Destination	F3ST96
000301	POP 01-JUL-2006 TO 30-JUN-2007	N/A	N/A FOB: Destination	
0004	POP 01-JUL-2006 TO 30-JUN-2007	N/A	USTC/J8 RALEY, MIKE 508 SCOTT DR BLDG 1900 SCOTT AFB IL 62225-5357 618-622-5756 FOB: Destination	F3ST96
000401	POP 01-JUL-2006 TO 30-JUN-2007	N/A	N/A FOB: Destination	
0005	POP 01-JUL-2006 TO 30-JUN-2007	N/A	USTC/J8 RALEY, MIKE 508 SCOTT DR BLDG 1900 SCOTT AFB IL 62225-5357 618-622-5756 FOB: Destination	F3ST96
000501	POP 01-JUL-2006 TO 30-JUN-2007	N/A	N/A FOB: Destination	
0006	POP 01-JUL-2006 TO 30-JUN-2007	N/A	USTC/J8 RALEY, MIKE 508 SCOTT DR BLDG 1900 SCOTT AFB IL 62225-5357 618-622-5756 FOB: Destination	F3ST96
000601	POP 01-JUL-2006 TO 30-JUN-2007	N/A	N/A FOB: Destination	

SECTION G

SECTION G
CONTRACT ADMINISTRATION DATA

METHOD OF PAYMENT

(a) Cost-Plus-Award-Fee portion of the contract: As consideration for the proper performance of the work and services required under this contract, the contractor shall be paid as follows:

(1) Costs, as provided for under the contract clause entitled "ALLOWABLE COST AND PAYMENT" FAR 52.216-7, will be provided for in CLIN 0001 and associated SLINS.

(2) A base fee shall be paid as follows:

(a) CLIN 0001. A portion of the base fee shall be paid for each billing period, based on the total base amount in Section B. The contractor will bill on each invoice the amount of costs incurred during that billing period as well as that period's portion of the total base fee amount (Example: costs incurred (Section B) is $10,000, Total Base Fee is 2% or $200 (2% of $10,000).

(3) The award fee will not be billed monthly as is the case with the base fee. The determination of award fee earned and payment of the earned award fee for all applicable contract CLINs will occur three times a year at the end of the performance period specified in the award fee plan. The award fee will be billed by the contractor for the amount determined by the Fee Determination Official. The contractor will be notified by modification of the amount approved to bill under the award fee CLIN.

(b) Travel requirements portion of the contract (CLINs 0002). Travel expenses as required in support of the contract will be reimbursed to the contractor as follows:

(1) Costs, such as transportation, lodging, meals, and incidental expenses incurred by contractor personnel which are in accordance with the Federal Acquisition Regulation (FAR) 31.205-46 and the Joint Travel Regulation, subject to the contract clause entitled "LIMITATION OF COST" FAR 52.232-20.

INVOICES AND PAYMENT

The contractor shall invoice using Wide Area Work Flow (WAWF). The contractor is required to submit an invoice for costs under CLIN 0001, Base fees (if applicable), Travel, ODC's and Award fees. CLINs will be billed in accordance with Section I, FAR clause 52.216-7 "Allowable Cost and Payment". Travel Requirements will be in accordance with FAR 31.205-46 and the Joint Travel Regulation. The Contracting Officer must approve certified invoices prior to payment.

**WIDE AREA WORKFLOW – RECEIPT AND ACCEPTANCE (WAWF-RA)
ELECTRONIC RECEIVING REPORT AND INVOICING INSTRUCTIONS**

IN ACCORDANCE WITH DFARS 232.7003, USE OF ELECTRONIC PAYMENT REQUESTS IS MANDATORY. USE OF WAWF WILL SPEED UP YOUR PAYMENT PROCESSING TIME AND ALLOW YOU TO MONITOR YOUR PAYMENT STATUS ONLINE. THERE ARE NO CHARGES OR FEES TO USE WAWF.

Requests for payments must be submitted electronically via the Internet through the Wide Area Work Flow – Receipt and Acceptance (WAWF-RA) system at https://wawf.eb.mil.

Questions concerning payment should be directed to the Defense Finance Accounting Services (DFAS) Omaha at (800) 330-8168 or faxed to (800) 554-0527. Please have your order number and invoice number ready when contacting DFAS about payment status. You can also access payment information using the DFAS Vendor Pay Inquiry System (VPIS) web site at http://www.dfas.mil/money/vendor.

THE FOLLOWING CODES WILL BE REQUIRED TO ROUTE YOUR RECEIVING REPORTS, INVOICES AND ADDITIONAL E-MAILS CORRECTLY THROUGH WAWF.

CONTRACT NUMBER: HTC711-06-C-0001

DELIVERY ORDER: NUMBER:

TYPE OF DOCUMENT: 2 In 1

CAGE CODE: 1B054

ISSUE BY DODAAC: HTC711

ADMIN DODAAC: HTC711

INSPECT BY DODAAC:

SERVICE ACCEPTOR / SHIP TO: F3ST96

PAY OFFICE DODAAC: F67100

SEND MORE E-MAIL NOTIFICATIONS:

CONTRACTING OFFICER: lisa.gross@ustranscom.mil

ADDITIONAL NOTIFICATION: michael.raley@ustranscom.mil

ADDITIONAL NOTIFICATION: Deborah.young@ustranscom.mil

ACCOUNTING AND APPROPRIATION DATA

AA: 97X4930.FD50 6F4 70AB 246000 100960 43900 000000 503000 F03000
AMOUNT: $76,037.49
CIN F3ST966068A100000101: $76,037.49

AB: 97X4930.FD50 6F5 70AB 246000 100960 43900 000000 503000 F03000
AMOUNT: $1,087,928.00
CIN F3ST966068A100000102: $1,087,928.00

AC: 97X4930.FD50 6F6 70AB 243000 100581 43900 000000 503000 F03000
AMOUNT: $876,324.51
CIN F3ST966068A100000103: $418,302.51
CIN F3ST966068A100000201: $29,070.00
CIN F3ST966068A100000301: $64,930.00
CIN F3ST966068A100000401: $177,010.00
CIN F3ST966068A100000501: $37,012.00
CIN F3ST966068A100000601: $150,000.00

SECTION H

SECTION H
SPECIAL CONTRACT REQUIREMENTS

REQUIRED INSURANCE (IAW FAR 28.307-2)

Reference FAR clause entitled "Insurance--Liability to Third Persons" the Contractor shall, at its own expense, procure and thereafter maintain the following kinds of insurance with respect to performance under the contract.

a. Workmen's Compensation and Employers Liability Insurance as required by law except that if this contract is to be performed in a State which does not require or permit private insurance, then compliance with the statutory or administrative requirements in any such State will be satisfactory. The required Workmen's Compensation insurance shall extend to cover employer's liability for accidental bodily injury or death and for occupational disease with a minimum liability limit of $100,000.

b. General Liability Insurance. Bodily injury liability insurance, insurance, in the minimum limits of $500,000 per occurrence shall be required on the comprehensive form of policy.

c. Automobile Liability Insurance. This insurance shall be required on the comprehensive form of policy and shall provide bodily injury liability and property damage liability covering the operation of all automobiles used in connection with the performance of the contract. At least the minimum limits of $200,000 per person and $500,000 per occurrence for bodily injury and $20,000 per occurrence for property damage shall be required.

SECURITY REQUIREMENTS. A DD254 is required.

The contractor will require access to Government information in the performance of this contract. The contractor may be required to have access to information classified at the SECRET level. The contractor will require access to secured buildings requiring SECRET level clearance for unescorted access. The contractor shall not divulge any information, including but not limited to, financial, planning, programming, or budgeting information without the express consent of the Government. The contractor shall observe and comply with security provisions at Scott AFB, USTRANSCOM, and any other government installations where performance is required.   Identification badges shall be worn and displayed at all times. Contract Security Classification Specification, DD Form 254, is required.

AWARD FEE

(a) The contractor may earn and be paid for all or a portion of an Award Fee not to exceed the maximum authorized in Section B for the specified award fee evaluation period, as determined by the Fee Determining Official (FDO), and this determination shall not be subject to appeal under the "Disputes" clause. The decision of the FDO will be final.

(b) Determination of Award Fee, if any, earned by the contractor, and payment thereof, shall be made at the end of each evaluation period. In no event shall any Award Fee be earned or paid in excess of the amount established as the maximum in Section B. Unearned Award Fee cannot be recouped in subsequent award fee evaluation periods.

(c) Before an award fee evaluation period is started, the Government may unilaterally modify the Award Fee Plan to include the award fee performance evaluation criteria and performance evaluation areas applicable to the award fee evaluation period. The contractor will be notified of these changes in writing by the Contracting Officer before the relevant award fee evaluation period is started and the Award Fee Plan will be modified accordingly.

(d) Specific criteria for the award fees are set forth in the Award Fee Plan which is incorporated as Attachment 1 to this solicitation.

SECTION I
CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions on Subcontractor Sales to the Government	JUL 1995
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Recession, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price or Fee Adjustment for Illegal or Improper Activity	JAN 1997
52.203-12	Limitation on Payments to Influence Certain Federal Transactions	SEP 2005
52.204-2	Security Requirements	AUG 1996
52.204-4	Printed or Copied Doubled-Sided on Recycled Paper	AUG 2000
52.204-7	Central Contractor Registration	OCT 2003
52.209-6	Protecting the Government's Interest when Subcontracting with Contractor's Debarred, Suspended, or Proposed for Debarment	JAN 2005
52.211-15	Defense Priority and Allocation Requirements	SEP 1990
52.215-2	Audit and Records—Negotiations	JUN 1999
52.215-8	Order of Precedence – Uniform Contract Format	OCT 1997
52.216-7	Allowable Cost and Payment	DEC 2002
52.216-10	Incentive Fee	MAR 1997
52.219-4	Notice of Price Evaluation Preference for HUBZone Small Business Concerns	JUL 2005
52.219-8	Utilization of Small Business Concerns	MAY 2004
52.219-9	Small Business Subcontracting Plan – Alternate II	JUL 2005
52.219-16	Liquidated Damages – Subcontracting Plan	JAN 1999
52.222-3	Convict Labor	JUN 2003
52.222-21	Prohibition of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	APR 2002
52.222-35	Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	DEC 2001
52.222-36	Affirmative Action for Workers with Disabilities	JUN 1998
52.222-37	Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	DEC 2001
52.223-5	Pollution Prevention and Right-to-Know Information	AUG 2003
52.223-6	Drug-Free Workplace	MAY 2001
52.223-10	Waste Reduction Program	AUG 2000
52.223-14	Toxic Chemical Release Reporting	AUG 2003
52.224-1	Privacy Act Notification	APR 1984
52.224-2	Privacy Act	APR 1984
52.225-13	Restrictions on Certain Foreign Purchases	FEB 2006
52.227-3	Patent Indemnity	APR 1984
52.228-7	Insurance – Liability to Third Persons	MAR 1996
52.232-17	Interest	JUN 1996
52.232-18	Availability of Funds	APR 1984
52.232-19	Availability of Funds for the Next Fiscal Year	APR 1984
52.232-20	Limitation of Cost	APR 1984
52.232-23	Assignment of Claims	JAN 1986
52.232-25	Prompt Payment – Alternate I	OCT 2003
52.232-33	Payment by Electronic Funds Transfer – Central Contractor Registry	OCT 2003

52.233-1	Disputes – Alternate I (DEC 1991)	JUL 2002
52.233-3	Protest after Award – Alternate I	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.237-2	Protection of Government Buildings, Equipment, and Vegetation	APR 1984
52.237-3	Continuity of Services	JAN 1991
52.239-1	Privacy or Security Safeguards	AUG 1996
52.242-1	Notice of Intent to Disallow Cost	APR 1984
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-13	Bankruptcy	JUL 1995
52.242-15	Stop-Work Order and Alternate I	AUG 1989
52.243-2	Changes – Cost Reimbursement – AUG 1987 Alternate I (APR 1984)	
52.244-2	Subcontracts	AUG 1998
52.244-5	Competition in Subcontracting	DEC 1996
52.244-6	Subcontracts for Commercial Items	FEB 2006
52.245-5	Government Property (Cost Reimbursement, Time-and- Materials or Labor-Hour Contracts)(Deviation)	MAY 2004
52.246-25	Limitation of Liability – Services	FEB 1997
52.248-1	Value Engineering	FEB 2000
52.249-6	Termination (Cost-Reimbursement)	MAY 2004
52.249-14	Excusable Days	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.204-7004	Alternate A	NOV2003
252.209-7004	Subcontracting with Firms That are Owned or Controlled By The Government of a Terrorist Country	MAR 1998
252.232-7003	Electronic Submission of Payment Requests	JAN 2004
252.245-7001	Reports of Government Property	MAY 1994

CLAUSES INCORPORATED BY FULL TEXT

52.215-19   Notification of Ownership Changes (Oct 1997) (IAW FAR 15.408(k))

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall—

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

(c) The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

52-217-8 OPTION TO EXTEND SERVICES (NOV 1999)

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor within 30 days before the contract expires.

(End of Clause)

52.252-2 CLAUSES INCORPATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

http://farsite.hill.af.mil/
http://www.arnet.gov/far/
(End of Clause)

52.252-6 -- Authorized Deviations in Clauses (Apr 1984) (IAW FAR 52.107(f)),

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any _____. *[insert regulation name]* (48 CFR _____) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of Clause)

252.201-7000 CONTRACTING OFFICER'S REFPRESENTATIVE (DEC 1991)

a) *Definition.* "Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (DEC 2004)

(a) *Definitions.* As used in this clause—

(1) "Arising out of a contract with the DoD" means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining; or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) "Conviction of fraud or any other felony" means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of *nolo contendere*, for which sentence has been imposed.

(3) "Date of conviction" means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving—

(1) In a management or supervisory capacity on this contract;

(2) On the board of directors of the Contractor;

(3) As a consultant, agent, or representative for the Contractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of the Contractor with regard to this contract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that the Contractor shall be subject to a criminal penalty of not more than $500,000 if convicted of knowingly—

(1) Employing a person under a prohibition specified in paragraph (b) of this clause; or

(2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

(1) Suspension or debarment;

(2) Cancellation of the contract at no cost to the Government; or

(3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

(1) The person involved;

(2) The nature of the conviction and resultant sentence or punishment imposed;

(3) The reasons for the requested waiver; and

(4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (301) 809-4904.

(End of clause)

252.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)

(a) The Contractor shall display prominently in common work areas within business segments performing work under Department of Defense (DoD) contracts, DoD Hotline Posters prepared by the DoD Office of the Inspector General.

(b) DoD Hotline Posters may be obtained from the DoD Inspector General, ATTN: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884.

(c) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports.

(End of clause)

252.204-7000 DISCLOSURE OF INFORMATION (DEC 1991)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless—

(1) The Contracting Officer has given prior written approval; or

(2) The information is otherwise in the public domain before the date of release.

(b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.

(c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.

(End of clause)

252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the Contractor.

(End of clause)

252.204-7004 ALTERNATE A (NOV 2003)

As prescribed in 204.1104, substitute the following paragraph (a) for paragraph (a) of the clause at FAR 52.204-7:

(a) *Definitions.* As used in this clause--

"Central Contractor Registration (CCR) database" means the primary Government repository for contractor information required for the conduct of business with the Government.

"Commercial and Government Entity (CAGE) code" means—

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an "NCAGE code."

"Data Universal Numbering System (DUNS) number" means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

"Data Universal Numbering System +4 (DUNS+4) number" means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

"Registered in the CCR database" means that—

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records "Active."

252.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (DEC 1991)

(a) *Definition.* "Cooperative agreement holder" means a State or local government; a private, nonprofit organization; a tribal organization (as defined in section 4(c) of the Indian Self-Determination and Education Assistance Act (Pub. L. 93-268; 25 U.S.C. 450(c))); or an economic enterprise (as defined in section 3(e) of the Indian Financing Act of 1974 (Pub. L. 93-362; 25 U.S.C. 1452(e))) whether such economic enterprise is organized for profit or nonprofit purposes; which has an agreement with the Defense Logistics Agency to furnish procurement technical assistance to business entities.

(b) The Contractor shall provide cooperative agreement holders, upon their request, with a list of those appropriate employees or offices responsible for entering into subcontracts under defense contracts. The list shall include the business address, telephone number, and area of responsibility of each employee or office.

(c) The Contractor need not provide the listing to a particular cooperative agreement holder more frequently than once a year.

(End of clause)

252.219-7003 SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS) (APR 1996)

This clause supplements the Federal Acquisition Regulation 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, clause of this contract.

(a) *Definitions.*

"Historically black colleges and universities," as used in this clause, means institutions determined by the Secretary of Education to meet the requirements of 34 CFR Section 608.2. The term also means any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

"Minority institutions," as used in this clause, means institutions meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)). The term also includes Hispanic-serving institutions as defined in Section 316(b)(1) of such Act (20 U.S.C. 1059c(b)(1)).

(b) Except for company or division-wide commercial items subcontracting plans, the term "small disadvantaged business," when used in the FAR 52.219-9 clause, includes historically black colleges and universities and minority institutions, in addition to small disadvantaged business concerns.

(c) Work under the contract or its subcontracts shall be credited toward meeting the small disadvantaged business concern goal required by paragraph (d) of the FAR 52.219-9 clause when:

(1) It is performed on Indian lands or in joint venture with an Indian tribe or a tribally-owned corporation, and

(2) It meets the requirements of 10 U.S.C. 2323a.

(d) Subcontracts awarded to workshops approved by the Committee for Purchase from People Who are Blind or Severely Disabled (41 U.S.C. 46-48), may be counted toward the Contractor's small business subcontracting goal.

(e) A mentor firm, under the Pilot Mentor-Protege Program established under Section 831 of Pub. L. 101-510, as amended, may count toward its small disadvantaged business goal, subcontracts awarded—

(1) Protege firms which are qualified organizations employing the severely handicapped; and

(2) Former protege firms that meet the criteria in Section 831(g)(4) of Pub. L. 101-510.

(f) The master plan approval referred to in paragraph (f) of the FAR 52.219-9 clause is approval by the Contractor's cognizant contract administration activity.

(g) In those subcontracting plans which specifically identify small, small disadvantaged, and women-owned small businesses, the Contractor shall notify the Administrative Contracting Officer of any substitutions of firms that are not small, small disadvantaged, or women-owned small businesses for the firms listed in the subcontracting plan.

Notifications shall be in writing and shall occur within a reasonable period of time after award of the subcontract. Contractor-specified formats shall be acceptable.

(End of clause)

252.223-7006   PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS
                MATERIALS (APR 1993) (IAW 223.7103(a))

(a) *Definitions.* As used in this clause—

(1) "Storage" means a non-transitory, semi-permanent or permanent holding, placement, or leaving of material. It does not include a temporary accumulation of a limited quantity of a material used in or a waste generated or resulting from authorized activities, such as servicing, maintenance, or repair of Department of Defense (DoD) items, equipment, or facilities.

(2) "Toxic or hazardous materials" means:

(i) Materials referred to in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601(14)) and materials designated under section 102 of CERCLA (42 U.S.C. 9602) (40 CFR Part 302);

(ii) Materials that are of an explosive, flammable, or pyrotechnic nature; or

(iii) Materials otherwise identified by the Secretary of Defense as specified in DoD regulations.

(b) In accordance with 10 U.S.C. 2692, the Contractor is prohibited from storing or disposing of non-DoD-owned toxic or hazardous materials on a DoD installation, except to the extent authorized by a statutory exception to 10 U.S.C. 2692 or as authorized by the Secretary of Defense or his designee.

ALTERNATE I (NOV 1995) (IAW DFAR 223.7103(b))

(c) With respect to treatment or disposal authorized pursuant to 10 U.S.C. 2692(b)(9), and notwithstanding any other provision of the contract, the Contractor assumes all financial and environmental responsibility and liability resulting from any treatment or disposal of non-DoD-owned toxic or hazardous materials on a military installation. The Contractor shall indemnify, defend, and hold the Government harmless for all costs, liability, or penalties resulting from the Contractor's treatment or disposal of non-DoD-owned toxic or hazardous materials on a military installation.

(d) The Contractor shall include this clause, including this paragraph (d), in each subcontract which requires, may require, or permits a subcontractor to treat or dispose of non-DoD-owned toxic or hazardous materials as defined in this clause.

252.225-7006 QUARTERLY REPORTING OF ACTUAL CONTRACT PERFORMANCE OUTSIDE THE UNITED STATES (JUN 2005) (IAW DFARS 225.7204(c))

(a) *Definition.* "United States," as used in this clause, means the 50 States, the District of Columbia, and outlying areas.

(b) *Reporting requirement.* Except as provided in paragraph (c) of this clause, within 10 days after the end of each quarter of the Government's fiscal year, the Contractor shall report any subcontract, purchase, or intracompany transfer that—

    (1) Will be or has been performed outside the United States;

    (2) Exceeds the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation; and

    (3) Has not been identified in a report for a previous quarter.

(c) *Exception.* Reporting under this clause is not required if—

    (1) A foreign place of performance is the principal place of performance of the contract; and

    (2) The Contractor specified the foreign place of performance in its offer.

(d) *Submission of reports.* The Contractor shall submit the reports required by this clause to: Deputy Director of Defense Procurement and Acquisition Policy (Program Acquisition and International Contracting), OUSD(AT&L)DPAP(PAIC), Washington, DC 20301-3060.

(e) *Report format.* The Contractor—

    (1) Shall submit reports using—

        (i) DD Form 2139, Report of Contract Performance Outside the United States; or

        (ii) A computer-generated report that contains all information required by DD Form 2139; and

    (2) May obtain copies of DD Form 2139 from the Contracting Officer or via the Internet at http://www.dtic.mil/whs/directives/infomgt/forms/formsprogram.htm.

(f) *Subcontracts.* The Contractor—

    (1) Shall include the substance of this clause in all first-tier subcontracts exceeding $500,000, except those for commercial items, construction, ores, natural gases, utilities, petroleum products and crudes, timber (logs), or subsistence;

    (2) Shall provide the number of this contract to its subcontractors required to submit reports under this clause; and

    (3) Shall require the subcontractor, with respect to performance of its subcontract, to comply with the requirements directed to the Contractor in paragraphs (b) through (e) of this clause.

(End of clause)

252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 2005) (IAW DFARS 225.1103(2))

(a) *Definitions.* As used in this provision—

    (1) "Foreign person" means any person (including any individual, partnership, corporation, or other form of association) other than a United States person.

    (2) "United States" means the 50 States, the District of Columbia, outlying areas, and the outer Continental Shelf as defined in 43 U.S.C. 1331.

(3) "United States person" is defined in 50 U.S.C. App. 2415(2) and means—

(i) Any United States resident or national (other than an individual resident outside the United States who is employed by other than a United States person);

(ii) Any domestic concern (including any permanent domestic establishment of any foreign concern); and

(iii) Any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern that is controlled in fact by such domestic concern.

(b) *Certification.* If the offeror is a foreign person, the offeror certifies, by submission of an offer, that it—

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. 2407(a) prohibits a United States person from taking.

(End of provision)

252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)

When the allowability of costs under this contract is determined in accordance with Part 31 of the Federal Acquisition Regulation (FAR), allowability shall also be determined in accordance with Part 231 of the Defense FAR Supplement, in effect on the date of this contract.

(End of clause)

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)

a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 2410(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

(Official's Name)

(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including☐

(1) Cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Information other than cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to☐

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustments under an incentive provision of the contract.

(End of clause)

252.245-7001 REPORTS OF GOVERNMENT PROPERTY (MAY 1994)

(a) The Contractor shall provide an annual report—

(1) For all DoD property for which the Contractor is accountable under the contract;

(2) Prepared in accordance with the requirements of DD Form 1662, DoD Property in the Custody of Contractors, or approved substitute, including instructions on the reverse side of the form;

(3) In duplicate, to the cognizant Government property administrator, no later than October 31.

(b) The Contractor is responsible for reporting all Government property accountable to this contract, including that at subcontractor and alternate locations.

(End of clause)

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ATTACHMENT 1

AWARD-FEE PLAN

FOR

USTRANSCOM DEAMS FINANCIAL DATA WAREHOUSE

APPROVED:

_____
DEAMS, Functional Manager
Fee Determining Official

_____
Date of Approval

</div>

Table of Contents

Annexes

AWARD FEE PLAN

1.0   INTRODUCTION

This award-fee plan is the basis for the evaluation of the contractor's performance and for presenting an assessment of that performance to the Fee Determining Official (FDO). It describes specific criteria and procedures used to assess the contractor's performance and to determine the amount of award fee earned. Actual award fee determinations and the methodology for determining award fee are unilateral decisions made solely at the discretion of the Government.

The award fee will be provided to the contractor through contract modifications and is in addition to the cost reimbursement provisions of the contract. The award fee earned and payable will be determined by the FDO based upon review of the contractor's performance against the criteria set forth in this plan.

2.0   ORGANIZATION

The award fee organization consists of the Fee Determining Official (FDO); and an Award Fee Review Board (AFRB). DEAMS, Program Manager shall act as the chairperson and will resolve matters of dispute within the group. The CO shall serve as advisor to the AFRB. The CO may designate other personnel to assist the AFRB in their efforts. The FDO, AFRB members, and performance monitors are listed in Annex 1.

3.0   RESPONSIBILITIES

      a.   **Fee Determining Official**. The FDO approves the award-fee plan and any significant changes. AFRB members are approved by the FDO. The FDO reviews the recommendation(s) of the AFRB, considers all pertinent data, and unilaterally determines the earned award-fee amount for each evaluation period.

      b.   **Award Fee Review Board**. AFRB members review the Performance Monitors' evaluation of the contractor's performance, consider the contractor provided written or verbal self-assessment, consider all information from pertinent sources, and arrive at an earned award fee recommendation to be presented to the FDO. The AFRB may also recommend changes to the award fee plan.

      c.   **AFRB Recorder**. The AFRB recorder is responsible for coordinating the administrative actions required by the Performance Monitors, the AFRB, and the FDO, including: 1) receipt, processing and distribution of evaluation reports from all required sources; 2) scheduling and assisting with internal evaluation milestones, such as briefings; 3) accomplishing other actions required to ensure the smooth operation of the award fee; and 4) scheduling CO determination debriefing with the contractor.

      d.   **Contracting Officer (CO)**. The CO is the liaison between contractor and Government personnel.

      e.   **Performance Monitors**. Performance Monitors maintain written records of the contractor's performance in their assigned evaluation area(s) so that a fair and accurate evaluation is obtained. Prepare evaluation reports as directed.

4.0   AWARD FEE PROCESSES

      a.   Available Award-Fee Amount. The available award fee for each evaluation period is shown in Annex 2. The award fee earned will be paid based on the contractor's overall performance of the evaluation criteria in Annex 3. Individual evaluation criteria are not weighted. The award fee percentages earned are based on an overall rating of Excellent (91-100%), Very Good (41-90%), Good (1-40%), Satisfactory (0%), and Unsatisfactory (0%).

      b.   Evaluation Criteria. If the CO does not give specific notice in writing to the contractor of any change to the evaluation criteria prior to the start of a new evaluation period, then the same criteria listed for the preceding period will be used in the subsequent award fee evaluation period. Any changes to evaluation criteria will be made by revising Annex 3 and notifying the contractor.

c. Evaluation Process. Performance monitors submit their evaluation reports to the AFRB. Reports will fully document the contractor's performance during the period. An overall rating of "EXCELLENT, VERY GOOD, GOOD, SATISFACTORY, or UNSATISFACTORY" will be assessed on each completed report to the AFRB. Additionally, acceptance criteria for all major deliverables will be provided to the contractor prior to the start of the development of that effort. These criteria will be evaluated by the government during and upon the completion of the product. The specific products and evaluations that will be used by the AFRB are indicated in Annex 3.

d. End-of-Period Evaluations. The AFRB shall convene at Scott AFB IL approximately thirty (30) calendar days after the close of each evaluation period to evaluate contractor performance. The COR will provide a briefing to the AFRB outlining the contractor's over and above initiatives. The contractor may address the AFRB for the purpose of submitting any information bearing on performance evaluation in the Government's performance reports. The AFRB will consider both the COR as well as the contractor's presentation. Upon review of all inputs, each voting member will determine their recommended overall rating, percentage, and rationale. The AFRB will consider each member's input and finalize the board's coordinated fee recommendation and associated rationale to the FDO. At this time, the AFRB may also recommend any significant changes to the award fee plan for FDO approval. The FDO determines the overall rating and earned award fee amount for the evaluation period within seven (7) calendar days after the AFRB. The FDO letter informs the contractor of the earned award-fee amount. The CO issues a contract modification within ten (10) calendar days after the FDO's decision is made authorizing payment of the earned award fee amount.

e. Contractor's Self-Assessment. The contractor is encouraged to submit his own summary of the accomplishments to be considered by the AFRB. The summary may include an overall rating of "EXCELLENT, VERY GOOD, GOOD, SATISFACTORY, or UNSATISFACTORY." When the contractor chooses to submit a self-assessment, it must be submitted to the Contracting Officer by the 15th workday of the month following the close of the evaluation period. This written self-assessment of performance throughout the evaluation period may also contain any information that may be reasonably expected to assist the AFRB in evaluating the contractor's performance. The contractor's self-assessment may not exceed five (5) pages. The contractor will be invited to attend the AFRB meeting and shall be given the opportunity to present a 20-minute narrative presentation to the AFRB during the meeting. However, attendance is not mandatory and a written or visual presentation may be sent to the AFRB. Any written material the contractor wishes to present to the board must be provided to the CO at least 10 workdays prior to the scheduled date of the AFRB.

5.0 AWARD FEE PLAN CHANGE PROCEDURE

All significant changes are approved by the FDO; the AFRB Chairperson approves other changes. Examples of significant changes include changing evaluation criteria and revising the distribution of the award-fee dollars. The contractor may recommend changes to the CO no later than fifteen (15) calendar days prior to the beginning of the new evaluation period. After approval, the CO shall notify the contractor in writing of any change(s). Unilateral changes may be made to the award-fee plan if the contractor is provided written notification by the contracting officer before the start of the upcoming evaluation period. Changes affecting the current evaluation period must be by mutual agreement of both parties. Unless the CO gives the contractor specific written notice of any changes to evaluation areas 15 days prior to the start of a new evaluation period, the same evaluation criteria for the preceding period will be used in subsequent periods.

6.0 CONTRACT TERMINATION

If the contract is terminated for the convenience of the Government after the start of an award fee evaluation period, the award fee deemed earned for that period shall be determined by the FDO using the normal award-fee evaluation process. After termination for convenience, the remaining award-fee amounts allocated to all subsequent award-fee evaluation periods cannot be earned by the contractor and, therefore, shall not be paid.

3 Annexes
1. Award Fee Organization
2. Award Fee Allocation by Evaluation Periods
3. Evaluation Criteria

ANNEX 1
AWARD-FEE ORGANIZATION

**Members*

Fee Determining Official: USTC/J8-DEAMS Program Manager

Award Fee Review Board Chairperson: USTC/J8-DEAMS Deputy Program Manager

Award Fee Review Board Members:

USTC/J8-DEAMS Deputy Data Warehouse
Manager
USTC/J8-DEAMS Financial Analyst
USTC/J6 Data Warehouse Manager

Advisory Members:

Legal   USTC/JA
Contracting Officer   USTC/TCAQ
Contract Specialist   USTC/TCAQ

Administrative Members:

Recorder   USTC/TCAQ

* In the event of absence of the FDO or any members of the AFRB, persons with
similar qualifications may be substituted.

Performance Monitors

Area of Evaluation	Performance Monitor(s)
Technical	Lifecycle Developer
	Database Manager
Schedule	System Administrator
Management`	Information Technology Consultant II

ANNEX 2
AWARD-FEE ALLOCATION BY EVALUATION PERIODS

The award fee earned by the contractor will be determined at the completion of evaluation periods shown below. The dollars shown corresponding to each period is the maximum available-award-fee amount that can be earned during that particular period.

Basic Evaluation Period	From	To	Available Award Fee
1	Contract Initiation	Delivery of LDM	$50,000
2	Delivery of LDM	Completion of Initial Load of Data	$63,000
3	Completion of Initial Load of Data	Final Delivery	$37,000

Specific dates will be identified in the (From/To) blocks at time of contract award contingent upon acceptance of the successful contractors approved deliverable schedule.

A. EVALUATION CATEGORIES:

TECHNICAL
Consistency to Proposed Solution
Capability to Meet Requirements
Acceptance of Products
Ability to Meet Standards in PWS

SCHEDULE/COST
On Time Delivery
Cost

MANAGEMENT
Communication
Staffing
Quality Control

B. RATINGS:

UNSATISFACTORY – Contractor fails to meet criteria for Satisfactory performance. (0%)			
SATISFACTORY (0%)	**GOOD (1-40%)**	**VERY GOOD (41-90%)**	**EXCELLENT (91-100%)**
Contractor has met contract standards and performance is adequate.	Contractor's performance of some tasks is above standard and the government has received small, tangible benefits in the form of increased production capability on delivery.	Contractor's performance of most tasks is above standard and the government has received moderate, tangible benefits in the form of enhanced Production Capability on delivery.	Contractor's performance of virtually all tasks is consistently above standard and the government has received significant, tangible benefits in the form of significantly enhanced production capability upon delivery.

C. DEFINITIONS

Consistency to Proposed Solution. The cumulative change required to the original concept in order to complete the program. Although some changes are expected and will provide a better final product, major changes would be detrimental to the program.

Excellent – No Major changes, only minor changes found in the design phase
Very Good – Some changes noted in the design Phase, may include a major change.
Good – Most changes found in the design Phase, few minor changes in the implementation phase
Satisfactory – Changes found in the implementation/Deployment phase, but changes are correctable
Unsatisfactory – Changes not found until deployment and result in program disruption.

Capability to Meet Requirements – The systems ability to meet the requirements baselined in the SRD.

Excellent - Design shows empirical evidence that the baseline requirements can be met, and all future requirements are thought out and accounted for in the design. Delivered production meets all requirements predicted in the design.

Very Good – Design shows empirical evidence that the baseline requirements can be met, and some future requirements are thought out and accounted for in the design. Delivered production model meets most requirements predicted in the design.

Good – Design shows empirical evidence that the baseline requirements can be met. Delivered production meets the critical requirements and some additional capability.

Satisfactory – Design shows empirical evidence that the baseline requirements can be met. Critical requirements are met

Unsatisfactory – does not meet Base requirements

Acceptance of Products: the Products are evaluated against the governments approved acceptance checklist for acceptance. Checklist will be presented and discussed within 10 days after contract award.

Excellent – above 90% of checklist met

Very Good – 75-89% of checklist met

Good – 60-74 % of checklist met

Satisfactory – 50-60 % met

Unsatisfactory – Below 50% met

Ability to meet standards in PWS – The contractor will be evaluated on the metrics table in paragraph 2.0.

Excellent – All areas met standard more than 90% of the time

Very Good – More than 75% of the areas above the 90% standard,

Good – More than 50% of the areas met standard 90% of the time, remainder meet standard >= 75% time

Satisfactory = all Areas met standard more than 75% of the time

Unsatisfactory – Areas failed to meet standard < 75% of the time

On time Delivery: Delivery of products/Accomplishment of tasks in accordance with timeline developed by contractor and agreed upon by the government

Excellent – Critical path met >=90%, and total schedule deviation of less than 5%

Very Good – Critical Path met >=75%, and total schedule deviation of less than 10%

Good – Critical Path met >=50%, and total schedule deviation of less than 15%

Satisfactory – Critical Path met >=50%, and total schedule deviation of less than 20%

Unsatisfactory – Critical path met <50%, and schedule deviation of less than 20%

Cost: Total cost for the project is managed and within reasonably acceptable deviations from the predicted estimates.

Excellent: Cost for the phase of the project >=10% below estimated cost

Very Good Cost for the phase of the project >= 5% below estimated cost

Good - Cost for the phase of the project >= 10% above estimated cost

Satisfactory - Cost for the phase of the project >= 15% above estimated cost

Unsatisfactory - Cost for the phase of the project >= 20% above estimated cost

Communication – Measures the consistency and effectiveness of the contractor's communication channels with the government. It is an overall measurement on the responsiveness, foresight, motivation, and effectiveness of the contractor's management style.

Excellent – Lines of communication were superior, timely, and led to efficient and proactive management by the contractor and greatly assisted the government in making program decisions. Contractor emphasized team relationships and continuously used superior and acceptable management practices. Contractor was able to resolve all issues before they became problems.

Very Good - Lines of communication were superior, timely, and led to efficient and proactive management by the contractor and greatly assisted the government in making program decisions. Contractor emphasized team relationships and continuously used superior and acceptable management practices. Contractor was able to resolve most issues before they became problems.

Good - Lines of communication were frequent and proactive and assisted the government in making program decisions. Contractor emphasized team relationships and continuously used acceptable management practices. Contractor was able to resolve some issues before they became problems.

Satisfactory - Communication was good. Contractor sometimes emphasized a team relationship. Management style was good and resulted in quick resolution to most problems.

Unsatisfactory - Lines of communication were ineffectual. Contractor failed to emphasize a team relationship and rarely used acceptable management practices. Contractor was unable to resolve problems.

Staffing – Contractor's ability to meet the required staffing qualifications as listed in the contract. Timing of when the staffing was required and when it was available.

Excellent – Provided exceptionally qualified staff in most cases, all remaining positions were fully qualified, all staffing requirements were on hand when assigned tasks required them to be.

Very Good - Provided exceptionally qualified staff in some cases, all remaining positions were fully qualified, all staffing requirements were on hand when assigned tasks required them to be.

Good - Provided fully qualified staff, most staffing requirements were on hand when assigned tasks required them to be.

Satisfactory – Most staff fully qualified, most staffing requirements were on hand when assigned tasks required them to be.

Unsatisfactory – Not all personnel were fully qualified, staffing requirements frequently not available when assigned tasks required them to be.

Quality Control – Contractor's ability to review deliverables and work for adequacy and correctness prior to submission to the government.

Excellent – Met all Task/contract requirements. Deliverables were exceptional and met all expectations. No major deficiencies on any deliverable.

Very Good – Met all Task/contract requirements. Deliverables were exceptional and met all expectations. Few major deficiencies on any deliverable, all were quickly corrected.

Good – Met all Task/contract requirements. Deliverables were above average and met all expectations. Some major deficiencies were identified on deliverables which were quickly corrected.

Satisfactory – Met all Task/contract requirements. Deliverables were average and met all expectations. Few major deficiencies required multiple reworks.

Unsatisfactory – Did not meet all Task/contract requirements. Deliverables were below average and failed to meet all expectations. Major deficiencies on multiple deliverables, most required continual rework.

NON-DISCLOSURE AGREEMENT FOR CONTRACTOR EMPLOYEES
ON USTRANSCOM CONTRACTS

NOTE: This Non-Disclosure Agreement is a standard agreement designed for use by contractor (including subcontractor) employees assigned to work on USTRANSCOM contracts. Its use is designed to protect non-public government information from disclosure and prevent violations of federal statutes/regulations. The restrictions contained in this agreement also serve contractors by promoting compliant behavior that keeps contractors eligible to compete for government contracts. In addition to the potential impact on future business opportunities, failure to abide by this agreement could result in administrative, civil or criminal penalties specified by statute or regulation.

1. I, _____ currently an employee of _____, hereby agree to the terms and conditions set forth below:

2. I understand that I will have access to confidential business information (as defined by 18 USC 1905), contractor bid or proposal information (as defined by FAR 3.104-3), and/or source selection sensitive information (as defined by FAR 3.104-3) either for contract performance or as a result of working in a USTRANSCOM facility or of working near USTRANSCOM personnel, contractors, visitors, etc. I fully understand that such information is sensitive and must be protected in accordance with 41 U.S. Code Section 423 and 18 U.S. Code Section 1905 and FAR Part 3. I also certify that I do not have any real or apparent conflicts of interest with respect to the information disclosed. If any potential conflicts of interest, real or otherwise, do present themselves, then I shall immediately disclose the pertinent information that may be a potential conflict to an agency ethics official who shall review the circumstances.

3. In the course of performing under contract/order # _____ or some other contract or subcontract for the USTRANSCOM, I agree to:

    a) Use only for Government purpose any and all confidential business information, contractor bid or proposal information, and/or source selection sensitive information to which I am given access. I agree not to disclose "non-public information" by any means (in whole or in part, alone or in combination with other information, directly or indirectly or derivatively) to any person except to a U.S. Government official with a need to know or to a non-Government person (including, but not limited to, a person in my company, affiliated companies, subcontractors, etc.) who has a need to know related to the immediate contract/order, has executed a valid form of this non-disclosure agreement, and receives prior clearance by the contracting officer. All distribution of the documents will be controlled with the concurrence of the contracting officer.

    b) "Non-public information", as used herein, includes trade secrets, confidential or proprietary business information (as defined for government employees in 18 USC 1905); advance procurement information (future requirements, acquisition strategies, statements of work, budget/program/planning data, etc.); source selection information (proposal rankings, source selection plans, contractor bid or proposal information); information protected by the Privacy Act (social security numbers, home addresses, etc.); sensitive information protected from release under the Freedom of Information Act (pre-decisional deliberations, litigation materials, privileged material, etc.); and information that has not been released to the general public and has not been authorized for such release (as defined for government employees in 5 CFR 2635.703).

    c) Not to use such information for any non-governmental purposes, including, but not limited to, the preparation of bids or proposals, or the development or execution of other business or commercial ventures.

    d) To store the information in such a manner as to prevent inadvertent disclosure or releases to individuals who have not been authorized access to it.

4. I understand that I must never make an unauthorized disclosure or use of confidential business information, contractor bid or proposal information, and/or source selection sensitive information unless:

a) The information has otherwise been made available without restriction to the government, to a competing contractor, or to the public;

b) The contracting officer determines that such information is not subject ot protection from release.

5. I agree that I shall not seek access to "non-public information" beyond what is required for the performance of the services I am contracted to perform. I agree that when I seek access to such information or attend meetings or communicate with other parties about such information, I will identify myself as a contractor. Should I become aware of any improper or unintentional release or disclosure of "non-public information", I will immediately report it to the contracting officer in writing. I agree that I will return all forms (including copies or reproduction of original documents) of any "non-public information" provided to me by the government for use in performing my duties to the control of the Government when my duties no longer require this information.

By signing below, I certify that I have read and understand the terms of this Non-Disclosure Agreement and voluntarily agree to be bound by its terms.

_____   _____
Signature of Employee   Date

_____
Printed Employee Name

_____   _____
Government COR   Date

_____   _____
Contracting Officer   Date

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

	1. CONTRACT ID CODE	PAGE OF PAGES
	Z	1 / 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00001	25-Sep-2006	F3ST966068A100	

6. ISSUED BY CODE	HTC711	7. ADMINISTERED BY (If other than item 6) CODE	
USTRANSCOM COMMAND ACQUISITION 508 SCOTT DR SCOTT AFB IL 62265-5357		**See Item 6**	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
NORTHROP GRUMMAN SPACE & MISSION SYSTEMS CRESS, BROOKE 12900 FEDERAL SYSTEMS PARK DRIVE FAIRFAX VA 22033-4411		
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HTC711-06-C-0001
CODE 1B054	FACILITY CODE 1B054	X	10B. DATED (SEE ITEM 13) 28-Jun-2006

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[ ] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer [ ] is extended, [ ] is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:
(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [X] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Modification Control Number: tcgrosla0635

This is a unilateral modification to incorporate an updated WAWF sheet including the LPO code; incorporate the administrative matters attachment that was inadvertently left off the award; incorporate FAR 52.251-1 inadvertently left off the award and change the Primary and Alternate COR designations.

Please contact the undersigned regarding any issues/concerns on this order.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	LISA A. GROSS / CONTRACTING OFFICER TEL: 618-256-4300 EMAIL: Lisa.Gross@ustranscom.mil

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY *Lisa A. Gross* (Signature of Contracting Officer)	25-Sep-2006

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84
30-105-04
STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION B - SUPPLIES OR SERVICES AND PRICES

The following have been added by full text:
ADMINISTRATIVE MATTERS
A. ADMINISTRATIVE POINT OF CONTACT:

USTRANSCOM/TCAQ
Lisa Gross, Contracting Officer
Phone: 618-256-4261
Fax: 618-256-4702
E-Mail: lisa.gross@ustranscom.mil

B. CONTRACTING OFFICER's REPRESENTATIVE (COR):

Primary COR:
USTRANSCOM/DEAMS/J8
ATTN: Tami Jackson
PHONE: 618-622-5719
E-mail: tami.jackson@ustranscom.mil

Alternate COR:
USTRANSCOM/TCJ6-PI
ATTN: MAJ Scott Smith
PHONE: 618-622-5734
E-mail: scott.smith@ustranscom.mil

C. This is a cost reimbursement award fee (CPAF) contract.

D. The Contractor's Technical Proposal dated 21 June 2006 and all revisions are incorporated into this order by reference. In the event of inconsistencies between the Performance Work Statement and the Contractor's Technical Proposal, the provisions of the PWS will take precedence.

E. INSPECTION AND ACCEPTANCE:

Mike Raley is designated as the Primary Contracting Officer Represenative (COR) responsible for the administration, inspection, and acceptance of worked performed under this order.

F. INVOICE AND PAYMENT:

The Contractor shall submit invoices in accordance with DFARS 252.232-7003, Electronic Submission of Invoices. The Contractor shall utilize Wide Area Work Flow (WAWF) for the creation of electronic receiving reports (DD Form 250) and electronic invoices. The WAWF routing information is incorporated below. The contractor must utilize the "2 in 1" document generation option in WAWF and attach a detailed breakout of all labor hours and hourly rates as an attachment to the monthly invoice/receiving report.

WIDE AREA WORKFLOW – RECEIPT AND ACCEPTANCE (WAWF-RA)
ELECTRONIC RECEIVING REPORT AND INVOICING INSTRUCTIONS

IN ACCORDANCE WITH DFARS 232.7002, USE OF ELECTRONIC PAYMENT REQUESTS IS MANDATORY. USE OF WAWF WILL SPEED UP YOUR PAYMENT PROCESSING TIME AND ALLOW YOU TO MONITOR YOUR PAYMENT STATUS ONLINE. THERE ARE NO CHARGES OR FEES TO USE WAWF.

Requests for payments must be submitted electronically via the Internet through the Wide Area WorkFlow – Receipt and Acceptance (WAWF-RA) system at https://wawf.eb.mil.

Questions concerning payment should be directed to the Defense Finance Accounting Services (DFAS) Limestone at (800) 756-4571 or faxed to (866) 392-7971 or e-mailed to cco-af-vpis@dfas.mil. Please have your order number and invoice number ready when contacting DFAS about payment status. You can also access payment information using the DFAS myInvoice web site at https://myinvoice.csd.disa.mil//index.html

THE FOLLOWING CODES WILL BE REQUIRED TO ROUTE YOUR RECEIVING REPORTS, INVOICES AND ADDITIONAL E-MAILS CORRECTLY THROUGH WAWF.

CONTRACT NUMBER:	HTC711-06-C-0001
DELIVERY ORDER NUMBER:	
TYPE OF DOCUMENT:	2 In 1
CAGE CODE:	1B054
ISSUE BY DODAAC:	HTC711
ADMIN DODAAC:	HTC711
INSPECT BY DODAAC:	
SERVICE ACCEPTOR / SHIP TO:	F3ST96
LOCAL PROCESSING OFFICE:	HTC711
PAY OFFICE DODAAC:	F67100

SEND MORE E-MAIL NOTIFICATIONS:

CONTRACTING OFFICER:	Lisa.Gross@ustranscom.mil
ADDITIONAL NOTIFICATION:	Tami.jackson@ustranscom.mil

SECTION I - CONTRACT CLAUSES

The following have been added by reference:

52.251-1   Government Supply Sources   APR 1984

(End of Summary of Changes)

NORTHROP GRUMMAN

DEFINING THE FUTURE

Volume 2 – Technical Proposal
for
The United States Transportation Command

DEAMS Data Warehouse

RFP No. HTC711-06-R-0002
19 May 2006

CSC   **MCR**   **Inf*o*rmation Builders** | The Standard for Enterprise Business Intelligence   **CPS**

EXPERIENCE ● TECHNOLOGY ● QUALITY ● SOLUTIONS

TABLE OF CONTENTS

Section | **Page**

TABLE OF CONTENTS (CONCLUDED)

LIST OF FIGURES

LIST OF TABLES

SECTION 1
PROPOSED TECHNICAL APPROACH

1. INTRODUCTION/PROGRAM SCOPE

Northrop Grumman is pleased to provide the United States Transportation Command (USTRANSCOM) with this proposed technical approach for providing the DEAMS Data Warehouse solution. In this effort we will evaluate the current version of the Transportation Financial Management System (TFMS) program release, determine the changes required to meet the stated objectives, and implement those changes. Our solution will complete interfaces, revise the data model, confirm the system's ability to meet requirements, and document all actions. Our solution will also involve completing the requisite reports for basic financial analysis of all three Transportation Component Commands (TCCs), as well as USTRANSCOM and the Defense Courier Service (DCS). At the conclusion of this period of performance we will provide a functional Financial Data Warehouse with a reporting capability that meets all Increment I objectives (listed in Performance Work Statement [PWS] Paragraphs 1.2 and 1.3) for the system.

Northrop Grumman's overall development objective will be built on the successes we achieved during the previous periods of implementing USTRANSCOM financial interfaces and related financial applications. The financial application will provide financial and operational data in a format that enables USTRANSCOM managers to make more informed financial decisions. The application solution will leverage existing systems, interfaces, and infrastructure, including the Enterprise Data Warehouse (EDW). Our solution will provide operational users a better understanding of how transportation financial impacts relate to operations.

We have addressed the three major efforts to support USTRANSCOM Financial Reporting System development—identified in PWS Paragraph 1.1.3—in our total solution. Our back-end solution includes developing the Data Warehouse, utilizing the Extract, Transform, and Load (ETL) processes, and completing the source system interfaces. Sourcing, obtaining, and storing data in the warehouse and then providing accurate and useable data to the reporting section will complete our back-end solution. These efforts work as part of a combined system, producing a unified solution designed to meet the program objectives. In developing the front-end, or Report Generation application, we define how reports, screens, and standard queries are designed, and provide a methodology for executing ad hoc queries to support the functional user. Our solution for the Integrated Change Management module focuses on configuration and change management across the back-end and front-end development. Our three development efforts will be interoperable, not stovepiped, allowing communication between each effort to facilitate delivery of the complete solution.

1.1 NORTHROP GRUMMAN

Northrop Grumman is a leading global integrator of complex, mission-enabling systems and services for federal agencies engaged in defense and intelligence activities, as well as for federal civilian organizations, state and local governments, and commercial clients. We have a stellar reputation in defining and implementing repeatable processes. This is demonstrated by the 20 programs on which Northrop Grumman has achieved Capability Maturity Model Integration (CMMI) Level 5 certification from the Carnegie Mellon Software Engineering Institute (SEI).

Leveraging 50 years of expertise, Northrop Grumman technology leadership spans six business areas: strategic systems; missile defense; intelligence, surveillance and reconnaissance; homeland security; command and

control; and technical services/training. We have over 120,000 employees in more than 300 locations around the world. Our size and scope of activity affords us the ability to reach back within our corporation to provide the right resources to support the USTRANSCOM DEAMS Data Warehouse requirements.

Northrop Grumman will provide unparalleled support to USTRANSCOM by:

■ Leveraging our current knowledge of the challenges facing USTRANSCOM and the TFMS program

■ Providing the capability and experience to deliver the DEAMS Data Warehouse requirements

■ Providing a pricing methodology with the right level of experience to get the job done at a competitive rate

■ Providing an approach focused on low risk, known quantities, and solving the problems with a fully qualified technical staff.

Northrop Grumman has provided direct support to USTRANSCOM for over 12 years and this unparalleled experience provides us with a thorough knowledge of the Command's continually evolving mission, vision, goals, and objectives, including the end-state objectives of JV2020 and beyond.

Northrop Grumman currently provides mission critical expertise to USTRANSCOM/ TCJ6-P in overseeing the modernization of its information technology (IT) support to the TCC's financial management functions. We manage the development, operational test, installation, and checkout of Transportation Financial Management System – Military (TFMS-M) Surface Deployment and Distribution Command (SDDC). TFMS-M is the USTRANSCOM financial decision support system, which queries and displays financial information, goals, and objectives. TFMS-M is one of the applications designated to feed the DEAMS Data Warehouse. Other exam-

ples of Northrop Grumman's expertise are our assistance to future TFMS planning goals, such as upgrading the AMC Commander's Resource Integration System (CRIS) and developing a strategy for relating data from the TCCs to support future business analysis needs.

Northrop Grumman has provided program management support to both the USTRANSCOM and SDDC TFMS-M programs since their inception, and both programs have the same support requirements as specified in the DEAMS Data Warehouse PWS. We have consistently met the challenge of escalating USTRANSCOM and SDDC requirements. Most notably, in 2004, Northrop Grumman quickly ramped up to meet SDDC's requirement to support the technical development and database administration of the TFMS-M application. Within one month, Northrop Grumman staffed nine experienced technical personnel with the required skill sets to satisfy SDDC's technical requirement. This ramp up occurred in the midst of a major application upgrade to TFMS-M. The new staff quickly came up to speed and were instrumental in ensuring a successful and timely upgrade for SDDC.

In 2002, Northrop Grumman was called upon to support a critical requirement to provide user training for the impending implementation of the TFMS-M system. Northrop Grumman quickly staffed quality and experienced trainers, developed a training schedule, and executed the training of more than 200 users at more than seven locations. Northrop Grumman will deliver the same high caliber services and solutions to USTRANSCOM for the DEAMS Data Warehouse program by leveraging its considerable experience gained from involvement in the TFMS programs. Northrop Grumman will provide USTRANSCOM the flexibility, knowledge, and experience required to support the program management operations, data warehouse

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development, and report generation required by the DEAMS Data Warehouse effort.

1.1.1 The Northrop Grumman Team

Our Team is comprised of five Team members. Northrop Grumman, the lead/prime contractor for this effort, brings more than 12 years of previous experience supporting USTRANSCOM. Access to specialized skills provides USTRANSCOM the key to success for a fully functional DEAMS Data Warehouse. The front end report application enables the financial managers to do their job faster and more efficiently. This experience supplies our Team with the ability to provide a tailored, comprehensive management approach in support of USTRANSCOM's mission—as the Distribution Process Owner—to link the pieces of the Defense Transportation System into a seamless entity. Table 2-1 shows how our Team's expertise maps to the requirements of the PWS.

The following are key reasons the Government will benefit from selecting the Northrop Grumman Team:

- We bring tremendous USTRANSCOM experience from our work on programs such as TFMS, TFMS-M, CRIS, USTRANSCOM Financial Architecture, and the development of WebFOCUS—all of which are directly applicable to this effort.

- Northrop Grumman has CMMI processes in place that will be no cost to the Government. We will train our teammates on these processes or evolve to better processes.

- We have a solution, proven data integration technology, and an automated data analysis tool that will provide a streamlined approach to delivering the DEAMS Data Warehouse on schedule, within budget, and meeting or exceeding all Government expectations.

Table 2-1. Matching Our Team Expertise to PWS Requirements

Team Member	PWS Tasks	Number of FTE's
Northrop Grumman	All PWS Paragraphs	5.5
Complete Professional Services (CPS)	1.2.2.3, 1.2.3.3, 1.2.3.4, 1.2.3.7, 1.3, 1.4, 2.0, 3.2.1	1
Computer Sciences Corporation (CSC)	1.2.2.1.1, 1.2.2.1.2, 1.2.2.1.3, 1.2.2.2, 1.2.3, 1.2.3.2, 1.2.3.3, 1.2.3.6, 1.3, 1.4, 2.0, 3.2.1, 4.7	1.5
Information Builders Incorporated (IBI)	1.2.2.1.1, 1.2.2.1.2, 1.2.2.1.3, 1.2.2.2, 1.2.3, 1.2.3.2, 1.2.3.3, 1.2.3.6, 1.3, 1.4, 2.0, 3.2.1, 4.7	1
Management, Consulting, and Research (MCR)	1.2.2.1.1, 1.2.2.1.2, 1.2.2.1.3, 1.2.2.3, 1.2.3.1, 1.2.3.3, 1.2.3.6, 1.3, 1.4, 2.0, 3.2.1, 4.7	1

1.1.1.1 Complete Professional Services (CPS)

CPS is a small business leader in software innovation and development for Government and commercial clients. The CPS management and engineering staff has over 60 years of combined experience in developing and sustaining client-server and web-based software applications for the SDDC, including initiatives such as the Defense Personal Property System (DPS), the Defense Table of Official Distances (DTOD), the Transportation Operational Personal Property System (TOPS), the Carrier Web Application (CWA)/PowerTrack integration effort, the Joint Personal Property Support Office (JPPSO) Smooth Move Quality Assurance Program, and the Personal Property Web Counseling Module. CPS engineers were integral in the design, development, and implementation of the TOPS Security Protocol and Secure Data Transfer model for the SDDC

Personal Property and Passenger Systems Branch (PPPSB).

1.1.1.2 Computer Sciences Corporation

CSC is a leading provider of financial management services including portfolio management, global information technology, security, logistics support, base management, and aviation services and now ranks among the top three IT services providers to the Government. Our Financial Management Group provides contract support to the Air Force, DFAS, and Office of the Secretary of Defense (OSD). Through our Air Force and OSD contracts, we support USTRANSCOM and AMC by providing the CRIS, another system that is designated to provide data to the DEAMS Data Warehouse. CSC is currently performing portfolio management services and an Enterprise Architecture contract for USTRANSCOM. Other financial services include working on the Business Enterprise Architecture (BEA) at OSD and data cleansing at USTRANSCOM.

1.1.1.3 Information Builders, Inc.

Information Builders | The Standard for Enterprise Business Intelligence

IBI is the leader in enterprise business intelligence and real-time operational reporting. The company's WebFOCUS product—the industry's most scalable, secure, and flexible—is able to meet all the reporting needs of the extended enterprise, ranging from analysts and power users to the widest deployments for hundreds of thousands of users. WebFOCUS empowers organizations seeking to leverage all their data by providing access to it at every level—from legacy to data warehouse. Information Builders' award-winning technology has successfully provided quality software and superior services for over 31 years to more than 12,000 customers, including most of the Fortune 100 and U.S. Federal Government agencies. Headquartered in New York City with 90 offices worldwide, the company employs 1,750 people and has over 350 business partners.

1.1.1.4 Management Consulting and Research, LLC

MCR, LLC was formed in 1977 and provides integrated program management services to the U.S. Government and private industry, including cost and schedule analysis, large-scale system acquisition management, and technical assessment support. Since 1992, MCR has been a partner of USTRANSCOM's Global Transportation Network (GTN) Program Management Office and since 1994 has been working with the J6 and J8. For the past 4 years, MCR has also been supporting Air Mobility Command Financial Management (AMC/A8). For the past 14 years, MCR has been recognized repeatedly for its expertise in cost analysis, financial management, budget and accounting, and functional business process improvements. MCR is intimately familiar with the Defense Distribution and Transportation Systems, as well as accounting and transportation financial management processes and business practices. As demonstrated by responses to past performance questionnaires and comments in the Contractor Performance Assessment Report (CPAR), our customers are very satisfied with the results of our services. Our goal is to add value in all of our efforts, creating customer-focused success for USTRANSCOM and each organization we support.

2. PROGRAM MANAGEMENT

2.1 MANAGEMENT TASKS

PWS Paras. 1.2.3.6 and Section M, Para. 2.b (1). USTRANSCOM will benefit from the Northrop Grumman Team's full understanding of the complex interactions involved in the DEAMS Data Warehouse program. Northrop Grumman will ensure that the Team maintains the expertise necessary to support activities such as research and analysis, financial analysis, performance measurements, and risk analysis. Our proposed organization chart for this program is shown in Figure 2-1. The chart depicts our ability to reach-back to our corporate expertise, the interaction between the major efforts to support USTRANSCOM Financial and Reporting System Development

identified in Para 1.1.3 of the PWS, and the open communication between the Technical Program Manager and the Government.

The Northrop Grumman Team's program management discipline is based upon our proven expertise in planning, monitoring, tracking, and managing the people, time, budget, and quality of work on programs incorporating the Carnegie Mellon SEI's CMMI. This approach will provide the technical and business documentation needed to communicate the management plan and facilitate comparison of the plan against actual performance. The Team provides a proactive management style based upon communication and analytical skills and applies high standards of quality to the work.
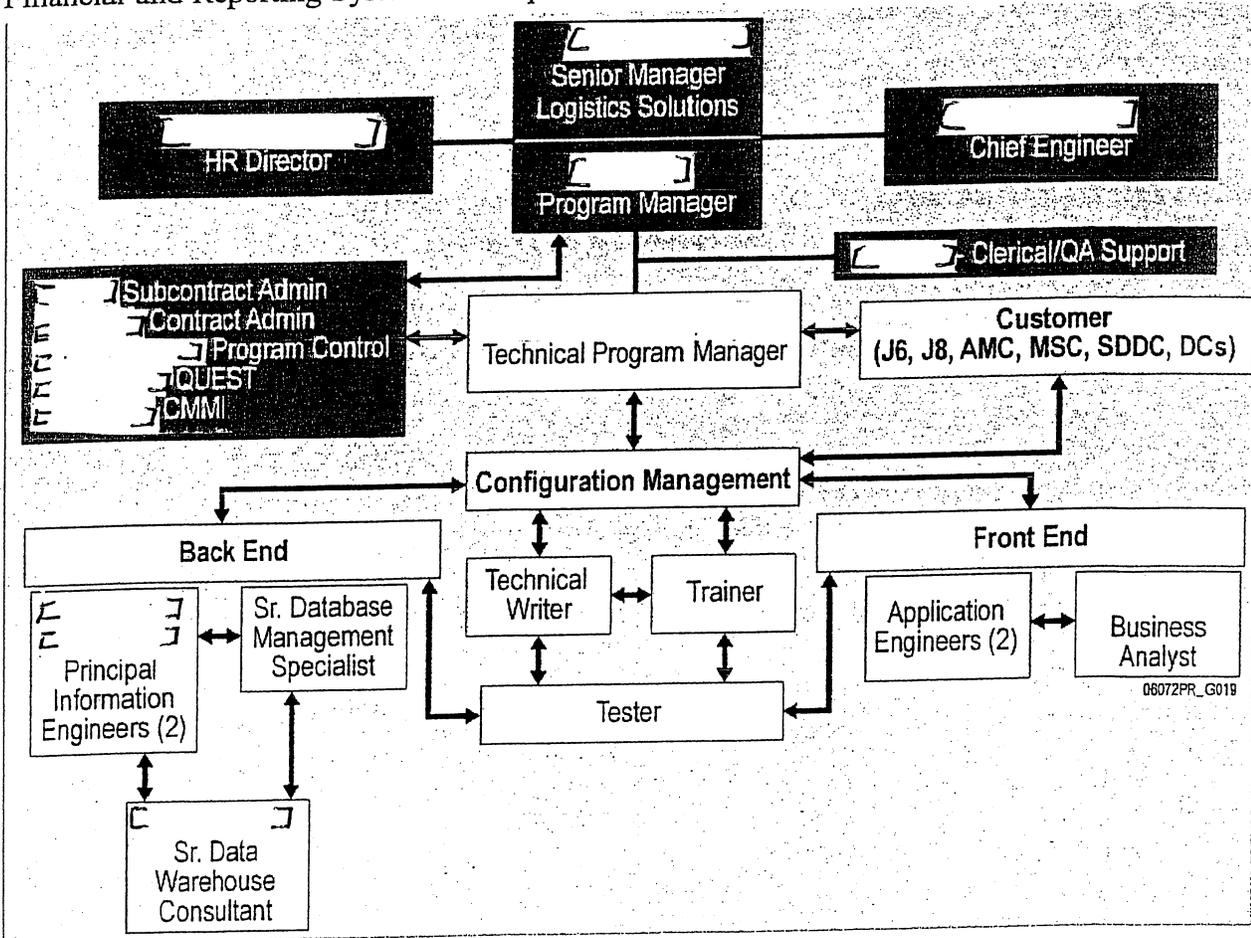
Figure 2-1. Northrop Grumman's Program Organization Chart

Effective program management requires an experienced and skilled individual proactively using industry-standard principles, methods, tools, and techniques. Figure 2-2 depicts our multi-faceted approach to ensuring performance satisfaction. This established Northrop Grumman process is a seamless integration of assessments (metrics and risk), communication (reviews and Government coordination), and actions (implement mitigation action) that results in effective program management. Northrop Grumman has selected Mr. Mark Jensen as the Technical Program Manager. He possesses the required interpersonal and organizational soft skills of program management (e.g., communication, negotiation, conflict resolution, etc.), honed through years of experience with both federal and industry pro-

grams. These skills are complemented by technical skills needed to produce the required charts, graphs, mathematical calculations, and other technical tool products associated with program management.

An essential part of a successful program is exchanging information and coordinating activity through meetings. The number and duration of meetings will be held to the minimum necessary, consistent with achievement of program objectives. The Technical Program Manager will coordinate all meetings between the Northrop Grumman Team and the Government and limit attendance to essential personnel to maximize productivity. We will provide formal minutes of the meeting within 2 working days of the meeting.
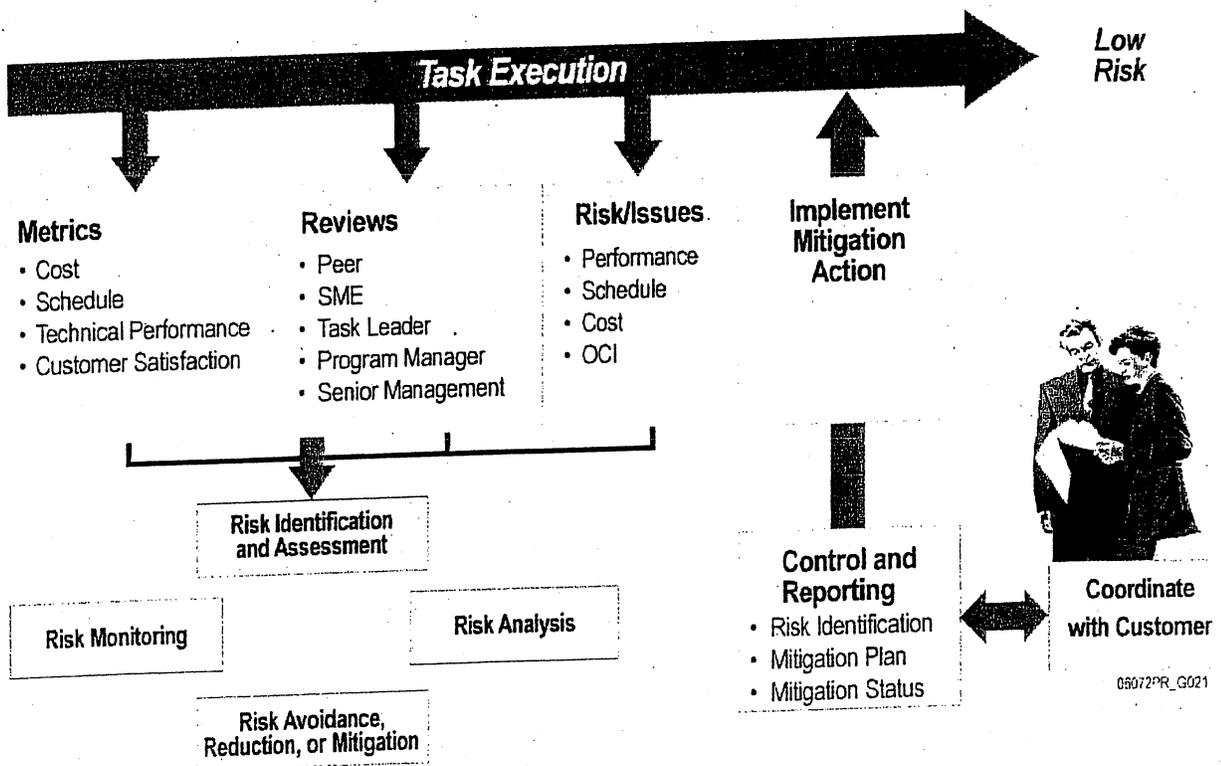
Figure 2-2. Effective Program Management

2.1.1 The Northrop Grumman Mission Success Realization System

The Northrop Grumman Mission Success Realization System brings the Government the benefit of our investment in proven processes, quality, and polices at no additional cost.

The Northrop Grumman Team will apply the principles of Mission Assurance (MA) to the professional technical services and software engineering that we perform for our clients and to the management and business functions that enable us to consistently and successfully perform those activities. Mission success requires that we meet or exceed our client's expectations for the work they have contracted us to perform. In general, this means leveraging the best practices across the enterprise, so that our clients get the best that we have to offer. MA applies to the division, to each functional organization, and to each program and project in the division throughout its life-cycle—from acquisition to completion and closeout.

As illustrated in Figure 2-3, MA has three components: Program Effectiveness, Operations Effectiveness, and Process Effectiveness. The means by which these components come together to assure mission success is called the Mission Success Realization System. This closed-loop execution system is based on industry best practices, supported by proven enterprise policies and processes that reflect lessons learned and process improvement. By implementing our closed-loop Mission Success Realization System, our programs ensure that Government requirements and Northrop Grumman policy and process requirements form the foundation for program execution. When implemented properly and consistently, the system maximizes the probability of mission success for all our clients across our enterprise.

Figure 2-4 illustrates the key controls and processes of the Mission Success Realization System. Initial planning activities address critical MA-related processes, identify resources and stakeholders, and identify processes and products subject to MA oversight. Initial planning also specifies which mechanisms will be used during program execution to identify and document issues, and classify them as to their cause, extent, and potential impact on overall mission success. The

Quality Assurance
Supplier Quality Management
Risk Management
System, Reliability and Safety Assurance

CMMI
ISO 9001:2000
AS 9100

Quality Management System
Independent Reviews
Project Reviews
Cost Estimation
Client Satisfaction
Training
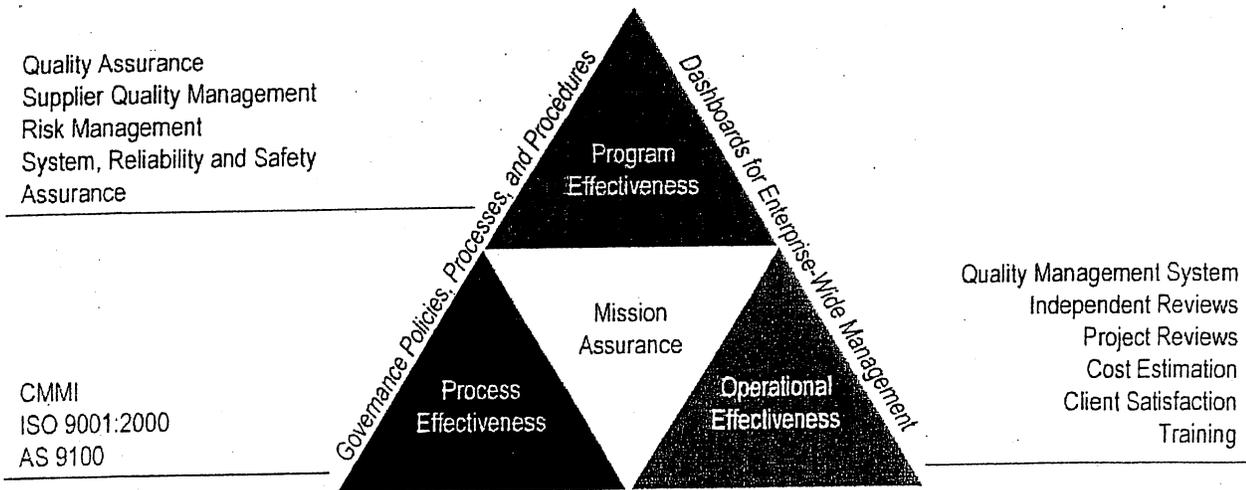
Mission Assurance is the disciplined application of the management, technical, and business support functions to ensure 100% mission success.

Figure 2-3. Mission Assurance Triad

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A program execution system based on proven enterprise policies and processes...
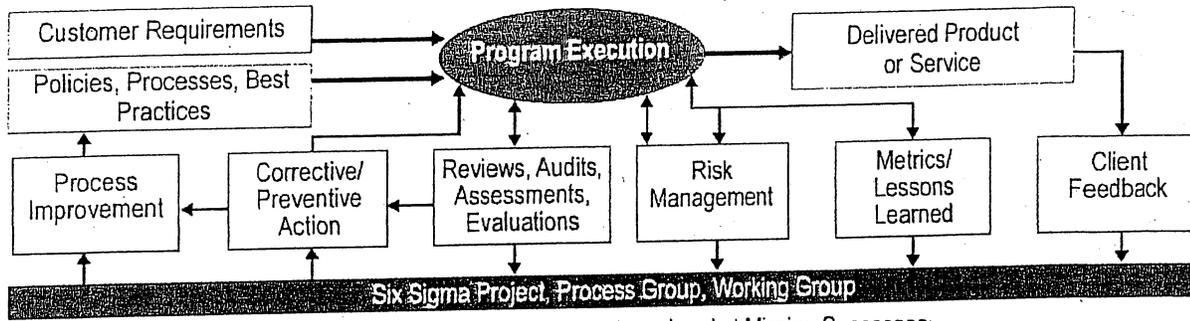
...Operating in a closed-loop system aimed at Mission Successes

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Figure 2-4. Mission Success Realization System

program's criticality, complexity, and associated risks are key criteria in determining the depth and breadth of MA implementation, including the type, extent, and number of reviews, audits, evaluations, assessments, and surveys to be performed.

Reviews, audits, assessments, and evaluations will be performed during program execution in accordance with program plans. When issues are identified, programs will ensure that they are documented and classified by their extent and potential impact to mission success in accordance with the programs' defined processes. Programs will determine the root cause(s) and take appropriate corrective action(s) to address the issues and prevent future occurrence. Programs will take preventive action(s) to address potential future issues. Programs will ensure that nonconforming products are identified and controlled to prevent their delivery or use.

The division MA organization and programs will review the results of MA-related activities and associated metrics, including client satisfaction indicators, to identify opportunities for improvement. Once identified, these opportunities will be prioritized to ensure that

systemic issues with the potential for major consequences to MA are addressed first, and then assigned to a Six Sigma team, working group, or process group for action.

The Mission Success Realization System is supported by a framework that implements key Northrop Grumman policy and process requirements. Within this structure, our manuals provide the primary source of policy, requirements, and guidance for managing programs and delivering products and services to the Government. The processes and procedures supplement and support the implementation of our policies and requirements, while establishing a mechanism for focusing the organization on mission success. This system of requirements is illustrated in Figure 2-5. The figure also identifies the organizational support mechanisms and organizational monitoring required by the Northrop Grumman Mission Success Realization System.

In addition, the Northrop Grumman Team will use the Configuration Management (CM) process described in Section 2.1.3 to maintain positive control over documents and processes and ensure quality.

Organizational Requirement | Organizational Implementation | Functional Organization and Program Implementation

Organizational Requirement	Organizational Implementation	Functional Organization and Program Implementation
I&TS Quality Policy Statement Goals/Objectives	I&TS Policy Statement	Measurable MA Goals/Objectives
Mission Systems Policies and Requirements	Policy & Requirements Manual	Policy Compliance Report
Mission Systems Standard Process	Standard Process Manual, Supplier Quality and Metrics Manuals Standard Training modules	Tailoring Report
I&TS Defined Processes and Documented Procedures	MA Plan, Directives,and Procedures. QUEST Process Improvement Plan and Training Plan	Plans, Process Descriptions and Procedures
Organizational Support	Process Assets Library, Policy Compliance and Tailoring Report Tool, Systems and Software Engineering Process Group, MA Leads and QA Working Groups, PCDB	Databases, Tools, and Working Groups
Organizational Monitoring and Verification	Independent Reviews, Audits, Assessments, Customer Satisfaction Surveys, Self-Assessment Tool, MA-Action Tracking System, Lessons Learned	Metrics, SAT, Reviews, Audits, Assessments, Lessons Learned, CPAS

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Figure 2-5. System of Requirements and Supporting Infrastructure

2.1.2 Plan for CMMI Level 3 Compliance

The Government derives an additional cost benefit from Northrop Grumman's investment in QUEST. We bring the established processes, checklists, policies, and culture and will train our teammates on the same.

PWS Para. 1.2.3.2 and Section M Para. 2.b (1). Northrop Grumman uses a Quality Management System called the QUality Engineering STandard (QUEST). QUEST complies with Northrop Grumman policies and requirements and follows standard program management, engineering, and support processes. QUEST incorporates Northrop Grumman's best practices, as well as all of the requirements of ISO 9001:2000 and all of the practices of the Software CMMI published by the SEI. The fact that Northrop Grumman leads the industry with 23 CMMI Level 5 cer-

tifications, demonstrates our proven management and technical capabilities for providing USTRANSCOM a rigorous set of repeatable processes. We will use these processes to evaluate how efficiently the code uses system resources and proper coding practices in accordance with Software Engineering Process (SEP) and Capability Maturity Model (CMM) Level III expectations.

The Northrop Grumman Team will be successful in implementing CMMI because we have the CMMI infrastructure in place. It usually takes 1 to 2 years for companies to establish this infrastructure, which includes the following elements:

■ Templates

■ CMMI Policy (PRM)

  • Standard Process Manual (SPM)

2-9

- **Metrics Manual**
- PCTR—a tailoring tool that verifies compliance with PRM, SPM, and the metrics manual
- **Process Asset Library**
- **QMD support**—staff trained as SEI lead assessors
  - Workshops and training
- **PCDB (Process Capability Database)**
- **Software and Systems Engineering Process Groups (SSEPGs)**—responsible for improving processes
- **Reporting and tracking of requirements**
- **Experience in conducting assessments (industry leader).** All programs with more than 10 software or systems engineers are required to participate in an external CMMI assessment.

Implementing CMMI will mitigate many common program risks by requiring planning, training, defining processes, assigning responsibility/authority, documenting, monitoring and control (updating), and reporting.

Attachment 1 shows a print out of the Microsoft Excel spreadsheet tool we will use to monitor CMMI Level 3 processes. While the tool can be used to monitor compliance with Levels 2 through 5, we will only be using the features for Levels 2 and 3.

2.1.3 Configuration Management Process

The Government will benefit from our Team's well organized and easily recognizable record of actions and our use of CM process.

PWS Paras. 1.2.2.1.3 and 1.3.1.3 and Section M Para. 2.b (1). The Northrop Grumman Team will establish and maintain positive versioning control over designated configurable items to track requirements against deliverables. Specific items in our CM process include project plans, requirements documents, software products, infrastructure system documentation, and training materials, all of which use established Northrop Grumman CM processes and are in compliance with ap-

plicable USTRANSCOM CM Plans. Upon Government approval of the process, we will submit a baseline configuration for Government approval.

Our CM plan and process will be put in place at the start of the program to be used by the Team and delivered to the Government for use by the DEAMS Data Warehouse users. We will conduct initial CM training during the first complete week of the program.

The Northrop Grumman Team will use Microsoft Visual SourceSafe as our automated tool to ensure we can maintain control and versioning. Visual SourceSafe also allows us to manage code developed in each of the three program environments (development, test, and production), promoting code from one environment to another in accordance with the CM-approved process. We selected Visual SourceSafe because it is a cost-effective, proven, and accepted tool in the USTRANSCOM Enterprise Architecture.

PWS Para. 1.3.2.3 and Section M, Para. 2.b (1) identify a requirement to track and mange code defects. We have selected IBM's Rational ClearQuest as the tool we will use to perform this function. Part of the IBM Rational Rose toolset, ClearQuest is another cost-effective, proven, and accepted tool in the USTRANSCOM Enterprise Architecture.

The Technical Program Manager will be accountable for adherence to CM processes. The Technical Program Manager and a designated technical resource will be the program representatives to the Government Program Manager and participate in CM activities as the PM directs and in accordance with Government CM Standard Operating Procedures (SOPs). Where internal team and Government CM SOPs conflict, we will follow the policy stated in the Government SOP.

Initial configurable items include the project plan, SRD and SDD, and the proposed technical solution. Based on results of the detailed assessment conducted as the first phase of the

program, the Northrop Grumman Team will recommend changes to configured items and submit them for Government approval prior to beginning development. The deliverables from the assessment process will include an updated project plan and a list of baseline requirements to be implemented during the course of the contract. These documents will serve as the reference points for change management during the remainder of the contract.

PWS Para. 1.2.2.3.2. When fielded, the DEAMS Data Warehouse will provide CM information to users via a menu selection on the user interface. This menu selection will display a table that lists all configurable items, their status, and a description of functionalities to be included in the next release, along with the planned release date. This information will be maintained in a table within the database and maintained initially by the development team. Upon completion of the contract, the responsibility for maintaining the CM tables will pass to the life-cycle developer.

2.1.3.1 Documentation

PWS Para. 1.2.3.3. The Northrop Grumman Team will maintain and identify versioning for any documentation associated with the DEAMS Data Warehouse program as part of the CM process identified in Section 2.1.3 of this proposal. The Team will develop the USTRANSCOM application systems manual, which will outline USTRANSCOM financial application functionality, including troubleshooting, system layout, software functionality, process documentation, and hardware specifics. The Team will document all work in Increment I in accordance with acceptable business standards for software (CMMI Level III).

2.1.4 Task Order Management Plan (TOMP)

PWS Para. 1.3.1.1. The Northrop Grumman Team will develop a Task Order Management Plan (TOMP), which describes the management and technical approach, organizational resources, and management controls that will be employed by the Northrop Grumman Team to meet the cost, performance, and schedule requirements throughout Task Order execution. The TOMP will be executed using resource management tracking, Critical Path Scheduling, and Work Breakdown Structure (WBS) tools found in Microsoft Project.

The Technical Program Manager will manage this task to achieve program objectives at the least cost to the Government. A detailed project plan will be prepared as part of the TOMP, depicting the subtasks and resources required to achieve program objectives. An initial draft of this document is included as Attachment 2 to this proposal. Progress against the plan and expenditure of resources will be tracked and reported to the Government on a monthly basis. The program will be organized with milestones and delivery schedules to enable management to estimate and manage the success of the program. Decision points will be established on the timeline where a formal review of progress will be conducted and decisions for proceeding will be made.

The draft TOMP will be delivered within 10 calendar days following contract award. Comments on the draft TOMP by the Government will be coordinated and incorporated in the final document within 5 calendar days following receipt of written comments. The TOMP is a living document and will be updated throughout the contract as required and approved to meet program changes.

2.1.5 Monthly Status Reports (MSRs)

PWS Para. 1.3.1.2. Northrop Grumman believes a close relationship with Government customers is essential for a successful partnership that is focused on the mission of USTRANSCOM and the DEAMS Data Warehouse. We will continue to foster this important and necessary relationship. Part of this effort will be accomplished through the Monthly Status Reports (MSRs), which will provide a record of the deliverables for each

task and any issues, problem areas, or other items that require Government action.

The MSR will monitor the quality assurance, CM, and security management efforts applied to accomplish the PWS requirements. The Technical Program Manager will list, for each active task, the accomplishments of the reporting period by contractor name and hours worked against each task, describe the objectives for the next reporting period, and provide an overall evaluation of the task order to date, including a bar and graph chart of the

resources used for the current period and year-to-date with a delta below. The financial sections will show the plan dollars and hours burn rate vs. the actual burn rate and associated delta by month. Figures 2-6, 2-7, and 2-8 are samples of the types of financial and trend analysis that will be included in the MSR. The MSR will also list the deliverables for each task and any issues, problem areas, or items that require COR review. The MSR will be delivered by the 5th working day of the month following the reporting month.

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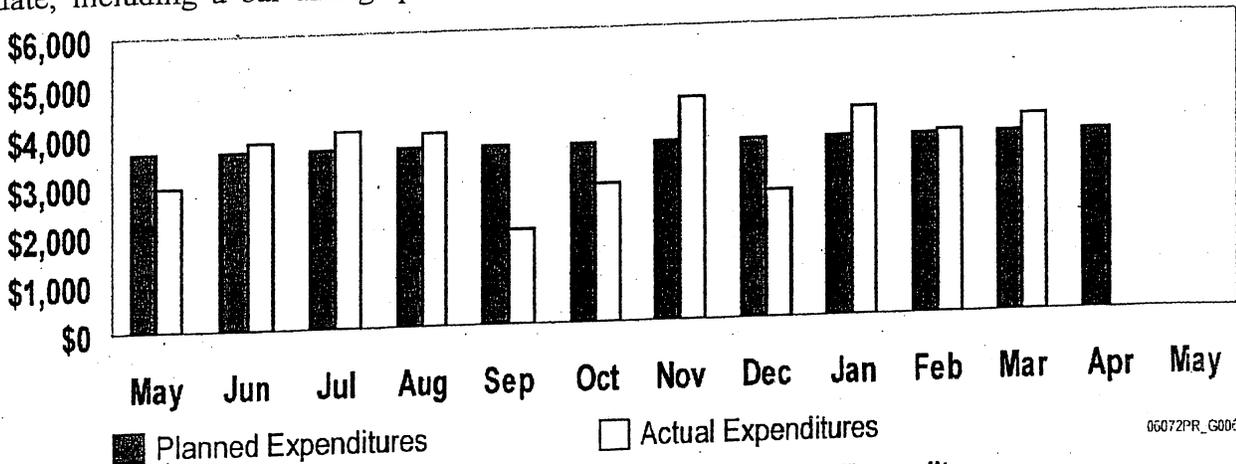
Figure 2-6. Sample Monthly Planned vs. Actual Expenditures

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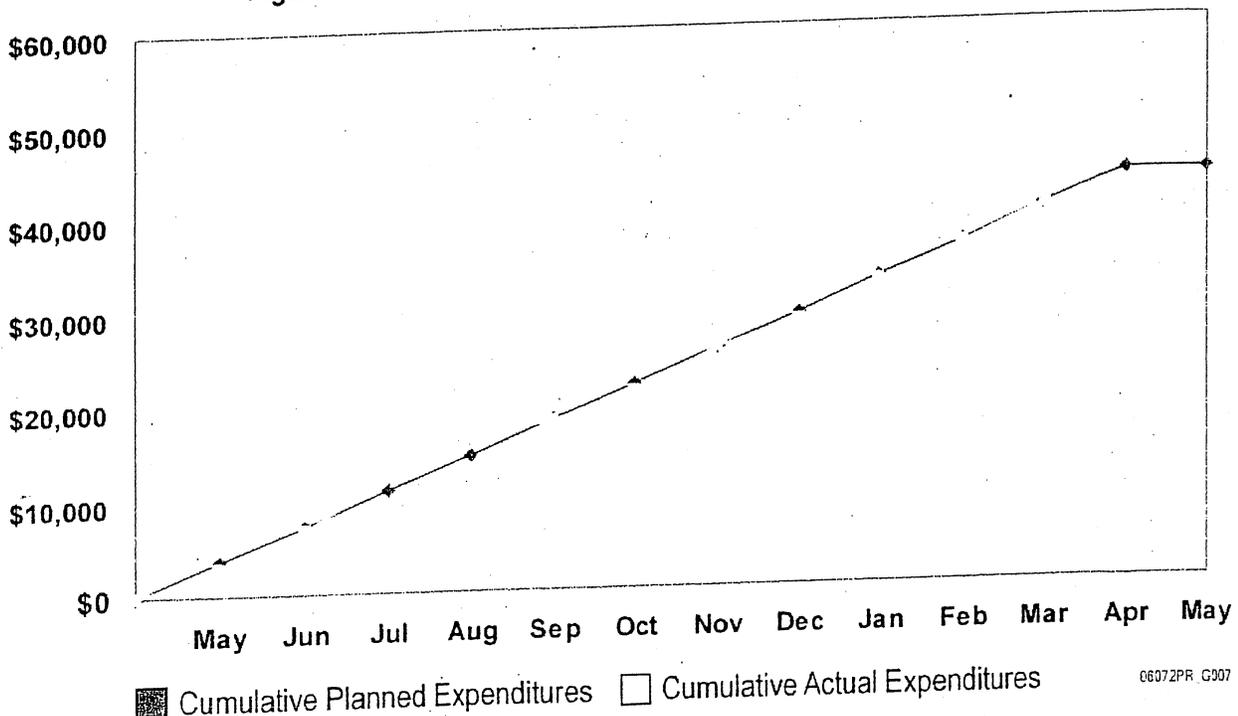
Figure 2-7. Sample Cumulative Planned vs. Cumulative Actual Expenditures

2-12

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Forecast	3,633	3,633	3,633	3,633	3,633	3,633	3,633	3,633	3,633	3,633	3,633	3,633
Actual	2,915	3,837	5,464	3,955	1,948	2,830	4,530	2,561	4,252	3,698	3,632	
Delta	718	-204	-1,831	-322	1,684	803	-897	1,072	-619	-65	1	
Forecast	3,633	7,266	10,899	14,532	18,165	21,798	25,431	29,064	32,696	36,329	39,962	43,595
Actual	2,915	6,752	12,216	16,171	18,119	20,949	25,479	28,040	32,292	35,990	39,622	
Delta	718	514	-1,317	-1,639	45	849	-48	1,024	405	339	340	

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Figure 2-8. Sample Monthly Actual vs. Forecast Expenditures

2.1.6 Work Breakdown Structure

PWS Para. 1.3.1.3. The project plan for the task will be structured to match the deliverables and program organization specified in the PWS and will provide the basis for the WBS. The WBS is the framework for program and technical planning, cost estimating, resource allocation, performance measurements, and status reporting. The Technical Program Manager will deliver the WBS and associated WBS dictionary for Government approval 10 days after contract award. Upon Government approval of the WBS, the Technical Program Manager will monitor, evaluate progress, and suggest changes to the delivery of the USTRANSCOM financial integration process.

Major elements of the DEAMS Data Warehouse program WBS are analysis, back-end (database and interface) development and testing, front-end (reports and user interface) development and testing, and training. Each major task will be broken down into manageable subtasks, and resources will be estimated and allocated to accomplish them. The subtasks will define the portion of the application to be developed; display the total process as a product-oriented family tree composed of hardware, software, services, data, and facilities; and relate the elements of work to each other and to the end product.

As a component of the project plan, the WBS is a configurable item and will be tracked under the CM Plan. As work commences on the project, the Technical Program Manager will employ the project plan to evaluate progress toward achieving the project's objectives. Changes to the WBS will be recommended to the Program Manager as situations require. Upon Government approval and in accordance with the CM process, the WBS and project plan will be updated.

2.1.7 Resource Management Tracking (RMT)

PWS Para. 1.3.1.4. The Technical Program Manager will provide monthly updates of the RMT product to the PMO NLT on the 5th working day after the end of the month. The report will include the schedule, assigned resources (labor category/hrs) with cost factors, a reference to the baseline approved by both the COR and the contractor at the start of the program, and updates to the work completed. We propose to use Microsoft Project as the RMT product, taking advantage of its automated project tracking and reporting capabilities. The Technical Program Manager will base the RMT report on the level of the WBS agreed upon by the Northrop Grumman Team and the COR, but not below WBS Level III. The report will include the time required, resources, time per resource, and the cost of the resource. This will allow the Government to compare the estimated cost of work to actual cost/schedule of work completed. Our RMT report will show the impact of any schedule changes on the overall program through task dependencies identified in our Microsoft Project plan.

2.1.8 In-Process Reviews (IPRs) and Technical Interchange Meetings (TIMs)

2.1.8.1 IPRs

PWS Para. 1.3.1.5. IPRs are a primary vehicle through which the Northrop Grumman Team provides the Government task monitor with regularly updated information on accomplishments, progress toward achieving

2-13

objectives, and future planned activities. Frequent review of the program will ensure customer expectations are met and that Government resources are fully aware of the status of the program. Whenever possible we will conduct IPRs and TIMS together.

IPRs will be scheduled monthly, within the first 10 working days after the end of the calendar month. Each IPR will summarize the program's status, progress, concerns and impacts, recommendations for developing program software documentation, or other issues affecting the current activity. RMT cited in Section 2.1.7 of this proposal will be reviewed at IPRs with particular focus applied to "estimate at completion" and any changes to the critical path in the intervening month. Following the IPR we will prepare minutes, briefing slides, and action item reports as appropriate to document the progress and current status of the program and deliver these to the Government within 2 working days of the conclusion of the IPR.

2.1.8.2 TIMs

PWS Para. 1.3.1.5. The Northrop Grumman Team will schedule an initial TIM within 5 days of contract award to fully document and baseline the program requirements. The Team will present its understanding of Government requirements and ensure they calibrated to Government expectations. The Team requests that the first TIM include an opportunity to tap into the Government team's institutional knowledge by conducting a thorough review of lessons learned from previous phases of the program. Our Team will only bring key personnel to all TIMs.

Subsequent TIMs will be scheduled as required and/or requested, but at least monthly, to brainstorm solutions to technical issues or to evaluate and select from alternative solutions. Whenever possible, the TIM will be scheduled together with the monthly IPR. The Team commits to detailed preparation for these meetings and will publish detailed agendas and supporting materials to ensure

the meetings are productive and short. With the exception of the initial TIM, we do not anticipate any meeting taking up more than 1 hour. Every effort will be made to minimize the number of meetings to ensure prudent stewardship of the developers' and Government's time.

The Northrop Grumman Team will produce and deliver read-ahead packages with the TIM agenda to the Government 2 work days prior to any TIM. The agenda will have a list of issues and proposed recommendations with pros and cons for each recommendation. This information will be provided to the Government PM whether or not the meeting takes place. Following the TIM we will prepare minutes, briefing slides, and action item reports as appropriate to document the progress and current status of the program. We will deliver these to the Government within 2 working days of the conclusion of the IPR.

2.1.9 Meetings

PWS Paras. 1.2.2.1.1, 1.2.3.6, 1.2.3.7, and 1.3.1. The Northrop Grumman Team will provide timely and accurate documentation prior to, during, and after meetings in support of the DEAMS Data Warehouse program office. The Team will support program management meetings by producing read-ahead packages, preparing minutes, conference reports, briefing slides, and reports as appropriate to document the progress and current status of the program. We will prepare agendas and submit them as part of our meeting request process. This information will be provided to the Government PM whether or not the meeting takes place. We will provide formal minutes of meetings and discussions, including meeting activity, decisions made, date, location, attendees, all action items, assignment of responsibility, and suspense dates to the Government within 2 working days of the meeting's adjournment. The outcome will provide the best possible status of the project to the Government with the least impact on the development. We will take no action on

06072PR

actionable items before the PM initials them and returns the action item list to us.

Particular attention will be paid to meetings with system users and functional experts. To ensure good stewardship of this valuable resource, the Team will closely coordinate with the PM. We will identify who we need to meet with, explain what information we seek, and assess the impact on the project if we are unable to obtain the necessary information.

All meetings will be documented and minutes maintained.

2.2 PROJECT PLAN AND CRITICAL PATH

PWS Para. 1.3.1.3 and Section M Para. 2.b (1). Due to the size of the Microsoft Project Gant chart for our project plan, we have printed it using a plotter for ease of understanding. Please see Attachment 2 for the initial draft of the project plan, with the critical path identified.

3. TECHNICAL SOLUTION – SPECIFIC TASKS

Paragraph 3 and all subordinate paragraphs answers PWS Para 1.2.3 and Section M Para. 2.b (1).

The following are key reasons the Government will benefit from selecting the Northrop Grumman Team:

- We bring tremendous USTRANSCOM experience from our work on programs such as TFMS, TFMS-M, CRIS, USTRANSCOM Financial Architecture, and development of WebFOCUS—all of which are directly applicable to this effort.

- Northrop Grumman has CMMI processes in place that will be of no cost to the Government. We will train our teammates on these processes or evolve to better processes.

- We have a solution, proven data integration technology, and an automated data analysis tool that will provide a streamlined approach to delivering the DEAMS Data Warehouse on schedule, within budget, and meeting or exceeding all Government expectations.

3.1 SCOPE OF WORK

Section M Para. 2.b (1). This section details the Northrop Grumman Team's plan to integrate all existing work on the DEAMS Data Warehouse and deliver a fully functional data warehouse. We will evaluate all available documentation, determine what changes that we need to make, make those changes, and create the data warehouse. We have chosen to provide the Government with an innovative technical solution that addresses the requirements in a logical manner, while ensuring all tasks of the Performance Work Statement are addressed. For ease of evaluation we provide the PWS paragraphs being addressed in italics at the start of applicable proposal paragraphs. Our development approach includes the following four main focus areas:

- Get the data model right
- Develop reliable data ETL
- Load the data warehouse
- Generate business value.

Each focus area builds on the previous work and creates confidence that the next step can be successfully accomplished. Within the focus areas we use a data integration methodology to analyze the "as is", the requirements, and produce the "to-be" as illustrated in Figure 2-10. We also have developed an automated tool, the DEAMS Data Analysis Tool (DDAT), to rapidly and accurately identify any existing gaps in the current model. Development of the DDAT is more fully explained in Section 3.7.2 of this proposal.

Completing all four focus areas will result in the creation of a fully functional financial data warehouse that meets the requirements listed in Increment 1 objectives in Paras. 1.2 and 1.3 of the PWS.

3.2 REQUIREMENTS

Section M Para. 2.b (1). TFMS proved to be the USTRANSCOM commanders and resource managers' essential information on the status of the TWCF. To understand the status of the TWCF at any time, a decision maker needs to know three things:

- How much do I owe? Expenses = Accounts payable (AP)
- How much am I owed? Revenues = Accounts receivable (AR)
- How much cash do I have on-hand? Cash

At any point in time, the financial status of the TWCF is equal to Cash + AR – AP. To manage the financial status of the TWCF, the Commander needs to know the values of Cash, Accounts Receivable, and Accounts Payable at a given point in time and be able to see how these values change over time.

The fully developed DDW will provide these capabilities by performing the following:

- Extracting the details of financial transactions executed by the three TCCs

06072PR

■ Applying complex financial business rules at the transaction level

■ Summarizing the data in various ways (business activity, commodity code, etc.)

■ Making the results available in meaningful reports.

3.3 ANALYTICAL FRAMEWORK

Section M Para. 2.b (1). Figure 2-9 depicts the current system architecture and establishes the analytical framework used in the development of our solution. The data warehouse generates business value by meeting business requirements for information. The informa-

tion consists of data elements that are modeled by a logical data model (LDM) and transformed into a physical data model (PDM). The PDM creates and manages a physical database (TFMS Purgatory and TFMS Core) that is in turn accessed by business users via a user interface or printed reports. Transaction data generated by source systems at the TCCs is extracted to a staging area (TFMS Purgatory) where it is transformed in accordance with business rules and loaded into the production data warehouse in TFMS Core.
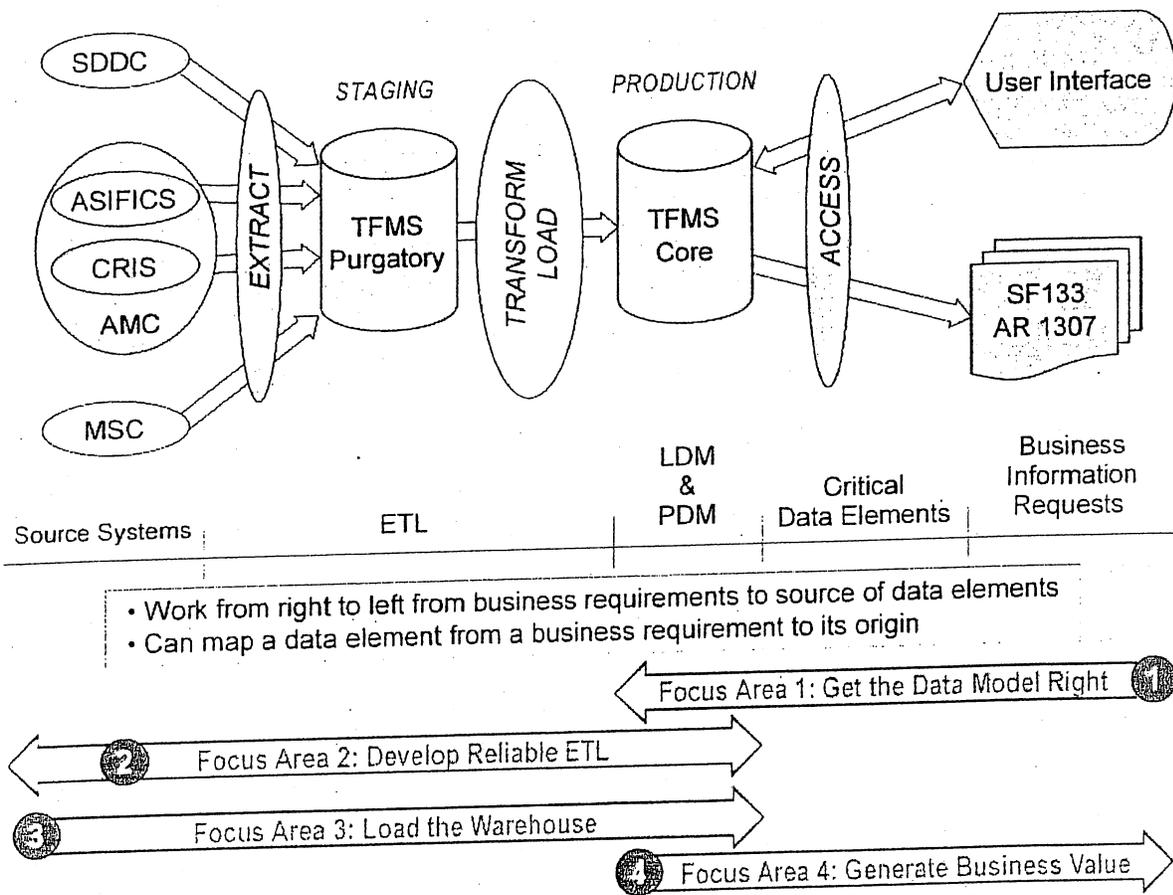
Figure 2-9. Analytical Framework for Project Success and Four Focus Areas

To optimize business value, we must map an uninterrupted path from a business requirement expressed as a collection of critical data elements into the logical and physical data models in the TFMS Core. In turn, we must trace all transformations into the staging area and across the firewall into a source system at a TCC. Any interruption of this path means the information will not be available to the business users. We already started the mapping the data paths by developing and populating our DEAMS data analysis tool.

3.4 CURRENT SITUATION

Section M Para. 2.b (1). The Government has invested significant time and resources in the project. Documentation is detailed and of high quality. There is a complex data model, a large application, and a substantial user interface. What is missing is a fully populated data warehouse.

Based on our analysis, we assess the critical milestone of the project to be the loading of the data warehouse. The Team's efforts will focus on creating an accurate data model and development of reliable ETL processes to populate the data warehouse.

3.5 FOCUS AREAS FOR SUCCESS

PWS Paras. 1.2.2.1.1, 1.2.2.1.2, and Section M Para. 2.b (1). Based on our knowledge, the technical components for a successful implementation are in place. In Figure 2-9, we have identified the four critical focus areas for development of the technical solution against our analytical framework.

3.5.1 Focus Area 1: Get the Data Model Right

The Government will benefit from our proven tool that analyzes the data and produces a data model that accurately portrays the financial business environment of USTRANSCOM and the TCCs.

An accurate data model is the key to the success of the entire project. On previous work, the main challenge we have found is that the customer is not always sure how closely the existing data model fits with reality. Our solution to producing an accurate data model is to

apply our data integration methodology (Figure 2-10), which enables us to match business discovery to information discovery. We will map financial questions (business discovery) to the data (information discovery) that can answer those questions. As a start, we already integrated all the TFMS metadata (Word documents, Excel spreadsheets, Erwin data models, and flat-file text files) into a comprehensive integrated metadata repository— DDAT. Our Team has extensive experience in data warehouse modeling and implementation is evidenced by the EDW program cited in Volume 4, Past Performance. We are certain that we can successfully complete this first critical focus area, which will lay the foundation for the rest of the program.

3.5.2 Focus Area 2: Develop Reliable Data Extraction, Transformation, and Loading (ETL)

The benefit to USTRANSCOM is the use of an ETL tool exceptionally compatible with WebFOCUS, the Government's selection for the report generator. An additional benefit is that Data Migrator's developer, IBI, is on our Team and will help ensure a manageable load process that quickly pinpoints load errors and can be modified on-the-fly to accommodate rapidly changing business processes.

PWS Para. 1.2.3.2. The System Design Document (SDD) (Attachment 2 to the PWS) states that at least one of the extract jobs is not running reliably. In our experience, the most complex challenge we can help solve is getting the data from the existing sources into the data warehouse. Our solution to managing the loading process is to use a commercial ETL tool called WebFOCUS Data Migrator. We will import all the existing, valid load scripts and load maps into the tool. We will also correct erroneous scripts and load maps before importing them. Where necessary, we will develop new loading processes using the automated methods and data flow manager that are in Data Migrator. Our Team has extensive experience in ETL processes and loading data warehouses as evidenced by the

TFMS-M, CRIS, and EDW programs cited in volume 4, Past Performance.

Data Integration Methodology

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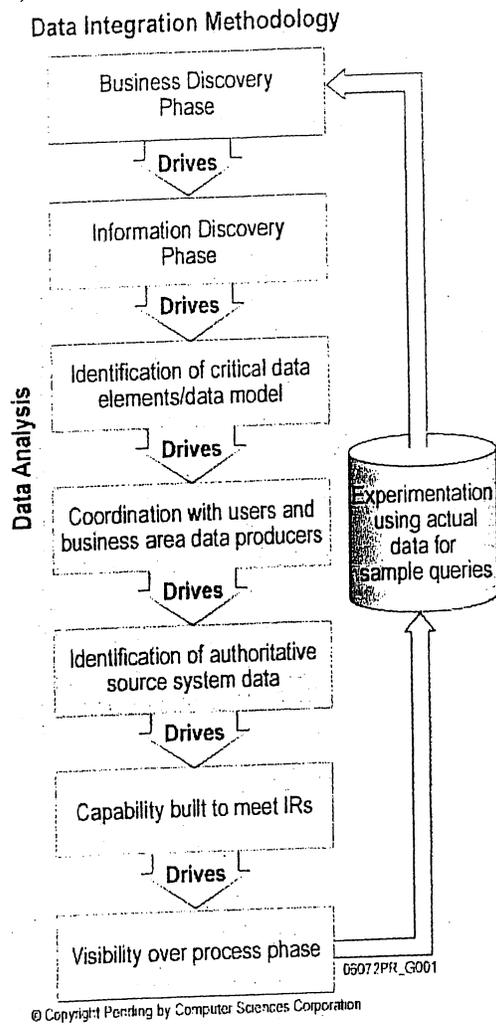
Figure 2-10. Data Integration Methodology – A proven, repeatable process speeds analysis.

3.5.3 Focus Area 3: Load the Warehouse

The benefit to USTRANSCOM is a completely loaded data warehouse that analysts can begin using immediately to generate business value.

The SDD gives no indication that the warehouse has ever been fully loaded. The main challenge to solve in this focus area is to reliably and consistently load the DDW in a production environment. Our solution is ensured by successfully completing Focus Areas 1 and 2. We will generate the Teradata database from the physical data model and connect the Data Migrator ETL tool to the data

sources and the DDW. Finally, we will run the loading processes. Data Migrator will pinpoint loading errors and allow us to quickly fix any issues that arise during initial load and also during production. Our Team has extensive experience in loading data warehouses as evidenced by the CRIS, and EDW programs cited in Volume 4, Past Performance.

3.5.4 Focus Area 4: Generate Business Value

USTRANSCOM will benefit by having a rapidly growing functional user base that can answer business questions through a user interface that is easy to learn and easy to use.

Our experience indicates that few functional users are using the data warehouse to generate business value. Our solution is to build on the Government investment in WebFOCUS front-end reporting tools. At this point in development, however, we will have a well-documented and accurately loaded data warehouse. We will generate standardized reports and support access to the ad-hoc reporting capabilities. Our Team has extensive experience in building web-based, front-end applications to provide critical business information as evidenced by the TFMS-M, CRIS, and DPS programs cited in Volume 4, Past Performance.

3.6 DEVELOPMENT APPROACH

Section M Para. 2.b (1). We will maximize the use of existing documentation and data. Our development approach will retain what works, fix or eliminate what is not working, and build or buy what is needed to. We will use commercial software wherever possible, and we will develop use cases before writing any code. We will keep the Government continuously informed of our progress and seek business user's active involvement in all of our actions. All our work will be done within the framework of the four focus areas previously described and specifically applied to data integration and data analysis tool development.

06072PR

3.7 FOCUS AREA 1 – GET THE DATA MODEL RIGHT

PWS Para. 1.2.3.1 and Section M Para. 2.b (1).

3.7.1 Data Integration Methodology

PWS Paras. 1.2.2.1.1, 1.2.2.1.2, 1.2.2.2.1, and Section M Para. 2.b (1). Data analysis is done in the context of an overall data integration strategy. The Northrop Grumman Team will apply a systematic data integration methodology to integrate the financial data from the three TCCs into a coherent logical and physical data model. This methodology is broken down by steps (Figure 2-11) and the overall methodology is depicted in Figure 2-10.

In the Business Discovery Phase (Figure 2-10) the business users need to know "where," "when," "how many" and "how much" to accomplish their business objectives. One aspect of describing business processes is identifying the information required to execute the process. An accounting report is an example of a business information requirement.

Business discovery begins with identifying business information requirement and breaks it into a collection of individual data elements that, when combined, provide the necessary information. In the case of an accounting report, individual data elements include total amounts for accounts payable, accounts receivable, funds disbursed, and account balances as of a given date.

Working from reference documents and in coordination with the people, organizations, and systems that produce the information, we will identify the source system where the data element originates and collect information concerning data attributes and relationships to other data elements. We will organize the data attributes and relationships into a data model that logically describes critical aspects of the business.

The data analysis process yields the following:

■ Mapping and matching of information requirements to data elements and attributes

■ A refined data model

■ Identification of authoritative source data systems

■ Mapping and matching of source system data elements to the DDW data model

■ ETL algorithms for the importation of source data to the DDW database.
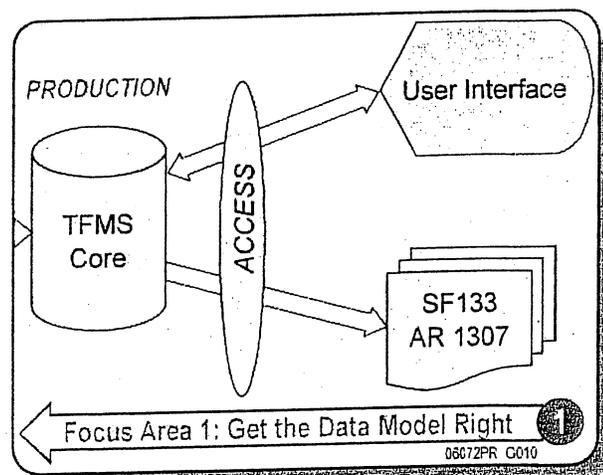
Figure 2-11. Analytical Framework for Project Success – Focus Area 1

2-20

Once the data analysis steps are completed we are ready to build, starting with providing the capability to meet the Identified Requirements (IR). The result is a more accurate visibility of the business process.

The data analysis process is critical to success. Data analysts MUST understand the business environment through close coordination with functional experts to establish a solid data engineering foundation.

3.7.2 Data Analysis Tool Development

PWS Paras. 1.2.2.1.1, 1.2.2.2.1, and Section M Para. 2.b (1). To capture and validate our Methodology, the Northrop Grumman Team developed a database tool in MS Access to support data integration analysis. The DDAT contains all the existing metadata documents in a single, integrated database where we can manage and track information flows and provide an automated way to quickly determine the existence of a path from source system to user interface. We loaded the DDAT with information received from the PWS and all other public metadata sources. We then related each of the tables in a logical order so that we can follow the flow of data from the report requirement to the original source of the data. Figure 2-12 depicts some of the data sources that we integrated.

By organizing the government-provided data in a relational database, we can see a complete picture of what has been accomplished in the TFMS project to date. We designed DDAT around typical business questions that the DDW may be expected to answer. The DDAT associates business questions to report requirements, data models, data transformations, and source systems. The tool is a major component of the process we developed to complete the analysis, documentation, building, and loading of the DDW.

By integrating and organizing a number of metadata sources into a single integrated repository, the Northrop Grumman Team did on a small scale what the Government expects us to do on a much larger scale — develop the DDW! This effort clearly benefits the Government by providing a ready-to-use, tailored analysis tool.

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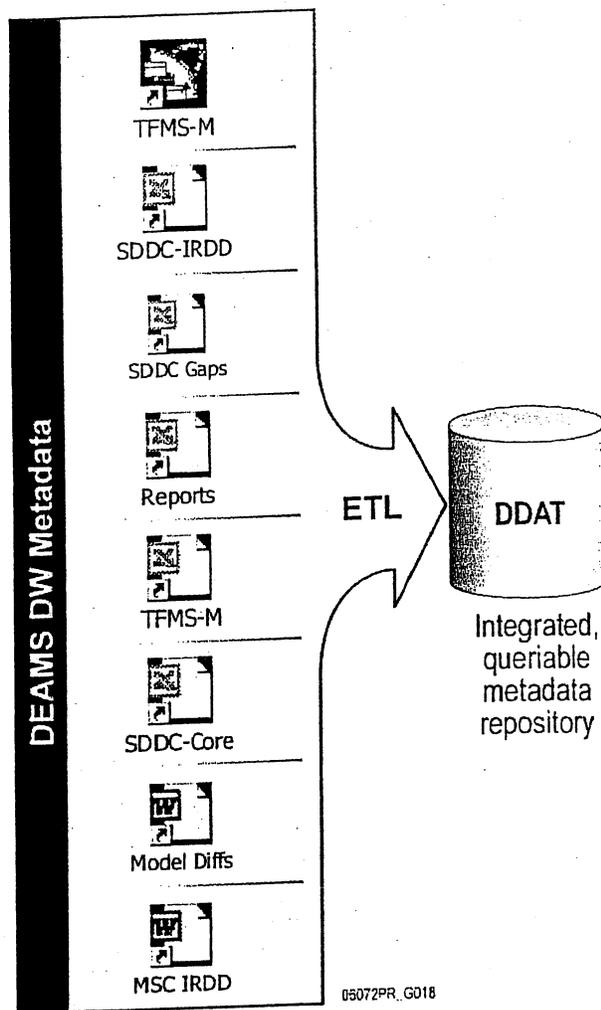
Figure 2-12. The DDAT Determining the Path

Use of the DDAT will enable the Northrop Grumman Team to quickly answer relevant questions such as the following:

- What reports are needed to answer question number 16 in Figure 2-13 – What is the Budget authority for SDDC?

- What DDW core data elements are involved in Cargo Operations Commodity Codes?

- What SDDC data elements are not available to answer question number 16?

Figure 2-13 is a screen shot of the actual DDAT Access database with database Table 1 (TFMS Questions) open.
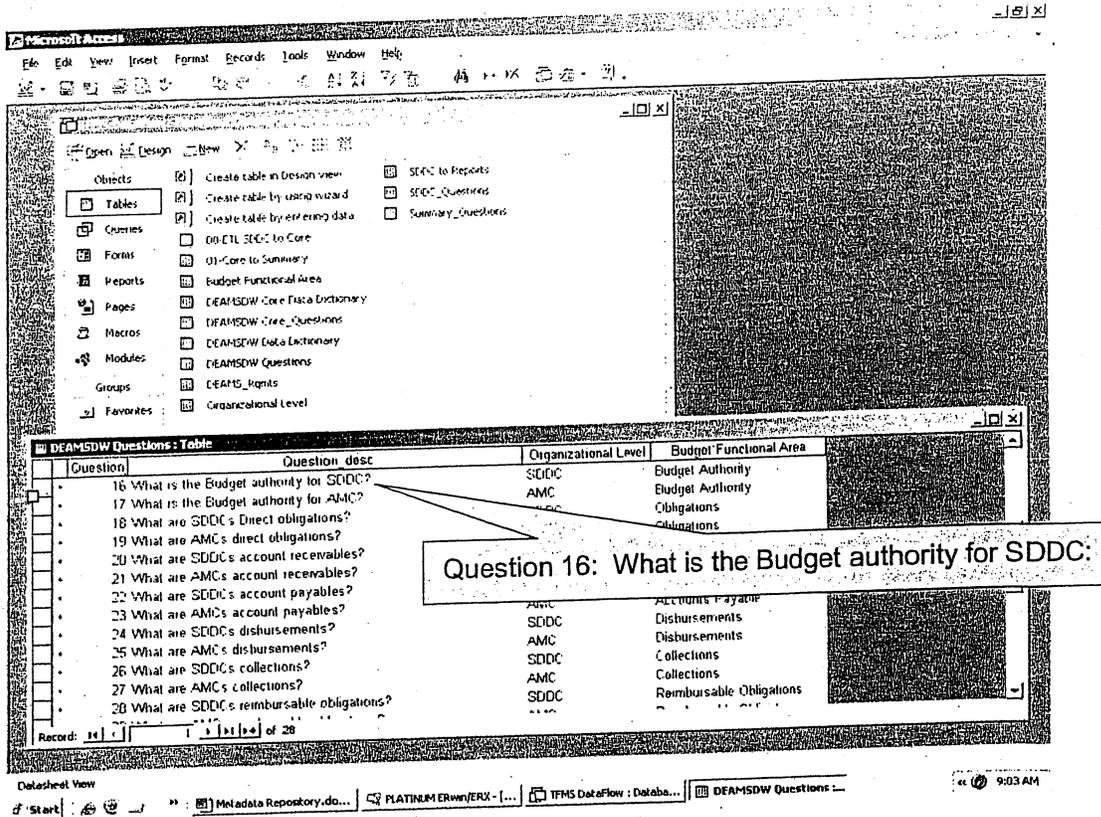
Figure 2-13. DDAT TFMS Questions Query

3.7.2.1 Data and Data Model Analysis Using the DDAT

To illustrate the power of the tool, we will apply the methodology to a specific business information requirement. Within the business context of providing oversight of the financial status of a given TCC, an identified information requirement is to analyze individual transaction details.

Each of the examples in the remainder of this proposal is drawn from the DDW-integrated DDAT and is an application of the methodology to data in the TFMS data model. THIS IS NOT NOTIONAL DATA!

Using the DDAT, we need to locate the business question in the DDW Questions table (Figure 2-14). We can create suitable queries to track the data from the data elements needed to answer the question, to the report that generates the questions, to the core data elements that store the data, and to the ultimate source of the data in the TCC interfaces.

We can also track the ETL logic that is used to move the data around from source to destination as shown in Table 2-2.

In summary, we used the DDAT to quickly determine if the data warehouse was capable of providing the information necessary to answer the business question "What are the individual transaction details in an SDDC purchase order?"

We verified that the data is modeled in the warehouse, tracked it back to an authoritative source system, and identified all transformations applied to the data in moving it from the source system into the warehouse.

If the system was not able to answer the question, the queries would have returned no rows, or null values for critical data elements. These values allow us to identify a gap in the data model that we need to correct to achieve the user requirement.

2-22

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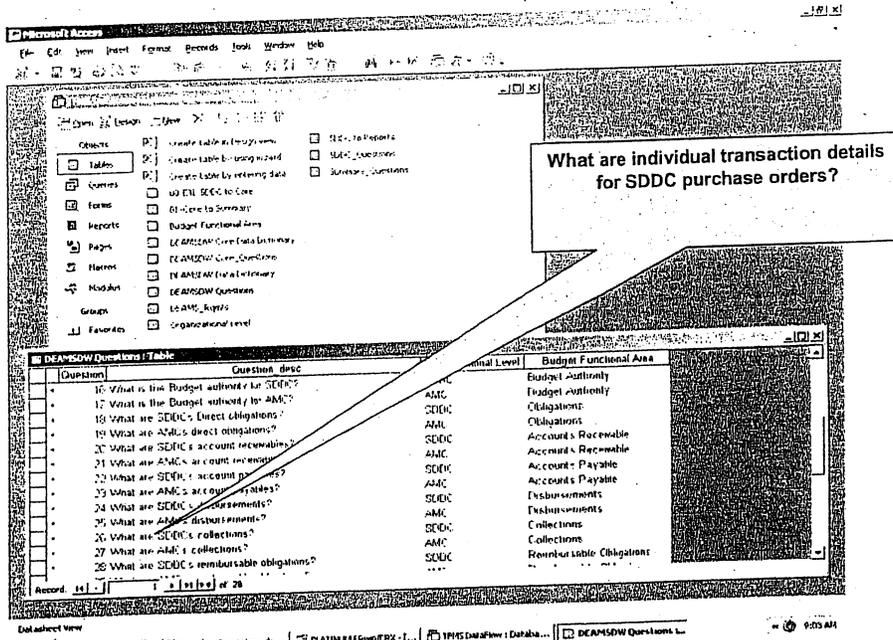
Figure 2-14. Locating the Business Question

Table 2-2. ETL Algorithms

03 -Source System to Core ETL Statements		
TFMS Core Table	**TFMS Core Column**	**ETL Logic Or Comment(s)**
PO_DTL	PO_DTL_BILL_QY	Sum(QUANTITY_BILLED) Group By PO_HEADER_ID, PO_LINE_ID - Foreign currency amount if not $dollars USD
PO_DTL	PO_DTL_DELV_QY	Sum(QUANTITY_DELIVERED) Group By PO_HEADER_ID, PO_LINE_ID - Foreign currency amount if not $dollars USD
PO_DTL	PO_DTL_ORDER_QY	Sum(QUANTITY_ORDERED) Group By PO_HEADER_ID, PO_LINE_ID - Foreign currency amount if not $dollars USD
PO	ORG_ID	Check against VENDOR.ORG_ID when VENDOR is ready
PO	CRNCY_CD	Currency code for PO
PO	PO_ID	Use PO_HEADER_ID to retrieve PO_LINES_ALL and PO_DISTRIBUTIONS_ALL
PO_DTL	PO_DTL_CRE8_DT	
PO_DTL	PO_DTL_ID	Use PO_HEADER_ID to retrieve PO_LINES_ALL and PO_DISTRIBUTIONS_ALL
PO_DTL	PO_ID	Via PO_HEADERS_ALL.PO_HEADER_ID and Use PO_HEADER_ID to retrieve PO_LINES_ALL and PO_DISTRIBUTIONS_ALL

To create a functioning data warehouse, we will track every business question to the source data and all intermediate data storage locations.

3.7.3 Analysis of As-Is Logical Data Model and Physical Data Model

In the example above, we used DDAT to track data elements from a business require-ment to its origin in a source system. Once we

located the data element in the source system, we examined the physical data model to ensure that individual attribute properties reflect the "real world" and will satisfy necessary internal system requirements to maintain a coherent operational environment

The process above must be applied to each identified information requirement. Given the magnitude of the information requirements provided, the value of the DDAT becomes readily apparent.

The DDAT identifies what is relevant and quickly maps a path for all questions. If there is no path, there is a gap!

3.7.3.1 Identification of Data Model Gaps

PWS Paras. 1.2.2.1.1, 1.2.2.2.1, and Section M Para. 2.b (1). Moving into the Data Analysis Phase of our data integration methodology, Figure 2-15, one result of data model analysis is the identification of gaps in the data model itself. When the data analyst documents the necessary data elements, data attributes, and data relationships needed to answer an information requirement – and finds those elements/attributes/relationships missing from the existing data model – a gap is identified.

A data model gap may result from the following variables:

- Missing critical data element
- Critical data element that does not reflect the necessary attributes
- Lack of a relationship with which to associate one critical element with others.

Figure 2-16 illustrates an example of how the DDAT is used to illustrate the data to identify gaps. Gap issues related to using this model are further described in the shaded text immediately following Figure 2-16. The Northrop Grumman Team chose to validate the business information requirement to analyze historical trends for the cost of transportation between two locations.

- Using the DDAT, we identified the critical data elements in the model that track to the cost of transportation between loca-

tions. One of the critical information elements identified to answer the business question is POE/POD.

- Using the SQL query to track the data back to the source system indicates that we are receiving POE/POD information, but it is in free-form text format and subject to frequent and significant data input error. A snapshot of the data model with the critical attributes are highlighted in green is shown below.

Data Integration Methodology
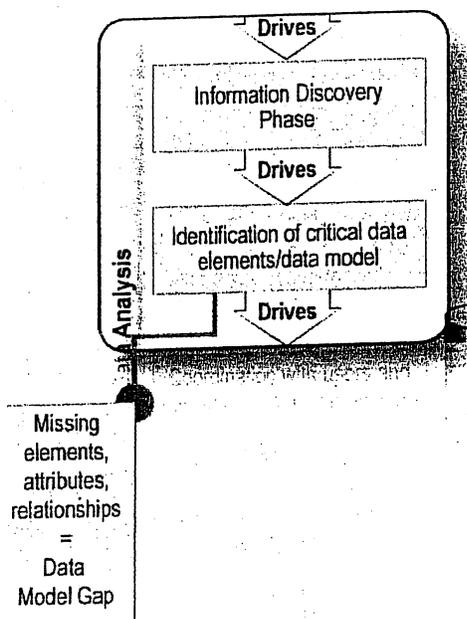
Figure 2-15. Process for "Identifying the Gap"

Examination of the physical description of the source data indicates it is free-form text. This creates a serious challenge for any automated system attempting to employ the data in analysis.

FISCAL-ACTIVITY

FISCAL-ACTIVITY IDENTIFIER

BUS_AREA_NM (FK)
TRANSPORTATION-COMPONENT-COMMAND CODE (FK)
FISCAL-ACTIVITY SOURCE PROJECT TEXT
FISCAL-ACTIVITY SOURCE TASK TEXT
FISCAL-ACTIVITY SOURCE ACTIVITY IDENTIFICATION TEXT
FISCAL-ACTIVITY CATEGORY TEXT
FISCAL-ACTIVITY DESCRIPTION TEXT
FISCAL-ACTIVITY AMOUNT
FISCAL-ACTIVITY INVOICE USAGE FLAG CODE
FISCAL-ACTIVITY GENERAL LEDGER POSTED DATE
ORGANIZATION IDENTIFIER (FK)
FISCAL-ACTIVITY-SERVICE-PERFORMED CODE (FK)
FISCAL-ACTIVITY-SERVICE-PERFORMED-TYPE CODE (FK)
FISCAL-ACTIVITY-SOURCE-SYSTEM CODE (FK)
FISCAL-ACTIVITY-TYPE CODE (FK)
FISCAL-ACTIVITY-SUB-TYPE CODE (FK)
MANAGEMENT-DECISION-PACKAGE IDENTIFIER (FK)
GENERAL-LEDGER-CODE-COMBINATION IDENTIFIER (FK)
ALLOTMENT-SERIAL-NUMBER CODE (FK)
OPERATING-AGENCY CODE (FK)
FISCAL-STATION CODE (FK)
COMMODITY CODE (FK)

OPERATIONAL-ACTIVITY-SOURCE

FISCAL-ACTIVITY IDENTIFIER (FK)

OPERATIONAL-ACTIVITY-SOURCE TRANSPORTATION CONTROL NUMBER TEXT
OPERATIONAL-ACTIVITY-SOURCE ROUTE LINER TEXT
OPERATIONAL-ACTIVITY-SOURCE PORT OF EMBARKATION TEXT
OPERATIONAL-ACTIVITY-SOURCE PORT OF DEBARKATION TEXT
OPERATIONAL-ACTIVITY-SOURCE VOUCHER NUMBER TEXT
OPERATIONAL-ACTIVITY-SOURCE NUMBER OF PIECES AMOUNT
OPERATIONAL-ACTIVITY-SOURCE VOYAGE DOC NUMBER TEXT
OPERATIONAL-ACTIVITY-SOURCE DOCK WEEK TEXT
OPERATIONAL-ACTIVITY-SOURCE MEASUREMENT TON QUANTITY
OPERATIONAL-ACTIVITY-SOURCE CONTRACT NUMBER TEXT
OPERATIONAL-ACTIVITY-SOURCE LABOR HOURS AMOUNT
TRANSPORTATION-ACCOUNT CODE (FK)
OPERATIONAL-ACTIVITY-SOURCE-SYSTEM CODE (FK)

Figure 2-16. Data Model with Gap Identified

> GAP ISSUE: The above model does not allow a user to research historical trends for the cost of transportation between two points. In the "Operational Activity Source" table, there are attributes for Port of Embarkation and Port of Debarkation (highlighted); however, those are free-form text fields that a computer cannot filter/search on efficiently because different spellings will exist.

3.7.4 Filling the Gap

PWS Paras. 1.2.2.1.1, 1.2.2.1.2, 1.2.2.2.1 and Section M Para. 2.b (1). Figure 2-17 shows the progression to the next steps in our data integration methodology. As we identify and document data model gaps, we will close the gap using our financial and operational expertise. We will also work closely with the Government functional community experts in the event that we are unable to close the gap on our own.

These elements will be modeled and recommended changes to the logical and physical data model developed. Figure 2-18 illustrates the changes that we recommend as a result of the gap analysis. These changes are highlighted in green within the figure and are explained further in the solution box immediately following Figure 2-18.

Data Integration Methodology

Coordination with users and business area data producers

Data Model Modifications

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Figure 2-17. Modification Identified to Fill the Gap

FISCAL-ACTIVITY

FISCAL-ACTIVITY IDENTIFIER

BUS_AREA_NM (FK)
TRANSPORTATION-COMPONENT-COMMAND CODE (FK)
FISCAL-ACTIVITY SOURCE PROJECT TEXT
FISCAL-ACTIVITY SOURCE TASK TEXT
FISCAL-ACTIVITY SOURCE ACTIVITY IDENTIFICATION TEXT
FISCAL-ACTIVITY CATEGORY TEXT
FISCAL-ACTIVITY DESCRIPTION TEXT
FISCAL-ACTIVITY AMOUNT
FISCAL-ACTIVITY INVOICE USAGE FLAG CODE
FISCAL-ACTIVITY GENERAL LEDGER POSTED DATE
ORGANIZATION IDENTIFIER (FK)
FISCAL-ACTIVITY-SERVICE-PERFORMED CODE (FK)
FISCAL-ACTIVITY-SERVICE-PERFORMED-TYPE CODE (FK)
FISCAL-ACTIVITY-SOURCE-SYSTEM CODE (FK)
FISCAL-ACTIVITY-TYPE CODE (FK)
FISCAL-ACTIVITY-SUB-TYPE CODE (FK)
MANAGEMENT-DECISION-PACKAGE IDENTIFIER (FK)
GENERAL-LEDGER-CODE-COMBINATION IDENTIFIER (FK)
ALLOTMENT-SERIAL-NUMBER CODE (FK)
OPERATING-AGENCY CODE (FK)
FISCAL-STATION CODE (FK)
COMMODITY CODE (FK)

OPERATIONAL-ACTIVITY-SOURCE

FISCAL-ACTIVITY IDENTIFIER (FK)

OPERATIONAL-ACTIVITY-SOURCE TRANSPORTATION CONTROL NUMBER TEXT
OPERATIONAL-ACTIVITY-SOURCE PORT OF EMBARKATION LOCATION CODE (FK)
OPERATIONAL-ACTIVITY-SOURCE PORT OF EMBARKATION LOCATION TYPE CODE (FK)
OPERATIONAL-ACTIVITY-SOURCE PORT OF DEBARKATION LOCATION CODE (FK)
OPERATIONAL-ACTIVITY-SOURCE PORT OF DEBARKATION LOCATION TYPE CODE (FK)
OPERATIONAL-ACTIVITY-SOURCE ROUTE LINER TEXT
OPERATIONAL-ACTIVITY-SOURCE VOUCHER NUMBER TEXT
OPERATIONAL-ACTIVITY-SOURCE NUMBER OF PIECES AMOUNT
OPERATIONAL-ACTIVITY-SOURCE VOYAGE DOC NUMBER TEXT
OPERATIONAL-ACTIVITY-SOURCE DOCK WEEK TEXT
OPERATIONAL-ACTIVITY-SOURCE MEASUREMENT TON QUANTITY
OPERATIONAL-ACTIVITY-SOURCE CONTRACT NUMBER TEXT
OPERATIONAL-ACTIVITY-SOURCE LABOR HOURS AMOUNT
TRANSPORTATION-ACCOUNT CODE (FK)
OPERATIONAL-ACTIVITY-SOURCE-SYSTEM CODE (FK)

LOCATION TYPE

LOCATION TYPE CODE

LOCATION TYPE TEXT

LOCATION

LOCATION CODE
LOCATION TYPE IDENTIFIER (FK)

LOCATION NAME
COUNTRY CODE
US STATE CODE
GEOLOCATION LATITUDE
GEOLOCATION LONGITUDE
PREFERRED

Figure 2-18. Data Model with Recommended Gap Solution Identified

The Northrop Grumman Team will use this data model gap analysis/gap resolution process to address each business information requirement identified during the data analysis task of the project.

Completion of the data analysis will result in the development of a data shortfall analysis for delivery. This analysis will detail our estimation of the sufficiency of the existing LDM and identify changes to the LDM necessary to achieve project objectives. The Team will conduct a Preliminary Design Review (PDR) to update the Government on the status of the effort and obtain permission to implement proposed changes to the LDM.

SOLUTION: Modify the existing data model to accommodate Location Identifiers that a computer can interpret and process. Feeder systems will provide a number of different types of Location Identifiers—Defense Transportation Regulation Airport Codes, Defense Transportation Regulation Seaport Codes, International Civil Aviation Organization (ICAO) Codes, Geographic Location (GEOLOC) Codes, Standard Point Location Codes (SPLC), zip codes, and perhaps others. Therefore, a "location type" attribute also is required to differentiate between the different categories of location. We will use foreign key constraints to validate the quality of the location codes originating from the source systems.

3.7.5 Implementing the Solution

PWS Para. 1.2.2.2.1 and Section M Para. 2.b (1). As we identify specific modifications required for data model performance, we will adapt the model to conform with existing data model standards to the maximum extent possible. Priority of research will:

- Use USTRANSCOM's Master Model where possible

- Reference Defense Information System Agency's (DISA) DOD Logical Data Model where possible

- Leverage other existing DOD Data Models, such as Joint Forces Command's Force Projection Data Model, where possible.

Where no data standards exist, our Team will use industry best standards for designing and implementing data model changes. Once approved by the DDW government representative, we will submit those data model additions/changes to USTRANSCOM's Corporate Data Office (CDO) for approval. Based on past experience, the USTRANSCOM CDO often accepts data model input from program offices and incorporates those addi-

tions/modifications into the Master Model. If we find disparities between real world, actual system data and established standards, we will err on the side of real world data. We will document those instances where the DDW model conflicts with the established standards and work with the CDO to resolve the differences.

3.7.6 Implementation of the Physical Data Model

The Data Model is NOW RIGHT...

PWS Para. 1.2.2.2.2 and Section M Para. 2.b (1). The Northrop Grumman Team will use ERwin as the data modeling software for the DDW physical data model. The end result of the PDM process will be a thoroughly documented physical database, an accurate LDM, and an accurate PDM.

3.7.6.1 PDM Data Model Standards

Our Team will create physical database names using USTRANSCOM standards. These standards are well documented in Chapter 3 of the USTRANSCOM Data Management Handbook.

3.7.6.2 Generating and Running the Teradata Specific Data Description Language (DDL)

Once the PDM is completed, we will generate DDL to create the database by selecting features from a menu (from the ERwin software) and clicking the "Report" button. See Figure 2-19 for a sample. The Team will closely examine the machine-generated DDL for anomalies that ERwin often creates—such as extraneous indexes and ERwin-stored procedures. We will delete the extraneous DDL as appropriate.
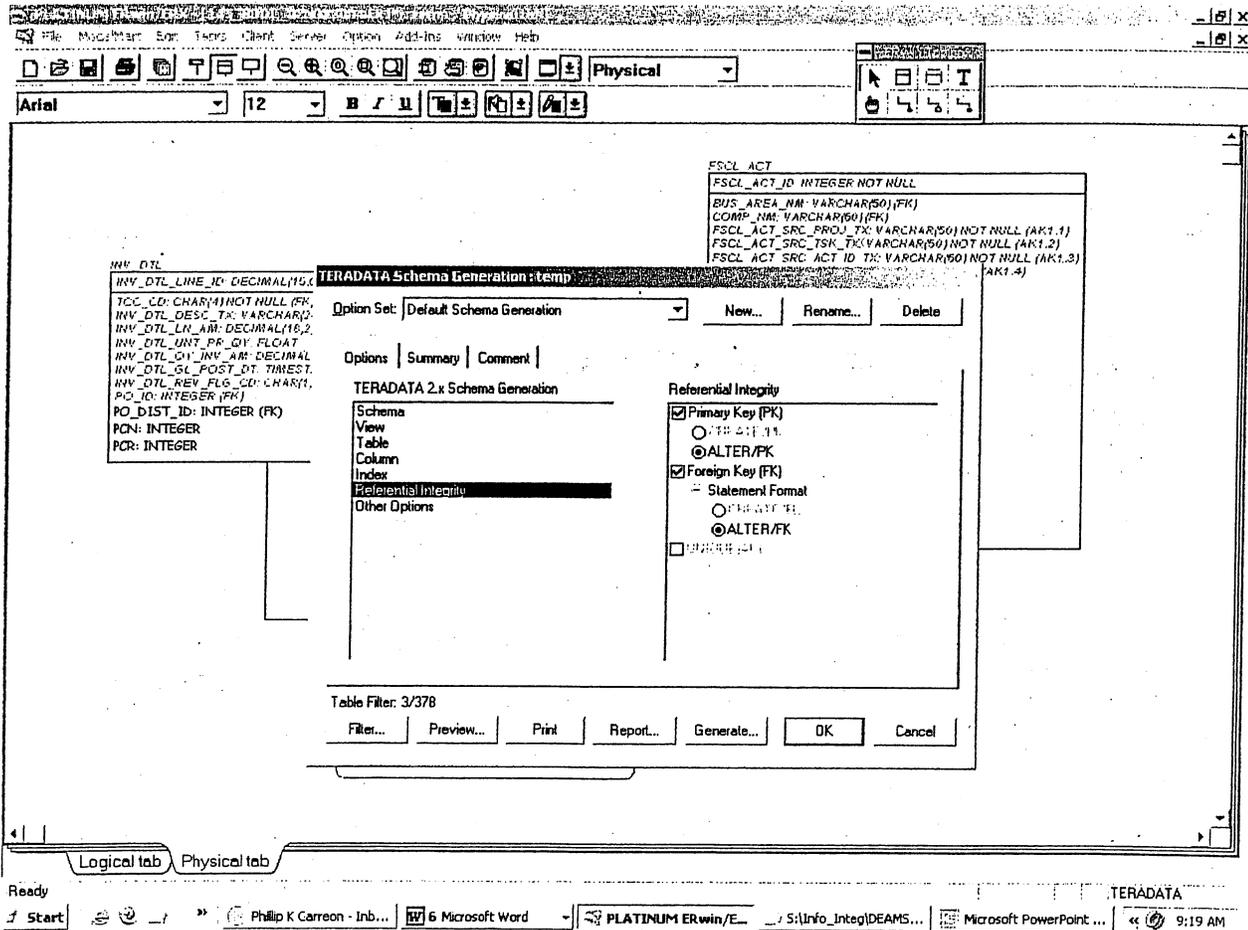
Figure 2-19. Teradata DDL Generation Function in ERwin.

2-27

Once our Team is satisfied with the script, developers will log onto the Teradata database and run the script. The Teradata database executive application will then create the database objects specified in the script including all the tables, primary keys, foreign key relationships, views, and indexes.

Execution of the processes described in Focus Area 1 is straightforward; however, it will consume significant resources and require close cooperation between the analytical team, functional experts, and the Government program manager. Successful completion lays the foundation for the remainder of the focus areas.

3.8 FOCUS AREA 2 – DEVELOP RELIABLE EXTRACT, TRANSFORM, LOAD (ETL)

PWS Para. 1.2.3.2 and Section M Para. 2.b (1). Our review of the PWS and related documentation indicates the production data warehouse (TFMS_Core) is not populated. When we complete the tasks in Focus Area 2, we will have an ETL process that will reliably and consistently move data from the source

systems to the warehouse. Figure 2-20 highlights Focus Area 2.

Data warehousing industry experts estimate that 60% of the effort of building a data warehouse is in the development of the ETL processes. To reduce this effort and improve quality of the ETL process, the Northrop Grumman Team will implement an automated ETL tool as a major component of the technical solution. We selected Data Migrator from iWay Software—a subsidiary of WebFOCUS. It is important to understand the reasons for selection of Data Migrator to accomplish this critical task.

Within the ETL market space, Informatica is the preeminent standalone tool for data warehouse ETL. Informatica is described as a 'pure play' on ETL and is contrasted to business intelligence (BI) vendors—a group which includes WebFOCUS. Pure-play vendors stress the capacity of their tools while BI vendors point to the ability of their tools to integrate with their business intelligence tools and provide end-to-end metadata from source system to the user interface.
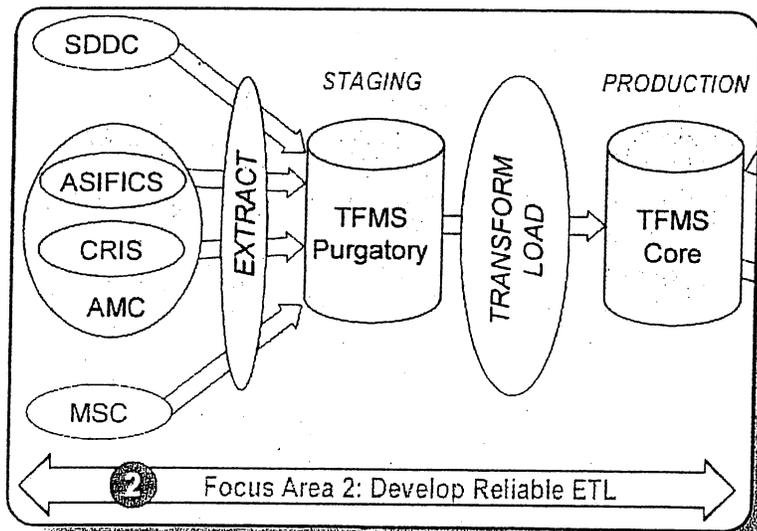
Figure 2-20. Analytical Framework for Project Success – Focus Area 2

In this instance, using sources such as the December 17, 2004 Forrester Research report, *How to Evaluate Enterprise ETL: Scalability, Connectivity, And Collaboration Are the Leading Requirements,* we determined that Data Migrator will meet the technical requirements of the task. The factors that led to our selection of Data Migrator include the following:

- Ease of integration with existing infrastructure and architecture.

- Value of metadata visibility through the system from source to user interface.

- Likelihood of higher quality support by dealing with one vendor. Single vendor support for ETL and BI means no finger pointing between vendors if problems develop.

- Relatively low price compared to the other tools.

The key to successfully loading the database is the selection and use of an ETL tool that graphically captures the work flow, work flow schedule, database connections, mapping and matching rules, data transformations, and error tracking and reporting.

3.8.1 Data Element Mapping and Matching Steps

We will import and test existing data mappings, transformation algorithms, and business logic from DDAT into Data Migrator. Figure 2-21 shows a sample screen shot.

The top half of the screen is the source table, in this case the SDDC table PO_DIST (PURCHASE ORDER DISTRIBUTIONS). The bottom half of the screen shows the target table in the DDW, in this example table PO_DTL (PURCHASE ORDER DETAIL). The Team will import the mapping and matching rules in the "Target Field Expression" column. In this example, where the tool

Figure 2-21. ETL Tool with Source Table, Target Table, and Mapping and Matching Rules

shows the pencil icon, we show the "Sum... Grouping" rule, which tells the tool to roll up data on the PQ_DTL_ORDER_QTY (PURCHASE ORDER DETAIL ORDER QUANTITY).

We will also use Data Migrator to store critical information for new mapping and matching rules identified during the gap analysis process and stored in DDAT. If the database requires changes to accommodate the import, we will be able to make the changes on the spot and reflect the changes in the data model and DDAT. The end result is rapid creation and documentation of mapping and matching rules with testing taking place in near-real time.

3.8.2 Apply Business Rules and Procedures As Needed

Business rules are captured using the ETL tool in the same way as the data mapping and matching. Business rules include any business-related data transformations such as the following:

- Translation from one data standard to another such as UNIT IDENTIFICATION CODE to DoD ACTIVITY ADDRESS CODE (DODAAC)
- Combining two or more fields into a single field
- Splitting a field into two or more fields
- Translating one method of measurement into another, such as pounds to tons
- Maintaining referential integrity from a source system
- Maintaining foreign key constraints from source system such as DODAAC fields.

We have identified the following four critical steps for the success of this focus area:

1. The Northrop Grumman Team will import business rules from DDAT.

2. Where new rules are needed, we will consult with in-house and Government functional experts to capture the business rules rapidly and accurately.

3. Our Team will capture workflow rules, table order loading rules, connection rules, and error reporting rules in the Data Migrator.

4. We will use the ETL tool's workflow diagrams to incrementally develop the database loading sequences while simultaneously testing each step. The ETL tool enables the Team to analyze the loading sequence step-by-step—pinpointing specific loading errors that we will resolve on-the-spot. Once the workflow diagram is complete and validated, the Team will automate the loading sequence for hands-off execution.

Changes at a source system—such as a connection change, structure change, or business rule change—often cause load failures. In a dynamic environment, pinpointing failures such as these is critical. Using Data Migrator, we will be able to quickly pinpoint the location of load failure from any source system and develop fixes without having to modify hard-coded loading scripts. Upgrade of the ETL establishes the conditions necessary to begin loading the warehouse.

The Northrop Grumman Team's recipe for ETL success is based on the following factors:

- Data Migrator will speed maintenance and dramatically improve reliability of the ETL process
- Data Migrator developer, IBI, is on the Northrop Grumman Team.

3.9 FOCUS AREA 3 – LOAD THE DATA WAREHOUSE

Section M Para. 2.b (1). At this point in the project we will have fully implemented the data model and created the physical structure of the warehouse. The ETL routines will be updated and system testing will be completed. Using Data Migrator the Team will then load the production database (Figure 2-22).
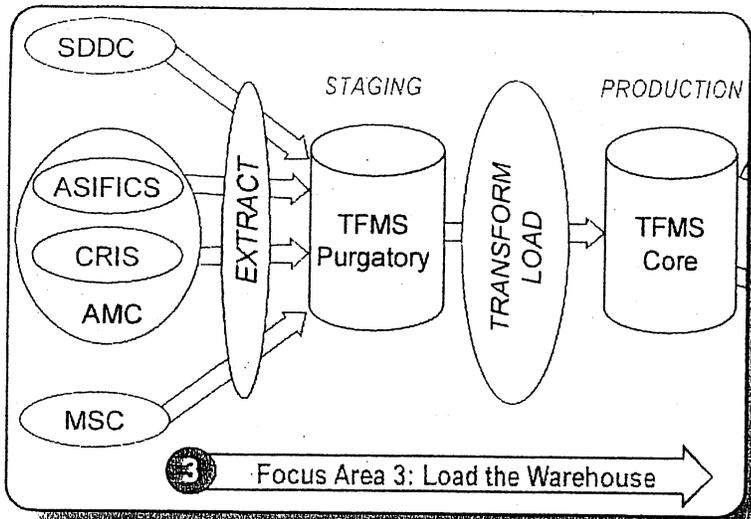
06072PR_G012

Figure 2-22. Analytical Framework for Project Success – Focus Area 3

We will execute multiple iterations of the load process that are already developed and tested. We will monitor the processes and ongoing data validation to ensure all required data is loaded properly.

Achievement of the milestones associated with this phase of the project corresponds to the second award milestone Completion of Initial Load of Data.

3.10 FOCUS AREA 4 – GENERATE BUSINESS VALUE – IMMEDIATE RETURN ON INVESTMENT

Section M Para. 2.b (1).

Once the warehouse is fully loaded, the investment in development begins to pay back by giving users a way to quickly conduct detailed analysis and answer business questions.

The DDW will enable users to quickly access critical information in a variety of formats. As shown in Figure 2-23, users will be able to produce standardized reports according to a fixed schedule or on demand. They will also have ad hoc reporting capabilities.

Trained business data analysts, using third party data analysis tools (for example, J8 users employing COGNOS), can immediately begin developing data cubes to answer specific questions. By accessing the data in the populated warehouse—instead of the staging tables as they do now—the scope of analysis will be expanded beyond a single TCC. The data warehouse will be immediately accessible to these analysts upon completion of loading and granting of security access.

3.11 ACCESSING THE DATA VIA THE USER INTERFACE

Section M Para. 2.b (1). A well-designed user interface enables non-technical business users to access and manipulate data and speeds accomplishment of their analytical tasks. The existing solution includes an extremely powerful, third-party web-based tool—WebFOCUS by IBI—to generate standardized reports and enable users to quickly develop their own ad hoc queries. The power of the WebFOCUS interface has not been realized to date due to the absence of a populated data warehouse. The Northrop Grumman Team will change that using the following phase process:

- Analyze and Design
- Modify
- Improvement
- Test and Evaluation.
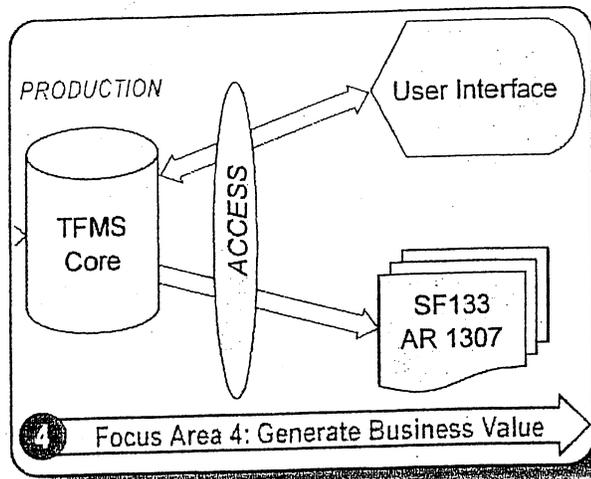
06072PR_G013

Figure 2-23. Analytical Framework for Project Success – Focus Area 4

3.11.1 User Interface Analyze and Design Phase

WebFOCUS will provide a fully integrated reporting solution with an easy-to-use interface that anyone—from end-users to power users/analysts—can quickly master, no matter their technical background. This tool will provide the diverse USTRANSCOM community the ability to create and access reports in a timely manner. This will help ensure that the right people have the right information to support making the right decisions to best support the Warfighter.

We will reuse the existing WebFOCUS code and the corresponding User's Manual to analyze the work that has already been done. Because the existing code was produced based on a physical data model that will change, we will focus on ensuring that the existing code matches the data elements in the new data model. DDAT will be of great value during the data matching stage. This analysis stage will be yet another step to make certain that the proposed data model properly suits the needs of the USTRANSCOM community by its usability and identifying any necessary adjustments.

We will document all code changes in accordance with our configuration and change management processes defined in Sections 2.1.3 and 3.15 of this proposal to ensure their completion. The Team will derive use cases from this analysis and apply them to verify the code accomplishes all necessary tasks/requirements; use cases will be crucial in preparing the test procedures.

3.11.2 User Interface Modify Phase

PWS Para. 1.2.3.6 Before implementing the code modifications, the Northrop Grumman Team will conduct a PDR to gain the required Government Program Manager (PM) approval to continue. The purpose of the PDR is to review the conceptual design to ensure that the planned technical approach will meet the requirements. During this review, our Team will update the Government PM on the process we will use to maintain the software code after implementation.

Having identified the required modifications to the existing WebFOCUS code, we will perform the modifications to make certain that all requirements are met.

3.11.3 User Interface Improvement Phase

PWS Paras. 1.2.2.3.1, 1.2.2.3.2, and 1.2.3.1. The Northrop Grumman Team will not only make the existing reports functional, but will expand and improve upon them. The Team will add the ability to perform ad hoc queries.

The application will allow users to customize a data query from the database in real time, as opposed to limiting the user to pre-created reports. For instance, the reporting system may allow the user to select the fields to be returned, as well as specifying the criteria to limit the returned records. The ad hoc reporting will be structured to enable someone without extensive Structured Query Language (SQL) knowledge to have similar access to the database.

In addition, the application will provide drill-down capability, which allows the user to move from summary information down into the detailed records that create the summary. Drill-down refers to accessing relational and multidimensional data and provides rapid answers when seeking more detail. The drill-down levels provide the flexibility to work on data at any level the user wants.

During this phase, our Team will also implement any new reporting capabilities and requirements that were identified during discussions with the user community.

Since the needs of USTRANSCOM are always evolving, we will implement useful capabilities to aid in change management. In accordance with Section 3.15 of this proposal, by choosing the "About DEAMS Data Warehouse" selection on the "Help" drop-down menu, the end users will be able to access an error or change request page that will be populated with any applicable information to reduce the amount of information the user must submit. This change management capability will be web-enabled and will allow users to submit requests for new capabilities, review/approve requested changes, or comment on actions already in process.

Our development work is not complete, even when the last line of code is written and tested. We will continue to support interaction with the end users in their retrieval and display of accurate information in an understandable and repeatable format.

3.12 TEST AND EVALUATION

PWS Paras. 1.2.3.2, 1.2.3.4.2, 1.3.2.3, and Section M Para. 2.b (1).

3.12.1 Testing Phases

PWS Paras. 1.2.3.2, 1.2.3.4, 1.2.3.4.1, 1.2.3.4.2, and Section M Para 2.b (1). We will test the DDW in all phases of the project. Successful completion of a testing milestone is a condition for movement from one phase of the project into a succeeding phase. We will evaluate the code for efficient use of system resources and proper coding practices in accordance with Software Engineering Process (SEP) and CMM Level III expectations. Table 2-3 identifies the phases of testing and associated activities and outputs.

PWS Para 1.3.2.3 and Section M Para 2.b (1) identify a requirement to track and manage code defects. The technical program manager has selected IBM's Rational ClearQuest as the tool we will use to perform this function. Part of the IBM Rational Rose toolset, ClearQuest is another cost-effective, proven, and accepted tool in the USTRANSCOM Enterprise Architecture. Using the information captured in this tool, we will ensure quality code during testing.

The first test activity is detailed requirements analysis and development of use cases. We consider use cases important for project success and will invest significant effort in developing them.

Use cases are developed using the following criteria:

■ Each requirement will have its own test case

■ Each line of code will be executed by at least one test case

■ Each data-flow path will be executed by a test case

■ All boundaries will be tested for maximum, minimum, and off-by-one conditions

06072PR

Table 2-3. Project Test Phases, Activities, and Outputs

	Testing Phase	Activity	Output	Project Task or Phase	Comments
1	Requirements Analysis	Develop a detailed understanding of system require-ments.	Detailed require-ments understand-ing of expected sys-tem behavior and performance. Detailed use cases to evaluate each requirement.	Business Discovery	No code written until a test case is developed for each require-ment. Expect/request government participation.
2	Plan Tests	Schedule tests and identify tech-niques to utilize during test.	Detailed test plan. Dates for functional and integration tests.	Program Management	Expect/request Government participation.
3	Create Tests	Develop auto-mated test tools. Identify test data.	Test scripts and detailed testing process steps.	Information Discovery	Validate during CDR.
4	Execute Tests	Evaluate sys-tem/components in accordance with test plans.	Records of actual system behavior under test condi-tions.	Information Discovery Development	Expect/request Government participation.
5	Identify Errors	Evaluate sys-tem/component performance to determine where actual perform-ance deviates from expectations.	Identification of causes of unex-pected behavior.	Development	Work w/ devel-opment and government to resolve records processing.
6	Resolve Errors	Update code or system processes to correct faults discovered. Identify necessary changes to requirements.	Determination and implementation of appropriate solu-tion. Recommendation to adjust system or process require-ments.	Development	Apply change and configura-tion manage-ment processes to ensure or-derly solution development and implemen-tation.
7	Execute Retests (Regression Testing)	Verify error correc-tion and conduct regression testing to ensure correc-tion did not create new errors.	Reports of actual system behavior under test condi-tions.	Development	Report in final DT&E report for Government acceptance.
8	Report Status	Inform Govern-ment of test re-sults.	Written results of tests and evalua-tions to inform Government of status of system.	Testing	Government has confidence that system will perform accord-ing to expecta-tions.

■ Perform use cases to check for inappropriate input data.

We will conduct testing in increments and will involve the Government from the beginning. Invitations will be extended to participate in requirement analysis and test case development.

The appropriate test scripts and documentation will accompany all additional tests submitted for approval by the developer. All test plans, use cases, scripts, and documentation will be validated by the Contracting Officer's Representative (COR) before integrating the recommended changes to the final test plan. A final Developmental Test and Evaluation (DT&E) test report of the USTRANSCOM financial application code, all supporting documentation, and test run outputs will be provided following execution of the DT&E. We will provide the necessary support for Operational Test and Evaluation (OT&E). The Team will also provide a setup disk with instructions for the installation and integration of USTRANSCOM financial application on the production system on the USTRANCOM LAN or testbed. Telephone and on-site support will be provided as necessary.

3.12.2 Unit Testing

Developers will conduct peer reviews and execute unit testing under Team auspices. Should the Government chose to participate, functional testing of development modules (LDM, ETL routines) will be executed with Government witnesses to speed the development process and ensure compliance with Government requirements—and to detect errors at the earliest possible stage in the process.

3.12.3 Integration Testing

PWS Para. 1.2.3.2. Integration testing will be accomplished in multiple increments and focus initially on integrating the ETL processes of each TCC. After demonstrating success at individual TCCs, the three will combine in a full integration test—successful completion of

which will authorize loading of the data warehouse with production data.

3.12.4 User Interface Test and Evaluation Phase

PWS Paras. 1.2.3.4, 1.2.3.4.2, 1.2.3.6, and Section M Para. 2.b (1). Before the testing phase, the Northrop Grumman Team will conduct a Critical Design Review (CDR) to gain the required Government PM approval to continue. The purpose of the CDR is to review the application to ensure that the designed implementation has met the requirements as documented. During this review, the Northrop Grumman Team will update the PM on the process we will use to maintain the software code after implementation.

It is in this phase that the Test Plan, which was developed as a parallel effort in the design phase, will be executed. The Test Plan will achieve the following objectives:

■ Organize the test approach

■ Make sure time and resources are allocated to testing

■ Identify those responsible for carrying out the test procedures

■ Make commitments that can be followed and audited

■ Provide a guide for what the system must accomplish.

We will coordinate our efforts with the Government PM to ensure the integration of DT&E with the user's Initial Operational Testing. We will utilize the use cases developed in the design phase to write the USTRANSCOM financial application test plans and procedures, to include recommendations and justifications for additional tests, adjustments to current test, and/or removal of any tests. The Team will assist the PM in developing scripts to accomplish the acceptance tests.

We will make sure resources necessary for conduct of all phases of testing are available when needed. Whenever possible, the re-

06072PR

sources will be physically present at the test site. If the Government prefers that the resource not be on scene, support will be provided telephonically.

3.12.5 Operational Test and Evaluation (OT&E)

PWS Para 1.2.3.4.1 With the objective of determining the extent to which the system is operationally effective and suitable, another option would be to use the Joint Integration Test Center (JITC) to conduct OT&E. The OT&E will involve typical trained users exercising a production-representative version of the DEAMS Data Warehouse System configurations in a realistic manner to determine the degree to which the system satisfies the stated operational requirements. JITC will rely on scripted test events, performance measurements, observations, and user questionnaire findings collected throughout OT&E activities to evaluate the system's Critical Operational Issues. JITC will present its OT&E findings to USTRANSCOM. The Northrop Grumman Team has extensive experience interfacing with the JITC on systems such as Business Systems Modernization.

3.13 DESIGN AND PROJECT REVIEWS

PWS Para. 1.2.3.6 and Section M Para. 2.b (1). The Northrop Grumman Team will conduct project or design reviews at critical points along the project timeline. The purpose of the reviews is to calibrate the Team and the Government on the current status of the project and identify decisions that must be made before proceeding to a next phase. A major goal of the review is to ensure good stewardship of project resources by making everybody aware of the resource commitments being made in going forward.

A preliminary design review is conducted to brief the Government on our understanding of a problem or objective of a specific project phase, identify our proposed solution, and satisfy the Government's concerns that the proposed approach will achieve project objectives. Preliminary reviews will be conducted

after problem analysis is complete—prior to solution implementation or commitment of extensive resources to development and implementation.

Critical reviews will be scheduled prior to major deliverable milestones—usually immediately prior to the testing of a major deliverable—to ensure the product being tested conforms to the original design and is prepared to test successfully.

A project review of the entire system will be conducted at the conclusion of the *Re-Engineering the Solution to Meet Stated Requirements* phase. At this point in the project, the Team will present to the Government a complete estimate of the situation, to include resources necessary to complete the project and achieve the requirements in the PWS. The significant output of this review will be the baseline requirements against which all subsequent development will take place.

3.14 TRAINING

PWS Para. 1.2.3.5 and Section M Para. 2.b (1). The Northrop Grumman Team will provide training for the Government representatives, application administrator, and backups—not to exceed 8 people for operating the installation application. This training is limited to the pre-Final Operating Capability (FOC) period of the contract. Training is another critical piece for overall project success. It helps ensure a higher competency and increases productivity. The trainer will work with the Government to develop a comprehensive training guide. The curriculum will serve as a training tool for the users to become proficient with the installed application. End users will become familiar with the application, learn the various features offered with the program, and perform hands-on exercises with applications in a classroom environment. Additional tutorials and exercises can be developed to promote a user's interest and make the overall learning experience more appealing.

Once the application is defined, we will provide a copy of the proposed curriculum to the Government for approval. The trainer will be responsible for developing a spreadsheet that identifies personnel trained and training dates. The results will be tabulated and provided to the Government for review. We will review user-recommended changes and implement them as approved by the Government. Discussions between the Northrop Grumman Technical Program Manager and the Government Program Manager concerning training requirement will be continuous to meet the latest requirements.

As an option, training can be provided at the USTRANSCOM's Groupware Facility. This facility can accommodate 20 students with work stations in the large conference room and 18 work stations in the small conference room. It also has the capability of hosting presentations on two projection screens as well as allowing students to provide comments/questions via the Topic Commenter without disrupting the classroom environment.

The following steps are necessary to develop and deliver successful training:

- Perform Training Assessment
- Design Training
- Develop Training
- Implement Training
- Design Evaluation Program
- Evaluate Training

We will develop instructional media (CD or online training) for the application users and administration personnel and will instruct personnel on the use of the training materials. Subsequent to each session, we will provide a utilization report detailing trainee participation, comments, and recommendations on software functionality and an evaluation of training effectiveness. Prior to implementing training, we will provide training proposals, material, and concepts for review and approval by the Government customer.

3.15 CHANGE MANAGEMENT

PWS Para. 1.2.2.3.2 and Section M Para. 2.b (1). The Northrop Grumman Team views a documented change management process essential to the maintenance of a system that is responsive to user requirements and an integral part of a best practice configuration management process. We will use automated tools cited in Section 2.1.3 of this proposal—Microsoft Visual Source Safe and IBM Rational ClearQuest—to ensure accurate tracking of code and changes to documentation. Our proposed DEAMS Data Warehouse change management process is shown in Figure 2-24.
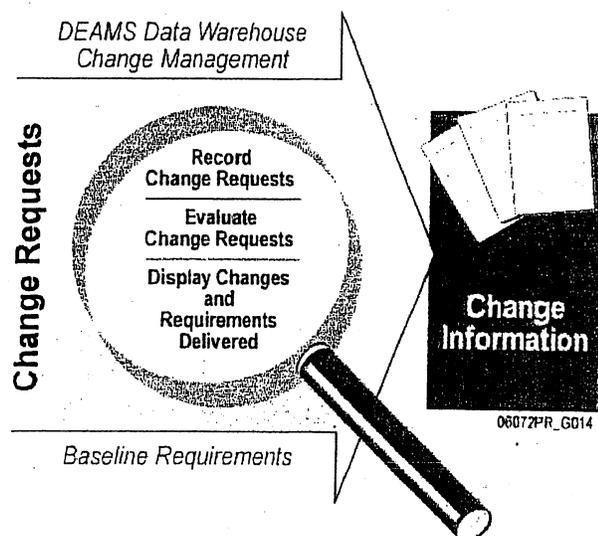
Figure 2-24. Description of the Change Management Process the Northrop Grumman Team will use in the DEAMS Data Warehouse Project

3.15.1 Record Change Requests

PWS Para. 1.2.2.3.1 and Section M Para. 2.b (1). We will provide the ability to submit change requests as a menu option on the user interface. On the Help drop-down menu, the user will select "About DEAMS Data Warehouse," and will be presented with a selection box to submit a change or review status of submitted changes. On selecting submit change, the user will be presented a form, formatted to receive and categorize input. The

user will describe the change requested and provide information justifying the change request and the user's contact information. Upon clicking submit, the change will be written to a database table of pending change requests. A confirmation email will be sent to the user with a copy to the Government PM.

3.15.2 Evaluate/Approve Change Requests

We propose the establishment of a DDW Change Management Board (CMB) consisting of the Government COR, Government representatives from the J8, the three TCCs, and the DCS. The DDW CMB will convene monthly or as required. Meetings will be coordinated by the Northrop Grumman program manager and conducted via teleconference. We will provide read-ahead information 48 hours prior to the conference, consisting of an agenda, newly requested changes with an estimated cost and schedule to complete, and a report of currently approved changes with status. Based on board decisions, request status will change to approved or declined and be updated in the change request table. Approved requests will be passed to the Northrop Grumman program manager for detailed cost and schedule determination and insertion into the configuration management plan for development, testing, and release. Users will be notified of disapproved changes and reason for disapproval via email.

3.15.3 Display Changes and Requirements Delivered

DDW users will be able to access the change management process through the Help menu. On the Help drop-down menu, the user will select "About DEAMS Data Warehouse," and will be presented with a selection box to submit a change or review status of submitted changes. If the user selects "Review Change Requests" they will be presented with an option box asking them to designate pending, approved, disapproved, or all. Based on user input, a spreadsheet will be presented showing all change requests with the status corresponding to the user selection.

3.15.4 Baseline Requirements

PWS Para. 1.2.2.3.3. As discussed in Section 2.1.3 of this proposal, Configuration Management (CM) Process, the Northrop Grumman Team will perform a detailed analysis of the existing documentation and requirements for the DEAMS Data Warehouse project. Upon completion, we will establish a baseline configuration and will submit same for Government approval. Once approved, we will enter the baseline into the change management system to allow the users to view current versions of all documentation as well as status of all requested changes.

3.16 MAINTENANCE TASKS

PWS Para. 1.3.2. The Northrop Grumman Team will maintain the current production system during development and continue maintenance on the production system as future increments are moved to production.

3.16.1 Code Maintenance

PWS Para. 1.3.2.1. Upon completion of the Government coordination with, and approval by the Program Management Office of the interfacing system, we will modify existing interfaces to meet changes to feeder systems when required. This coordination and approval should be documented by the Government in a change to the existing Interface Requirements Design Document. The USTRANSCOM Electronic Data Warehouse (EDW) is the repository for data received from existing interfaces.

3.16.2 System Maintenance Support

PWS Para. 1.3.2.2. We will provide technical support of all production level software releases. This includes interaction with the USTRANSCOM EDW Management Team for database, system, and quality administration. Our support will include interaction with application end users, to support retrieval and display of accurate information in an understandable and repeatable format.

3.16.3 Problem Resolution

PWS Para. 1.3.2.3. The Northrop Grumman Team will resolve any documented, outstanding software problems that arise during phase development and implementation. Such problems may be identified by the result of deliverable inspection, user input, or test results. We will use Microsoft Visual Source-Safe to ensure version control is maintained and IBM Rational ClearQuest to facilitate the identification and tracking of any problems to be resolved. We will address changes in the configuration management process (described in Section 2.1.3) and/or the change management process (described in Section 3.8) as needed.

3.17 ASSUMPTIONS, RISKS AND MITIGATION

Section M Para. 2.b (1).

3.17.1 Assumptions

Northrop Grumman considers itself part of an integrated team with USTRANSCOM. As such, we look to the Government to play an active role in our risk identification and mitigation activities. Due to the transformational environment within the Command, the ability to query and report financial information will become even more critical in both the near and long-term. Effective financial management and accounting systems must provide decision-ready information in a timely manner and across a large number of users in order to be of value. For these reasons, we believe it is critical to identify and validate our assumptions and risks and determine acceptable mitigation actions.

Northrop Grumman's risk mitigation begins with this document. In order to properly assess the tasks outlined in the PWS and develop the manpower and organizational structure required, we found it necessary to make certain assumptions in order to provide USTRANSCOM with a succinct technical proposal. Portions of our technical, staffing, and cost proposals are based upon these assumptions. Table 2-4 lists the assumptions and risks we have considered in developing our proposal.

Table 2-4. Northrop Grumman's PWS Assumptions

Assumption	Risk(s) if Assumption is Wrong
Budget plan data is available and included in scope of reporting	▪ Budget plan data is not available to the system and generated reports are unable to compare planned to actual results. Reports are of limited utility to users and system is not utilized. ▪ Requirements are not fully detailed and of sufficient quality to begin writing use cases at start of project. ▪ A major investment in time may be required to detail requirements. ▪ System components developed to inaccurate or incomplete requirements may not be of use to customer.
J8 users representatives participate in interface development	▪ Lack of user participation in design of system interface results in a system that does not conform to users work processes or expectations.
A separate test environment is available and similar to production environment	▪ Testing will be executed in the development environment, which may require ceasing development to ensure the test environment is not compromised. There is a chance of delay of development or testing if the team has to shut one environment down to create the other.
Business processes and rules are essentially unchanged since originally documented	▪ Changes to business rules or processes since initial documentation may require a significant effort to document. Development of ETL using outdated rules or processes compromises the ETL process.

Table 2-4. Northrop Grumman's PWS Assumptions (Concluded)

Assumption	Risk(s) if Assumption is Wrong
All data necessary to answer business questions and generate reports is flowing across interfaces already	▪ Critical information elements may not be available without modification of the IRDDs.
Actual data will be available to developers early in the development process	▪ Actual data from TCCs may not be available for developers. Developers will use notional data that doesn't correspond to actual conditions.
The Northrop Grumman Team can access the development environment hosted on the USTRANSCOM network within 1 month of the award of the task	▪ Developers may be unable to access their tools and information due to the time required to requisition and install broadband access. ▪ USTRANSCOM administrative process for approving access across the firewall may not be responsive enough to ensure access with 30 days of contract award.
Each of the TCCs will participate in the process of verifying business process documentation	▪ Without TCC participation there will be no way to verify accuracy of rules implemented in the transformations. The resulting system may generate inaccurate reports or data.

3.17.2 Risks and Mitigation

Section M Para. 2.b (1). After the assumptions were made, our next step identifies those items that may possibly present risks to the successful completion of the DEAMS Data Warehouse project. We have identified several risks, developed mitigation actions, and evaluated the benefits of these actions to USTRANSCOM as shown in Figure 2-25.

06072PR

Risk	Likelihood of Risk Occurrence	Impact if Risk Occurs	Mitigation Action	Likelihood of Occurrence After Mitigation	Benefits
Budget plan data is not available to the system and generated reports are unable to compare planned to actual results. Reports are of limited utility to users and the system is not utilized.	High	Med	Determine if budget data could be input via spreadsheet and included in the system. Consult with users to understand if reports without plan data have utility.	Low	Providing useful reports will build Government demand for the system.
A major investment in time may be required to detail requirements. System components developed to inaccurate or incomplete requirements may not be of use to Government.	Med	Med	Focus heavily on understanding requirements and working with Government and users to develop detailed requirements. Write the test case for each requirement before beginning development.	Low	Clear understanding of requirements early in the project preserves development time and limits amount of rework.
Lack of user participation in design of system interface results in a system that does not conform to users work processes or expectations.	Med	Med	Work with Government to identify the user representatives qualified to speak for the user base. Solicit their participation in detailing requirements, writing use cases, and prototyping of user interface.	Low	User input and participation is key to success. We must have a good relationship early to build a system they will find valuable and useful.
The project may have to execute testing in the development requirement. This may require ceasing development to ensure the test environment is not compromised. There is a chance of delay of development or testing if team has to shut one environment down to create the other.	Med	High	Work with Government to clarify status of the test environment as soon as possible. If a separate environment is not to be created, work to generate detailed, incremental test plans to minimize total development time lost and preserve the opportunity to build a little, test a little, fix a little.	Very Low	Reduces development time and increases level of detail in test planning.
Changes to business rules or processes since initial documentation may require a significant effort to document. Development of ETL using outdated rules or processes compromises the ETL process.	Low	Med	Work with Government/users to identify all transformations in current ETL and verify that the rules for those transforms are valid – document all changes.	Very Low	An accurate ETL that limits rework and preserves development time.

Figure 2-25. Risk, Mitigation, and Benefits

Risk	Likelihood of Risk Occurrence	Impact if Risk Occurs	Mitigation Action	Likelihood of Occurrence After Mitigation	Benefits
Critical information elements may not be available without modification of the IRDDs.	Low at SDDC and AMC. Medium-to-high at MSC due to lack of detail in IRDD.	High	Identify critical data elements as soon as possible. If IRDDs are impacted, generate proposed changes and pass to Government for coordination and update of agreement. Identify alternatives to the information or insert placeholders and continue development.	Low	Preserves development time.
Actual data from TCCs may not be available for developers. Developers will use notional data that does not correspond to actual conditions.	Low at SDDC. Medium at AMC. High at MSC.	High	Work with Government to obtain actual data from all TCCs. If not available, generate data that conforms to the IRDD – then add flaws and garble it to ensure our ETL detects bad data.	Low	Ensures data is accurate and current. Also tests the ETL.
Developers may be unable to access their tools and information due to the time required to requisition and install broadband access. USTRANSCOM administrative process for approving access across the firewall may not be responsive enough to ensure access with 30 days of contract award.	Med	High	If possible, mirror the development on our side of the firewall. Identify all administrative requirements for access and have all paperwork ready to drop upon award. Work with Government to get one or two developers a workspace on the other side of the firewall if necessary.	Low	Our deep understanding of USTRANSCOM processes allows us to prepare the necessary requests early to ensure the risk is avoided or minimized.
Without TCC participation, there will be no way to verify accuracy of rules implemented in the transformations. The resulting system may generate inaccurate reports or data.	Medium – greatest risk appears to be at MSC.	Med	Work with Government to solicit participation of TCCs in verification process. If unable to secure, use in-house assets in the area to conduct research informally.	Low	Our relationships with SDDC and MSC staff via our work on TFMS-M will facilitate their participation.

Figure 2-25. Risk, Mitigation, and Benefits (Concluded)

4. DELIVERABLES

PWS Para. 1.4. Northrop Grumman will provide one hard copy and one soft copy of each deliverable to the TM as directed in the Statement of Work, using the current TCJ6 version of Microsoft Word, Project, Power Point, Excel, or other applicable application. We will provide each deliverable in hard copy and on a 3.5" high-density diskette or CD with a typewritten, identifying label displaying the appropriate contract number and deliverable title. The Government will have five

(5) working days to provide comments on any deliverable. If no comments are received within 5 days, Northrop Grumman will consider the deliverable accepted.

Table 2-5 is the deliverables table that we will adhere to. This table is also included in Section 3 of Volume 2. We have included it here for the convenience of the selection board.

4.1 SCHEDULE MATRIX

PWS Paras. 1.2.3.3 & 1.4 and Section M Para. 2.b (1).

Table 2-5. Schedule of Deliverables

Task Number	Contractor Task/ Deliverable	Deliverable Date
1.2.2.1.1	Business Discovery, Processes, and Rules	4 Aug 2006
1.2.2.1.2/1.2.3.1	Information Discovery, Data Analysis, and Data Shortfall Documentation	13 Sept 2006
1.2.2.1.3	Configuration Management Plan	27 Jul 2006
1.2.2.1.3	Change Management Requirements Baseline	31 Oct 2006
1.2.2.1.3	Configuration Management Capability	20 Apr 2007
1.2.2.2.1	Logical Data Modeling and Data Dictionary	23 Oct 2006
1.2.2.2.2	Physical Data Model	28 Dec 2006
1.2.2.2.2	Physical Data Modeling and Implementation	8 Mar 2007
1.2.2.3	Change Management Plan	3 Aug 2006
1.2.2.3	Change Management Capability (via GUI)	25 May 2007
1.2.3	Financial Management and System Incremental Delivery	28 May 2007
1.2.3.2	Interface/Load Code Creation Extract/Transform/Load Scripts	8 Mar 2007
1.2.3.3	Documentation User Manuals	26 Mar 2007
1.2.3.3	System Administration Guide	16 Feb 2007
1.2.3.3	System Troubleshooting Guide	16 Apr 2007
1.2.3.3	Software Design Document	28 May 2007
1.2.3.3	System/Interface Documentation	15 Feb 2007
1.2.3.3	Software Requirement Document Changes	21 Nov 2006
1.2.3.3	Configuration Management Plan Documentation	27 Jul 2006
1.2.3.4	Test Plans and Procedures	4 Oct 2006
1.2.3.4	Test Reports	14 May 2007
1.2.3.4	Developmental Test Documentation	8 Feb 2007
1.2.3.5	Training Materials	19 Apr 2007
1.2.3.5	Training Sessions	19 Apr 2007
1.2.3.6	Design Reviews and PDR/CDR Minutes	5 working days following review completion

Table 2-5. Schedule of Deliverables (Concluded)

Task Number	Contractor Task/ Deliverable	Deliverable Date
1.3.1.1	Task Order Management Plan (TOMP)	Draft – 10 days after contract award Final – 5 days following receipt of government comments
1.3.1.2	Task Order Management Monthly Status Report (MSR)	5th working day of each month following contract award
1.3.1.3	Work Breakdown Structure (WBS)	10 days after contract award
1.3.1.4	Resource Management Tracking (RMT)	5th working day of each month following contract award.
1.3.1.5	IPR Presentation Materials	2 working days prior to the meeting
1.3.1.5/1.3.1.6	IPR/TIM Reports and Meeting Minutes	2 working days after the meeting
1.3.1.6	TIM Presentation Materials	2 working days prior to the meeting
1.3.2	Current System Maintenance	9 Mar 2007

4.2 ODC SOFTWARE REQUIRED

PWS Para. 1.4. Northrop Grumman will provide additional software as necessary to meet technical, functional, and legal responsibilities of the PMO. Our Program Manager will review and direct these requirements IAW approved Monthly Status Reports (i.e., hardware/services, T1 line/help desk/Commercial software, etc.). Our solution includes Microsoft Visual SourceSafe, IBM Rational ClearQuest, IBI Data Migrator with development and test licenses. There is also an option for a Data Migrator production license.

4.3 PERIOD OF PERFORMANCE, PLACE OF PERFORMANCE, AND HOURS OF WORK

4.3.1 Period of Performance

The period of performance (POP) is 365 calendar days from award.

4.3.2 Place of Performance

The primary place of performance is the Northrop Grumman facility located at 670 Pierce Blvd, O'Fallon, IL. As required, the alternative place of performance is the DEAMS Office at 16 Executive Dr. Suite 200, Fairview Height, IL. All employees will perform duties at either of these two locations.

4.3.3 Hours of Work

PWS Para. 4.4. The Northrop Grumman Team will maintain work hours consistent with Government personnel duty hours and holiday schedule, normally 7:00 a.m. until 4:00 p.m. Central time, Monday through Friday. We will obtain approval in writing from the Program Manager or his Contract Officer Representative (COR) for any requested exceptions to the hours of work.

4.4 TRAVEL

PWS Para. 4.7. Northrop Grumman understands that performance under this PWS may require the contractor to travel outside the place of performance to provide required training or attend various meetings on a Cost Reimbursable Basis. We will obtain approval in advance, in writing, from the COR for all

travel. Our management processes will ensure that travel costs do not exceed the estimated amounts established in the associated Contract Line Item Numbers (CLINS). We will submit incurred travel costs for reimbursement by the Government in accordance with Joint Travel Regulations (JTR), Federal Travel Regulations (FTR) and FAR cost principles. We will secure flights at the prevailing rates for commercial airline or tourist class and will use the most reasonable means of ground transportation i.e., taxi, bus, or car rental. Table 2-6 contains the anticipated training trips during the period of performance.

Table 2-6. Travel

Location	No. Trips	No. Days	# Of People
DFAS (Denver, CO)	5	5	1
SDDC (Washington DC)	5	5	1
MSC (Washington DC)	5	5	2
DCS (Washington DC)	2	5	1

5. OTHER PERTINENT INFORMATION

5.1 SECURITY

PWS Para. 4.6.1. Our Team will require access to Government information in the performance of this contract and some of that information may be classified at the SECRET level. Northrop Grumman will ensure that all team members have the appropriate level of security clearance for SECRET level classification to allow unescorted access.

The Northrop Grumman Team will not divulge any information, including but not limited to, financial, planning, programming, or budgeting information without the express consent of the Government. We will observe and comply with security provisions at Scott AFB, USTRANSCOM, and any other Government installations where performance is required. Our personnel are briefed on badge display policy and will wear and display identification badges at all times. Northrop Grumman will provide Contract Security Classification Specification, DD Form 254 for all employees.

5.2 NON-PUBLIC INFORMATION

PWS Para. 4.6.2. Northrop Grumman understands that in performance of this contract, our Team members may obtain access to sensitive, non-public information. We agree and will instruct all our team members to: (a) use and protect such information from unauthorized disclosure in accordance with the Federal Acquisition Regulation (FAR); (b) use and disclose such information only for the purpose of performing this contract and to not use or disclose such information for any personal or commercial purpose; (c) obtain permission of the COR before disclosing/discussing such information with a third party; (d) return any non-public, sensitive information no longer required for contractor performance; and (e) advise the COR of any unauthorized release of such information. Upon request, Northrop Grumman employees assigned to this contract will execute a non-disclosure agreement for delivery to the Government.

6. GOVERNMENT-FURNISHED EQUIPMENT GOVERNMENT-FURNISHED INFORMATION

The Northrop Grumman Team agrees that the GFE/GFI listed in Paragraph 3.0 of the PWS is adequate for this task order. Should additional GFE/GFI requirements be identified after this task order is awarded, the Northrop Grumman Team will submit a formal request for information/support for any items required, but not listed in tables of this PWS. We will submit this request as soon as a need has been identified in order to minimally impact to the program schedule.

The Northrop Grumman Team will submit a formal request for clarification for any items

delivered by the Government (listed in PWS Paragraph 3.2.1) that do not meet our requirements. We will deliver our request to the COR within five (5) working days. The Northrop Grumman Team understands that any GFE/GFI that is not the subject of a request for clarification within five (5) working days of being provided is considered as accepted by the contractor.

7. STAFFING

Northrop Grumman's Team is committed to providing the DEAMS Data Warehouse program office with individuals who have the requisite skills and experience to provide superior services and deliverables on time. An example of our ability to do this occurred in April 2003 when we were given the requirement to bring on nine highly skilled Oracle Federal Financial Application Developers and Database Administrators. Within 1 month, we hired 9 experienced technical personnel with the required skill sets to satisfy SDDC's tech-

nical requirement. These personnel are currently supporting the TFMS-M effort and have extensive knowledge of the USTRANSCOM and SDDC organizations, and with the TFMS Systems requirements, procedures, and processes. Our proven capability to match an individual's skills with requirements ensures optimum results in a timely and cost-effective manner. Per Section L of the PWS, a complete coverage of our Staffing Proposal is covered in Volume 3, Staffing Proposal.

7.1 CONTRACTOR STAFFING CHANGES

PWS Para. 4.5. In the event a change in contractor staffing is required, Northrop Grumman's replacement personnel will meet or exceed all Government qualifications identified in the Volume 3, Staffing Proposal. We will review qualifications of all proposed contractor replacement personnel with the COR prior to putting the new employee on the contract.

06072PR

SECTION 2
EXCEPTIONS TO RFP TERMS AND CONDITIONS

Northrop Grumman takes no exceptions to the compliance requirements as stated in the DEAMS Data Warehouse solicitation, RFP HTC711-06-R-0002. Northrop Grumman has signed the SF33 and all amendments; they are included in Volume 1, Section 2.

SECTION 3
DELIVERABLE SCHEDULE

3. DELIVERABLES

A list of all contractor tasks and deliverables, along with associated task numbers and delivery dates is provided in Table 2-7.

As specified in the Statement of Work, Northrop Grumman will submit one hard and one soft copy of each deliverable to the TM.

Table 2-7. Schedule of Deliverables

Task Number	Contractor Task/ Deliverable	Deliverable Date
1.2.2.1.1	Business Discovery, Processes, and Rules	4 Aug 2006
1.2.2.1.2/1.2.3.1	Information Discovery, Data Analysis, and Data Shortfall Documentation	13 Sept 2006
1.2.2.1.3	Configuration Management Plan	27 Jul 2006
1.2.2.1.3	Change Management Requirements Baseline	31 Oct 2006
1.2.2.1.3	Configuration Management Capability	20 Apr 2007
1.2.2.2.1	Logical Data Modeling and Data Dictionary	23 Oct 2006
1.2.2.2.2	Physical Data Model	28 Dec 2006
1.2.2.2.2	Physical Data Modeling and Implementation	8 Mar 2007
1.2.2.3	Change Management Plan	3 Aug 2006
1.2.2.3	Change Management Capability (via GUI)	25 May 2007
1.2.3	Financial Management and System Incremental Delivery	28 May 2007
1.2.3.2	Interface/Load Code Creation Extract/Transform/Load Scripts	8 Mar 2007
1.2.3.3	Documentation User Manuals	26 Mar 2007
1.2.3.3	System Administration Guide	16 Feb 2007
1.2.3.3	System Troubleshooting Guide	16 Apr 2007
1.2.3.3	Software Design Document	28 May 2007
1.2.3.3	System/Interface Documentation	15 Feb 2007
1.2.3.3	Software Requirement Document Changes	21 Nov 2006
1.2.3.3	Configuration Management Plan Documentation	27 Jul 2006
1.2.3.4	Test Plans and Procedures	4 Oct 2006
1.2.3.4	Test Reports	14 May 2007
1.2.3.4	Developmental Test Documentation	8 Feb 2007
1.2.3.5	Training Materials	19 Apr 2007
1.2.3.5	Training Sessions	19 Apr 2007
1.2.3.6	Design Reviews and PDR/CDR Minutes	5 working days following review completion
1.3.1.1	Task Order Management Plan (TOMP)	Draft – 10 days after contract award Final – 5 days following receipt of government comments

Table 2-7. Schedule of Deliverables (Concluded)

Task Number	Contractor Task/ Deliverable	Deliverable Date
1.3.1.2	Task Order Management Monthly Status Report (MSR)	5th working day of each month following contract award
1.3.1.3	Work Breakdown Structure (WBS)	10 days after contract award
1.3.1.4	Resource Management Tracking (RMT)	5th working day of each month following contract award.
1.3.1.5	IPR Presentation Materials	2 working days prior to the meeting
1.3.1.5/1.3.1.6	IPR/TIM Reports and Meeting Minutes	2 working days after the meeting
1.3.1.6	TIM Presentation Materials	2 working days prior to the meeting
1.3.2	Current System Maintenance	9 Mar 2007

06072PR

Rev 04, 10-22-04

For questions on using this Microsoft Excel 97 or later PC-based CMMI-SE/SW/IPPD/SS V1.1 spreadsheet, e-mail Diane.Mizukami@ngc.com.

The buttons and macros won't work if the security settings in your PC's version of Excel are set too high. To enable macros, select Tools -> Macro -> Security. Select "Medium"; then exit Excel, and reopen the file. When asked whether to enable macros, select "Enable Macros".

DISPLAY CONTROLS WORKSHEET

The Display Controls are used to control what rows are displayed in the "Process Areas" worksheet. CMMI requirements are hidden when the box is unchecked.

Set All: When this button is pressed, all boxes will be checked. No action is performed until the "Apply" button is selected.

Clear All: When this button is pressed, all boxes will be unchecked. No action is performed until the "Apply" button is selected.

Apply: When this button is pressed, the rows in the "Process Areas" worksheet will be hidden per the unchecked boxes.

DISPLAY CONTROLS

Level 2	Level 3	Level 4/5	Features	Status
☑ Requirements Management	☑ Requirements Development	☑ Organizational Process Performance	☑ Specific Goals	☑ Green
☑ Project Planning	☑ Technical Solution	☑ Quantitative Project Management	☑ Generic Goals	☑ Yellow
☑ Project Monitoring and Control	☑ Product Integration	☑ Organizational Innovation and Deployment	☑ Specific Practices	☑ Red
☑ Supplier Agreement Management	☑ Verification	☑ Causal Analysis and Resolution	**Generic Practices**	☑ NA
☑ Measurement and Analysis	☑ Validation		☑ Commitment to Perform	☑ Blank
☑ Process and Product QA	☑ Organizational Process Focus		☑ Ability to Perform	
☑ Configuration Management	☑ Organizational Process Definition		☑ Directing Implementation	
	☑ Organizational Training		☑ Verifying Implementation	
	☑ Integrated Project Management for IPPD			
	☑ Risk Management			
	☑ Integrated Teaming			
	☑ Integrated Supplier Management			
	☑ Decision Analysis and Resolution			
	☑ Organizational Environment for Integration			

Set All   Clear All

Apply

PROCESS AREAS WORKSHEET

The columns in the Process Areas worksheet are described below.

<u>PA:</u> CMMI Level (L2, L3, L4, L5) followed by the CMMI Process Area (PA) acronym.

<u>Id:</u> CMMI Specific Goal (SG), Generic Goal (GG), Specific Practice (SP), or Generic Practice (GP) number.

<u>Title:</u> Title from the CMMI.

<u>Description:</u> Description from the CMMI.

<u>Comments:</u> Spare column used for any purpose defined by the user of this spreadsheet. This column is typically used for evidence or gap analysis results.

<u>Status (R/Y/G/NA):</u> Status column used for any purpose defined by the user of this spreadsheet. When "G" is entered, the cell is automatically colored green. When "Y" is entered, the cell is automatically colored yellow. When "R" is entered, the cell is automatically colored red. When "NA" is entered, the cell remains white. Entering "G", "Y", "R", or "NA" automatically updates the

Use the gray buttons at the top to jump to the beginning of major sections.

Display Controls

Status
- ☑ Green
- ☑ Yellow
- ☑ Red
- ☑ NA
- ☑ Blank

Features
- ☑ Specific Goals
- ☑ Generic Goals
- ☑ Specific Practices
- **Generic Practices**
- ☑ Commitment to Perform
- ☑ Ability to Perform
- ☑ Directing Implementation
- ☑ Verifying Implementation

Level 4/5
- ☑ Organizational Process Performance
- ☑ Quantitative Project Management
- ☑ Organizational Innovation and Deployment
- ☑ Causal Analysis and Resolution

Level 3
- ☑ Requirements Development
- ☑ Technical Solution
- ☑ Product Integration
- ☑ Verification
- ☑ Validation
- ☑ Organizational Process Focus
- ☑ Organizational Process Definition
- ☑ Organizational Training
- ☑ Integrated Project Management for IPPD
- ☑ Risk Management
- ☑ Integrated Teaming
- ☑ Integrated Supplier Management
- ☑ Decision Analysis and Resolution
- ☑ Organizational Environment for Integration

Level 2
- ☑ Requirements Management
- ☑ Project Planning
- ☑ Project Monitoring and Control
- ☑ Supplier Agreement Management
- ☑ Measurement and Analysis
- ☑ Process and Product QA
- ☑ Configuration Management

CMMI-S_₃W, V1.1

No	PA	Id	Title	Description	Comments	Status Rt/G/NA
1	L2 RM	SG 1	Manage Requirements	Requirements are managed and inconsistencies with project plans and work products are identified.		
2	L2 RM	GG 2	Institutionalize a Managed Process	The process is institutionalized as a managed process.		
3	L2 RM	SP 1.1	Obtain an Understanding of Requirements	Develop an understanding with the requirements providers on the meaning of the requirements.		
4	L2 RM	SP 1.2	Obtain Commitment to Requirements	Obtain commitment to the requirements from the project participants.		
5	L2 RM	SP 1.3	Manage Requirements Changes	Manage changes to the requirements as they evolve during the project.		
6	L2 RM	SP 1.4	Maintain Bidirectional Traceability of Requirements	Maintain bidirectional traceability among the requirements and the project plans and work products.		
7	L2 RM	SP 1.5	Identify Inconsistencies between Project Work and Requirements	Identify inconsistencies between the project plans and work products and the requirements.		
8	L2 RM	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the requirements management process.		
9	L2 RM	GP 2.2 (AB 1)	Plan the Process	Establish and maintain the plan for performing the requirements management process.		
10	L2 RM	GP 2.3 (AB 2)	Provide Resources	Provide adequate resources for performing the requirements management process, developing the work products, and providing the services of the process.		
11	L2 RM	GP 2.4 (AB 3)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the requirements management process.		
12	L2 RM	GP 2.5 (AB 4)	Train People	Train the people performing or supporting the requirements management process as needed.		
13	L2 RM	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the requirements management process under appropriate levels of configuration management.		
14	L2 RM	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the requirements management process as planned.		
15	L2 RM	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the requirements management process against the plan for performing the process and take appropriate corrective action.		
16	L2 RM	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the requirements management process against its process description, standards, and procedures, and address noncompliance.		
17	L2 RM	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the requirements management process with higher level management and resolve issues.		

No.	PA	Id.	Title	Description	Comments	Status (R/r/G/NA)	Status
18	L2 PP	SG 1	Establish Estimates	Estimates of project planning parameters are established and maintained.			
19	L2 PP	SG 2	Develop a Project Plan	A project plan is established and maintained as the basis for managing the project.			
20	L2 PP	SG 3	Obtain Commitment to the Plan	Commitments to the project plan are established and maintained.			
21	L2 PP	GG 2	Institutionalize a Managed Process	The process is institutionalized as a managed process.			
22	L2 PP	SP 1.1	Estimate the Scope of the Project	Establish a top-level work breakdown structure (WBS) to estimate the scope of the project.			
23	L2 PP	SP 1.2	Establish Estimates of Work Product and Task Attributes	Establish and maintain estimates of the attributes of the work products and tasks.			
24	L2 PP	SP 1.3	Define Project Life Cycle	Define the project life-cycle phases upon which to scope the planning effort.			
25	L2 PP	SP 1.4	Determine Estimates of Effort and Cost	Estimate the project effort and cost for the work products and tasks based on estimation rationale.			
26	L2 PP	SP 2.1	Establish the Budget and Schedule	Establish and maintain the project's budget and schedule.			
27	L2 PP	SP 2.2	Identify Project Risks	Identify and analyze project risks.			
28	L2 PP	SP 2.3	Plan for Data Management	Plan for the management of project data.			
29	L2 PP	SP 2.4	Plan for Project Resources	Plan for necessary resources to perform the project.			
30	L2 PP	SP 2.5	Plan for Needed Knowledge and Skills	Plan for knowledge and skills needed to perform the project.			
31	L2 PP	SP 2.6	Plan Stakeholder Involvement	Plan the involvement of identified stakeholders.			
32	L2 PP	SP 2.7	Establish the Project Plan	Establish and maintain the overall project plan content.			
33	L2 PP	SP 3.1	Review Plans that Affect the Project	Review all plans that affect the project to understand project commitments.			
34	L2 PP	SP 3.2	Reconcile Work and Resource Levels	Reconcile the project plan to reflect available and estimated resources.			
35	L2 PP	SP 3.3	Obtain Plan Commitment	Obtain commitment from relevant stakeholders responsible for performing and supporting plan execution.			
36	L2 PP	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the project planning process.			
37	L2 PP	GP 2.2 (AB 1)	Plan the Process	Establish and maintain the plan for performing the project planning process.			
38	L2 PP	GP 2.3 (AB 2)	Provide Resources	Provide adequate resources for performing the project planning process, developing the work products, and providing the services of the process.			

CMMI-CLOW, V1.1

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
39	L2 PP	GP 2.4 (AB 3)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the project planning process.		
40	L2 PP	GP 2.5 (AB 4)	Train People	Train the people performing or supporting the project planning process as needed.		
41	L2 PP	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the project planning process under appropriate levels of configuration management.		
42	L2 PP	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the project planning process as planned.		
43	L2 PP	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the project planning process against the plan for performing the process and take appropriate corrective action.		
44	L2 PP	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the project planning process against its process description, standards, and procedures, and address noncompliance.		
45	L2 PP	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the project planning process with higher level management and resolve issues.		
46	L2 PMC	SG 1	Monitor Project Against Plan	Actual performance and progress of the project are monitored against the project plan.		
47	L2 PMC	SG 2	Manage Corrective Action to Closure	Corrective actions are managed to closure when the project's performance or results deviate significantly from the plan.		
48	L2 PMC	GG 2	Institutionalize a Managed Process	The process is institutionalized as a managed process.		
49	L2 PMC	SP 1.1	Monitor Project Planning Parameters	Monitor the actual values of the project planning parameters against the project plan.		
50	L2 PMC	SP 1.2	Monitor Commitments	Monitor commitments against those identified in the project plan.		
51	L2 PMC	SP 1.3	Monitor Project Risks	Monitor risks against those identified in the project plan.		
52	L2 PMC	SP 1.4	Monitor Data Management	Monitor the management of project data against the project plan.		
53	L2 PMC	SP 1.5	Monitor Stakeholder Involvement	Monitor stakeholder involvement against the project plan.		
54	L2 PMC	SP 1.6	Conduct Progress Reviews	Periodically review the project's progress, performance, and issues.		
55	L2 PMC	SP 1.7	Conduct Milestone Reviews	Review the accomplishments and results of the project at selected project milestones.		
56	L2 PMC	SP 2.1	Analyze Issues	Collect and analyze the issues and determine the corrective actions necessary to address the issues.		
57	L2 PMC	SP 2.2	Take Corrective Action	Take corrective action on identified issues.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
58	L2 PMC	SP 2.3	Manage Corrective Action	Manage corrective actions to closure.		
59	L2 PMC	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the project monitoring and control process.		
60	L2 PMC	GP 2.2 (AB 1)	Plan the Process	Establish and maintain the plan for performing the project monitoring and control process.		
61	L2 PMC	GP 2.3 (AB 2)	Provide Resources	Provide adequate resources for performing the project monitoring and control process, developing the work products, and providing the services of the process.		
62	L2 PMC	GP 2.4 (AB 3)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the project monitoring and control process.		
63	L2 PMC	GP 2.5 (AB 4)	Train People	Train the people performing or supporting the project monitoring and control process as needed.		
64	L2 PMC	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the project monitoring and control process under appropriate levels of configuration management.		
65	L2 PMC	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the project monitoring and control process as planned.		
66	L2 PMC	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the project monitoring and control process against the plan for performing the process and take appropriate corrective action.		
67	L2 PMC	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the project monitoring and control process against its process description, standards, and procedures, and address noncompliance.		
68	L2 PMC	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the project monitoring and control process with higher level management and resolve issues.		
69	L2 SAM	SG 1	Establish Supplier Agreements	Agreements with the suppliers are established and maintained.		
70	L2 SAM	SG 2	Satisfy Supplier Agreements	Agreements with the suppliers are satisfied by both the project and the supplier.		
71	L2 SAM	GG 2	Institutionalize a Managed Process	The process is institutionalized as a managed process.		
72	L2 SAM	SP 1.1	Determine Acquisition Type	Determine the type of acquisition for each product or product component to be acquired.		
73	L2 SAM	SP 1.2	Select Suppliers	Select suppliers based on an evaluation of their ability to meet the specified requirements and established criteria.		
74	L2 SAM	SP 1.3	Establish Supplier Agreements	Establish and maintain formal agreements with the supplier.		
75	L2 SAM	SP 2.1	Review COTS Products	Review candidate COTS products to ensure they satisfy the specified requirements that are covered under a supplier agreement.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
76	L2 SAM	SP 2.2	Execute the Supplier Agreement	Perform activities with the supplier as specified in the supplier agreement.		
77	L2 SAM	SP 2.3	Accept the Acquired Product	Ensure that the supplier agreement is satisfied before accepting the acquired product.		
78	L2 SAM	SP 2.4	Transition Products	Transition the acquired products from the supplier to the project.		
79	L2 SAM	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the supplier agreement management process.		
80	L2 SAM	GP 2.2 (AB 1)	Plan the Process	Establish and maintain the plan for performing the supplier agreement management process.		
81	L2 SAM	GP 2.3 (AB 2)	Provide Resources	Provide adequate resources for performing the supplier agreement management process, developing the work products, and providing the services of the process.		
82	L2 SAM	GP 2.4 (AB 3)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the supplier agreement management process.		
83	L2 SAM	GP 2.5 (AB 4)	Train People	Train the people performing or supporting the supplier agreement management process as needed.		
84	L2 SAM	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the supplier agreement management process under appropriate levels of configuration management.		
85	L2 SAM	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the supplier agreement management process as planned.		
86	L2 SAM	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the supplier agreement management process against the plan for performing the process and take appropriate corrective action.		
87	L2 SAM	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the supplier agreement management process against its process description, standards, and procedures, and address noncompliance.		
88	L2 SAM	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the supplier agreement management process with higher level management and resolve issues.		
89	L2 MA	SG 1	Align Measurement and Analysis Activities	Measurement objectives and activities are aligned with identified information needs and objectives.		
90	L2 MA	SG 2	Provide Measurement Results	Measurement results that address identified information needs and objectives are provided.		
91	L2 MA	GG 2	Institutionalize a Managed Process	The process is institutionalized as a managed process.		
92	L2 MA	SP 1.1	Establish Measurement Objectives	Establish and maintain measurement objectives that are derived from identified information needs and objectives.		
93	L2 MA	SP 1.2	Specify Measures	Specify measures to address the measurement objectives.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
94	L2 MA	SP 1.3	Specify Data Collection and Storage Procedures	Specify how measurement data will be obtained and stored.		
95	L2 MA	SP 1.4	Specify Analysis Procedures	Specify how measurement data will be analyzed and reported.		
96	L2 MA	SP 2.1	Collect Measurement Data	Obtain specified measurement data.		
97	L2 MA	SP 2.2	Analyze Measurement Data	Analyze and interpret measurement data.		
98	L2 MA	SP 2.3	Store Data and Results	Manage and store measurement data, measurement specifications, and analysis results.		
99	L2 MA	SP 2.4	Communicate Results	Report results of measurement and analysis activities to all relevant stakeholders.		
100	L2 MA	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the measurement and analysis process.		
101	L2 MA	GP 2.2 (AB 1)	Plan the Process	Establish and maintain the plan for performing the measurement and analysis process.		
102	L2 MA	GP 2.3 (AB 2)	Provide Resources	Provide adequate resources for performing the measurement and analysis process, developing the work products, and providing the services of the process.		
103	L2 MA	GP 2.4 (AB 3)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the measurement and analysis process.		
104	L2 MA	GP 2.5 (AB 4)	Train People	Train the people performing or supporting the measurement and analysis process as needed.		
105	L2 MA	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the measurement and analysis process under appropriate levels of configuration management.		
106	L2 MA	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the measurement and analysis process as planned.		
107	L2 MA	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the measurement and analysis process against the plan for performing the process and take appropriate corrective action.		
108	L2 MA	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the measurement and analysis process against its process description, standards, and procedures, and address noncompliance.		
109	L2 MA	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the measurement and analysis process with higher level management and resolve issues.		
110	L2 PPQA	SG 1	Objectively Evaluate Processes and Work Products	Adherence of the performed process and associated work products and services to applicable process descriptions, standards, and procedures is objectively evaluated.		

CMMI-SW, V1.1

No.	PA	Id	Title	Description	Comments	Status (RGY(GNA)
111	L2 PPQA	SG 2	Provide Objective Insight	Noncompliance issues are objectively tracked and communicated, and resolution is ensured.		
112	L2 PPQA	GG 2	Institutionalize a Managed Process	The process is institutionalized as a managed process.		
113	L2 PPQA	SP 1.1	Objectively Evaluate Processes	Objectively evaluate the designated performed processes against the applicable process descriptions, standards, and procedures.		
114	L2 PPQA	SP 1.2	Objectively Evaluate Work Products and Services	Objectively evaluate the designated work products and services against the applicable process descriptions, standards, and procedures.		
115	L2 PPQA	SP 2.1	Communicate and Ensure Resolution of Noncompliance Issues	Communicate quality issues and ensure resolution of noncompliance issues with the staff and managers.		
116	L2 PPQA	SP 2.2	Establish Records	Establish and maintain records of the quality assurance activities.		
117	L2 PPQA	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the process and product quality assurance process.		
118	L2 PPQA	GP 2.2 (AB 1)	Plan the Process	Establish and maintain the plan for performing the process and product quality assurance process.		
119	L2 PPQA	GP 2.3 (AB 2)	Provide Resources	Provide adequate resources for performing the process and product quality assurance process, developing the work products, and providing the services of the process.		
120	L2 PPQA	GP 2.4 (AB 3)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the process and product quality assurance process.		
121	L2 PPQA	GP 2.5 (AB 4)	Train People	Train the people performing or supporting the process and product quality assurance process as needed.		
122	L2 PPQA	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the process and product quality assurance process under appropriate levels of configuration management.		
123	L2 PPQA	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the process and product quality assurance process as planned.		
124	L2 PPQA	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the process and product quality assurance process against the plan for performing the process and take appropriate corrective action.		
125	L2 PPQA	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the process and product quality assurance process against its process description, standards, and procedures, and address noncompliance.		

Printed On: 5/15/2006

No.	PA	Id.	Title	Description	Comments	Status (R/Y/G/N)
126	L2 PPQA	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the process and product quality assurance process with higher level management and resolve issues.		
127	L2 CM	SG 1	Establish Baselines	Baselines of identified work products are established.		
128	L2 CM	SG 2	Track and Control Changes	Changes to the work products under configuration management are tracked and controlled.		
129	L2 CM	SG 3	Establish Integrity	Integrity of baselines is established and maintained.		
130	L2 CM	GG 2	Institutionalize a Managed Process	The process is institutionalized as a managed process.		
131	L2 CM	SP 1.1	Identify Configuration Items	Identify the configuration items, components, and related work products that will be placed under configuration management.		
132	L2 CM	SP 1.2	Establish a Configuration Management System	Establish and maintain a configuration management and change management system for controlling work products.		
133	L2 CM	SP 1.3	Create or Release Baselines	Create or release baselines for internal use and for delivery to the customer.		
134	L2 CM	SP 2.1	Track Change Requests	Track change requests for the configuration items.		
135	L2 CM	SP 2.2	Control Configuration Items	Control changes to the configuration items.		
136	L2 CM	SP 3.1	Establish Configuration Management Records	Establish and maintain records describing configuration items.		
137	L2 CM	SP 3.2	Perform Configuration Audits	Perform configuration audits to maintain integrity of the configuration baselines.		
138	L2 CM	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the configuration management process.		
139	L2 CM	GP 2.2 (AB 1)	Plan the Process	Establish and maintain the plan for performing the configuration management process.		
140	L2 CM	GP 2.3 (AB 2)	Provide Resources	Provide adequate resources for performing the configuration management process, developing the work products, and providing the services of the process.		
141	L2 CM	GP 2.4 (AB 3)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the configuration management process.		
142	L2 CM	GP 2.5 (AB 4)	Train People	Train the people performing or supporting the configuration management process as needed.		
143	L2 CM	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the configuration management process under appropriate levels of configuration management.		
144	L2 CM	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the configuration management process as planned.		

No.	PA	Id.	Title	Description	Comments	Status (R/A/G/NA)
145	L2 CM	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the configuration management process against the plan for performing the process and take appropriate corrective action.		
146	L2 CM	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the configuration management process against its process description, standards, and procedures, and address noncompliance.		
147	L2 CM	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the configuration management process with higher level management and resolve issues.		
148	L3 RD	SG 1	Develop Customer Requirements	Stakeholder needs, expectations, constraints, and interfaces are collected and translated into customer requirements.		
149	L3 RD	SG 2	Develop Product Requirements	Customer requirements are refined and elaborated to develop product and product-component requirements.		
150	L3 RD	SG 3	Analyze and Validate Requirements	The requirements are analyzed and validated, and a definition of required functionality is developed.		
151	L3 RD	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
152	L3 RD	SP 1.1	Elicit Needs	Elicit stakeholder needs, expectations, constraints, and interfaces for all phases of the product life cycle.		
153	L3 RD	SP 1.2	Develop the Customer Requirements	Transform stakeholder needs, expectations, constraints, and interfaces into customer requirements.		
154	L3 RD	SP 2.1	Establish Product and Product-Component Requirements	Establish and maintain product and product-component requirements, which are based on the customer requirements.		
155	L3 RD	SP 2.2	Allocate Product-Component Requirements	Allocate the requirements for each product component.		
156	L3 RD	SP 2.3	Identify Interface Requirements	Identify interface requirements.		
157	L3 RD	SP 3.1	Establish Operational Concepts and Scenarios	Establish and maintain operational concepts and associated scenarios.		
158	L3 RD	SP 3.2	Establish a Definition of Required Functionality	Establish and maintain a definition of required functionality.		
159	L3 RD	SP 3.3	Analyze Requirements	Analyze requirements to ensure that they are necessary and sufficient.		
160	L3 RD	SP 3.4	Analyze Requirements to Achieve Balance	Analyze requirements to balance stakeholder needs and constraints.		
161	L3 RD	SP 3.5	Validate Requirements with Comprehensive Methods	Validate requirements to ensure the resulting product will perform as intended in the user's environment using multiple techniques as appropriate.		
162	L3 RD	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the requirements development process.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
163	L3 RD	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined requirements development process.		
164	L3 RD	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the requirements development process.		
165	L3 RD	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the requirements development process, developing the work products, and providing the services of the process.		
166	L3 RD	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the requirements development process.		
167	L3 RD	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the requirements development process as needed.		
168	L3 RD	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the requirements development process under appropriate levels of configuration management.		
169	L3 RD	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the requirements development process as planned.		
170	L3 RD	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the requirements development process against the plan for performing the process and take appropriate corrective action.		
171	L3 RD	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the requirements development process to support the future use and improvement of the organization's processes and process assets.		
172	L3 RD	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the requirements development process against its process description, standards, and procedures, and address noncompliance.		
173	L3 RD	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the requirements development process with higher level management and resolve issues.		
174	L3 TS	SG 1	Select Product-Component Solutions	Product or product-component solutions are selected from alternative solutions.		
175	L3 TS	SG 2	Develop the Design	Product or product-component designs are developed.		
176	L3 TS	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
177	L3 TS	SP 1.1	Develop Detailed Alternative Solutions and Selection Criteria	Develop detailed alternative solutions and selection criteria.		
178	L3 TS	SP 1.2	Evolve Operational Concepts and Scenarios	Evolve the operational concept, scenarios, and environments to describe the conditions, operating modes, and operating states specific to each product component.		

No.	PA	Id.	Title	Description	Comments	Status (R/Y/G/NA)
179	L3 TS	SP 1.3	Select Product-Component Solutions	Select the product-component solutions that best satisfy the criteria established.		
180	L3 TS	SP 2.1	Design the Product or Product Component	Develop a design for the product or product component.		
181	L3 TS	SP 2.2	Establish a Technical Data Package	Establish and maintain a technical data package.		
182	L3 TS	SP 2.3	Design Interfaces Using Criteria	Design comprehensive product-component interfaces in terms of established and maintained criteria.		
183	L3 TS	SP 2.4	Perform Make, Buy, or Reuse Analyses	Evaluate whether the product components should be developed, purchased, or reused based on established criteria.		
184	L3 TS	SG 3	Implement the Product Design	Product components, and associated support documentation, are implemented from their designs.		
185	L3 TS	SP 3.1	Implement the Design	Implement the designs of the product components.		
186	L3 TS	SP 3.2	Develop Product Support Documentation	Develop and maintain the end-use documentation.		
187	L3 TS	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the technical solution process.		
188	L3 TS	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined technical solution process.		
189	L3 TS	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the technical solution process.		
190	L3 TS	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the technical solution process, developing the work products, and providing the services of the process.		
191	L3 TS	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the technical solution process.		
192	L3 TS	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the technical solution process as needed.		
193	L3 TS	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the technical solution process under appropriate levels of configuration management.		
194	L3 TS	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the technical solution process as planned.		
195	L3 TS	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the technical solution process against the plan for performing the process and take appropriate corrective action.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
196	L3 TS	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the technical solution process to support the future use and improvement of the organization's processes and process assets.		
197	L3 TS	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the technical solution process against its process description, standards, and procedures, and address noncompliance.		
198	L3 TS	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the technical solution process with higher level management and resolve issues.		
199	L3 PI	SG 1	Prepare for Product Integration	Preparation for product integration is conducted.		
200	L3 PI	SG 2	Ensure Interface Compatibility	The product-component interfaces, both internal and external, are compatible.		
201	L3 PI	SG 3	Assemble Product Components and Deliver the Product	Verified product components are assembled and the integrated, verified, and validated product is delivered.		
202	L3 PI	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
203	L3 PI	SP 1.1	Determine Integration Sequence	Determine the product-component integration sequence.		
204	L3 PI	SP 1.2	Establish the Product Integration Environment	Establish and maintain the environment needed to support the integration of the product components.		
205	L3 PI	SP 1.3	Establish Product Integration Procedures and Criteria	Establish and maintain procedures and criteria for integration of the product components.		
206	L3 PI	SP 2.1	Review Interface Descriptions for Completeness	Review interface descriptions for coverage and completeness.		
207	L3 PI	SP 2.2	Manage Interfaces	Manage internal and external interface definitions, designs, and changes for products and product components.		
208	L3 PI	SP 3.1	Confirm Readiness of Product Components for Integration	Confirm, prior to assembly, that each product component required to assemble the product has been properly identified, functions according to its description, and that the product-component interfaces comply with the interface descriptions.		
209	L3 PI	SP 3.2	Assemble Product Components	Assemble product components according to the product integration sequence and available procedures.		
210	L3 PI	SP 3.3	Evaluate Assembled Product Components	Evaluate assembled product components for interface compatibility.		

No	PA	Id	Title	Description	Comments	Status (ORIGINAL)
211	L3 PI	SP 3.4	Package and Deliver the Product or Product Component	Package the assembled product or product component and deliver it to the appropriate customer.		
212	L3 PI	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the product integration process.		
213	L3 PI	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined product integration process.		
214	L3 PI	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the product integration process.		
215	L3 PI	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the product integration process, developing the work products, and providing the services of the process.		
216	L3 PI	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the product integration process.		
217	L3 PI	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the product integration process as needed.		
218	L3 PI	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the product integration process under appropriate levels of configuration management.		
219	L3 PI	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the product integration process as planned.		
220	L3 PI	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the product integration process against the plan for performing the process and take appropriate corrective action.		
221	L3 PI	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the product integration process to support the future use and improvement of the organization's processes and process assets.		
222	L3 PI	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the product integration process against its process description, standards, and procedures, and address noncompliance.		
223	L3 PI	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the product integration process with higher level management and resolve issues.		
224	L3 VE	SG 1	Prepare for Verification	Preparation for verification is conducted.		
225	L3 VE	SG 2	Perform Peer Reviews	Peer reviews are performed on selected work products.		
226	L3 VE	SG 3	Verify Selected Work Products	Selected work products are verified against their specified requirements.		
227	L3 VE	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		

NO.	PA	Id	Title	Description	Comments	Status (RY/G/NA)
228	L3 VE	SP 1.1	Select Work Products for Verification	Select the work products to be verified and the verification methods that will be used for each.		
229	L3 VE	SP 1.2	Establish the Verification Environment	Establish and maintain the environment needed to support verification.		
230	L3 VE	SP 1.3	Establish Verification Procedures and Criteria	Establish and maintain verification procedures and criteria for the selected work products.		
231	L3 VE	SP 2.1	Prepare for Peer Reviews	Prepare for peer reviews of selected work products.		
232	L3 VE	SP 2.2	Conduct Peer Reviews	Conduct peer reviews on selected work products and identify issues resulting from the peer review.		
233	L3 VE	SP 2.3	Analyze Peer Review Data	Analyze data about preparation, conduct, and results of the peer reviews.		
234	L3 VE	SP 3.1	Perform Verification	Perform verification on the selected work products.		
235	L3 VE	SP 3.2	Analyze Verification Results and Identify Corrective Action	Analyze the results of all verification activities and identify corrective action.		
236	L3 VE	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the verification process.		
237	L3 VE	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined verification process.		
238	L3 VE	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the verification process.		
239	L3 VE	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the verification process, developing the work products, and providing the services of the process.		
240	L3 VE	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the verification process.		
241	L3 VE	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the verification process as needed.		
242	L3 VE	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the verification process under appropriate levels of configuration management.		
243	L3 VE	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the verification process as planned.		
244	L3 VE	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the verification process against the plan for performing the process and take appropriate corrective action.		
245	L3 VE	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the verification process to support the future use and improvement of the organization's processes and process assets.		

No.	PA	Id	Title	Description	Comments	Status R/M/G/NA
246	L3 VE	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the verification process against its process description, standards, and procedures, and address noncompliance.		
247	L3 VE	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the verification process with higher level management and resolve issues.		
248	L3 VA	SG 1	Prepare for Validation	Preparation for validation is conducted.		
249	L3 VA	SG 2	Validate Product or Product Components	The product or product components are validated to ensure that they are suitable for use in their intended operating environment.		
250	L3 VA	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
251	L3 VA	SP 1.1	Select Products for Validation	Select products and product components to be validated and the validation methods that will be used for each.		
252	L3 VA	SP 1.2	Establish the Validation Environment	Establish and maintain the environment needed to support validation.		
253	L3 VA	SP 1.3	Establish Validation Procedures and Criteria	Establish and maintain procedures and criteria for validation.		
254	L3 VA	SP 2.1	Perform Validation	Perform validation on the selected products and product components.		
255	L3 VA	SP 2.2	Analyze Validation Results	Analyze the results of the validation activities and identify issues.		
256	L3 VA	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the validation process.		
257	L3 VA	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined validation process.		
258	L3 VA	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the validation process.		
259	L3 VA	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the validation process, developing the work products, and providing the services of the process.		
260	L3 VA	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the validation process.		
261	L3 VA	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the validation process as needed.		
262	L3 VA	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the validation process under appropriate levels of configuration management.		
263	L3 VA	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the validation process as planned.		
264	L3 VA	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the validation process against the plan for performing the process and take appropriate corrective action.		

CMMI-S∟⌐W, V1.1

No.	PA	Id	Title	Description	Comments	Status (RG/GNA)
265	L3 VA	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the validation process to support the future use and improvement of the organization's processes and process assets.		
266	L3 VA	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the validation process against its process description, standards, and procedures, and address noncompliance.		
267	L3 VA	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the validation process with higher level management and resolve issues.		
268	L3 OPF	SG 1	Determine Process-Improvement Opportunities	Strengths, weaknesses, and improvement opportunities for the organization's processes are identified periodically and as needed.		
269	L3 OPF	SG 2	Plan and Implement Process-Improvement Activities	Improvements are planned and implemented, organizational process assets are deployed, and process-related experiences are incorporated into the organizational process assets.		
270	L3 OPF	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
271	L3 OPF	SP 1.1	Establish Organizational Process Needs	Establish and maintain the description of the process needs and objectives for the organization.		
272	L3 OPF	SP 1.2	Appraise the Organization's Processes	Appraise the processes of the organization periodically and as needed to maintain an understanding of their strengths and weaknesses.		
273	L3 OPF	SP 1.3	Identify the Organization's Process Improvements	Identify improvements to the organization's processes and process assets.		
274	L3 OPF	SP 2.1	Establish Process Action Plans	Establish and maintain process action plans to address improvements to the organization's processes and process assets.		
275	L3 OPF	SP 2.2	Implement Process Action Plans	Implement process action plans across the organization.		
276	L3 OPF	SP 2.3	Deploy Organizational Process Assets	Deploy organizational process assets across the organization.		
277	L3 OPF	SP 2.4	Incorporate Process-Related Experiences into the Organizational Process Assets	Incorporate process-related work products, measures, and improvement information derived from planning and performing the process into the organizational process assets.		
278	L3 OPF	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the organizational process focus process.		
279	L3 OPF	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined organizational process focus process.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
280	L3 OPF	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the organizational process focus process.		
281	L3 OPF	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the organizational process focus process, developing the work products, and providing the services of the process.		
282	L3 OPF	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational process focus process.		
283	L3 OPF	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the organizational process focus process as needed.		
284	L3 OPF	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the organizational process focus process under appropriate levels of configuration management.		
285	L3 OPF	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the organizational process focus process as planned.		
286	L3 OPF	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the organizational process focus process against the plan for performing the process and take appropriate corrective action.		
287	L3 OPF	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational process focus process to support the future use and improvement of the organization's processes and process assets.		
288	L3 OPF	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the organizational process focus process against its process description, standards, and procedures, and address noncompliance.		
289	L3 OPF	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the organizational process focus process with higher level management and resolve issues.		
290	L3 OPD	SG 1	Establish Organizational Process Assets	A set of organizational process assets is established and maintained.		
291	L3 OPD	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
292	L3 OPD	SP 1.1	Establish Standard Processes	Establish and maintain the organization's set of standard processes.		
293	L3 OPD	SP 1.2	Establish Life-Cycle Model Descriptions	Establish and maintain descriptions of the life-cycle models approved for use in the organization.		
294	L3 OPD	SP 1.3	Establish Tailoring Criteria and Guidelines	Establish and maintain the tailoring criteria and guidelines for the organization's set of standard processes.		
295	L3 OPD	SP 1.4	Establish the Organization's Measurement Repository	Establish and maintain the organization's measurement repository.		

No.	PA	Id	Title	Description	Comments	Status (RY/GN/A)
296	L3 OPD	SP 1.5	Establish the Organization's Process Asset Library	Establish and maintain the organization's process asset library.		
297	L3 OPD	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the organizational process definition process.		
298	L3 OPD	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined organizational process definition process.		
299	L3 OPD	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the organizational process definition process.		
300	L3 OPD	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the organizational process definition process, developing the work products, and providing the services of the process.		
301	L3 OPD	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational process definition process.		
302	L3 OPD	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the organizational process definition process as needed.		
303	L3 OPD	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the organizational process definition process under appropriate levels of configuration management.		
304	L3 OPD	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the organizational process definition process as planned.		
305	L3 OPD	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the organizational process definition process against the plan for performing the process and take appropriate corrective action.		
306	L3 OPD	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational process definition process to support the future use and improvement of the organization's processes and process asse		
307	L3 OPD	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the organizational process definition process against its process description, standards, and procedures, and address noncompliance.		
308	L3 OPD	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the organizational process definition process with higher level management and resolve issues.		
309	L3 OT	SG 1	Establish an Organizational Training Capability	A training capability that supports the organization's management and technical roles is established and maintained.		
310	L3 OT	SG 2	Provide Necessary Training	Training necessary for individuals to perform their roles effectively is provided.		

CMMI-S_ьW, V1.1

No.	PA	Id	Title	Description	Comments	Status (R/M/G/NA)
311	L3 OT	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
312	L3 OT	SP 1.1	Establish the Strategic Training Needs	Establish and maintain the strategic training needs of the organization.		
313	L3 OT	SP 1.2	Determine Which Training Needs Are the Responsibility of the Organization	Determine which training needs are the responsibility of the organization and which will be left to the individual project or support group.		
314	L3 OT	SP 1.3	Establish an Organizational Training Tactical Plan	Establish and maintain an organizational training tactical plan.		
315	L3 OT	SP 1.4	Establish Training Capability	Establish and maintain training capability to address organizational training needs.		
316	L3 OT	SP 2.1	Deliver Training	Deliver the training following the organizational training tactical plan.		
317	L3 OT	SP 2.2	Establish Training Records	Establish and maintain records of the organizational training.		
318	L3 OT	SP 2.3	Assess Training Effectiveness	Assess the effectiveness of the organization's training program.		
319	L3 OT	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the organizational training process.		
320	L3 OT	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined organizational training process.		
321	L3 OT	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the organizational training process.		
322	L3 OT	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the organizational training process, developing the work products, and providing the services of the process.		
323	L3 OT	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational training process.		
324	L3 OT	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the organizational training process as needed.		
325	L3 OT	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the organizational training process under appropriate levels of configuration management.		
326	L3 OT	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the organizational training process as planned.		
327	L3 OT	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the organizational training process against the plan for performing the process and take appropriate corrective action.		

CMMI-SᴖᵟW, V1.1

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
328	L3 OT	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational training process to support the future use and improvement of the organization's processes and process assets.		
329	L3 OT	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the organizational training process against its process description, standards, and procedures, and address noncompliance.		
330	L3 OT	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the organizational training process with higher level management and resolve issues.		
331	L3 IPMI	SG 1	Use the Project's Defined Process	The project is conducted using a defined process that is tailored from the organization's set of standard processes.		
332	L3 IPMI	SG 2	Coordinate and Collaborate with Relevant Stakeholders	Coordination and collaboration of the project with relevant stakeholders is conducted.		
333	L3 IPMI	SG 3	Use the Project's Shared Vision for IPPD	The project is conducted using the project's shared vision.		
334	L3 IPMI	SG 4	Organize Integrated Teams for IPPD	The integrated teams needed to execute the project are identified, defined, structured, and tasked.		
335	L3 IPMI	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
336	L3 IPMI	SP 1.1	Establish the Project's Defined Process	Establish and maintain the project's defined process.		
337	L3 IPMI	SP 1.2	Use Organizational Process Assets for Planning Project Activities	Use the organizational process assets and measurement repository for estimating and planning the project's activities.		
338	L3 IPMI	SP 1.3	Integrate Plans	Integrate the project plan and the other plans that affect the project to describe the project's defined process.		
339	L3 IPMI	SP 1.4	Manage the Project Using the Integrated Plans	Manage the project using the project plan, the other plans that affect the project, and the project's defined process.		
340	L3 IPMI	SP 1.5	Contribute to the Organizational Process Assets	Contribute work products, measures, and documented experiences to the organizational process assets.		
341	L3 IPMI	SP 2.1	Manage Stakeholder Involvement	Manage the involvement of the relevant stakeholders in the project.		
342	L3 IPMI	SP 2.2	Manage Dependencies	Participate with relevant stakeholders to identify, negotiate, and track critical dependencies.		
343	L3 IPMI	SP 2.3	Resolve Coordination Issues	Resolve issues with relevant stakeholders.		

Status No.	IPA	Id	Title	Description	Comments	Status RV(GNA)
344	L3 IPMI	SP 3.1	Define Project's Shared-Vision Context	Identify expectations, constraints, interfaces, and operational conditions applicable to the project's shared vision.		
345	L3 IPMI	SP 3.2	Establish the Project's Shared Vision	Establish and maintain a shared vision for the project.		
346	L3 IPMI	SP 4.1	Determine Integrated Team Structure for the Project	Determine the integrated team structure that will best meet the project objectives and constraints.		
347	L3 IPMI	SP 4.2	Develop a Preliminary Distribution of Requirements to Integrated Teams	Develop a preliminary distribution of requirements, responsibilities, authorities, tasks, and interfaces to teams in the selected integrated team structure.		
348	L3 IPMI	SP 4.3	Establish Integrated Teams	Establish and maintain teams in the integrated team structure.		
349	L3 IPMI	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the integrated project management process.		
350	L3 IPMI	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined integrated project management process.		
351	L3 IPMI	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the integrated project management process.		
352	L3 IPMI	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the integrated project management process, developing the work products, and providing the services of the process.		
353	L3 IPMI	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the integrated project management process.		
354	L3 IPMI	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the integrated project management process as needed.		
355	L3 IPMI	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the integrated project management process under appropriate levels of configuration management.		
356	L3 IPMI	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the integrated project management process as planned.		
357	L3 IPMI	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the integrated project management process against the plan for performing the process and take appropriate corrective action.		
358	L3 IPMI	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the integrated project management process to support the future use and improvement of the organization's processes and process assets.		

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No.	PA	Id.	Title	Description	Comments	Status R/Y/G/NA
359	L3 IPMI	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the integrated project management process against Its process description, standards, and procedures, and address noncompliance.		
360	L3 IPMI	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the integrated project management process with higher level management and resolve issues.		
361	L3 RM	SG 1	Prepare for Risk Management	Preparation for risk management is conducted.		
362	L3 RM	SG 2	Identify and Analyze Risks	Risks are identified and analyzed to determine their relative importance.		
363	L3 RM	SG 3	Mitigate Risks	Risks are handled and mitigated, where appropriate, to reduce adverse impacts on achieving objectives.		
364	L3 RM	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
365	L3 RM	SP 1.1	Determine Risk Sources and Categories	Determine risk sources and categories.		
366	L3 RM	SP 1.2	Define Risk Parameters	Define the parameters used to analyze and categorize risks, and the parameters used to control the risk management effort.		
367	L3 RM	SP 1.3	Establish a Risk Management Strategy	Establish and maintain the strategy to be used for risk management.		
368	L3 RM	SP 2.1	Identify Risks	Identify and document the risks.		
369	L3 RM	SP 2.2	Evaluate, Categorize, and Prioritize Risks	Evaluate and categorize each identified risk using the defined risk categories and parameters, and determine its relative priority.		
370	L3 RM	SP 3.1	Develop Risk Mitigation Plans	Develop a risk mitigation plan for the most important risks to the project, as defined by the risk management strategy.		
371	L3 RM	SP 3.2	Implement Risk Mitigation Plans	Monitor the status of each risk periodically and implement the risk mitigation plan as appropriate.		
372	L3 RM	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the risk management process.		
373	L3 RM	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined risk management process.		
374	L3 RM	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the risk management process.		
375	L3 RM	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the risk management process, developing the work products, and providing the services of the process.		
376	L3 RM	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the risk management process.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
377	L3 RM	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the risk management process as needed.		
378	L3 RM	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the risk management process under appropriate levels of configuration management.		
379	L3 RM	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the risk management process as planned.		
380	L3 RM	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the risk management process against the plan for performing the process and take appropriate corrective action.		
381	L3 RM	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the risk management process to support the future use and improvement of the organization's processes and process assets.		
382	L3 RM	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the risk management process against its process description, standards, and procedures, and address noncompliance.		
383	L3 RM	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the risk management process with higher level management and resolve issues.		
384	L3 IT	SG 1	Establish Team Composition	A team composition that provides the knowledge and skills required to deliver the team's product is established and maintained.		
385	L3 IT	SG 2	Govern Team Operation	Operation of the integrated team is governed according to established principles.		
386	L3 IT	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
387	L3 IT	SP 1.1	Identify Team Tasks	Identify and define the team's specific internal tasks to generate the team's expected output.		
388	L3 IT	SP 1.2	Identify Needed Knowledge and Skills	Identify the knowledge, skills, and functional expertise needed to perform team tasks.		
389	L3 IT	SP 1.3	Assign Appropriate Team Members	Assign the appropriate personnel to be team members based on required knowledge and skills.		
390	L3 IT	SP 2.1	Establish a Shared Vision	Establish and maintain a shared vision for the integrated team that is aligned with any overarching or higher level vision.		
391	L3 IT	SP 2.2	Establish a Team Charter	Establish and maintain a team charter based on the integrated team's shared vision and overall team objectives.		
392	L3 IT	SP 2.3	Define Roles and Responsibilities	Clearly define and maintain each team member's roles and responsibilities.		

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No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
393	L3 IT	SP 2.4	Establish Operating Procedures	Establish and maintain integrated team operating procedures.		
394	L3 IT	SP 2.5	Collaborate among Interfacing Teams	Establish and maintain collaboration among interfacing teams.		
395	L3 IT	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the integrated teaming process.		
396	L3 IT	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined integrated teaming process.		
397	L3 IT	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the integrated teaming process.		
398	L3 IT	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the integrated teaming process, developing the work products, and providing the services of the process.		
399	L3 IT	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the integrated teaming process.		
400	L3 IT	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the integrated teaming process as needed.		
401	L3 IT	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the integrated teaming process under appropriate levels of configuration management.		
402	L3 IT	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the integrated teaming process as planned.		
403	L3 IT	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the integrated teaming process against the plan for performing the process and take appropriate corrective action.		
404	L3 IT	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the integrated teaming process to support the future use and improvement of the organization's processes and process assets.		
405	L3 IT	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the integrated teaming process against its process description, standards, and procedures, and address noncompliance.		
406	L3 IT	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the integrated teaming process with higher level management and resolve issues.		
407	L3 ISM	SG 1	Analyze and Select Sources of Products	Potential sources of products that best fit the needs of the project are identified, analyzed, and selected.		
408	L3 ISM	SG 2	Coordinate Work with Suppliers	Work is coordinated with suppliers to ensure the supplier agreement is executed appropriately.		

No.	PA	Id	Title	Description	Comments	Status (ORIGINAL)
409	L3 ISM	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
410	L3 ISM	SP 1.1	Analyze Potential Sources of Products	Identify and analyze potential sources of products that may be used to satisfy the project's requirements.		
411	L3 ISM	SP 1.2	Evaluate and Determine Sources of Products	Use a formal evaluation process to determine which sources of custom-made and off-the-shelf products to use.		
412	L3 ISM	SP 2.1	Monitor Selected Supplier Processes	Monitor and analyze selected processes used by the supplier.		
413	L3 ISM	SP 2.2	Evaluate Selected Supplier Work Products	For custom-made products, evaluate selected supplier work products.		
414	L3 ISM	SP 2.3	Revise the Supplier Agreement or Relationship	Revise the supplier agreement or relationship, as appropriate, to reflect changes in conditions.		
415	L3 ISM	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the integrated supplier management process.		
416	L3 ISM	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined integrated supplier management process.		
417	L3 ISM	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the integrated supplier management process.		
418	L3 ISM	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the integrated supplier management process, developing the work products, and providing the services of the process.		
419	L3 ISM	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the integrated supplier management process.		
420	L3 ISM	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the integrated supplier management process as needed.		
421	L3 ISM	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the integrated supplier management process under appropriate levels of configuration management.		
422	L3 ISM	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the integrated supplier management process as planned.		
423	L3 ISM	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the integrated supplier management process against the plan for performing the process and take appropriate corrective action.		
424	L3 ISM	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the integrated supplier management process to support the future use and improvement of the organization's processes and process assets.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
425	L3 ISM	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the integrated supplier management process against its process description, standards, and procedures, and address noncompliance.		
426	L3 ISM	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the integrated supplier management process with higher level management and resolve issues.		
427	L3 DAR	SG 1	Evaluate Alternatives	Decisions are based on an evaluation of alternatives using established criteria.		
428	L3 DAR	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
429	L3 DAR	SP 1.1	Establish Guidelines for Decision Analysis	Establish and maintain guidelines to determine which issues are subject to a formal evaluation process.		
430	L3 DAR	SP 1.2	Establish Evaluation Criteria	Establish and maintain the criteria for evaluating alternatives, and the relative ranking of these criteria.		
431	L3 DAR	SP 1.3	Identify Alternative Solutions	Identify alternative solutions to address issues.		
432	L3 DAR	SP 1.4	Select Evaluation Methods	Select the evaluation methods.		
433	L3 DAR	SP 1.5	Evaluate Alternatives	Evaluate alternative solutions using the established criteria and methods.		
434	L3 DAR	SP 1.6	Select Solutions	Select solutions from the alternatives based on the evaluation criteria.		
435	L3 DAR	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the decision analysis and resolution process.		
436	L3 DAR	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined decision analysis and resolution process.		
437	L3 DAR	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the decision analysis and resolution process.		
438	L3 DAR	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the decision analysis and resolution process, developing the work products, and providing the services of the process.		
439	L3 DAR	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the decision analysis and resolution process.		
440	L3 DAR	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the decision analysis and resolution process as needed.		
441	L3 DAR	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the decision analysis and resolution process under appropriate levels of configuration management.		
442	L3 DAR	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the decision analysis and resolution process as planned.		

Status No.	PA	Id	Title	Description	Comments	Status (R/V/G/NA)
443	L3 DAR	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the decision analysis and resolution process against the plan for performing the process and take appropriate corrective action.		
444	L3 DAR	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the decision analysis and resolution process to support the future use and improvement of the organization's processes and process asset		
445	L3 DAR	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the decision analysis and resolution process against its process description, standards, and procedures, and address noncompliance.		
446	L3 DAR	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the decision analysis and resolution process with higher level management and resolve issues.		
447	L3 OEI	SG 1	Provide IPPD Infrastructure	An infrastructure that maximizes the productivity of people and affects the collaboration necessary for integration is provided.		
448	L3 OEI	SG 2	Manage People for Integration	People are managed to nurture the integrative and collaborative behaviors of an IPPD environment.		
449	L3 OEI	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
450	L3 OEI	SP 1.1	Establish the Organization's Shared Vision	Establish and maintain a shared vision for the organization.		
451	L3 OEI	SP 1.2	Establish an Integrated Work Environment	Establish and maintain an integrated work environment that supports IPPD by enabling collaboration and concurrent development.		
452	L3 OEI	SP 1.3	Identify IPPD-Unique Skill Requirements	Identify the unique skills needed to support the IPPD environment.		
453	L3 OEI	SP 2.1	Establish Leadership Mechanisms	Establish and maintain leadership mechanisms to enable timely collaboration.		
454	L3 OEI	SP 2.2	Establish Incentives for Integration	Establish and maintain incentives for adopting and demonstrating integrative and collaborative behaviors at all levels of the organization.		
455	L3 OEI	SP 2.3	Establish Mechanisms to Balance Team and Home Organization Responsibilities	Establish and maintain organizational guidelines to balance team and home organization responsibilities.		
456	L3 OEI	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the organizational environment for integration process.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
457	L3 OEI	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined organizational environment for integration process.		
458	L3 OEI	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the organizational environment for integration process.		
459	L3 OEI	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the organizational environment for integration process, developing the work products, and providing the services of the process.		
460	L3 OEI	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational environment for integration process.		
461	L3 OEI	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the organizational environment for integration process as needed.		
462	L3 OEI	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the organizational environment for integration process under appropriate levels of configuration management.		
463	L3 OEI	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the organizational environment for integration process as planned.		
464	L3 OEI	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the organizational environment for integration process against the plan for performing the process and take appropriate corrective action.		
465	L3 OEI	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational environment for integration process to support the future use and improvement of the organization's processes and process assets.		
466	L3 OEI	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the organizational environment for integration process against its process description, standards, and procedures, and address noncompliance.		
467	L3 OEI	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the organizational environment for integration process with higher level management and resolve issues.		
468	L4 OPP	SG 1	Establish Performance Baselines and Models	Baselines and models that characterize the expected process performance of the organization's set of standard processes are established and maintained.		
469	L4 OPP	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
470	L4 OPP	SP 1.1	Select Processes	Select the processes or process elements in the organization's set of standard processes that are to be included in the organization's process performance analyses.		
471	L4 OPP	SP 1.2	Establish Process Performance Measures	Establish and maintain definitions of the measures that are to be included in the organization's process performance analyses.		
472	L4 OPP	SP 1.3	Establish Quality and Process Performance Objectives	Establish and maintain quantitative objectives for quality and process performance for the organization.		
473	L4 OPP	SP 1.4	Establish Process Performance Baselines	Establish and maintain the organization's process performance baselines.		
474	L4 OPP	SP 1.5	Establish Process Performance Models	Establish and maintain the process performance models for the organization's set of standard processes.		
475	L4 OPP	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the organizational process performance process.		
476	L4 OPP	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined organizational process performance process.		
477	L4 OPP	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the organizational process performance process.		
478	L4 OPP	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the organizational process performance process, developing the work products, and providing the services of the process.		
479	L4 OPP	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational process performance process.		
480	L4 OPP	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the organizational process performance process as needed.		
481	L4 OPP	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the organizational process performance process under appropriate levels of configuration management.		
482	L4 OPP	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the organizational process performance process as planned.		
483	L4 OPP	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the organizational process performance process against the plan for performing the process and take appropriate corrective action.		

No.	PA	Id.	Title	Description	Comments	Status (R/Y/G/NA)
484	L4 OPP	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational process performance process to support the future use and improvement of the organization's processes and process ass		
485	L4 OPP	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the organizational process performance process against its process description, standards, and procedures, and address noncompliance.		
486	L4 OPP	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the organizational process performance process with higher level management and resolve issues.		
487	L4 QPM	SG 1	Quantitatively Manage the Project	The project is quantitatively managed using quality and process-performance objectives.		
488	L4 QPM	SG 2	Statistically Manage Subprocess Performance	The performance of selected subprocesses within the project's defined process is statistically managed.		
489	L4 QPM	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
490	L4 QPM	SP 1.1	Establish the Project's Objectives	Establish and maintain the project's quality and process-performance objectives.		
491	L4 QPM	SP 1.2	Compose the Defined Process	Select the subprocesses that compose the project's defined process based on historical stability and capability data.		
492	L4 QPM	SP 1.3	Select the Subprocesses that Will Be Statistically Managed	Select the subprocesses of the project's defined process that will be statistically managed.		
493	L4 QPM	SP 1.4	Manage Project Performance	Monitor the project to determine whether the project's objectives for quality and process performance will be satisfied, and identify corrective action as appropriate.		
494	L4 QPM	SP 2.1	Select Measures and Analytic Techniques	Select the measures and analytic techniques to be used in statistically managing the selected subprocesses.		
495	L4 QPM	SP 2.2	Apply Statistical Methods to Understand Variation	Establish and maintain an understanding of the variation of the selected subprocesses using the selected measures and analytic techniques.		
496	L4 QPM	SP 2.3	Monitor Performance of the Selected Subprocesses	Monitor the performance of the selected subprocesses to determine their capability to satisfy their quality and process-performance objectives, and identify corrective action as necessary.		
497	L4 QPM	SP 2.4	Record Statistical Management Data	Record statistical and quality management data in the organization's measurement repository.		

No.	PA	Id	Title	Description	Comments	Status R/Y/G/NA
498	L4 QPM	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the quantitative project management process.		
499	L4 QPM	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined quantitative project management process.		
500	L4 QPM	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the quantitative project management process.		
501	L4 QPM	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the quantitative project management process, developing the work products, and providing the services of the process.		
502	L4 QPM	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the quantitative project management process.		
503	L4 QPM	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the quantitative project management process as needed.		
504	L4 QPM	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the quantitative project management process under appropriate levels of configuration management.		
505	L4 QPM	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the quantitative project management process as planned.		
506	L4 QPM	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the quantitative project management process against the plan for performing the process and take appropriate corrective action.		
507	L4 QPM	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the quantitative project management process to support the future use and improvement of the organization's processes and process assets		
508	L4 QPM	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the quantitative project management process against its process description, standards, and procedures, and address noncompliance.		
509	L4 QPM	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the quantitative project management process with higher level management and resolve issues.		
510	L5 OID	SG 1	Select Improvements	Process and technology improvements that contribute to meeting quality and process-performance objectives are selected.		
511	L5 OID	SG 2	Deploy Improvements	Measurable improvements to the organization's processes and technologies are continually and systematically deployed.		
512	L5 OID	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		

No.	PA	Id	Title	Description	Comments	Status (RY/GNA)
513	L5 OID	SP 1.1	Collect and Analyze Improvement Proposals	Collect and analyze process- and technology-improvement proposals.		
514	L5 OID	SP 1.2	Identify and Analyze Innovations	Identify and analyze innovative improvements that could increase the organization's quality and process performance.		
515	L5 OID	SP 1.3	Pilot Improvements	Pilot process and technology improvements to select which ones to implement.		
516	L5 OID	SP 1.4	Select Improvements for Deployment	Select process- and technology-improvement proposals for deployment across the organization.		
517	L5 OID	SP 2.1	Plan the Deployment	Establish and maintain the plans for deploying the selected process and technology improvements.		
518	L5 OID	SP 2.2	Manage the Deployment	Manage the deployment of the selected process and technology improvements.		
519	L5 OID	SP 2.3	Measure Improvement Effects	Measure the effects of the deployed process and technology improvements.		
520	L5 OID	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the organizational innovation and deployment process.		
521	L5 OID	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined organizational innovation and deployment process.		
522	L5 OID	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the organizational innovation and deployment process.		
523	L5 OID	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the organizational innovation and deployment process, developing the work products, and providing the services of the process.		
524	L5 OID	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the organizational innovation and deployment process.		
525	L5 OID	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the organizational innovation and deployment process as needed.		
526	L5 OID	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the organizational innovation and deployment process under appropriate levels of configuration management.		
527	L5 OID	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the organizational innovation and deployment process as planned.		
528	L5 OID	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the organizational innovation and deployment process against the plan for performing the process and take appropriate corrective action.		

SMMM CLSUW, v1.1

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
529	L5 OID	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the organizational innovation and deployment process to support the future use and improvement of the organization's processes and proce		
530	L5 OID	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the organizational innovation and deployment process against its process description, standards, and procedures, and address noncompliance.		
531	L5 OID	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the organizational innovation and deployment process with higher level management and resolve issues.		
532	L5 CAR	SG 1	Determine Causes of Defects	Root causes of defects and other problems are systematically determined.		
533	L5 CAR	SG 2	Address Causes of Defects	Root causes of defects and other problems are systematically addressed to prevent their future occurrence.		
534	L5 CAR	GG 3	Institutionalize a Defined Process	The process is institutionalized as a defined process.		
535	L5 CAR	SP 1.1	Select Defect Data for Analysis	Select the defects and other problems for analysis.		
536	L5 CAR	SP 1.2	Analyze Causes	Perform causal analysis of selected defects and other problems and propose actions to address them.		
537	L5 CAR	SP 2.1	Implement the Action Proposals	Implement the selected action proposals that were developed in causal analysis.		
538	L5 CAR	SP 2.2	Evaluate the Effect of Changes	Evaluate the effect of changes on process performance.		
539	L5 CAR	SP 2.3	Record Data	Record causal analysis and resolution data for use across the project and organization.		
540	L5 CAR	GP 2.1 (CO 1)	Establish an Organizational Policy	Establish and maintain an organizational policy for planning and performing the causal analysis and resolution process.		
541	L5 CAR	GP 3.1 (AB 1)	Establish a Defined Process	Establish and maintain the description of a defined causal analysis and resolution process.		
542	L5 CAR	GP 2.2 (AB 2)	Plan the Process	Establish and maintain the plan for performing the causal analysis and resolution process.		
543	L5 CAR	GP 2.3 (AB 3)	Provide Resources	Provide adequate resources for performing the causal analysis and resolution process, developing the work products, and providing the services of the process.		
544	L5 CAR	GP 2.4 (AB 4)	Assign Responsibility	Assign responsibility and authority for performing the process, developing the work products, and providing the services of the causal analysis and resolution process.		

No.	PA	Id	Title	Description	Comments	Status (R/Y/G/NA)
545	L5 CAR	GP 2.5 (AB 5)	Train People	Train the people performing or supporting the causal analysis and resolution process as needed.		
546	L5 CAR	GP 2.6 (DI 1)	Manage Configurations	Place designated work products of the causal analysis and resolution process under appropriate levels of configuration management.		
547.	L5 CAR	GP 2.7 (DI 2)	Identify and Involve Relevant Stakeholders	Identify and involve the relevant stakeholders of the causal analysis and resolution process as planned.		
548	L5 CAR	GP 2.8 (DI 3)	Monitor and Control the Process	Monitor and control the causal analysis and resolution process against the plan for performing the process and take appropriate corrective action.		
549	L5 CAR	GP 3.2 (DI 4)	Collect Improvement Information	Collect work products, measures, measurement results, and improvement information derived from planning and performing the causal analysis and resolution process to support the future use and improvement of the organization's processes and process assets.		
550	L5 CAR	GP 2.9 (VE 1)	Objectively Evaluate Adherence	Objectively evaluate adherence of the causal analysis and resolution process against its process description, standards, and procedures, and address noncompliance.		
551	L5 CAR	GP 2.10 (VE 2)	Review Status with Higher Level Management	Review the activities, status, and results of the causal analysis and resolution process with higher level management and resolve issues.		

CMMI-SE/SW, V1.1

Level	PA	% Green	% Yellow		% NA	Green	Yellow		NA	Total
2	RM	0%	0%	0%	0%	0	0	0	0	17
2	PP	0%	0%	0%	0%	0	0	0	0	28
2	PMC	0%	0%	0%	0%	0	0	0	0	23
2	SAM	0%	0%	0%	0%	0	0	0	0	20
2	MA	0%	0%	0%	0%	0	0	0	0	21
2	PPQA	0%	0%	0%	0%	0	0	0	0	17
2	CM	0%	0%	0%	0%	0	0	0	0	21
3	RD	0%	0%	0%	0%	0	0	0	0	26
3	TS	0%	0%	0%	0%	0	0	0	0	25
3	PI	0%	0%	0%	0%	0	0	0	0	25
3	VE	0%	0%	0%	0%	0	0	0	0	24
3	VA	0%	0%	0%	0%	0	0	0	0	20
3	OPF	0%	0%	0%	0%	0	0	0	0	22
3	OPD	0%	0%	0%	0%	0	0	0	0	19
3	OT	0%	0%	0%	0%	0	0	0	0	22
3	IPMI	0%	0%	0%	0%	0	0	0	0	30
3	RM	0%	0%	0%	0%	0	0	0	0	23
3	IT	0%	0%	0%	0%	0	0	0	0	23
3	ISM	0%	0%	0%	0%	0	0	0	0	20
3	DAR	0%	0%	0%	0%	0	0	0	0	20
3	OEI	0%	0%	0%	0%	0	0	0	0	21
4	OPP	0%	0%	0%	0%	0	0	0	0	19
4	QPM	0%	0%	0%	0%	0	0	0	0	23
5	OID	0%	0%	0%	0%	0	0	0	0	22
5	CAR	0%	0%	0%	0%	0	0	0	0	20
Total		0%	0%	0%	0%	0	0	0	0	551

Level 2 % Green

Axes: RM, PP, PMC, SAM, MA, PPQA, CM
Scale: 0%, 20%, 40%, 60%, 80%, 100%

Level 4/5 % Green

Axes: OPP, QPM, OID, CAR
Scale: 0%, 20%, 40%, 60%, 80%, 100%

All Levels % Green

Axes: RM, PP, PMC, SAM, MA, PPQA, CM, RD, TS, PI, VE, VA, OPF, OPD, OT, IPMI, RM, IT, ISM, DAR, OEI, OPP, QPM, OID, CAR
Scale: 0%, 20%, 40%, 60%, 80%, 100%

Level 3 % Green

Axes: RD, TS, PI, VE, VA, OPF, OPD, OT, IPMI, RM, IT, ISM, DAR, OEI
Scale: 0%, 20%, 40%, 60%, 80%, 100%

ID	❶	Task Name	Duration
1		DEAMS Data Warehouse	235.04 days
2		Contract Award	0 days
3		On Award of Contract	4 days
4		Team Mobilization and facility occupation	1 day
5		Administrative procedures	1 day
6		PWS and Proposal review	1 day
7		TIM preparation	0.5 days
8		TIM #1	0.5 days
9		Team formed	0 days
10			
11		Re-Engineering and Validation	97.04 days
12		Business Discovery	21 days
13		Review user information requirements	5 days
14		Review SDDC documentation	4 days
15		Review AMC documentation	4 days
16		Review MSC documentation	3 days
17		Compile business questions	0.5 days
18		Compile and review business process and rule information	5 days
19		Deliver updated business process and rules	0 days
20			
21		Information Discovery	28.5 days
22		Identify data elements required to answer business questions	20 days
23		Evaluate existing LDM for required data elements	5 days
24		Evaluate staging tables for presence of data elements	5 days
25			
26		Evaluate TCC data extraction for presence of data elements	6 days
27		Evaluate SDDC extract	2 days
28		Evaluate AMC extract	2 days
29		Evaluate MSC extract	2 days
30		Conduct gap analysis on information elements	2 days
31		Deliver data shortfall analysis	0 days
32		Preliminary Design Review of LDM	0.5 days
33			
34		Re-engineer Solution to Meet Started Requirements	97.04 days
35		Logical Data Model development	26.67 days
36		Critical Design Review of LDM	0.38 days
37		Deliver LDM and Data Dictionary	0 days
38		Re-engineer Physical Data Model	5 days
39		Re-engineer TCC data extraction and staging table load	10 days
40		Update User Requirements	40 days
41		Re-engineer User Interface	10 days
42		Develop test plan	5 days
43		Deliver test plan	0 days
44		Update Project Plan	2 days
45		Preliminary Design Review of Project Solution: Project Review	0.5 days
46		Approval to Proceed with Schedule and Baseline Requirements	0 days
47		Update Software Requirements Document (SRD)	3 days
48		Deliver Software Requirements Document Changes	0 days
49			
50		Configuration and Change Management	94.04 days
51		Develop Configuration Management Process	15 days
52		Deliver Configuration Management Plan	0 days
53		Develop Change Management Process	5 days
54		Deliver Change Management Plan	0 days
55		Deliver Change Management Requirements Baseline	0 days
56			
57		Development (Increment 1 Financial Management)	137 days
58		Back End	100.5 days
59		Data Analysis	10 days
60		Develop PDM	20 days

ID		Task Name	Duration
61		Deliver PDM	0 days
62		Develop and Unit Test Extract	30 days
63		Develop and Unit Test Transform and Load	30 days
64		Critical Design Review: ETL	0.5 days
65		Deliver Developmental Test Documentation	0 days
66		Approval to test	0 days
67		ETL Testing	5 days
68		Bug Fix and Regression Testing	10 days
69		ETL Testing (Round 2)	5 days
70		Deliver Warehouse and ETL	0 days
71		Load Warehouse	20 days
72		Begin generating business value - Grant access to third party da	0 days
73			
74		Front End	137 days
75		Prototype User Interface	10 days
76		Report Development	40 days
77		Develop User Interface	50 days
78		Critical Design Review: Front End	0.5 days
79		Approval to test	0 days
80		Conduct User Training	1 day
81		Deliver change management capability	0 days
82		Deliver configuration management capability (via GUI)	0 days
83		Front End testing - includes user acceptance (Round 1)	5 days
84		Bug Fix and Regression Testing	10 days
85		Front End testing (Round 2)	1 day
86		User Acceptance Approval	0 days
87		Deliver Test Reports	0 days
88		Final configuration and movement to production	5 days
89		Develop Software Design Document	10 days
90		Deliver System Design Document (SDD)	0 days
91		Deliver Financial Management Increment	0 days
92			
93		Project Management	227 days
94		Develop Task Order Management Plan (TOMP)	10 days
95		Deliver TOMP	0 days
96		Develop Work Breakdown Structure	10 days
97		Deliver Work Breakdown Structure	0 days
98			
99		In Progress Reviews	195.25 days
110		Technical Interchange Meetings	200.13 days
135			
136		Deliver Monthly Status Report / Resource Management Tracking	195 days
147			
148		Resource Management Tracking	217 days
160			
161		Current System Maintenance	1 day
162			
163		Documentation	49.5 days
164		Develop users manuals	20 days
165		Deliver Users manuals	0 days
166		Develop Troubleshooting guide	15 days
167		Deliver Troubleshooting guide	0 days
168		Develop System / Interface Documentation	5 days
169		Deliver System / Interface Documentation	0 days
170		Develop Training Materials	10 days
171		Deliver Training Materials	0 days
172		Develop System Administration Guide	1 day
173		Deliver System Administration Guide	0 days
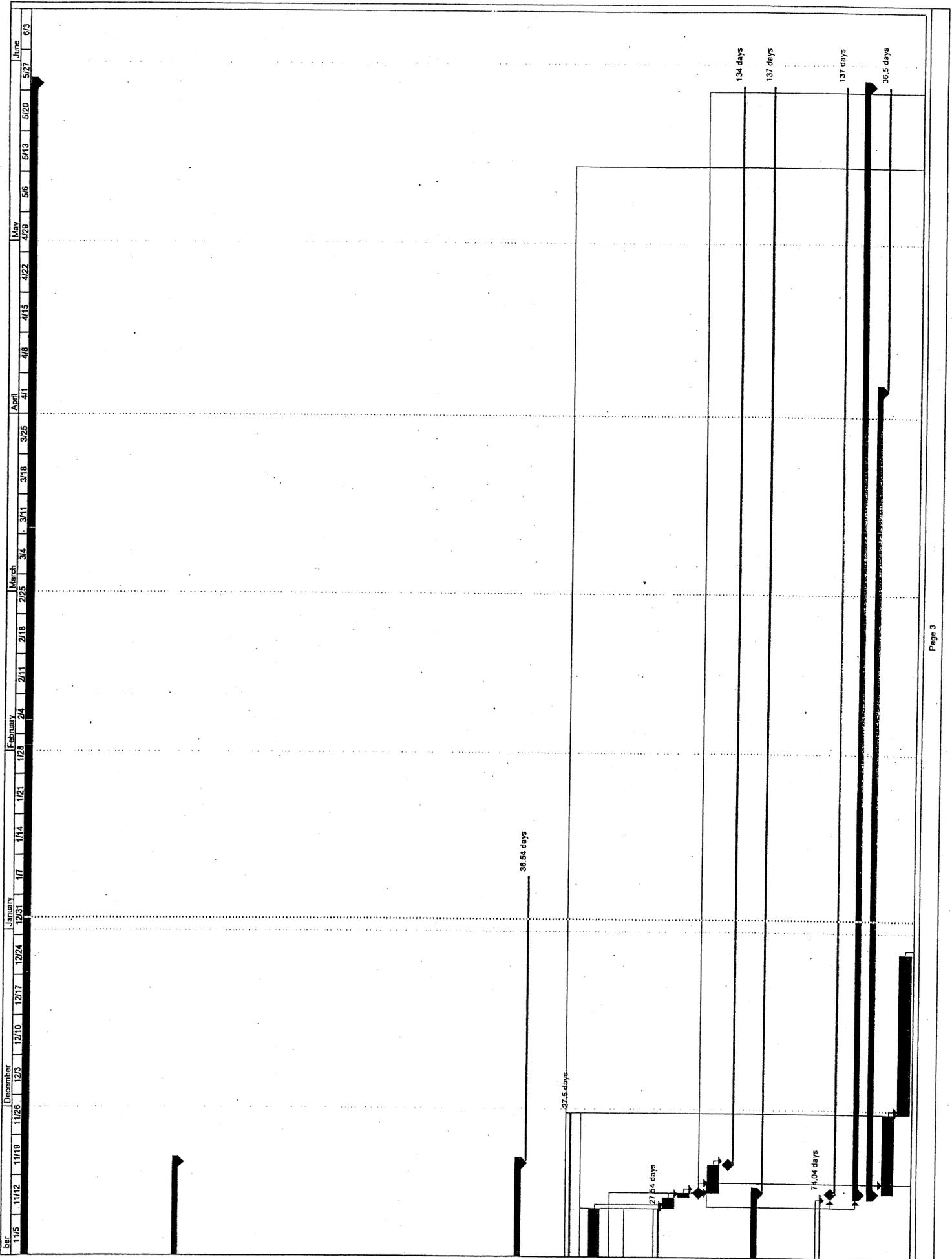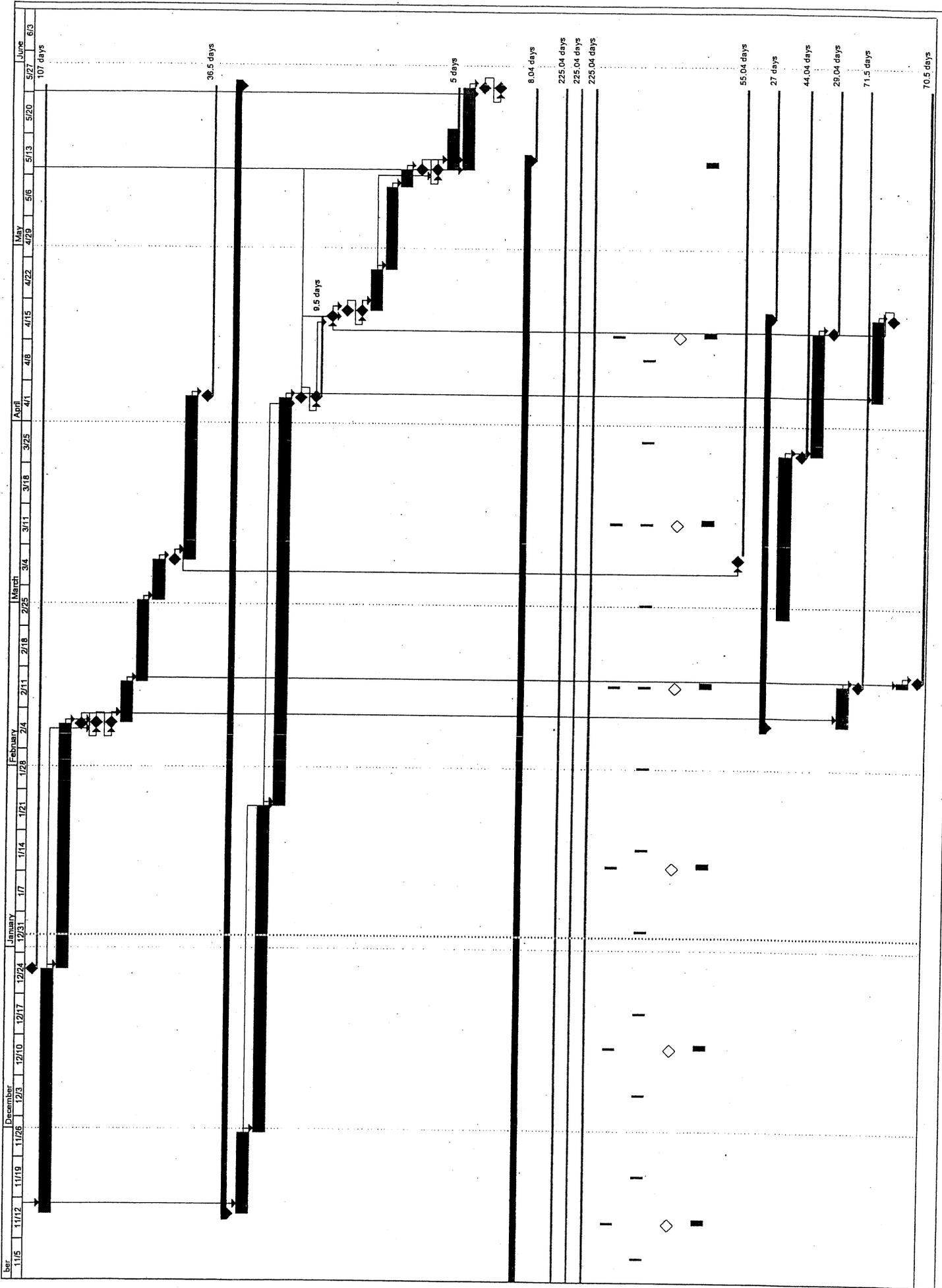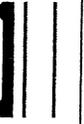
Critical	Split	Slack	Project Summary	External Tasks	
Critical Split	Progress	Slippage	Rolled Up Critical	External Milestone	
Task	Milestone ◆	Summary	Rolled Up Critical Split	Deadline	

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
2.1	Section M	2.b (1)	Management processes in place which will ensure the project will remain on schedule and offer proactive solutions to remaining on schedule or ahead of schedule.
2.1	Section M	2.b (1)	Submits a plan that identifies quality checks to ensure the final deliverables meet all PWS requirements and includes proposed actions for correction of any defects.
2.1	PWS	1.2.3.6	Formal minutes shall be drafted by the contractor and staffed for approval and signed by the Program Manager within 5 workdays after meeting.
2.1.2	PWS	1.2.3.2	The code will be evaluated for efficient use of system resources and proper coding practices IAW Software Engineering Process (SEP) and Capability Maturity Model (CMM) Level III expectations.
2.1.2	Section M	2.b (1)	Must meet CMM Level III requirements
2.1.2	Section M	2.b (1)	Measurable methods of determining quality code and ensuring a working system is delivered on time
2.1.3	PWS	1.2.2.1.3	1.2.2.1.3 Configuration Management Process The contractor shall establish a configuration management capability to track requirements vs. deliverables and maintain versioning control of documents, software, and system components.
2.1.3	PWS	1.2.2.1.3	This process will be accessible to the users and enable them to identify capabilities already fielded and capabilities scheduled to be fielded in future releases.
2.1.3	PWS	1.2.2.1.3	This information will contain all aspects of the program required for each fielding increment, and identification of those that have changed, and a method of monitoring/identifying the specifics of the change.
2.1.3	PWS	1.2.2.1.3	Additionally, upon completion of the Configuration Management Process, the contractor shall submit a baseline configuration for approval by the government.
2.1.3	PWS	1.3.1.3	The contractor shall develop a Configuration Management process for control of releases, source code, and documents. Submit the Configuration Management Plan to the Government for approval.
2.1.3	PWS	1.2.2.1.3	Additionally, upon completion of the Configuration Management Process, the contractor shall submit a baseline configuration for approval by the government.
2.1.3	Section M	2.b (1)	Measurable methods of determining quality code and ensuring a working system is delivered on time
2.1.3.1	PWS	1.2.3.3	The contractor shall document all work in Increment I IAW acceptable business standards for software (CMM Level III).
2.1.4	PWS	1.3.1.1	1.3.1.1. Task Order Management Plan (TOMP). The contractor shall prepare a TOMP to describe the technical approach, organizational resources, and management controls required to meet cost, performance, and schedule requirements throughout TO execution using resource management tracking, Critical Path Scheduling, and Work Breakdown Structure (WBS) tools.
2.1.5	PWS	1.3.1.2	1.3.1.2 Monthly Status Report (MSR). The contractor shall provide a monthly status report monitoring the quality assurance, configuration management, and security management efforts applied to the TO.

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
2.1.5	PWS	1.3.1.2	The monthly status report shall list, by each active task, the accomplishments of the reporting period by contractor name and hours worked against each task, describe the objectives for the next reporting period, and provide an overall evaluation of the task order to date including a bar and graph chart of the resources used for the current period and year-to-date with a delta below.
2.1.5	PWS	1.3.1.2	This section of the report shall show the plan dollars and hours burn rate vs. the actual burn rate and associated delta by month.
2.1.5	PWS	1.3.1.2	The report shall list the deliverables for each task and any issues, problem areas, or items that require Government review.
2.1.6	PWS	1.3.1.3	**1.3.1.3 Work Breakdown Structure.** The contractor shall develop a program WBS to provide a framework for program and technical planning, cost estimating, resource allocation, performance measurements, and status reporting.
2.1.6	PWS	1.3.1.3	The WBS and associated WBS dictionary shall define the total application to be developed or produced; display the total process as a product-oriented family tree composed of hardware, software, services, data, and facilities; and relate the elements of work to each other and to the end product.
2.1.6	PWS	1.3.1.3	The contractor shall suggest changes to the WBS and evaluate progress toward delivery of the USTRANSCOM financial integration process.
2.1.7	PWS	1.3.1.4	**1.3.1.4 Resource Management Tracking (RMT).** The contractor shall provide monthly updates to the RMT product to the PMO.
2.1.7	PWS	1.3.1.4	The product shall include schedule, assigned resources (labor category/hrs) with cost factors, reference the baseline approved by both the government and the contractor at the start of the program, and updates to the work completed.
2.1.7	PWS	1.3.1.4	The net change of resources required to complete the work, and any revisions to overall schedule resulting from the changes will be reflected in the Incentive Award computation for that portion of the schedule.
2.1.7	PWS	1.3.1.4	The contractor shall use a mutually agreed upon product which has the functionality seen in Microsoft Project, but Microsoft Project is not required.
2.1.7	PWS	1.3.1.4	The contractor shall deliver a copy of the RMT reports not later than one week after the final reporting day of the month.
2.1.7	PWS	1.3.1.4	The RMT report will be based on the designated level of the WBS agreed upon by the contractor and the government. The information is intended to be collected at levels depending on the method used to create the WBS and not at levels below WBS Level III. The information should include the time required, resources, time per resource and the cost of the resource. This information will be used to compare estimated cost of work planned to actual cost/schedule of work completed.
2.1.7	PWS	1.3.1.4	Additionally, any changes in schedule will show the impact on the overall project through task dependencies identified in the project tracker.
2.1.8.1	PWS	1.3.1.5	**1.3.1.5 In-Process Reviews (IPR).** The contractor shall conduct IPRs monthly, or at the Program Manager's request. The IPR summarizes the project status, progress, concerns and impacts, recommendations for developing project software documentation, or other issues affecting the on-going effort.
2.1.8.1	PWS	1.3.1.5	The contractor shall deliver IPR minutes and a copy of the presentation slides. At a minimum, the minutes should reflect a record of meeting activity, decisions made, date, location, and attendees. Issues requiring immediate or urgent government actions should be highlighted with an impact on the program if not completed by a set date.
2.1.8.2	PWS	1.3.1.5	**1.3.1.6 Technical Interchange Meeting (TIM).** The contractor shall conduct a TIM at a government location within five (5) workdays of contract award to document project requirements, schedule, and other technical issues.
2.1.8.2	PWS	1.3.1.5	Formal minutes shall be drafted by the contractor submitted to the PM for approval, and signed by the PM within 3 workdays after meeting (reference paragraph above about minutes).
2.1.8.2	PWS	1.3.1.5	The monthly, or as required, the contractor shall provide a TIM agenda 2 work days prior to any meeting.

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
2.1.8.2	PWS	1.3.1.5	The agenda will have a list of issues and proposed recommendations with pros and cons for each recommendation.
2.1.8.2	PWS	1.3.1.5	The contractor will only bring key personnel to meetings.
2.1.9	PWS	1.2.2.1.1	Prior to any outside meetings or interviews, the contractor shall clearly show the desired result of the effort to the PM.
2.1.9	PWS	1.2.2.1.1	The contractor shall provide the PM with the following: identify the missing information the contractor whishes to investigate, the current information relating to the subject area, the plan to capture the data, and an impact assessment on the missing information with respect to the overall development.
2.1.9	PWS	1.2.3.7	1.2.3.7 Meetings. The contractor shall provide formal minutes of meetings and discussions to the PM within 2 workdays of the event.
2.1.9	PWS	1.2.3.7	The contractor shall maintain and track all minutes.
2.1.9	PWS	1.2.3.7	The contractor shall track action items resulting from these events. The PM will initial all actionable items prior to the contractor undertaking any of these actions.
2.1.9	PWS	1.3.1	The contractor shall provide the following to manage the development tasks. In order to insure a successful outcome, there are many technical, managerial, and evaluation meetings and tasks which could impact the developer's timelines. The government reserves the right to hold all meetings, combine meetings, or cancel meetings based on content, contractor performance, and contractors schedule.
2.1.9	PWS	1.3.1	The outcome will provide the best possible status of the project to the government with the least impact on the development.
2.1.9	PWS	1.3.1	The contractor shall be prepared to provide all information required for the meeting to the government weather or not the meeting is held.
2.1.9	PWS	1.3.1	The government will inform the contractor of meeting changes at least five workdays prior to the scheduled meeting start time.
2.1.9	PWS	1.2.3.6	Formal minutes shall be drafted by the contractor and staffed for approval and signed by the Program Manager within 5 workdays after meeting.
3 and all sub-paragraphs	PWS	1.2.3	1.2.3 Increment I Financial Management consists of obtaining, storing, integrating, and presenting financial data. It shall consist of developing the financial warehouse and a reporting application to support analyses of USTRANSCOM expense and revenue data for all Transportation Working Capital Fund (TWCF) business areas at the transaction-level. The following tasks are related to the implementation of Increment I:
3 and all sub-paragraphs	Section M	2.b (1)	Submits a summary of the technical approach to include major deliverables, top level description of approach, and major risks and assumptions to support your approach.
3 and all sub-paragraphs	Section M	2.b (1)	Submits a sound plan for accomplishing the project within the required period of performance. The plan should include:
3.1 - 3.4	Section M	2.b (1)	Initial assessment of the project status and identification of suitability of the current processes and modules

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
3.5	PWS	1.2.2.1.1	**1.2.2.1.1 Business Discovery.** The contractor shall review the extensive financial documentation in respect to the requirements to determine those areas that need further concentration.
3.5	PWS	1.2.2.1.1	The contractor shall conduct interviews, program assessments, and conduct working sessions to facilitate a single understanding of the USTRANSCOM financial management process.
3.5	PWS	1.2.2.1.2	**1.2.2.1.2 Information Discovery.** Subsequent to business discovery and data analysis, the contractor shall identify systems likely to serve as sources of data to populate the data and information requirements in the EDW warehouse (Air Force CRIS System, Army SDDC TFMS-M System, and the Navy Oracle FMS Accounting system).
3.5	Section M	2.b (1)	Evaluation of the current documentation (attachments 1-4 in the PWS) to determine the scope of the work required to meet the program objectives.
3.5.2	PWS	1.2.3.2	**1.2.3.2 Interface/Load Code Creation.** The contractor shall create/revise automated interfaces from source systems to the Warehouse in accordance with (IAW) USTRANSCOM EDW standard implementation within USTC J6 Documentation and Teradata Production Operations Procedures obtained from the PMO.
3.5 - 3.16	Section M	2.b (1)	Initial solution to include identification of those areas not adequate to complete program objectives
3.7	PWS	1.2.3.1	**1.2.3.1 The Contractor Shall Conduct Data Analysis.** The analysis shall be conducted on current interfaces to assess and document data completeness for the USTRANSCOM financial reporting application.
3.7	PWS	1.2.3.1	The contractor shall provide documentation to identify data shortfalls from among the data sources, document the reason for the data shortfall, prescribe a potential resolution to the shortfall, and identify the impact of the shortfall on USTRANSCOM financial application development progress. Documentation may include change requests to source system interfaces, changes to the LDM, and/or change submissions to the USTRANSCOM Master Model.
3.7.1 - 4	PWS	1.2.2.2.1	**1.2.2.2.1 Logical Data Model (LDM).** The contractor shall evaluate the current data model to determine sufficiency for further development or revise and document a LDM representation of the business entities, attributes, and primary and foreign keys necessary to implement Increment I.
3.7.1 - 4	PWS	1.2.2.1.1	The contractor shall conduct interviews, program assessments, and conduct working sessions to facilitate a single understanding of the USTRANSCOM financial management process.
3.7.1	PWS	1.2.2.1.1	The PM will match the information required with the proper source and schedule the meetings in accordance with the developer's timelines. The documentation resulting from this effort should identify required data, rules, and processes pertinent to warehouse operations. The resulting business processes and rules are to be stored in a retrievable and reusable fashion.
3.7.1	PWS	1.2.2.1.2	The contractor shall work with system owners to create/revise Interface Requirement Definition Documents (IRDDs), as well as, other applicable requirements and interface documentation as deemed appropriate by the Program Manager. Task is complete when all data elements, sources of data, and required interface elements are identified, documented and the supporting documentation is delivered to the COR.

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
3.7.1	PWS	1.2.2.1.1	The PM will match the information required with the proper source and schedule the meetings in accordance with the developer's timelines. The documentation resulting from this effort should identify required data, rules, and processes pertinent to warehouse operations. The resulting business processes and rules are to be stored in a retrievable and reusable fashion.
3.7.4	PWS	1.2.2.1.1	The resulting data definitions shall be incorporated into the data dictionary to include source of the data, any associated calculations or relationship to reference tables. Documentation should provide enough information to identify decisions made to modify the current design solution, provide a rationale to justify changes and describe the overall impact of the changes.
3.7.4	PWS	1.2.2.1.2	The contractor shall work with system owners to create/revise Interface Requirement Definition Documents (IRDDs), as well as, other applicable requirements and interface documentation as deemed appropriate by the Program Manager. Task is complete when all data elements, sources of data, and required interface elements are identified, documented and the supporting documentation is delivered to the COR.
3.7.4	PWS	1.2.2.2.1	Logical modeling is to be completed in accordance with USTRANSCOM Enterprise Architecture (EA),(reference USTC Corporate Data Office) and shall be delivered to the Program Management Office (PMO) for final review. Included in this task is the integration of logical models with existing warehouse operational models and delivery of a data dictionary to describe the model.
3.7.5	PWS	1.2.2.2.1	Logical modeling is to be completed in accordance with USTRANSCOM Enterprise Architecture (EA),(reference USTC Corporate Data Office) and shall be delivered to the Program Management Office (PMO) for final review. Included in this task is the integration of logical models with existing warehouse operational models and delivery of a data dictionary to describe the model.
3.7.6	PWS	1.2.2.2.2	**1.2.2.2.2 Physical Data Modeling.** The contractor shall review the LDM and provide supporting documentation as to the changes from the LDM to the PDM in order to provide the most efficient physical implementation of the LDM which best supports the system requirements, with all atomic- level data stored for reusability in future phases.
3.8	PWS	1.2.3.2	**1.2.3.2 Interface/Load Code Creation.** The contractor shall create/revise automated interfaces from source systems to the Warehouse in accordance with (IAW) USTRANSCOM EDW standard implementation within USTC J6 Documentation and Teradata Production Operations Procedures obtained from the PMO.
3.11.2	PWS	1.2.3.6	**1.2.3.6 Preliminary Design Review (PDR) and Critical Design Review (CDR).** The contractor shall conduct a Preliminary Design Review (PDR), before the code creation portion of the phase begins.
3.11.3	PWS	1.2.2.3.1	1.2.2.3.1 The change management capability shall allow the user to directly access an error or change request page from anywhere in the system.
3.11.3	PWS	1.2.2.3.2	1.2.3.2 The change management capability shall allow users and the reviewing/ approval chain to access the capability from outside the Reporting Application via the web to enter requests for new capabilities, review/approve requested changes, or comment on actions already in the process.
3.11.3	PWS	1.2.2.3.1	Additionally, all relevant information will be populated on the form of the contractor's choice to minimize the amount of data the user must submit.
3.11.3	PWS	1.2.3.1	The USTRANSCOM financial application requirements shall be used to assist in developing a data extraction and drill-down capability.
3.12	PWS	1.2.3.2	Scripts will be tested, and implemented to ensure timely automated loading of the warehouse. All code is to be tested, to ensure that no syntactic or documented logic errors exist.
3.12.1	PWS	1.2.3.2	The code will be evaluated for efficient use of system resources and proper coding practices IAW Software Engineering Process (SEP) and Capability Maturity Model (CMM) Level III expectations.
3.12.1	PWS	1.2.3.4.2	**1.2.3.4.2** The contractor shall provide setup disk with instructions for the installation and integration of USTRANSCOM financial application on the production system on the USTRANSCOM LAN or testbed.

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
3.12.1	Section M	2.b (1)	Measurable methods of determining quality code and ensuring a working system is delivered on time
3.12.1	PWS	1.2.3.4	The contractor shall coordinate his efforts with the PM to ensure the integration of DT&E with the User's Initial Operational Testing.
3.12.1	PWS	1.2.3.4	The contractor shall write the USTRANSCOM financial application test plans and procedures to include recommendations and justifications for additional tests, adjustments to current tests, and /or removal of any tests.
3.12.1	PWS	1.2.3.4	Following execution of the Design Test & Evaluation (DT&E), the contractor shall provide a final DT&E test report of the USTRANSCOM financial application code accompanied by all supporting documentation and test run outputs.
3.12.1	PWS	1.2.3.4.1	1.2.3.4.1 The contractor shall provide needed support for Operational Test and Evaluation (OT&E).
3.12.1	PWS	1.2.3.4.2	During the installation, the contractor shall provide phone and on-site support as necessary.
3.12.3	PWS	1.2.3.2	**1.2.3.2 Interface/Load Code.Creation.** The contractor shall create/revise automated interfaces from source systems to the Warehouse in accordance with (IAW) USTRANSCOM EDW standard implementation within USTC J6 Documentation and Teradata Production Operations Procedures obtained from the PMO.
3.12.4	PWS	1.2.3.4	The contractor shall coordinate his efforts with the PM to ensure the integration of DT&E with the User's Initial Operational Testing.
3.12.4	PWS	1.2.3.4	The contractor shall write the USTRANSCOM financial application test plans and procedures to include recommendations and justifications for additional tests, adjustments to current tests, and /or removal of any tests.
3.12.4	PWS	1.2.3.4	Additionally, the developer shall be responsible for assisting the PM in developing scripts to accomplish the accepted tests.
3.12.4	PWS	1.2.3.4	The appropriate test scripts and documentation shall accompany all additional tests submitted for approval by the developer.
3.12.4	PWS	1.2.3.4	The Government PM will validate all test plans, test cases, scripts, and documentation and integrate the recommended changes to the final test plans.
3.12.4	PWS	1.2.3.4	Following execution of the Design Test & Evaluation (DT&E), the contractor shall provide a final DT&E test report of the USTRANSCOM financial application code accompanied by all supporting documentation and test run outputs.
3.12.4	PWS	1.2.3.4.1	1.2.3.4.1 The contractor shall provide needed support for Operational Test and Evaluation (OT&E).
3.12.4	PWS	1.2.3.4.2	During the installation, the contractor shall provide phone and on-site support as necessary.
3.12.4	PWS	1.2.3.6	The contractor shall conduct a Critical Design Review (CDR) before the test portion of the phase begins. The Program Manager approval is required after each review.
3.12.4	PWS	1.2.3.6	**1.2.3.6 Preliminary Design Review (PDR) and Critical Design Review (CDR).** The contractor shall conduct a Preliminary Design Review (PDR), before the code creation portion of the phase begins.
3.13	PWS	1.2.3.6	**1.2.3.6 Preliminary Design Review (PDR) and Critical Design Review (CDR).** The contractor shall conduct a Preliminary Design Review (PDR), before the code creation portion of the phase begins.
3.13	PWS	1.2.3.6	The contractor shall conduct a Critical Design Review (CDR) before the test portion of the phase begins. The Program Manager approval is required after each review.

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
3.13	PWS	1.2.3.6	In addition, during the review, the contractor shall update the Program Manager on the process the contractor shall use to sustain Phase software code after implementation. Upon completion of the review, the Program Manager will approve or disapprove the demonstrated capabilities and final design, and provide comments back to the contractor within 5 workdays of receipt of the draft.
3.13	PWS	1.2.3.6	Formal minutes shall be drafted by the contractor and staffed for approval and signed by the Program Manager within 5 workdays after meeting.
3.14	PWS	1.2.3.5	**1.2.3.5 Training.** The contractor shall provide training for government representatives, application administrator, and backups (not to exceed 8 people) responsible for operating the installed application.
3.14	PWS	1.2.3.5	The contractor shall develop Compact Disc (CD) or Online training instructional media *for the application users and administrative personnel* and shall instruct personnel in the use of the training materials.
3.14	PWS	1.2.3.5	Subsequent to each session, the contractor shall provide a utilization report detailing trainee participation, comments, and recommendations on software functionality and an evaluation of training effectiveness.
3.14	PWS	1.2.3.5	Prior to implementing training, the contractor shall provide training proposals, materials, and concepts for government review and approval.
3.14	PWS	1.2.3.5	Training requirement discussions will be on-going between contractor and Program Manager to meet the latest requirements.
3.15	PWS	1.2.2.3.2	1.2.2.3.2 The change management capability shall allow users and the reviewing/ approval chain to access the capability from outside the Reporting Application via the web to enter requests for new capabilities, review/approve requested changes, or comment on actions already in the process.
3.15.1	PWS	1.2.2.3.1	1.2.2.3.1 The change management capability shall allow the user to directly access an error or change request page from anywhere in the system.
3.15.1	PWS	1.2.2.3.1	Additionally, all relevant information will be populated on the form of the contractor's choice to minimize the amount of data the user must submit.

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
3.15.4	PWS	1.2.2.3.3	**1.2.2.3.3** The change management capability shall be integrated into the configuration management capability so any changes addressed by future releases will be identified in the configuration management process and they will provide a link between the two subsystems.
3.16	PWS	1.3.2	**1.3.2 Maintenance Tasks.** The contractor shall provide the following efforts in reference to maintaining the current production system during development and continuing maintenance on the production system as future increments are moved to production:
3.16.1	PWS	1.3.2.1	**1.3.2.1 Code Maintenance.** The contractor shall modify existing interfaces to meet changes to feeder systems when required. USTRANSCOM EDW is the repository for data received from developed interfaces.
3.16.2	PWS	1.3.2.2	**1.3.2.2 System Maintenance Support.** The contractor shall provide technical support of all production level software releases. Support is to include interaction with the USTRANSCOM EDW Management Team for database, system, and quality administration. Support also includes interaction with application end-users, to support retrieval and display of accurate information in an understandable and repeatable format.
3.16.3	PWS	1.3.2.3	**1.3.2.3 Problem Resolution.** The contractor shall resolve any documented outstanding software problems that arise during phase development and implementation. Such problems may be identified by the result of deliverable inspection, user input, or test results. Changes will be addressed in the configuration management process and/or the change management process as needed.
3.17	Section M	2.b (1)	Initial Risk Assessment
4	PWS	1.4	The contractor shall deliver all products, reports, schedules, graphics, and spreadsheets in the current TCJ6 version of Microsoft Word, Project, Power Point, Excel, or other applicable application.
4	PWS	1.4	Each deliverable shall be made in both hard copy and upon a 3.5" high-density diskette or CD, at Government discretion with a typewritten identifying label displaying the appropriate contract number and deliverable title.
4	PWS	1.4	The contractor shall make modifications and return the deliverable to the government within five (5) working days.
4.1	PWS	1.2.3.3	The contractor shall develop the USTRANSCOM application systems manual outlining USTRANSCOM financial application functionality, to include, trouble-shooting, system layout, software functionality, process documentation, and hardware specifics.
4.1	PWS	1.4	Contractor shall submit deliverable schedule with proposed deliverable dates in the technical proposal, see Attachment 5.
4.1	Section M	2.b (1)	Tasks required to accomplish the program objectives
4.3.3	PWS	4.4	Work hours shall be consistent with Government personnel duty hours and holiday schedule, normally 7:00 a.m. until 4:00 p.m. Central time, Monday through Friday.

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
4.4	PWS	4.7	All travel shall be approved by the COR in advance. Travel costs shall not exceed the estimated amounts established in the associated Contract Line Item Numbers (CLINS). Incurred contractor travel costs will be reimbursed by the Government to the contractor in accordance with Joint Travel Regulations (JTR), Federal Travel Regulations (FTR) and FAR cost principles. The airfare shall be the prevailing rates for commercial airline or tourist class. When required, the most reasonable means of ground transportation i.e., taxi, bus, or car rental, shall be used.
5.1	PWS	4.6.1	The contractor will require access to Government information in the performance of this contract. The contractor may be required to have access to information classified at the SECRET level. The contractor will require access to secured buildings requiring SECRET level clearance for unescorted access. The contractor shall not divulge any information, including but not limited to, financial, planning, programming, or budgeting information without the express consent of the Government. The contractor shall observe and comply with security provisions at Scott AFB, USTRANSCOM, and any other Government installations where performance is required. Identification badges shall be worn and displayed at all times. Contract Security Classification Specification, DD Form 254, is required.
5.2	PWS	4.6.2	The contractor agrees: (a) to use and protect such information from unauthorized disclosure in accordance with the Federal Acquisition Regulation (FAR); (b) to use and disclose such information only for the purpose of performing this contract and to not use or disclose such information for any personal or commercial purpose; (c) to obtain permission of the COR before disclosing/discussing such information with a third party; (d) to return any non-public, sensitive information no longer required for contractor performance; and (e) to advise the COR of any unauthorized release of such information. Upon request, the contractor shall have its employees assigned to this contract execute a non-disclosure agreement for delivery to the Government.
7.1	PWS	4.5	In the event a change in contractor staffing is required, the contractor's replacement personnel shall meet all qualifications identified in the generic resumes as approved by the Government as part of the contractor's technical proposal. The contractor shall identify to the COR the qualifications of all proposed contractor replacement personnel prior to employment.
Volume 2 Section 1 Attachment 2	PWS	1.3.1.3	The schedule risk shall be analyzed based on the project critical path.
Volume 2 Section 1 Attachment 2	Section M	2.b (1)	A sound deliverable schedule with dates and deliverables to include the functions delivered with the software by release (Attachment 5 in the PWS).
Volume 2 Section 1 Attachment 2	Section M	2.b (1)	Must meet CMM Level III requirements
Volume 2 Section 1 Attachment 2	Section M	2.b (1)	Identification of the Critical path required to meet the program objectives
Volume 2 Section 1 Attachment 2	Section M	2.b (1)	Resources (time, materials, personnel, software) required to accomplish the tasks. The personnel, time, cost, and schedule of each module of the Work Breakdown Structure (WBS).
Volume 2 Section 3	PWS	1.2.3.3	The contractor shall develop the USTRANSCOM application systems manual outlining USTRANSCOM financial application functionality, to include, trouble-shooting, system layout, software functionality, process documentation, and hardware specifics.
Volume 2 Section 3	Section M	2.b (1)	Tasks required to accomplish the program objectives

DEFINING THE FUTURE

Proposal Paragraph Number	Source of Shall Requirement	RFQ Identifier	Description
Volume 2 Section 3	Section M	2.b (1)	A sound deliverable schedule with dates and deliverables to include the functions delivered with the software by release (Attachment 5 in the PWS).
Volume 3 & 5	Section M	2.b (1)	Resources (time, materials, personnel, software) required to accomplish the tasks. The personnel, time, cost, and schedule of each module of the Work Breakdown Structure (WBS).
Volume 4 Past Performance	Section M	2.b (1)	Financial System development or support, Knowledge of Oracle Federal Financials for Extraction to Warehouse