SOW Changes for DID 204

3.2.2.1 Overall Planning

The Contractor shall prepare and maintain an overall System Engineering Plan in accordance with DID 201/SE1. The System Engineering Plan will address the functions and activities necessary to accomplish the systems engineering task. The Contractor shall ensure that engineering efforts (design, systems, and integrated logistics support (ILS)) are totally integrated.

The Contractor shall prepare and maintain a Project Development History in accordance with DID 218/SE3 to document significant events and information related to the development of the system.

The Contractor shall ~~provide an~~ **present** Annual Capabilities, Requirements, and Technology **evaluations at Design Reviews, including**: ~~Report conforming to DID 204/SE3, that evaluates:~~

a. The existing ECS hardware and software configurations against commercially available and compatible hardware and software and recommending to the CO/COTR replacement of hardware and/or software when a comparative analysis of cost versus performance so indicates;
b. The existing ECS system capacity against projected near-term needs, recommending to the CO/COTR capacity upgrades to hardware and/or software as an analysis of needs indicates.

~~These reports~~ **This** shall ~~contain~~ **include** an assessment of the differences between existing or planned ECS implementations and implementations that would be possible using the most current technology. Specifically, it should address the most advanced, proven technology that can significantly enhance system performance or lower life-cycle cost without reducing system performance. (Any proposed changes that are approved by the CO/COTR shall be implemented into the hardware, software, and documentation by the Contractor.)

SOW Changes for DID 204 (continued)

3.8.3.5 Planned Upgrades

The ECS Contractor's M&O organization shall support and participate in planning and implementation of upgrades to the ECS. These upgrades may be the result of:

a. Installation of planned system capacity growth for increases in computational power, data storage capacity, communications capacity, etc.;

b. Installation of system capacity expansion required due to growth of system capacity requirements beyond original performance estimates;

c. Replacement of obsolete, out-of-date equipment, unacceptably expensive to maintain ~~identified by the Annual Capabilities, Requirements, and Technology Report (DID 204/SE3)~~;

d. New releases of COTS.

System upgrades shall have minimal impact on applications and tools. Upgrades will be done as approved by the CO/COTR.

The Contractor shall provide planning for upgrades and shall support the CO/COTR's review of the need for the upgrade and the plans for implementation of the upgrade. The Contractor shall procure the hardware and software called for in the planned upgrade and shall perform or support the installation and testing of the upgrade. The Contractor shall update documentation affected by the upgrade, including but not limited to:

a. Facility plans and floor plans;

b. Operations plans and procedures;

c. System documentation and users guides;

d. Training materials.

Upgrades shall be coordinated with the affected operational sites to ensure proper facility planning and preparation including floor space, power, and air conditioning. Upgrades shall follow applicable configuration management procedures, integration and test procedures, and formal acceptance testing procedures. The Logistics Support Analysis Plan shall be updated.

SOW Changes for DID 221

2.4.1 EOSDIS Project Level Capabilities and Requirements Reviews

CRRs will nominally be a series of reviews of EOSDIS requirements, including ECS requirements, and the emerging system capabilities being developed to satisfy these requirements. The CRRs will address user experience with the current operating Version of EOSDIS (including the ECS), the progress and results (including user evaluation) of Government and Contractor prototyping and study efforts, progress on investigator algorithm software development and testing, and definition of new requirements, or modifications to existing requirements for the next Version, including new, or modifications to, requirements for the ECS.

The Contractor shall take the lead in supporting the Project by arranging for meeting rooms and other accommodations and necessary coordination for the CRR. The Contractor shall administratively support the Project by taking minutes and recording action items at the CRR. In addition, the Contractor shall support the CRRs by presenting ECS-related information as required by the Project. ~~CRR Input Materials shall be prepared in accordance with DID 221/SE2.~~

SOW Changes for DID 307 and DID 329

3.3.2.1 Engineering/Development Planning

The Contractor shall conduct engineering planning studies, control and direct engineering activities, and plan for the engineering changes and system optimization efforts associated with the development of the ECS segments and their elements.

The Contractor shall produce a Segment/Element **Development/Release** Plan in accordance with DID 329/DV2. This plan will identify the implementation approach for the development of each segment and element, including the development and incorporation of prototypes and the partitioning of the task into builds. ~~The Contractor shall also develop a Segment/Element Release Plan in accordance with DID 307/DV2.~~ The ~~Release~~ Plan will include schedules for the element builds and will map the builds into releases.

In planning the ECS segment/element development, the Contractor shall provide for expansion of system capability and capacity in an incremental fashion, compatible with system capacity and performance requirements.

3.3.2.1 Engineering/Development Planning (continued)

The Contractor shall identify the process for integrating the ECS elements and verifying that they comply with the design. Element test plans shall include plans for testing at the software unit level. The Contractor shall develop the Segment/Element Integration and Test Procedures in accordance with DID 322/DV3.

SOW Changes for DID 612

3.8.3.1 Development of Maintenance and Operations Material

The Contractor shall provide an ECS Operations Plan (DID 608/OP1) covering each of the ECS segments. The ECS Operations Plans shall describe the way each ECS segment will appear to its users/operators and detail how operational tasks shall be performed.

The Contractor shall provide an Maintenance and Operations Manual (DID 607/OP2). This document shall define maintenance and operations requirements for the system elements and describe how the elements and subsystems shall be operated and maintained, including roles and responsibilities of M&O personnel.

The Contractor shall provide Operator's Manuals for each of the ECS elements in accordance with DID 611/OP3. The manuals shall provide the procedures and information necessary to operate each system element/subsystem.

The operational plans and manuals shall include procedures for handling operational anomalies and post anomaly analysis.

The Contractor shall provide Programmer's Manuals in accordance with DID **612/OP3** ~~305/DV3 (P) 305/DV2 (F) 305/DV2 (U/D)~~ for each of the ECS elements. The manuals shall describe programming aspects of the element computers in sufficient detail to support software sustaining engineering.