

Launch Operations and Support Contract

F08650-98-C-0035

Statement of Work

April 1998

Volume 2 Table of Contents

Section Title	Page
List of Acronyms	x
1.0 General	1
1.1 Background.....	1
1.2 Scope.....	1
1.3 Definitions	2
1.3.1 Configuration Management.....	2
1.3.2 Critical System.....	2
1.3.3 Launch Service System.....	2
1.3.4 Logistics.....	2
1.3.5 Maintenance.....	2
1.3.6 Level I Maintenance	2
1.3.7 Modifications and Upgrades.....	2
1.3.8 Mission Control Network	2
1.3.9 Mission Control Operations.....	2
1.3.10 Operations.....	2
1.3.11 Spacecraft Service System.....	2
1.3.12 Service System Management.....	2
1.3.13 Systems Engineering	2
2.0 Applicable Documents	3
2.1 Guidance Documents.....	3
3.0 Requirements	10
3.1 Management	10
3.1.1 Program Management.....	10
3.1.1.1 Contract Administration	11
3.1.1.2 Subcontract Management	12
3.1.1.3 Property Management.....	13
3.1.1.4 Management Support Functions	14
3.1.2 Safety	14
3.1.3 Security	17
3.1.4 Planning and Requirements	18
3.1.4.1 Preplanning Support	18
3.1.4.2 Requirements Development and Planning.....	18
3.1.4.3 Planning and Utilization Schedules	19
3.1.5 Financial Management.....	19
3.1.6 Integrated Resource Management	22

Volume 2 Table of Contents

(continued)

Section Title	Page
3.2 Systems Management	25
3.2.1 Interface Control Documents.....	25
3.2.2 System Baseline.....	25
3.2.3 Failure Mode, Effects, and Criticality Analysis	26
3.2.4 Safety Engineering.....	27
3.2.5 Logistics Support Analysis.....	28
3.2.6 Operations and Maintenance Procedures.....	29
3.2.7 Systems Engineering and Configuration Management	30
3.2.8 Modifications and Upgrade	31
3.2.9 Material Review Board.....	31
3.3 Operation and Maintenance	32
3.3.1 Operations and Maintenance Control	32
3.3.2 Systems Operation and Maintenance.....	33
3.3.3 Mission Support.....	34
3.3.4 Testing, Pre-Launch, and Launch Day Support.....	35
3.3.5 Schedule and Status Reports.....	35
3.3.6 Maintenance Deferrals.....	36
3.3.7 Facility Management	37
3.3.8 Disaster Preparedness	38
3.3.9 Communications	39
3.3.10 Space Launch Complex Refurbishment Activities.....	39
3.3.11 Cleanroom and Contamination Control.....	39
3.3.12 Cranes and Hoists	40
3.3.13 Heating, Ventilating, and Air Conditioning	41
3.3.14 Low Voltage	41
3.3.15 Online Lightning Monitoring System.....	42
3.3.16 Facility Control Monitoring System.....	42
3.3.17 Elevators	42
3.3.18 Mobile Service Tower Traction Drive.....	43
3.3.19 Structure.....	43
3.3.20 Corrosion Control	44
3.3.21 Deluge System/Overpressure Suppression System	44
3.3.22 Fire Detection and Alarm System.....	44
3.3.23 Railroad System.....	45
3.3.24 Access Control.....	45
3.3.25 Propellant Vapor Detection	46
3.4 Logistics.....	46
3.4.1 Service System Parts Inventory	46
3.4.2 Supplies.....	47
3.4.3 Packaging/Shipping	47
3.5 Quality Assurance Program	48

Volume 2 Table of Contents

(concluded)

Section Title	Page
3.6 Operations Support	49
3.6.1 Mission Control Operations.....	49
3.6.1.1 Communications Plan.....	49
3.6.1.2 Mission Scripts	50
3.6.1.3 Launch Operations Handbook.....	50
3.6.1.4 Network Configuration.....	50
3.6.1.5 Scheduling	51
3.6.1.6 Operations of Mission Control Network	52
3.6.2 Ordnance Services	52
3.6.3 Operational Training and Badging	56
3.6.4 Visitor Records	56
3.6.5 Hazardous Commodity Administration.....	57

Appendix

A Spacecraft/Launch Service Systems.....	A-1
A-1 Systems/Equipment Definitions	A-1
A-2 Spacecraft Service Systems	A-4
A-3 Delta Service Systems	A-14
A-4 Atlas Service Systems.....	A-21
A-5 Titan Service Systems.....	A-23
A-6 Vandenberg AFB Service Systems (Reserved)	A-32
A-7 EELV Service Systems (Reserved)	A-32
A-8 Navy Service Systems (Reserved).....	A-32
A-9 NASA Service Systems (Reserved).....	A-32
A-10 Commercial Service Systems (Reserved).....	A-32
A-11 Other Service Systems (Reserved)	A-32
A-12 Ordnance Service Systems	A-32
B Mission Control Operations.....	B-1
C Reserved.....	C-1
D Training Courses	D-1
E Logistics Support Analysis.....	E-1
F Configuration Management.....	F-1
G Safety Systems Program Management	G-1
H Work Breakdown Structure	H-1
I Cleanroom Janitorial Support.....	I-1
J Ordnance Services	J-1
K Accessible Data Product List	K-1

Volume 2 List of Figures

Figure Title	Page
Figure 3.1.1 Standards of Performance – Program Management	11
Figure 3.1.1.1 Standards of Performance – Contract Administration.....	12
Figure 3.1.1.2 Standards of Performance – Subcontract Management.....	12
Figure 3.1.1.3 Standards of Performance – Property Management	13
Figure 3.1.1.4 Standards of Performance – Management Support Functions.....	15
Figure 3.1.2 Standards of Performance – Safety.....	16
Figure 3.1.3 Standards of Performance – Security.....	18
Figure 3.1.4.1 Standards of Performance – Preplanning Support.....	18
Figure 3.1.4.2 Standards of Performance – Requirements Development and Planning	19
Figure 3.1.4.3 Standards of Performance – Planning and Utilization Schedules	19
Figure 3.1.5 Standards of Performance – Financial Management	21
Figure 3.1.6 Standards of Performance – Integrated Resource Manager.....	24
Figure 3.2.1 Standards of Performance – Interface Control Documents	25
Figure 3.2.2 Standards of Performance – System Baseline	26
Figure 3.2.3 Standards of Performance – Failure Mode, Effects,	27
and Criticality Analysis (FMECA)	
Figure 3.2.4 Standards of Performance – Safety Engineering	27
Figure 3.2.5 Standards of Performance – Logistics Support Analysis.....	29
Figure 3.2.6 Standards of Performance – Operations and Maintenance Procedures	30
Figure 3.2.7 Standards of Performance – Systems Engineering and	31
Configuration Management	
Figure 3.2.8 Standards of Performance – Modifications and Upgrades	31
Figure 3.2.9 Standards of Performance – Material Review Board	32
Figure 3.3.1 Standards of Performance – Operations and Maintenance Control.....	33
Figure 3.3.2 Standards of Performance – Systems Operations and Maintenance.....	34
Figure 3.3.3 Standards of Performance – Mission Support	35
Figure 3.3.4 Standards of Performance – Testing, Pre-Launch,	35
and Launch Day Support	
Figure 3.3.5 Standards of Performance – Schedule and Status Reports	36
Figure 3.3.6 Standards of Performance – Maintenance Deferrals	37
Figure 3.3.7 Standards of Performance – Facility Management.....	38

Volume 2 List of Figures

(continued)

Figure Title	Page
Figure 3.3.8 Standards of Performance – Disaster Preparedness.....	38
Figure 3.3.9 Standards of Performance – Communications	39
Figure 3.3.10 Standards of Performance – Space Launch Complex..... Refurbishment Activities	39
Figure 3.3.11 Standards of Performance – Cleanrooms and Contamination Control.....	40
Figure 3.3.12 Standards of Performance – Cranes and Hoists.....	41
Figure 3.3.13 Standards of Performance – Heating, Ventilation, and Air Conditioning (HVAC)	41
Figure 3.3.14 Standards of Performance – Low Voltage.....	42
Figure 3.3.15 Standards of Performance – Online Lightning Monitoring System	42
Figure 3.3.16 Standards of Performance – Facility Control Monitoring Systems.....	42
Figure 3.3.17 Standards of Performance – Elevators.....	43
Figure 3.3.18 Standards of Performance – Mobile Service Tower (MST)..... Traction Drive	43
Figure 3.3.19 Standards of Performance – Structure	43
Figure 3.3.20 Standards of Performance – Corrosion Control.....	44
Figure 3.3.21 Standards of Performance – Deluge System/Overpressure	44
Suppression System	
Figure 3.3.22 Standards of Performance – Fire Detection and Alarm Systems.....	45
Figure 3.3.23 Standards of Performance – Railroad System	45
Figure 3.3.24 Standards of Performance – Access Control	45
Figure 3.3.25 Standards of Performance – Propellant Vapor Detection.....	46
Figure 3.4.1 Standards of Performance – Service System Parts Inventory.....	47
Figure 3.4.2 Standards of Performance – Supplies	47
Figure 3.4.3 Standards of Performance – Packaging/Shipping.....	48
Figure 3.5 Standards of Performance – Quality Assurance Program	49
Figure 3.6.1.1 Standards of Performance – Communications Plan	49
Figure 3.6.1.2 Standards of Performance – Mission Scripts.....	50
Figure 3.6.1.3 Standards of Performance – Launch Operations Handbook.....	50
Figure 3.6.1.4 Standards of Performance – Network Configuration	51
Figure 3.6.1.5 Standards of Performance – Scheduling	52

Figure Title	Page
Figure 3.6.1.6 Standards of Performance – Operation of Mission Control Network	52
Figure 3.6.2 Standards of Performance – Ordnance Services.....	55
Figure 3.6.3 Standards of Performance – Operational Training and Badging.....	56
Figure 3.6.4 Standards of Performance – Visitor Records Center.....	57
Figure 3.6.5 Standards of Performance – Hazardous Commodity Administration	57
Figure A-2-1 Spacecraft Critical Facilities Database	A-5
Figure A-3-1 <u>Delta</u> Critical Facilities Database	A-14
Figure A-4-1 <u>Atlas</u> Critical Facilities Database.....	A-22
Figure A-5-1 <u>Titan</u> Critical Facilities Database.....	A-25
Figure A-12-1 Ordnance Storage and Material Maintenance Operations Facilities	A-33
Figure B-1 Network Validation and Network Operations Facilities	B-2
Figure D-1 Training Course List.....	D-1
Figure E-1 Tailored Task Listing.....	E-1
Figure F-1 Configuration Status Accounting Tasks	F-1
Figure G-1 Tailored Task Listing for Existing Systems	G-1
Figure G-2 Additional Task Listing for New/Modified Systems.....	G-1
Figure H-1 Top Level Work Breakdown Structure (WBS)	H-2
Figure H-2 SOW to WBS Cross Reference Matrix	H-3
Figure H-3 WBS Facility Numbering	H-4
Figure H-4 WBS Subsystem Numbering	H-5
Figure H-5 Work Breakdown Structure (WBS) Examples	H-6
Figure I-1 Cleanrooms by Facility.....	I-1
Figure J-1 Ordnance Service Performance Locations.....	J-1
Figure J-2 Ordnance Services Personnel Requirements	J-2
Figure K-1 Accessible Data Product List.....	K-6

RWS to SOW Cross Reference Matrix

RWS Requirements	SOW Requirements
3.0 Requirements	3.0 Requirements
3.1 Management	3.1 Management
3.1.1 Program Management	3.1.1 Program Management
3.1.1.1 Organization	3.1.1 Program Management
3.1.1.2 Safety	3.1.2 Safety
3.1.1.3 Work Breakdown Structure	3.1.1.4-2.1 Management Support Functions
3.1.1.4 Meetings	3.1.1.4-2.2 Management Support Functions
3.1.1.5 Environmental Compliance	3.1.1.4-2.3 Management Support Functions
3.1.1.6 Metrics	3.1.1.4-2.4 Management Support Functions
3.1.1.7 Accessible Data Products List	3.1.1.4-2.5 Management Support Functions
3.1.1.8 Status Report	3.1.1.4-2.6 Management Support Functions
3.1.2 Planning and Requirements	3.1.4 Planning and Requirements
3.1.2.1 Preplanning Support	3.1.4.1 Preplanning Support
3.1.2.2 Requirements Development and Planning	3.1.4.2 Requirements Development and Planning
3.1.3 Financial Management	3.1.5 Financial Management
3.1.3.1 Cost Reporting and Accounting System	3.1.5 Financial Management
3.2 Systems Management	3.2 Systems Management
3.2.1 Interface Control Documents	3.2.1 Interface Control Documents
3.2.2 System Baseline	3.2.2 System Baseline
3.2.3 FMECA	3.2.3 FMECA
3.2.4 Safety Engineering	3.2.4 Safety Engineering
3.2.5 LSA	3.2.5 LSA
3.2.6 Operations and Maintenance Procedures	3.2.6 Operations and Maintenance Procedures
3.2.7 Systems Engineering and Configuration Management	3.2.7 Systems Engineering and Configuration Management
3.2.8 Modifications and Upgrades	3.2.8 Modifications and Upgrades
3.2.9 Material Review Board	3.2.9 Material Review Board
3.3 Operations and Maintenance	3.3 Operations and Maintenance
3.3.1 Systems Operations and Maintenance	3.3.2 Systems Operations and Maintenance
3.3.2 Operations and Maintenance Control	3.3.1 Operations and Maintenance Control
3.3.3 Mission Support	3.3.3 Mission Support
3.3.4 Testing, Pre-launch, and Launch Day Support	3.3.4 Testing, Pre-launch, and Launch Day Support
3.3.5 Schedules and Reports	3.3.5 Schedules and Reports
3.3.6 Maintenance Deferrals	3.3.6 Maintenance Deferrals
3.3.7 Facility Management	3.3.7 Facility Management
3.3.8 Disaster Preparedness	3.3.8 Disaster Preparedness
3.3.9 Communications	3.3.9 Communications
3.3.10 Space Launch Complex Refurbishment Activities	3.3.10 Space Launch Complex Refurbishment Activities
3.3.11 Cleanrooms	3.3.11 Cleanrooms and Contamination Control
3.3.12 Cranes and Hoists	3.3.12 Cranes and Hoists

RWS to SOW Cross Reference Matrix

(continued)

RWS Requirements	SOW Requirements
3.3.13 HVAC	3.3.13 HVAC
3.3.14 Low Voltage	3.3.14 Low Voltage
3.3.15 Online Lightning Monitoring System	3.3.15 Online Lightning Monitoring System
3.3.16 Facility Control Monitoring Systems	3.3.16 Facility Control Monitoring Systems
3.3.17 Elevators	3.3.17 Elevators
3.3.18 MST Traction Drive	3.3.18 MST Traction Drive
3.3.19 Structure	3.3.19 Structure
3.3.19.1 Corrosion Control	3.3.20 Corrosion Control
3.3.21 Deluge System/Overpressure Suppression System	3.3.21 Deluge System/Overpressure Suppression System
3.3.21 Fire Detection and Alarm Systems	3.3.22 Fire Detection and Alarm Systems
3.3.22 Railroad System	3.3.23 Railroad System
3.3.23 Access Control	3.3.24 Access Control
3.3.24 Propellant Vapor Detection	3.3.25 Propellant Vapor Detection
3.4 Logistics	3.4 Logistics
3.4.1 Service System Parts Inventory	3.4.1 Service System Parts Inventory
3.4.2 Supplies	3.4.2 Supplies
3.4.3 Shipping	3.4.3 Packaging/Shipping
3.5 Facilities	3.1.1.3 Property Management
3.5.1 Real Property	3.1.1.3 Property Management
3.5.2 Accessible Data	3.1.1.3 Property Management
3.6 Quality Assurance Program	3.5 Quality Assurance Program
3.6.1 Quality Program	3.5 Quality Assurance Program
3.7 Operations Support	3.6 Operations Support
3.7.1 Ordnance Services	3.6.2 Ordnance Services
3.7.1.1 Ordnance Personnel Training and Certification	3.6.2-2.1 Ordnance Personnel Training and Certification
3.7.1.2 Ordnance Facility Management/Integration	3.6.2-2.2 Ordnance Facility Management/Integration
3.7.1.3 Ordnance Material Supply Support	3.6.2-2.3 Ordnance Material Supply Support
3.7.1.4 EOD Support	3.6.2-2.4 EOD Support
3.7.1.5 Specialized Organizational Property Maintenance	3.6.2-2.5 Specialized Organizational Property Maintenance
3.7.1.6 User Ordnance Safety and Material Handling Training	3.6.2-2.6 User Ordnance Safety and Material Handling Training
3.7.1.7 Meteorological Rocket Launch Support	3.6.2-2.7 Meteorological Rocket Launch Support
3.7.1.8 Test Procedure Reviews	3.6.2-2.8 Test Procedure Reviews
3.7.1.9 Flight Termination System Component Tests	3.6.2-2.9 Flight Termination System Component Tests
3.7.1.10 Disaster Preparedness Support	3.6.2-2.10 Disaster Preparedness Support
3.7.1.11 U.S. Navy Waterfront Support	3.6.2-2.11 U.S. Navy Waterfront Support
3.7.1.12 Support to Launch Operations	3.6.2-2.12 Support to Launch Operations
3.7.1.13 Security Support	3.6.2-2.13 Security Support
3.7.2 Operational Training and Badging	3.6.3 Operational Training and Badging

RWS to SOW Cross Reference Matrix

(concluded)

RWS Requirements	SOW Requirements
3.7.3 Visitor Records Center	3.6.4 Visitor Records Center
3.7.4 Hazardous Commodity Administration	3.6.5 Hazardous Commodity Administration
3.8 Operations Management	3.1.6 Integrated Resource Management and Operations and 3.6 Operations Support
3.8.1 Integrated Resource Management	3.1.6 Integrated Resource Management
3.8.1.1 Spaceport Intranet Information System	3.1.6 Spaceport Intranet Information System
3.8.1.2 Resource Data Exchange Standard	3.1.6 Resource Data Exchange Standard
3.8.1.3 MOCC Support	3.1.6 MOCC Support
3.8.2 Mission Control Operations	3.6.1 Mission Control Operations
3.8.2.1 Communications Plan	3.6.1.1 Communications Plan
3.8.2.2 Mission Scripts	3.6.1.2 Mission Scripts
3.8.2.3 Launch Operations Handbook	3.6.1.3 Launch Operations Handbook
3.8.2.4 Network Configuration	3.6.1.4 Network Configuration
3.8.2.5 Scheduling	3.6.1.5 Scheduling
3.8.2.6 Operations of Mission Control Network	3.6.1.6 Operations of Mission Control Network

Acronyms

ADP	Automated Data Processing
ADPL	Accessible Data Product List
BCE	Base Civil Engineer
BCS	Baseline Comparison System
BOC	Base Operations Contract
BSC	Base Support Contract
CCAS	Cape Canaveral Air Station
CDRL	Contract Data Requirements List
CFIS	Comptroller Financial Information System
CI	Configuration Item
CLIN	Contract Line Item Number
CLVM	Console Level Voice Matrices
CRAS	Cost Reporting and Accounting System
CWBS	Contract Work Breakdown Structure
DPF	DSCS Processing Facility
DSCS	Defense Satellite Communication System
ECP	Engineering Change Proposals
EELV	Evolved Expendable Launch Vehicle
ER	Eastern Range
FAC	Functional Area Chief
FAR	Federal Acquisition Regulation
FMECA	Failure Modes Effects and Corrective Action
FSO	Facility Security Officer
FY	Fiscal Year
HVAC	Heating, Ventilation, and Air Conditioning
ICD	Interface Control Document
IRM	Integrated Resource Management
ISM	Industrial Security Manual
ITL	Integrate and Transfer Launch
JOCAS	Job Order Cost Accounting System
JON	Job Order Number
JOP	Joint Operating Procedure
KSC	Kennedy Space Center
LBO	Launch Base Operations
LBS	Launch Base Support
LBTP	Launch Base Test Plans
LO&SC	Launch Operations and Support Contract
LOCC	Launch Operations Control Center
LOSC	Launch Operations Support Contract
LSA	Logistics Support Analysis
LSAP	Logistics Support Analysis Plan
LSAR	Logistics Support Analysis Record

Acronyms

(concluded)

LSF	Launch Support Facility
LSIC	Launch Systems Integration Contract
MAN	Metropolitan Area Network
MIS	Missile Inert Storage
MLV III	Medium Launch Vehicle III
MOCC	Maintenance and Operations Coordination Center
MPICD	Mission Peculiar Interface Control Document
MST	Mobile Service Tower
NPF	NAVSTAR Processing Facility
NSSF	NAVSTAR Satellite Storage Facility
O&M	Operations and Maintenance
OD	Operational Directive
OI	Operational Instruction
OR	Operational Requirements
OSHA	Occupational Safety and Health Administration
PCF	Propellant Conditioning Facility
PI	Program Introduction
PLFCB	Payload Fairing Cleaning Building
PRD	Program Requirement Documents
PSC	Payload Support Contract
PSF	Propellant Servicing Facility
RCM	Reliability Centered Maintenance
RIS	Receipt-Inspection Shop
ROCC	Range Operations Control Center
RSA	Range Standardization and Automation
RWS	Representative Work Statement
SAB	Satellite Assembly Building
SBSS	Standard Base Supply System
SEMP	Systems Engineering Master Plan
SLC	Space Launch Complex
SLFM	Space Launch Facilities Manuals
SLS	Space Launch Squadron
SMAB	Solid Motor Assembly Building
SMARF	Solid Motor Assembly and Receiving Facility
SPIF	Spacecraft Processing and Integration Facility
SRS	Segment Ready Storage Building
STS	Space Transportation System
SW	Space Wing
UDS	Universal Documentation System
VIB	Vertical Integration Building
VRC	Visitor Records Center
WIMS	Work Information Management System

1.0 General

The purpose of the LO&SC contract is to provide weapons system support to critical systems for the 45th Space Wing and its customers at CCAS. The overall objective is to obtain superior yet affordable services and processes that meet changing mission requirements. This objective requires an innovative, flexible, and effective approach to assure access to space in the 21st century.

1.1 Background

This contract implements the normalization of launch operations support systems. The intent of this normalization is to establish systems management of critical launch base systems. This contract consolidates responsibility for operations and maintenance and sustaining engineering of all critical Spacecraft service systems, Delta service systems, Atlas service systems, and Titan service systems at Cape Canaveral Air Station.

The LO&SC is a consolidation of the Launch Operations Support Contract (LOSC), specific functions from the Launch Base Support (LBS) contract, and other range support contracts. The specific functions from LBS are the operational support requirements and the critical systems and equipment which have been determined to require a systems management approach to achieve acceptable readiness levels. The determination of which systems and equipment are critical was made using the definition of critical system, looking at the functionality of the system, the interface points, and using common sense.

1.2 Scope

This Statement of Work defines contractual tasks to be performed at Cape Canaveral Air Station (CCAS), Florida. It consolidates the operations, maintenance, and sustaining engineering of all critical launch and spacecraft service systems under the responsibility of a single contractor. The contractor shall use a teaming approach in dealing with the Government and other contractors. The ultimate goal of the 45th SW is to place payloads in their proper space orbit. This cannot be accomplished without the dedicated support of all involved parties. The contractor must manage contract resources to maintain the requisite flexibility to respond to one-of-a-kind and/or unforeseen requirements. This contract requires the contractor to develop a systems baseline defining systems configuration, perform logistics support analyses, and develop operations and maintenance (O&M) procedures. Existing baseline data/plans/procedures, where available, will be used as a starting point. During the engineering development period, O&M will be performed using existing procedures where available, or standard commercial practices. All developed documentation and media will be owned by the Government.

1.3 Definitions

1.3.1 Configuration Management – A discipline applying technical and administrative direction and surveillance over the life cycle of configuration items (CI) to:

- (a) Identify and document the functional and physical characteristic of CIs
- (b) Control changes to CIs and their related baseline documentation
- (c) Record and report information needed to manage CIs effectively including the status of proposed changes and implementation status of approved changes
- (d) Audit CIs to verify conformance to specifications, drawings, interface control documents, and other contract requirements

1.3.2 Critical System – A system whose failure could cause the failure or premature loss of a space asset on the ground, during the ascent, or in orbit, or delay its processing or launch.

1.3.3 Launch Service System – A system that provides a specific, mission essential support function with the launch vehicle during launch processing.

1.3.4 Logistics – The supply of material necessary to sustain an operational system.

1.3.5 Maintenance – The sustainment of equipment, facilities, and infrastructure in the status of approved configuration capable of operations.

1.3.6 Level I Maintenance – Maintenance that is normally performed in the field or at the operating site to sustain configured items or systems and is within the capability of normally assigned technical personnel, tools, and equipment to perform. This includes predictive maintenance, preventative maintenance, and reliability centered maintenance.

1.3.7 Modifications and Upgrades – Maintenance, repairs, upgrades, or modifications to configured items or systems that are beyond the capability of normally assigned field or operating site technical personnel, tools, and equipment to perform.

1.3.8 Mission Control Network – The communication system required to exercise command and control for spacecraft and launch vehicle launch operations.

1.3.9 Mission Control Operations – The continuous verification of the operability of the mission control network.

1.3.10 Operations – The control of equipment, systems, and facilities in order to accomplish a specific purpose.

1.3.11 Spacecraft Service System – A system that provides a specific, mission essential support function to the spacecraft during flight processing.

1.3.12 Service System Management – The aggregation of systems engineering, configuration management, logistics and safety analyses, and modifications and upgrade activities to maintain reliable systems operation at best value to the users.

1.3.13 Systems Engineering – An interdisciplinary approach to evolve and verify an integrated and life cycle balanced set of system product and process solutions that satisfy customer needs.

2.0 Applicable Documents

2.1 Guidance Documents

Number	Document Title
DoD-D-1000B	Drawing, Engineering, and Associated Lists, Revision B, Amendment 4
DoD 3200.11	Major Range and Test Facilities Base
DoD 4145.26-M	DoD Contractors Safety Manual for Ammunition and Explosives
DoD 5000.2	Defense Acquisition Management Policies and Procedures
DoD 5100.50	Protection and Enhancement of Environmental Quality
DoD 5200.1-R	Department of Defense Information Security Program
DoD 5200.19	Control of Emanations
DoD 5220.22-S	COMSEC Supplement to Industrial Security Manual for Safeguarding Classified Information
DoD 5220.22-S-2	Marking Supplement to Industrial Security Manual
DoD 5220.22-M	National Industrial Security Program (NISPOM)
DoD 5220.22-R	Industrial Security Regulation
DoD 6055.9-STD	DoD Ammunition and Explosives Safety Standards

2.1.2 Air Force

Number	Document Title
AFI 10-707	Spectrum Interference Resolution Program
AFI 10-1101	Operation Security (OPSEC) Instructions
AFI 31-101, V1	The USAF Physical Security Program
AFI 31-209	The Air Force Resource Protection Program
AFI 31-210	The Air Force Anti-Terrorism Program
AFI 31-501	Personnel Security Program Management
AFI 31-702	System Security Engineering
AFI 32-1021	Planning and Programming of Facilities Construction Projects
AFI 32-1023	Design and Construction Standards and Execution of Facility Construction Projects
AFI 32-1024	Standard Facility Requirements

AFI 32-1031	Operations Management
AFI 32-1032	Planning and Programming Real Property Maintenance Projects Using Appropriated Funds (APF)
AFI 32-1051	Roof Systems Management
AFI 32-1054	Corrosion Control
AFI 32-1062	Electric Power Plants and Generation
AFI 32-1063	Electric Power Systems
AFI 32-1064	Electric Safe Practices
AFI 32-1065	Grounding Systems (and AFSPC Supplement 1)
AFI 32-1066	Plumbing Systems
AFI 32-1067	Water Systems
AFI 32-1068	Heating Systems and Unfired Pressure Vessels
AFI 32-4001	Disaster Preparedness Planning and Operations
AFI 32-7040	Air Quality Compliance
AFI 32-7041	Water Quality Compliance
AFI 32-7042	Solid and Hazardous Waste Compliance
AFI 32-7044	Storage Tank Compliance
AFI 32-7045	Environmental Compliance Assessment Management Program
AFI-32-7061	Environmental Impact Analysis
AFI 32-7062	Air Force Comprehensive Planning
AFI 32-7080	Pollution Prevention Program
AFI 32-9002	Use of Real Property Facilities
AFI 32-9003	Granting Use of Air Force Real Property
AFI 32-9004	Disposal of Real Property
AFI 32-9005	Real Property Accountability and Reporting
AFI 32-9006	Army and Air Force Basic Real Estate Agreements
AFI 33-204	The C4 Systems Security Awareness, Training, & Education Program (SATE)
AFI 48-119	Medical Service Environmental Quality Programs
AFI 48-123	Medical Examination and Standards
AFI 61-204	Disseminating Scientific and Technical Information

AFI 61-204	Disseminating Scientific and Technical Information
AFI 63-501	Air Force Acquisition Quality Program
AFI 90-301	Inspector General Complaints
AFI 91-202	The US Air Force Mishap Prevention Program
AFI 91-204	Investigating and Reporting USAF Mishaps
AFJMAN 24-204	Preparing Hazardous Material for Military Air Shipment
AFM 36-2234	Instructional Systems Design (ISD)
AFM 91-201	Explosive Safety Standards
AFMAN 23-110	Supplies, Part 2, Vol II, and XIII
AFP 87-8	Building Managers Handbook
AFPD 23-3	Energy Management
AFPD 31-1	Physical Security
AFPD 31-601	Industrial Security
AFPD 32-70	Environmental Quality
AFR 11-1	USAF Glossary of Standardized Terms
AFR 67-12	Storage and Handling of Compressed Gases and Liquids in Cylinders, and of Cylinders
AFR 67-23	Standard Base Supply Customer's Guide (45th SW Supplement)
AFR 69-9	Storage and Handling of Hazardous Materials
AFR 125-14	Motor Vehicle Traffic Supervision
AFSSI 5001	System Security Policy Generation
AFSSI 5013	Password Management
AFSSI 5020	Remanence Security
AFSSI 5100	The Air Force Computer Security (COMPUSEC) Program
AFSSM 5006	Computer System Security Officer's (CSSO) Network Security Officer's (NSO) Guide
AFSSM 5019	Computer Security User's Guide
AF Technical Order 11A-1-10 (U)	General Instructions – Munitions Serviceability Procedures 1 Jan 91 w/change 5, 5 Feb 93
AF Technical Order 11A-1-46 (U)	Fire fighting Guidance, Transportation and Storage Management Data, and Ammunition Complete Round Chart, 1 Nov 85 w/change 23, 15 Dec 95

AF Technical Order 11A-1-47 (U)	Explosives Hazard Classification Procedures [TB 700-2, NAVSEAINST 8020.8A, SLAR 8220.1], 5 Dec 89
AF Technical Order 11A-1-61-1	Storage and Outloading Instructions – Conventional Ammunition (Truck Loading Drawings), 1 May 76, w/change 13, 7 Oct 88
AF Technical Order 11A-1-61-2	Storage and Outloading Instructions – Conventional Ammunition (Carloading Drawings), 1 May 76, w/change 14, 7 Oct 88
AF Technical Order 11A-1-61-3	Storage and Outloading Instructions – Conventional Ammunition (Trailer-on-Flatcar Drawings and Carloading, Truckloading and Storage Drawings), 1 May 76, w/change 7, 7 Oct 88
AF Technical Order 11A-1-61-5	Storage and Outloading Instructions – Conventional Ammunition (Military Van Containers Drawings), 1 May 76, w/change 9, 7 Oct 88

2.1.3 Command and Base

Number	Document Title
45 SW J.O.P. No. 15E-3-51	J.O.P. Between the 45th SW, the Naval Ordnance Test Unit, and the JFK Space Center For Aircraft Loading/ Unloading Operations At the CCAS Skid Strip
45 SW OPlan 355-1	45th SW Disaster Preparedness Operations Plan
45 SWI 23-201	Munitions Supply Procedures
45 SWI 31-101	CCAS Physical Security Program
45 SWI 32-1002	Building Manager Work Requirements Inputs to Civil Engineering
45 SWI 32-9001	Building/Facility Care – Real Property/Management
45 SWI 91-101	Process Safety Management
45 SWI 99-101	Mission Program Documents
45 SWI 700-3	Communication Operating Policy and Procedures
45 SWR 55-10	Range Scheduling
45 SWR 66-1	Precision Chemical Cleaning at the Air Force Eastern Test Range
45 SWR 66-2	Nondestructive Evaluation Service
45 SWR 66-3	Repair, Calibration, and Certification of Precision Measurement Equipment at the Range
45 SWR 92-1	Prevention and Control of Fires
45 SWR 92-3	Prevention and Control of Fires on Cape Canaveral Air Station and Off-Base Sites
45 SWR 127-3	Ground Mishap Prevention Program

45 SWR 207-2	Aerospace Systems Security
AFPC 21-10301	AFSPC Equipment Inventory, Status, and Utilization Reporting
AFPC 21-104	Configuration Control Process
AFPC 21-105	AFSPC Corrosion Program
AFSPC 56-3	Accreditation of Small or Non-critical System
ESMC J.O.P. No. 5A-3-13	J.O.P. for Operation and Maintenance Responsibilities and Interfaces for the 45th Spacecraft Operations Squadron (45th SPOS) Support Facilities at CCAS
ESMC J.O.P. No. 15A-3-16	J.O.P. for Operation and Maintenance Responsibilities and Interfaces for ITL Area and LOCC at CCAS
ESMC J.O.P. No. 15E-3-8	Occupational Medicine and Environmental Health
ESMC J.O.P. No. 15E-3-17	Life Support Services
ESMC J.O.P. No. 15E-3-31	Component Refurbishment
ESMC J.O.P. No. 15E-3-47	Propellant Joint Services Management
ESMC OPlan 127-4	Mishap Investigation
EWR 127-1	Eastern and Western Range Safety Requirements
J.O.P. No.15E-3-15	J.O.P. between the 45th Space Wing and the John F. Kennedy Space Center for Ordnance Services
OPlan 19-1	CCAS Oil and Hazardous Substance Pollution Contingency Plan
OPlan 19-14	45th SW Petroleum Products and Hazardous Waste Management Plan
OPlan 31-101	45th SW Eastern Range Installation Security Plan
OPlan 31-209	45th SW Eastern Range Resources Protection Plan
OPlan 32-1, Vol. II	Disaster Preparedness Operations Plan 32-1, Vol. II
OPlan 32-3, Vol. I	Disaster Preparedness Operations Plan 32-3, Vol. I
OPlan 125-37	45th SW Eastern Range Resources Protection Plan
OPlan 207	Eastern Range Security Plan
OPlan 355-2	Hurricane Plan
	45th SW and Resident Organizations Requesting Service from the Communications/Computer Network Memorandum of Agreement
	45th SW Facility User's Guide

Applicable Environmental Air Permits (fuel and oxidizer scrubber operations)

Applicable Pad Safety Plans

2.1.4 Miscellaneous

Number	Document Title
29CFR1910	OSHA Standards
29CFR1926	OSHA Construction Standards
40CFR262	Standards for Generators
ASQC Q91, ISO 9001 Quality Systems	Model for Quality Assurance in Design/Development, Production, Installation, and Servicing
FED-STD-209E	Federal Standard – Airborne Particulate Cleanliness Classes in Clean Rooms and Clean Zones
FIPS 127-2	Database Language SQL (ANSI X3.135-1992) – 93 June 02
FIPS 161-2	Electronic Data Interchange (EDI)
FIPS 193	SQL Environments – 95 Feb 3
ICD-SPIF-20000	Cargo Element (Generic) to Shuttle Payload and Integration Facility (SPIF) Interface
KSC-STD-C-000IC	Standard for Protective Coating of Carbon Steel, Stainless Steel, and Aluminum on Launch Structures, Facilities, and Ground Support Equipment
MDC Y0601S	ARAR for the SPIF
MDC Y0674S	SPIF Propellant Servicing Operations Handbook
MIL-PRF-49506	Logistics Management Information
MIL-HDBK-419	Grounding, Bonding, and Shielding for Electronic Facilities
MIL-STD-490B	Specification Practices
MIL-STD-499B (Draft)	Systems Engineering
MIL-STD-881	Work Breakdown Structures for Defense Material Items (Appendix K)
MIL-STD-882C	System Safety Program Requirements
MIL-STD-973	Configuration Management Tailoring (Appendix H)
MIL-STD-974	Contractor Integrated Technical Information Service
MIL-STD-1246C	Product cleanliness level and contamination control program

MIL-STD-1388-1A	Logistics Support Analysis – Tailored
MIL-STD-1388-2B	DoD Requirements for a Logistics Support Analysis Record
MIL-STD-1520C	Corrective Action and Disposition System for Nonconforming Material
MIL-STD-1629A	Procedures for Performing a Failure Mode, Effects and Criticality Analysis
NFPA 70-1993	National Electrical Code
PSCG	(Associated) Payload Security Classification Guides
SAMSO-STD-77-4	Format and Requirements for Interface Documents
SD-YV-0034	Facility Development Specification for Eastern Launch Site DoD Shuttle Payload Integration Facility
SD-YV-0059	SPIF Electromagnetic Compatibility Requirements
SD-YV-0073	Contamination Control Requirements and Implementation for the Shuttle Payload Integration Facility
SDR-800-8	Policies and Procedures Relating to the Aerospace Corporation Technical Support
TIV SCG	Titan IV Security Classification Guide
TO 00-5-1	System Description and Responsibilities
	American Trucking Association Manual 111-M
	International Air Transport Association (IATA) Dangerous Goods Regulation
	International Maritime Organization (IMO) International Maritime Dangerous Goods Code
	Hazardous Classification of U.S. Military Explosives and Munitions (U.S. Army pub)
	Project Book: MAB-1 Upgrade to Hazardous Processing Facility [DPF]
	Specifications for ADAL AS NAVSTAR GPS Buildings Vol. I and Vol. II
	U.S. Department of Transportation Emergency Response Guidebook
	Guide to Terminology for Space Launch Systems, American National Standard, BRS/AIAA G-057-1994

3.0 Requirements

The overall requirements of this contract are to support the two 45th Space Wing LO&SC Primary Objectives: (1) Develop and implement a management philosophy to support the 45th Space Wing's goal to be the premier gateway to space. The LO&SC contractor shall provide timely weapons system operation and maintenance as well as: improve and modernize launch infrastructure; achieve launch and launch processing systems excellence; continuously improve customer support; proactively pursue program cost reductions; strive to reduce Government furnished property; implement techniques which will provide the Government with increased insight into contractor activities, while reducing the need for oversight; and support the 45th Space Wing small and small disadvantaged business subcontracting goals; and (2) Provide exceptional systems dependability, customer support, and visionary long range planning for critical systems.

Since this document represents a performance-based SOW, it is necessary to establish performance standards for each of the performance requirements. To support this objective, each section identifying a performance requirement contains a table with three columns: (1) Key Required Services; (2) Performance Standard; and (3) Method of Surveillance. Key Required Services represent a summary of the requirements in each area. Performance Standard is the minimum satisfactory level of performance expected by the Government. Method of Surveillance is the expected method that the Government will use to verify or validate that the Performance Standards are met. In this regard, the Government is not limited to these methods. The primary Methods of Surveillance for both the Government and the contractor are the contractor generated Metrics which are required in SOW Section 3.1.1.4. Since the document (ADPL 006) which defines the metrics is a deliverable after contract award, the metrics are not included in the Method of Surveillance, but shall be understood to be the basic tool for verifying that Standards of Performance are satisfied.

3.1 Management

3.1.1 Program Management

3.1.1-1 Requirements – The Contractor shall designate and locate at CCAS a responsible corporate official with no responsibility other than for this contract and empowered to make and implement all decisions regarding the performance of this contract. This official shall have independent authority for all contract matters and be supported by subordinate managers.

3.1.1-2 Narrative Description – The Contractor shall:

3.1.1-2.1 Plan, organize, schedule, direct, coordinate, and control the resources to accomplish all contract performance requirements.

3.1.1-2.2 Establish and maintain an organization, procedures, and practices which provide assurance that:

3.1.1-2.2.1 Obligations and costs are in compliance with applicable laws and contract provisions.

3.1.1-2.2.2 Revenues and expenditures are properly recorded and accounted for.

3.1.1-2.2.3 Funds, property, and other assets are safeguarded against waste, loss, unauthorized use, or misappropriation.

3.1.1-2.2.4 Resources are efficiently and effectively managed.

3.1.1-2.3 All contractual communications and interfaces with Government, Government customer, and associate contractor personnel are timely and effective.

3.1.1-2.4 Associate Contractor Agreements, as defined in Section H - 16 of this contract, shall be developed and formally implemented.

3.1.1-3 Standards of Performance – The Contractor's performance in Contract Management will be subjectively evaluated based upon the performance of the overall contract. The management efforts in this area of performance set the policies, procedures, and general tone for the operation of the company. The standards of performance are shown in Figure 3.1.1.

Figure 3.1.1 Standards of Performance – Program Management		
Key Required Services	Performance Standard	Method of Surveillance
Overall Contract Performance	Effective mission accomplishment. Optimize system readiness. Effective cost management. Responsive customer support. Efficient resource utilization. Forward looking management. Continuous improvement. Support of 45th Space Wing goals.	Review of ADPL submittals. Contractor briefings. User feedback. Award Fee Criteria Metrics.

3.1.1.1 Contract Administration

3.1.1.1-1 Requirements – The Contractor shall provide timely and effective contract administration.

3.1.1.1-2 Narrative Description – The Contractor shall develop proposals, negotiate annual workload and supplemental contract modifications, respond appropriately to contractual correspondence, and ensure performance of the administrative aspects of the contract. Frequent liaison with the Contracting Officer is normally required.

3.1.1.1-3 Standards of Performance – The standards of performance are shown in Figure 3.1.1.1.

Figure 3.1.1.1 Standards of Performance – Contract Administration		
Key Required Services	Performance Standard	Method of Surveillance
Contract Administration, General Administration Aspects	Prepares and submits correspondence, documentation, company positions timely and in accordance with the contract, FAR, current laws and regulations.	Review of correspondence and documentation submitted to ACO in routine work.
Preparation of Proposals and Negotiations	Submits timely and complete proposals with adequate data and with no omission of key elements.	Review of each proposal submitted. Performance during negotiations.

3.1.1.2 Subcontract Management

3.1.1.2-1 Requirements – The Contractor shall provide subcontract management, as required, in support of contract requirements and 45th Space Wing goals.

3.1.1.2-2 Narrative Description

3.1.1.2-2.1 The Contractor shall establish subcontracts with small businesses at levels which are equal to, or more than, 10% of the contract cost. The approach and goals to be used shall be documented in a Small Business Subcontracting Plan.

3.1.1.2-2.2 Implement qualitative initiatives which assist small business to become partners and which maximize their practical, efficient use.

3.1.1.2-2.3 Manage subcontracts for successful accomplishment of contract SOW requirements.

3.1.1.2-2.4 Prepare and submit subcontracting reports IAW FAR and contract requirements.

3.1.1.2-3 Standards of Performance – The standards of performance are shown in Figure 3.1.1.2.

Figure 3.1.1.2 Standards of Performance – Subcontract Management		
Key Required Services	Performance Standard	Method of Surveillance
Manage Subcontracts	Follows established FAR, contract, laws and regulations related to Government subcontracting. Subcontractors performed all assigned tasks in a timely and effective manner.	Review of correspondence and documentation submitted to ACO in routine work. Award fee criteria and metrics
Subcontract awards of 10% or more of total contract cost to small business.	Subcontracts of 10% or more of total contract cost are awarded to small business.	Review of Subcontracting Reports.
Subcontracting Reports	Submit subcontracting reports in accordance with FAR 52.219-9.	Review of subcontracting reports.
Implement qualitative initiatives affecting small business subcontractors	Qualitative initiatives identified in Small Business Subcontracting Plan and/or additionally devised are implemented to achieve the objectives of the plan.	Review of Subcontracting Reports. Review of initiatives which are implemented.

3.1.1.3 Property Management

3.1.1.3-1 Requirements – The contractor shall implement and maintain an approved property control system for administering Government furnished property during contract performance. The contractor shall maintain a property accounting system consistent with the provisions of Section H-26, FAR 52.245-5, and FAR 52.245-19. The Contractor shall maintain a comprehensive program in the form of written procedures outlining company standards, techniques, and desk operating procedures for the accounting of Government property from acquisition through disposition.

3.1.1.3-2 Narrative Description – The Contractor shall:

3.1.1.3-2.1 Account for all Government property.

3.1.1.3-2.2 Perform periodic physical inventories of all Government property, excluding materials of a type and frequency approved by the Contracting Officer or designated representative.

3.1.1.3-2.3 Properly prepare, document, and tag excess equipment/material prior to turn-in. The Contractor shall safeguard supplies and equipment to preclude fraud, waste, and abuse.

3.1.1.3-2.4 Establish and operate tool cribs and maintain custodial records for tool kits, tool crib items, and similar items and establish a database for controlled tools.

3.1.1.3-2.5 Periodically review equipment utilization and material consumption and adjust purchase orders accordingly.

3.1.1.3-2.6 Submit requisitions with priority designations commensurate with mission needs.

3.1.1.3-2.7 Screen excess property listings for known or anticipated requirements.

3.1.1.3-2.8 Establish a preventive and corrective maintenance plan for property requiring periodic maintenance.

3.1.1.3-2.9 Report the loss, damage, or destruction of Government or user accountable property to the Air Force Property Administrator immediately.

3.1.1.3-3 Standards of Performance – The standards of performance are shown in Figure 3.1.1.3.

Figure 3.1.1.3 Standards of Performance – Property Management		
Key Required Services	Performance Standard	Method of Surveillance
Property Management, Acquisition, Receiving, Storage, Maintenance, Inventories, Vendor Control, Disposition Reports, and Close-out	Property Control System is in accordance with the provisions of Section H-26, FAR52,245-5, and FAR 52.245-19.	Review of property control and accounting system.
Management of Loss, Damage, and Destruction	Incidents involving loss, damages, or destruction of property are promptly reported with adequate description of the circumstances involved.	Review each report.

3.1.1.4 Management Support Functions

3.1.1.4-1 Requirements – The contractor shall provide management support function requirements related to Contractor Work Breakdown Structure, Meetings, Environmental Compliance, Metrics, ADPL, and Status Reporting.

3.1.1.4-2 Narrative Description

3.1.1.4-2.1 The contractor shall produce and maintain a Contract Work Breakdown Structure (CWBS) in accordance with MIL-STD-881. (see Appendix H) (ADPL 004)

3.1.1.4-2.2 The contractor shall establish, attend and support meetings, including teleconferences and video conferences, develop and publish agendas, generate and track action items, provide graphic arts services, prepare presentation materials, including operational facility readiness conditions, and maintenance status of assigned critical spacecraft/launch systems, prepare and publish minutes, maintain support group memberships and distribute lists, as necessary. (ADPL 005)

3.1.1.4-2.3 The contractor shall be knowledgeable of and comply with all applicable Federal, State, and local laws, regulations, and requirements regarding environmental protection during the performance of this contract. The contractor shall ensure policies and procedures are established that protect the health and safety of employees and the community and minimize/eliminate the risk of environmental pollution.

3.1.1.4-2.4 The contractor shall develop meaningful metrics which indicate LO&SC quality and level of performance. (ADPL 006)

3.1.1.4-2.5 The contractor shall provide data to the government in accordance with SOW paragraph 6.1 and Appendix K. (ADPL 007)

3.1.1.4-2.6 The contractor shall provide a status report monthly on all contractor activities. (ADPL 036)

3.1.1.4-3 Standards of Performance – The standards of performance are shown in Figure 3.1.1.4 on the following page.

3.1.2 Safety

3.1.2-1 Requirements – The Contractor shall establish and implement a safety program, per Appendix G, that includes safety in all tasks of this contract. The goals of the contractor's safety program shall be to: prevent injuries, environmental incidents, and facility and equipment damage while supporting the 45th Space Wing mission.

3.1.2-2 Narrative Description – The Contractor shall plan and execute a Ground Safety, Systems Safety, and Explosive Safety program which includes the following:

3.1.2-2.1 Create a system safety function which participates and performs as an integral part of the systems engineering process in support of system management requirements. (ADPL 002)

Figure 3.1.1.4 Standards of Performance – Management Support Functions		
Key Required Services	Performance Standard	Method of Surveillance
CWBS	Is developed consistent with the SOW and incorporates provisions for accounting for all required LO&SC work. Prepared in accordance with the intent of MIL-STD-881.	Review of CWBS (ADPL 004). Review of MIL-STD-881.
Meetings	Agendas, minutes, and associated documentation are accurate and distributed in a timely manner.	Review of agendas, minutes, and presentations (ADPL 005).
Environmental Compliance	Complies with all applicable regulatory requirements. Procedures are established and implemented to minimize the risk of environmental pollution.	Review of policies and procedures. Monitor contract operations and work.
Metrics	Reasonable metrics are established and applied for all major elements of the LO&SC requirements. Metrics correlate to the SOW Performance Standards. Metrics contain clearly measurable parameters that are easy to track and are easily accessible through the IRMS.	Review of metrics (ADPL 006). Monitor metric database in IRMS.
ADPL Submittals	Required submittals are provided on time. Submittals have the correct content in accordance with the requirements of Appendix K.	Review of ADPL submittals.
Monthly Status Report	Reports are submitted on time and contain the correct content in accordance with Appendix K.	Review of Monthly Status Report.

3.1.2-2.2 Schedule system safety related milestones for program reviews, submittals, inspections, and other critical efforts; and develop policies, regulations, procedures, applicable codes, and standards.

3.1.2-2.3 Perform periodic assessments of progress in meeting planned goals and objectives related to cost, schedule, and technical performance. Highlight incidents during each 3 month period, recommendations for improved awareness of safety or safety processes, and goals for the next 3 month period.

3.1.2-2.4 Prepare and conduct review of Safety Hazard Analysis.

3.1.2-2.5 Conduct formal safety training for all levels of management and employees at least once a year.

3.1.2-2.6 Conduct mishap prevention efforts including "on and off the job" activities and mishap prevention in property damage and operational efforts.

3.1.2-2.7 Document the status and corrective action of identified occupational safety and fire hazards or deficiencies in accordance with Air Force and DoD Safety Instructions and other regulatory documents.

3.1.2-2.8 Conduct semi-annual, periodic, and random safety inspections of all facilities and operations on all work shifts. Safety discrepancies shall be documented. The Contractor shall inspect explosive storage, handling, and operating facilities.

3.1.2-2.9 Investigate each mishap involving contractor personnel or equipment. Identify and report all cause factors, and formulate and implement positive preventive action. The Government may choose to investigate any safety mishap or participate in the Contractor’s investigation, either directly or in an observer role. (ADPL 003)

3.1.2-2.10 Establish and implement a hazard reporting system, which must provide a means for personnel to identify hazardous conditions requiring prompt corrective action to responsible individuals or organizations.

3.1.2-2.11 Conduct system safety analyses which identify the level of risk involved for LO&SC operations.

3.1.2-2.12 Identify system safety life cycle phases and application of system safety principles, tools, and techniques.

3.1.2-2.13 Conduct a complete, current, and accurate baseline system safety analysis for each critical system as defined by Appendix A. The Contractor safety office shall review all facility and operational configuration changes.

3.1.2-2.14 Ensure that all workers performing duties inside the explosive clear zones are briefed on explosive hazards, general explosive safety, and procedures in the event of a mishap.

3.1.2-2.15 Maintain explosive safety training documentation.

3.1.2-2.16 Develop and review all explosive site plans in accordance with AFM 91-201 and DoD 6055.9-STD. In addition, prepare and review waivers, deviations, and exemptions in accordance with AFM 91-201 and DoD 6055.9-STD. All site plans, waivers, deviations, and exemptions for facilities or systems within the contractor’s area of responsibility shall be maintained current and accurate.

3.1.2-3 Standards of Performance – The standards of performance are shown in Figure 3.1.2.

Figure 3.1.2 Standards of Performance – Safety		
Key Required Services	Performance Standard	Method of Surveillance
Safety training	All required training to support the mission is provided.	Evaluate records of employee training.
Explosives planning, mishap prevention, and hazard abatement	Safety planning, mishap prevention efforts, and hazard abatement programs minimize risk while preserving ability to perform missions.	Evaluate plans and reports; monitor and inspect work.
Investigations, mishap reports, hazard reports, and injury reports	Provides adequate information to Air Force in advance of deadlines. Findings and recommendations are feasible and justified.	Review and analyze reports.
Explosive operating instructions, site plans, waivers, deviations, exemptions, and facility licenses	Submitted as required and do not require extensive reworking by Air Force. Items are properly coordinated with other responsible organizations as needed.	Review of documentation.
Inspections: ground and explosive	Reports are accomplished when required and fully document inspection results and discrepancies. Corrective actions are given for discrepancies, and these actions provide an acceptable risk, minimal mission impact, and an acceptable estimated completion date.	Review inspection results, track discrepancies and corrective actions, conduct semi-annual, and spot inspections.

3.1.3 Security

3.1.3-1 Requirements – The Contractor shall safeguard classified information and resources (ADPL 001).

3.1.3-2 Narrative Description – The Contractor shall:

3.1.3-2.1 Operate a security program in accordance with the Industrial Security Manual (ISM). Designate a Facility Security Officer (FSO) who has sufficient independence and authority to enforce the Industrial Security Program. The FSO must attend DoD Industrial Security Program training.

3.1.3-2.2 Establish and maintain a system for receiving, safeguarding, accounting for, disbursing, and, when necessary, destroying classified material for which the Contractor is responsible.

3.1.3-2.3 Assign and account for classified storage containers, vaults, and combination padlocks under contractor control and ensure that all applicable requirements regarding control of the combinations and the stored material are adhered to.

3.1.3-2.4 Obtain Air Force Security Office approval for, and maintain integrity of, controlled areas necessary for the accomplishment of contractor classified operations.

3.1.3-2.5 Process required documentation to obtain security clearances and credentials for Contractor personnel, maintain records of clearance data, and coordinate employee attendance at security education/orientation courses and classified meetings at CCAS as well as at other locations throughout the United States.

3.1.3-2.6 Develop and disseminate security plans, internal operating procedures, and classification and safeguarding instructions for material associated with classified projects performed by the Contractor. Provide necessary training to appropriate personnel.

3.1.3-2.7 Develop, coordinate, and disseminate security agreements and documentation delineating applicable security guidance for classified contracts.

3.1.3-2.8 Conduct and document self-inspections for evaluation of security procedures applicable to Contractor operations. Establish corrective actions with estimated completion dates, as needed.

3.1.3-2.9 Coordinate required actions/reports with the 45th Space Wing Security Office and multi-facility security activities with other CCAS contractor security offices.

3.1.3-2.10 Support and cooperate with the Air Force Office of Special Investigations (AFOSI) in matters dealing with fraud against the Government.

3.1.3-3 Standards of Performance – The standards of performance are shown in Figure 3.1.3.

Figure 3.1.3 Standards of Performance – Security		
Key Required Services	Performance Standard	Method of Surveillance
Operate a DoD contractor security program	Security program complies with all applicable requirements of DoD 5220.22-M, Industrial Security Manual for Safeguarding Classified Information.	Review of ADPL 001, AIS Security Management Plan. Review of Industrial Security Program training records of personnel. Periodic industrial security inspections. Review of security violation reports and corrective actions.

3.1.4 Planning and Requirements

3.1.4.1 Preplanning Support

3.1.4.1-1 Requirements – The contractor shall prepare and maintain a Spaceport Operations User’s Guide.

3.1.4.1-2 Narrative Description

3.1.4.1-2.1 The contractor shall prepare the Spaceport Operations User’s Guide with the following minimum contents – the general capabilities of the service systems; the role of the UDS in communicating user requirements; and the 45th Space Wing management offices and user points of contact. (ADPL 008)

3.1.4.1-3 Standards of Performance – The standards of performance are shown in Figure 3.1.4.1.

Figure 3.1.4.1 Standards of Performance – Preplanning Support		
Key Required Services	Performance Standard	Method of Surveillance
Spaceport Operation User’s Guide	Spaceport Operations User’s Guide is comprehensive and contains clearly defined instructions for defining and describing user requirements and contains current points of contact.	Review of Spaceport User’s Guide.

3.1.4.2 Requirements Development and Planning

3.1.4.2-1 Requirements – The contractor shall perform studies and analyses as requested to support the introduction of new programs and to assess facilities capabilities on the Range. (ADPL 009)

3.1.4.2-2 Narrative Description

3.1.4.2-2.1 For each mission, the contractor shall establish a file of requirements for each launch vehicle or spacecraft component in a mission requirements database accessible on the Spaceport Intranet Information System.

3.1.4.2-2.2 The contractor shall summarize program requirements, identify shortfalls with existing spaceport operational capabilities, and recommend operational options.

3.1.4.2-2.3 The contractor shall analyze mission requirement documentation, to include Program Introduction (PI), Program Requirement Documents (PRD), and Launch Base Test Plans (LBTP), as applicable, for spaceport operations and identify those requirements which exceed existing spaceport operations capabilities.

3.1.4.2-3 Standards of Performance – The standards of performance are shown in Figure 3.1.4.2.

Figure 3.1.4.2 Standards of Performance – Requirements Development and Planning		
Key Required Services	Performance Standard	Method of Surveillance
Spaceport Operations Concept Studies and Analyses	Studies and analyses include – the inter-disciplinary and concurrent consideration of systems engineering, safety, quality, and logistics; current LO&SC system baseline configurations; assessments of risk; risk mitigation options; cost, performance, and schedule trade-offs; and recommendations.	Review of Operation Concept Study Reports.

3.1.4.3 Planning and Utilization Schedules

3.1.4.3-1 Requirements – The contractor shall develop spaceport utilization schedules.

3.1.4.3-2 Narrative Description

3.1.4.3-2.1 The contractor shall schedule spacecraft service systems by cells, bays, transfer aisles, air locks, and support rooms capable of being scheduled independently.

3.1.4.3-2.2 The contractor shall provide immediate (one week), short-range (three months), and long-range (two years) classified and unclassified schedules.

3.1.4.3-3 Standards of Performance – The standards of performance are shown in Figure 3.1.4.3.

Figure 3.1.4.3 Standards of Performance – Planning and Utilization Schedules		
Key Required Services	Performance Standard	Method of Surveillance
Spaceport Utilization Schedules	Schedules can be accessed electronically by appropriate 45th SW personnel and users. They are maintained current and accurate. The contractor supports the timely identification and resolution of schedule conflicts.	Review of Spaceport Utilization Schedules.

3.1.5 Financial Management

3.1.5-1 Requirements – The contractor shall establish and maintain a financial management system which satisfies the requirements of applicable Federal Acquisition Regulations (FAR). The contractor shall establish a job ordered cost accounting and reporting system that identifies all work and related costs for each appropriate cost data element. Additionally, associate all work and related costs to the CWBS. Provide all hardware and software necessary to host the Contractor accounting system. (ADPL 010, 011, and 012)

3.1.5-2 Narrative Description

3.1.5-2.1 Cost Reporting and Accounting System (CRAS) – The contractor shall establish, operate, and maintain a Defense Contract Audit Agency (DCAA) reviewed job ordered Cost Reporting and Accounting System (CRAS) that identifies, tracks, and reports all contractor work and related contract cost by 45th SW direct and reimbursable funding (DBA/RBA). This system shall be the official basis (record system) for 45th SW Range customer billings and management accounting and shall be linked to the Contractor's financial accounting system. The CRAS shall be capable of collecting and costing contractor work management and control system work unit transactions for subsequent transmittal to JOCAS. Contractor funds commitment data will be on the same basis as direct cost information. Subcontractor costs will be allocated to the maximum extent practical to the final cost objective, the Job Order Number (JON).

3.1.5-2.2 Connectivity – Provide CRAS connectivity to a Government-furnished interface on the 45th SW Metropolitan Area Network (MAN) for the purpose of data uploads to the Comptroller Financial Information System (CFIS).

3.1.5-2.3 Internal Controls – The Contractor's CRAS shall have adequate internal controls, i.e. checks and balances and audit steps built in to isolate and identify timely corrective action. All data reflected in the transaction data base shall be supported by auditable documentation cross-referenced to support audit trails. The system shall contain controls and edits to ensure that all directly identifiable cost are accurately and properly identified and reported as direct cost of 45th SW Range programs and/or special projects (JON coded) in the accounting period in which costs were incurred. To meet the requirements of this paragraph, the CRAS shall have the capability to process and classify individual work items by cost objectives.

3.1.5-2.4 Adjustments – The Contractor's CRAS shall reflect adjustments of costs which affect costs reported in prior periods, as current month transactions in the period in which the adjustment is recorded, use data elements associated with the adjustments which identify the record balances being adjusted, and carefully research monthly adjustments to ensure the negative balances do not appear in the year-to-date fields for current FY. The contractor shall ensure requested changes are processed no later than the month following the requested change.

3.1.5-2.5 Cost Transaction Data Reporting – The contractor shall accumulate daily and report weekly all cost transaction data to 45th Space Wing. The data interface shall be compatible with the standard USAF Job Order Cost Accounting System (JOCAS), a component of the CFIS. The contractor shall ensure that all current FY's costs are included in the report for the period ended 30 September. All late charges occurring after the end of a fiscal year shall be reported within six months. (ADPL 013)

3.1.5-2.6 Cost Distribution – The contractor's cost accounting system shall reflect total contractor costs directly charged and/or allocated to cost objectives and final cost objectives. The total contract costs charged to cost objectives and final cost objectives shall include direct costs, indirect costs, allocated contract-wide costs, and government-furnished supplies and materials.

3.1.5-2.7 Direct Cost – The contractor shall identify as direct costs those incurred costs which can be specifically identified to a cost objective and/or final cost objective. The cost per regular direct work-hour shall include: (1) gross hourly pay for the employees concerned (i.e., all gross pay segments given the employee on an hourly or equivalent basis); (2) directly associated labor costs (e.g., FICA; retirement and pension benefits; life, health, and accident insurance benefits; earned/accrued leave and vacation pay; paid holiday pay; applicable payroll taxes; general and administrative cost and fee benefits paid in kind such as on-site meals, etc.); and (3) actual sick and other leave such as administrative leave paid during the year. The cost per direct overtime hour, early call, late call, and holiday hours include: (a) regular gross hourly pay of the individual concerned; (b) overtime, early call, late call, premium as applicable; and (c) the applicable personnel benefits, payroll taxes, and other cost directly associated with the overtime, early call, and holiday hours. In constructing the hourly rates, predetermined gross hourly cost conversion rates shall be used. At least quarterly or more often if material changes have occurred in the cost environment, the actual fringe costs shall be analyzed and the predetermined rates adjusted as necessary to ensure all costs directly associated with pay costs are distributed over the gross hourly pay costs.

3.1.5-2.8 Indirect Cost Allocation – The indirect costs and allocated contract-wide costs shall be allocated weekly to each cost objective in accordance with Cost Accounting Standards Board standards and interpretations thereto and the FAR, Part 30, Cost Accounting Standards. To the extent feasible and economically practical, the allocation when added to the identified direct cost, shall produce a total cost of the effort to the government funded from that year’s contract funds, plus government-furnished supplies and material (i.e., the total cost charged to a cost objective and/or final cost objective for a given FY must equate to the actual cost to the government as if that cost objective and/or final cost objective were the sole items on the contract that FY). The cost allocations shall provide for segmenting total contract costs into various matrices reflecting costs by categories further subdivided into line items.

3.1.5-2.9 Monthly Variance Reports and Analysis – The contractor shall perform monthly analysis of the variances between cost reflected in the contractor accounting records and the costs reported to the government in the cost reporting system. A monthly report shall be rendered with a detailed variance analysis of the difference in contractor costs versus costs reported to the government cost collecting system. Current transactions affecting prior fiscal year (FYs) shall be included with cumulative current year activity balances in the monthly submissions. (ADPL 014)

3.1.5-3 Standards of Performance – The standards of performance are shown in Figure 3.1.5.

Figure 3.1.5 Standards of Performance – Financial Management		
Key Required Services	Performance Standard	Method of Surveillance
Cost Reporting and Accounting System (CRAS)	Operates and maintains a single integrated cost reporting, accounting, and financial system. Provides data for budgeting, general accounting, payroll accounting, and cost accounting which supports effective and economical planning, scheduling, and costing. CRAS connectivity is provided to upload data to CFIS through the 45th SW MAN.	DCAA audits for allowability, reasonableness, and applicability of cost. Review of: Cost info to Squadrons; Performance and Cost Reports; Contract Funds Status Reports; Weekly Cost Detail Reports; and Monthly Variance Analysis reports. LO&SC contractor financial management reviews.

3.1.6 Integrated Resource Management

3.1.6-1 Requirements – Within this area of the contract, the contractor shall: (1) Develop, implement, and administer a Spaceport Intranet Information System; (2) Act as the lead agency in the development and coordination of a Resource Data Exchange Standard; (3) Provide support to the 45th Space Wing Maintenance and Operations Coordination Center (MOCC); (4) Develop a process for integrating related LO&SC information to provide visibility for all involved organizations into LO&SC operational status; (5) Implement the data integration process in a time phased manner, beginning with the integration of task and resource data; (6) Ensure that the IRMS architecture supports evolution to new capabilities and integration of new technologies.

3.1.6-2 Narrative Description

3.1.6-2.1 The contractor shall develop, implement, and administer a robust CORBA object-based intranet information system that supports exchanging resources data between organizations for all resources generated or maintained by the contractor, to include current status, capability, cost, schedule, and resources; and facilitates the integration and linking of this data to present a cohesive view of the information described by the Resource Data Exchange Standard (SOW Section 3.1.6-2.6) to all users who have access to the 45 SW MAN.

3.1.6-2.2 The intranet system shall also, to the extent practicable, display all relevant text, graphics, drawings, audio, and video data that would be of value to users, the Government, or other government contractors in accomplishing functions in support of the 45th SW.

3.1.6-2.3 As a minimum, the intranet system shall deliver the ICDs, User Guides, schedules, resources, work order status, and other such documentation prepared by the contractor. It shall also make provision for and support the dynamic inclusion and dissemination of other data generated and maintained by the Government and other 45th SW contractors.

3.1.6-2.4 The contractor shall operate and maintain the servers and other hardware and software specifically and uniquely necessary to operate the intranet information system.

3.1.6-2.5 As part of the Spaceport Information System, the contractor shall provide access to documentation relevant to spacecraft/launch operations at CCAS. As a minimum, include the following – applicable military standards; appropriate federal, state, and local regulations and standards; handbooks, forms, instructions, O Plans, 45th SW Operating Instructions (OIs), and examples of 45th SW requirement documentation; 45th SW instrumentation and launch base capabilities; and historical examples of requirement documents. The contractor shall provide access to the documentation through the Spaceport Intranet Information System unless the documentation is not available in electronic form or is more appropriately maintained in paper form, such as existing paper documents. Provide reproduction and packaging for classified and unclassified materials. (ADPL 058 and 059)

3.1.6-2.6 The contractor shall act as the lead agency in the development and coordination of Resource Data Exchange Standard that shall include a defined data set and structure, and a communications methodology that will allow the automated communication of information regarding Wing resources. The contractor shall ensure that the defined data set and structure, and communications methodology shall adhere to the most universal existing commercial and

government standards to the maximum extent practicable. Resources include any support facility, equipment, vehicle, unit, service, or location, provided by or requested through the 45th SW by a user, either internal or external. The data set and structure shall provide for 1) a unique identifier for each resource, 2) data concerning the status and capability of the resource to include all information appropriate for normal use and management of the resource, 3) data concerning the availability and anticipated use of the resource to include schedule information for a time period appropriate to the use of the resource, and 4) data concerning requested uses to include all information normally relevant to such use.

3.1.6-2.7 The contractor shall ensure that coordination of the Resource Data Exchange Standard includes acceptance by the other base contractors identified by the Government. The contractor shall use the Resource Data Exchange Standard for 1) data that reference resources or their use for all ADPLs submitted in automated form, 2) the basis and method to transmit data concerning resources generated or maintained by the contractor, including status, capability and schedule, to the Range Standardization and Automation (RSA) developed planning and scheduling system or other central automated systems as designated by the Government, and 3) the receipt of user and Government requests for support directly from user or Government automated systems. (ADPL 060)

3.1.6-2.8 The contractor shall provide support to the 45th Space Wing MOCC to enhance schedule coordination and resource utilization.

3.1.6-2.9 The contractor shall promptly notify the MOCC upon becoming aware of any facility anomaly or other change in system status for any equipment, facility, or system which is the contractor's responsibility and impacts any space launch vehicle processing operation or operation in support thereof. The contractor shall report facility anomalies or other changes in system status for any equipment, facility, or system which is the contractor's responsibility and does not have an immediate impact to a space launch vehicle operation but renders a facility system other than fully mission capable as soon as practicable. For both cases, the contractor shall provide additional information to the MOCC concerning significant details and status of the anomaly as soon as practical after that information becomes available. The contractor shall provide information concerning all other facility anomalies or other changes in system status for any equipment, facility, or system which is the contractor's responsibility upon request and periodically, not less than weekly.

3.1.6-2.10 The contractor shall provide the MOCC with maintenance schedules information for all facilities, systems, and equipment which are the responsibility of the contractor. The contractor shall use schedules developed for the OG Squadron.

3.1.6-2.11 The contractor shall develop an IRMS process for integrating data from LO&SC applications to support easy access to related information to facilitate monitoring, reporting, and documenting launch operations. This process shall ensure that the technology and data required to support process improvements shall be able to be evolved over time, in a relatively seamless manner.

3.1.6-2.12 The contractor shall implement the IRMS process and demonstrate how new applications can be easily integrated into the IRMS environment and extricated from it without adversely impacting operations.

3.1.6-2.13 The contractor shall develop an IRMS process that supports the 45th Space Wing goal of lowering operating costs while improving launch schedule performance.

3.1.6-2.14 The contractor shall define a roadmap to IRMS data that leads to an LO&SC and 45th Space Wing solution.

3.1.6-3 Standards of Performance – The standards of performance are shown in Figure 3.1.6.

Figure 3.1.6 Standards of Performance – Integrated Resource Manager		
Key Required Services	Performance Standard	Method of Surveillance
Spaceport Intranet Information System	Displays and provides access to data in a user-friendly and understandable way. Provides on-line access to ICDs, user guides, schedules, work plans, work status information, and other LO&SC related material. System architecture and design have the flexibility to accommodate a wide variety of users and data bases.	Review of Spaceport Intranet Information System Index. Review and use of Spaceport Intranet Information System User Guide. Use of Intranet to retrieve, input, store, and display information for a variety of customers and users.
Operations Support Library	Library contains: military standards; federal, state, and local regulatory documents; handbooks; forms; O plans; 45th SW OIs and regulations; requirements documents; 45th SW instrumentation and launch base capabilities.	Review contents of the library through the Intranet and by physical audit of the paper documents.
Resource Data Exchange Standard	Approach follows a logical systems engineering type of approach to develop requirements, conduct trade-offs, evaluate risks, and develop solution options. Data set, structure, and communications methodology maximize the practical use of existing and developmental commercial and Government standards.	Review of proposed approach. Review of progress reports. Attendance at requirements and design reviews. Review of draft and proposed final Resource Data Exchange Standard Specification.
Maintenance Operations Control Center (MOCC)	Automated, accurate, and timely schedule and resource utilization information are provided to the MOCC Facility anomalies and configuration status and changes are consistently provided in a timely way. Computerized Maintenance Management System (CMMS) approach provides completely compatible, user-friendly interface with existing MOCC systems.	Review and analysis of inputs to MOCC. Review and analysis of contractor CMMS approaches, progress reports, and outputs.
IRMS Integration Process	Demonstrates integrated task and resource data with graphical navigation through related data. Demonstrates the ability to integrate data from currently stovepiped applications. Demonstrates the addition of new applications into the IRMS environment without adversely impacting operation. Demonstrates extraction of legacy applications (with substitution of new applications) without adversely impacting operations.	Demonstration with current data sets. Demonstration of the addition of a new application into the current operational environment. Demonstration of the successful extraction of an application and substitution of a new application.

3.2 Systems Management

The contractor shall provide systems engineering, safety engineering, logistics support analysis, failure modes effects and criticality analysis (FMECA), configuration management, and modifications and upgrades to spacecraft/launch service systems identified in Appendix A. The contractor shall satisfy the specific requirements in the subsections which follow for each of the four spacecraft/launch service systems: Titan, Atlas, Delta, and Spacecraft Service Systems.

3.2.1 Interface Control Documents

3.2.1-1 Requirements – The contractor shall produce and maintain Interface Control Documents (ICDs) which provide accurate and current information on the critical facility systems which interface with spacecraft/launch service systems.

3.2.1-2 Narrative Descriptions

3.2.1-2.1 For each spacecraft or launch vehicle service facility identified in Appendix A, the contractor shall produce and maintain an ICD to serve as the system specification and functional baseline. (ADPL 015)

3.2.1-2.2 The contractor shall establish the functional requirements of each system, subsystem, and flight hardware interface. Use the current ICD, if available, as a starting point.

3.2.1-2.3 For each mission or program, the contractor shall integrate all requirements from the Program Requirements Document and Launch Base Test Plan into a Mission Peculiar Interface Control Document (MPICD). Include a verification matrix in the MPICD to provide traceability of requirement. Use or amend existing MPICDs when possible. (ADPL 016)

3.2.1-3 Performance Standards – The standards of performance are shown in Figure 3.2.1.

Figure 3.2.1 Standards of Performance – Interface Control Documents		
Key Required Services	Performance Standard	Method of Surveillance
Interface Control Documents (ICDs)	ICDs clearly define and describe the system mechanical, electrical, and logical interfaces. Functional parameters and performance requirements of the system and its major subsystems are clearly defined and described.	Review of ICDs.
Mission Peculiar Interface Control Document (MPICD)	In addition to all required mission peculiar interfaces, the MPICD integrates all PRD and Launch Base Test Plan requirements. A verification matrix is provided which shows how each interface requirement and parameter will be verified.	Review of MPICDs. System Readiness Reviews.

3.2.2 System Baseline

3.2.2-1 Requirements – For each critical system, the contractor shall develop and maintain a combined allocated and product baseline.

3.2.2-2 Narrative Descriptions

3.2.2-2.1 The contractor shall develop a Systems Engineering Management Plan (SEMP) and associated Integrated Master Plan (IMP) and Integrated Master Schedule (IMS) to develop and manage the establishment of system baselines and the transition to a disciplined configuration management process.

3.2.2-2.2 The contractor shall employ the techniques of Systems Requirements Analysis and Functional Analysis and Allocation in establishing system baselines.

3.2.2-2.3 The contractor shall include in the baseline all the necessary drawings and documentation to establish complete, clear, and unambiguous configuration descriptions. When necessary, drawings and documentation shall be created to complete the baseline.

3.2.2-2.4 The contractor shall identify all subsystems by components – hardware, processes, unique training, software, etc. Do not identify commercially procured components beyond the procured end item.

3.2.2-2.5 The contractor shall identify all components by performance requirement and state whether off-the-shelf replacement is acceptable. Distinguish between existing system components descriptions and product baseline descriptions.

3.2.2-2.6 The contractor shall provide the most general product baseline descriptions that will completely meet the functional and allocated requirements of those components. For existing components, identify manufacturer ID, USAF ID, design drawings, manufacturer data, and facility as-built reference. Use existing Space Launch Facilities Manuals (SLFM), when available, to assist baselining. Support SLFM development for contracted systems. (ADPL 017)

3.2.2-3 Standards of Performance – The standards of performance are shown in Figure 3.2.2.

Figure 3.2.2 Standards of Performance – System Baseline		
Key Required Services	Performance Standard	Method of Surveillance
System Baseline	Drawings accurately reflect current critical system configurations. All subsystems are clearly defined and described. For existing components all required information, as defined in 3.2.2-2.4, is clearly identified. All performance requirements are clearly defined and described.	Review of drawings. Review of system baseline documents.

3.2.3 Failure Mode, Effects, And Criticality Analysis (FMECA)

3.2.3-1 Requirements – For each system, the contractor shall develop and maintain a FMECA program per MIL-STD-1629A or other 45th SW approved format. (ADPL 018)

3.2.3-2 Narrative Description

3.2.3-2.1 The contractor shall apply the principles of MIL-STD-1629A to the LO&SC systems and requirements. The contractor may propose to apply alternate or additional techniques for failure identification, analysis, and effect determination where warranted and justified. If alternate or additional techniques are proposed, the contractor shall submit these for approval through documentation in the Systems Engineering Master Plan (SEMP).

3.2.3-2.2 The FMECA approach shall be consistent with the contractor’s systems engineering process and approach.

3.2.3-3 Standards of Performance – The standards of performance are shown in Figure 3.2.3 on the following page.

Figure 3.2.3 Standards of Performance – Failure Mode, Effects, and Criticality Analysis (FMECA)		
Key Required Services	Performance Standard	Method of Surveillance
FMECA	Clearly defined, documented, and structured processes are defined and described for: the identification of potential failure modes; the determination of their effects; and the criticality of their impact on the system and mission.	Review of the Systems Engineering Master Plan (SEMP) and FMECA results.

3.2.4 Safety Engineering

3.2.4-1 Requirements – For each service facility in Appendix A, the contractor shall develop and maintain a comprehensive evaluation of operations and maintenance mishap risk.

3.2.4-2 Narrative Descriptions

3.2.4-2.1 The contractor shall, as part of the systems engineering process, apply the principles of MIL-STD-882C. The approaches shall be tailored to the LO&SC environment and shall include risk assessments, surveillance and inspection requirements, training requirements, operational constraints, and contingency control requirements. (ADPL 002 and 019)

3.2.4-3 Standards of Performance – The standards of performance are shown Figure 3.2.4.

Figure 3.2.4 Standards of Performance – Safety Engineering		
Key Required Services	Performance Standard	Method of Surveillance
Preliminary Hazard Analysis (PHA - Task 202) System Hazard Analysis (SHA - Task 205)	Compliance with tailored version of MIL-STD-882C. Safety engineering and analysis efforts are an integral part of systems engineering process and are performed concurrently with other SE disciplines. Countermeasures reduce risk and do not introduce new, unaccounted for hazards. Analyses include human operator influences. Hazard Descriptions identify the source, mechanisms, and outcomes.	Review System Safety Plan (ADPL 002). Review Hazard Analysis Plan (ADPL 019). Compare analysis results with requirements. Review risk assessments based on severity/probability rankings. Review hazard tracking data reports and the effectiveness of the defined risk countermeasures. Review Hazard Analysis Reports. Review SEMP.
Conform to Applicable Safety Codes	Thorough and comprehensive identification of applicable codes, standards, and regulations.	Review of System Safety Plan (ADPL 002).
Illness and injury control and documentation	Injury and illness reports are timely, comprehensive, and contain effective recommendations. Illness and injury rates are comparable to industry standards. Follow-up activities are effective and timely.	Review of Safety Violations and Incident Reports (ADPL 003). Comparison of contractor safety engineering and performance with DoD, USAF, and OSHA standards.

3.2.5 Logistics Support Analysis

3.2.5-1 Requirements – For each critical system, the contractor shall develop and maintain a Logistics Support Analysis program, per Appendix E.

3.2.5-2 Narrative Description

3.2.5-2.1 The contractor shall establish a Logistics Support Analysis process using MIL-STD-1388-1A/2B and MIL-PRF-49506 as a guide.

3.2.5-2.2 The contractor shall develop a Logistics Support Analysis Plan in accordance with Appendix E, using MIL-STD-1388-1A/2B and MIL-PRF-49506 as a guide. (ADPL 020)

3.2.5-2.3 The contractor shall develop a Maintenance Plan in accordance with Appendix E, using MIL-STD-1388-1A/2B and MIL-PRF-49506 as a guide. (ADPL 021)

3.2.5-2.4 The contractor shall develop a Preventive Maintenance Check and Service using data generated by the LSAR. (ADPL 022)

3.2.5-2.5 The contractor shall develop and maintain LSAR by applying Government approved tools and in accordance with Appendix E, using MIL-STD-1388-1A/2B and MIL-PRF-49506 as a guide. (ADPL 023)

3.2.5-2.6 The contractor shall tailor the LSA requirements to meet the specific needs of Commercial-Off-The-Shelf (COTS) items.

3.2.5-2.7 The contractor shall perform analysis in support of Systems Management requirements for the service systems defined in Appendix A. In this regard, the contractor shall:

3.2.5-2.7.1 Use Reliability, Availability, and Maintainability Engineering Systems (RAMES) and Cost Analysis and Strategy Assessment (CASA) to conduct supportability analyses.

3.2.5-2.7.2 Provide the results to the Government and make recommendations relative to minimizing spare parts, achieving maintenance cost reductions, and improving mission readiness.

3.2.5-2.7.3 Ensure that all new tools and processes which are implemented to support LSA objectives are compatible with and capable of interfacing with the Spaceport Intranet Information System.

3.2.5-2.8 The contractor shall evaluate and make recommendations on the use, where feasible and appropriate, of MIL-PRF-49506, Logistics Management Information, in lieu of MIL-STD-1388-1A/2B, in order to reduce the cost of LSA data, without any impact on mission support and readiness.

3.2.5-2.9 The contractor shall review and analyze mission requirements documents and need statements, from a logistics standpoint, and support other steps in the systems engineering processes in accordance with MIL-STD-499B (draft), as tailored for the LO&SC requirements.

3.2.5-2.10 The contractor shall make logistics support an integral and concurrent consideration in the facility baselining effort to ensure that supportability requirements and considerations are included.

3.2.5-3 Standards of Performance – The standards of performance are shown in Figure 3.2.5.

Figure 3.2.5 Standards of Performance – Logistics Support Analysis		
Key Required Services	Performance Standard	Method of Surveillance
System Supportability and Associated Analysis	Maximizes the Mean Time Between Downing events. Minimizes the Mean Time To Restore.	Review and analyze the maintenance and reliability data provided through application of the LO&SC contractor R&M tools. Review of LSAP (ADPL 020) and Maintenance Plan (ADPL 021).
Mission Success Analysis (Dependability)	Maximizes the mission time between critical failures.	Review and analyze the maintenance and reliability data provided through application of the LO&SC contractor R&M tools.
Maintenance Manpower Cost Analysis	Maximizes the Mean Time Between Maintenance.	Review and analyze the maintenance and reliability data provided through application of the LO&SC contractor R&M tools. Review and analysis of ADPL 020, 021, 022, and 023.
Logistics Support Cost Analysis	Maximizes the Mean Time Between Demands.	Review and analyze supply reports and data.
Life Cycle Support Cost Analysis	Recommendations consistently identify the most cost effective options among alternatives.	Review and analysis of ADPL 020, 021, 022, and 023.

3.2.6 Operations And Maintenance Procedures

3.2.6-1 Requirements – The contractor shall develop, maintain, and control standard procedures for the operations and maintenance of each system, subsystem, or component. (ADPL 024 and 025)

3.2.6-2 Narrative Description

3.2.6-2.1 The contractor shall develop and maintain mission peculiar procedures to interface the system with flight or trailblazer hardware per the MPICD.

3.2.6-2.2 For each facility, the contractor shall develop, maintain, and control emergency procedures for the mitigation of identified facility hazards.

3.2.6-2.3 The contractor shall make maximum use of logistic support analyses, safety engineering documents, existing procedures, and common procedural sequences to improve procedures.

3.2.6-3 Standards of Performance – The standards of performance are shown in Figure 3.2.6.

Figure 3.2.6 Standards of Performance – Operations and Maintenance Procedures		
Key Required Services	Performance Standard	Method of Surveillance
Operations and Maintenance Procedures	For new requirements, changes in requirements, mission peculiar requirements, and changes or upgrades in facility configurations, the contractor applies systems engineering approaches to the development and modification of operations and maintenance procedures. Logistics, safety, quality, and environmental issues are considered concurrently.	Review of SEMP (ADPL 033). Review of Operations and Maintenance Procedures for Service Systems (ADPL 024). Review of Mission Peculiar Procedures (ADPL 025).

3.2.7 Systems Engineering and Configuration Management

3.2.7-1 Requirements – The contractor shall provide configuration management and systems engineering support for all critical systems. (ADPL 026 and 033)

3.2.7-2 Narrative Descriptions

3.2.7-2.1 The contractor shall implement a systems engineering approach based on tailoring the principles of the draft MIL-STD 499B.

3.2.7-2.2 The contractor shall resolve hardware or procedural discrepancies by systems engineering disposition, as appropriate.

3.2.7-2.3 The contractor shall develop Requests for Deviations or Waivers (RFD/W), Interface Change Notices (ICN), and Class II Engineering Change Proposals (ECP). (ADPL 027, 028, 029, and 030)

3.2.7-2.4 The contractor shall perform special engineering studies and prepare Class I Engineering Change Proposals as directed and funded by the contracting officer.

3.2.7-2.5 The contractor shall establish and maintain all documentation supporting the system baselines. Include working copies of ADPL’s referenced in the Quality Assurance Program, and the supporting manuals, plans, technical data, drawings, security, and safety requirements. (ADPL 031)

3.2.7-2.6 The contractor shall administer the Configuration Control Board for the system program office.

3.2.7-3 Standards of Performance – The standards of performance are shown Figure 3.2.7.

Figure 3.2.7 Standards of Performance – Systems Engineering and Configuration Management		
Key Required Services	Performance Standard	Method of Surveillance
Systems Engineering Process	Follows the general principles of MIL-STD-499B, as tailored for the LO&SC environment. Includes structured processes for the concurrent consideration of logistics, safety, quality, environmental, and performance issues in the management of ECPs, RFD/W, the resolution of system or procedural discrepancies, and the management of facility modifications and upgrades.	Review of SEMP (ADPL 033). Review and disposition of ECPs, RFD/W, and ICNs. (ADPL 027, 028, 029, & 030)
Configuration Management Process	Follows the general principles of MIL-STD-973 (Appendix H). Provides engineering and administrative support to the 45th SW CCB.	Review of Configuration Management Plan (ADPL 026). Review of CSA Information (ADPL 031). Review of SEMP (ADPL 033). Review and disposition of ECPs, RFD/W, and ICNs,

3.2.8 Modifications and Upgrades

3.2.8-1 Requirements – The contractor shall implement ECPs and modifications of systems associated with spacecraft, booster launch and processing, as identified by the Configuration Control Board and directed/funded by the Contracting Officer. (ADPL 034)

3.2.8-2 Standards of Performance – The standards of performance are shown in Figure 3.2.8.

Figure 3.2.8 Standards of Performance – Modifications and Upgrades		
Key Required Services	Performance Standard	Method of Surveillance
Implementation of Modifications	Follows structured systems engineering processes in the consideration of solution options, based on trade-off studies.	Review of Engineering Release Record (ADPL 034). Review of SEMP (ADPL 033). Review and disposition of ECPs.

3.2.9 Material Review Board

3.2.9-1 Requirements – For approved baselined systems and configured items ONLY, the contractor shall resolve minor Product Baseline non-conformances that do not affect Functional or Allocated Baselines or component form, fit, or function by Material Review Board action.

3.2.9-2 Narrative Description

3.2.9-2.1 The contractor shall provide Systems Engineering disposition describing the proposed change and including contractor Systems Engineering approval signature on contractor non-conformance report.

3.2.9-2.2 The contractor shall obtain Configuration Control Board Chairman approval by signature prior to beginning any work to implement the disposition. Such disposition and approval will provide the basis for a Class II Engineering Change without additional Air Force signature when there are no attendant additional costs or adverse schedule impacts to the Government. All other types of non-conformance will be corrected by maintenance actions

which result in return of the affected system to approved configuration, or by a Waiver, a Deviation, or Engineering Change Proposal.

3.2.9-3 Standards of Performance – The standards of performance are shown in Figure 3.2.9.

Figure 3.2.9 Standards of Performance – Material Review Board		
Key Required Services	Performance Standard	Method of Surveillance
Material Review Board (MRB)	Contractor MRB representation includes Facility Manager, safety, logistics, systems engineering, and quality. Disposition of non-conformances are addressed by systems engineering processes.	Review of SEMP (ADPL 033).

3.3 Operation and Maintenance

The contractor shall provide operations and maintenance for the facilities identified in Appendix A. The contractor is responsible for the entire structure and out to, but not including, the parking lot, fence, grounds, and guard shack. Non-critical systems (as determined by Systems Management analyses) shall be maintained in a serviceable state as appropriate to their functional requirements. Whenever Appendix A is referenced below, it refers to systems in the respective figures (unless otherwise stated). Spacecraft and launch service systems in each facility are further defined in Appendix A. Not all systems in Appendix A are described below. The contractor shall ensure that critical systems are ready to support all tests and operations when required.

The contractor shall segregate Davis-Bacon-type construction or repair work. This encompasses all work done to a site or a building including – without limitations – altering, remodeling, installing fabricated items, and painting. Work, other than scheduled periodic maintenance, is “construction” to the extent that it exceeds the coverage threshold of the Davis-Bacon Act. Where practical, the contractor shall batch maintenance work to cause the value to equal or exceed the threshold, which will allow the work to be classified as construction rather than maintenance and facilitate more efficient scheduling of this type of work.

3.3.1 Operations And Maintenance Control

3.3.1-1 Requirements – The contractor shall control, manage, and schedule operations, planned maintenance, and unplanned maintenance of spacecraft/launch service systems. (ADPL 035)

3.3.1-2 Narrative Description

3.3.1-2.1 The contractor shall identify and control discrepant conditions and equipment to prevent its unauthorized use.

3.3.1-2.2 The contractor shall identify all concurrent spaceport operations, maintenance, and modification activities and coordinate and de-conflict schedules with the contract functional area manager. Whenever possible, the contractor shall plan maintenance activities around mission support requirements.

3.3.1-2.3 The contractor shall coordinate schedules and other work control activities with the MOCC, other contractors, and 45th Space Wing squadrons.

3.3.1-2.4 The contractor shall conduct a “validation run” to rehearse any new procedure involving potential safety hazards. The validation run shall consist of a “talk through and walk through” of the procedure at the work site by the work team before its first use. Red-lined changes to the procedure shall be incorporated into the procedure before any subsequent use of the procedure.

3.3.1-3 Standards of Performance – The standards of performance are shown in Figure 3.3.1.

Figure 3.3.1 Standards of Performance – Operations and Maintenance Control		
Key Required Services	Performance Standard	Method of Surveillance
Identify and control discrepant conditions	CMMS provides timely and accurate tracking of all discrepant conditions and positive control of corrective actions.	Control Plan for Operations and Maintenance. Review of CMMS.
Overall schedule coordination	All operations and maintenance activities are planned, scheduled, coordinated, integrated, and tracked with minimal impact to mission support requirements. Automated work control system and CMMS function to maximize productivity and system readiness. The maintenance backlog is minimized.	Control Plan for Operations and Maintenance. Review of automated work control and CMMS database. Mission Readiness Reviews.

3.3.2 Systems Operations And Maintenance

3.3.2-1 Requirements – The contractor shall operate and maintain systems and equipment to meet requirements using approved procedures and pad safety plans.

3.3.2-2 Narrative Description

3.3.2-2.1 The contractor shall assign engineers to each O&M Systems Group. These deployed engineers shall be the on-site systems experts for day-to-day issues involved with O&M and the primary interface with the engineering staff in Systems Management to implement a methodological interdisciplinary approach to the maintenance and configuration of service systems.

3.3.2-2.2 The contractor shall train and certify operators and maintenance personnel.

3.3.2-2.3 The contractor shall provide Level I planned and unplanned maintenance, perform preventative maintenance, and replace components and assemblies as required.

3.3.2-2.4 The contractor shall alert cognizant service system management of all hardware or procedural discrepancies for appropriate resolution.

3.3.2-2.5 Systems and equipment maintenance shall include all necessary corrosion control efforts.

3.3.2-3 Standards of Performance – The standards of performance are shown in Figure 3.3.2.

Figure 3.3.2 Standards of Performance – Systems Operations and Maintenance		
Key Required Services	Performance Standard	Method of Surveillance
O&M personnel training	O&M personnel training is defined in a Training Plan. Training courses are comprehensive and up-to-date. Training is complete and documented. Training leads to certification for critical areas such as crane operators, welders, ordnance handlers, clean room technicians, etc.	Review of Training Plan and Training Records Database.
Level I planned and unplanned maintenance	Planned and unplanned maintenance is performed to specified procedures and standards, and is completed in time to support mission requirements.	Random sampling and review of maintenance procedures. Observation through on-line access to CMMS database.
Preventative maintenance	Preventative maintenance is planned, scheduled, and performed using a CMMS. RCM methodologies and other predictive techniques are used to maximize system readiness.	Review of CMMS documentation and description. Observation through on-line access to CMMS database.
Resolution of hardware and procedural discrepancies	Hardware and procedural discrepancies are documented and controlled in the CMMS. Systems engineering and configuration management processes are used to resolve discrepancies.	Review of SEMP and Configuration Management Plan. Random sampling of documented maintenance procedures.
Customer Satisfaction	Support to LO&SC customers is responsive, meets defined mission requirements, and is of high quality.	Customer responses to LO&SC customer questionnaires.

3.3.3 Mission Support

3.3.3-1 Requirements – The contractor shall provide operational support on all service systems listed in Appendix A.

3.3.3-2 Narrative Description

3.3.3-2.1 The contractor shall provide a Flow Manager for launch vehicle systems and a Flow Manager for spacecraft systems for each mission. These Flow Managers shall serve as the single point of contact for LO&SC support to that flight article. They shall be the primary LO&SC interface with the 45 SW operational unit (1 SLS, 3 SLS, 5 SLS, and OSS), the Field Program Manager, launch vehicle or spacecraft contractors, associate contractors, and other external organizations.

3.3.3-2.2 The contractor shall ensure that the LO&SC requirements of the MPICD and PRD are met.

3.3.3-2.3 The contractor shall provide support for the government, prime aerospace contractors, and other contractors, for a variety of operations, including but not limited to – repair and maintenance on ground support equipment, MST movement, crane operations, and minor modifications to real property.

3.3.3-2.4 The contractor shall provide membership and participate in mission and facility meetings.

3.3.3-2.5 Prior to the arrival of flight hardware to an LO&SC facility, the contractor’s Flow Manager shall conduct a formal LO&SC Readiness Review for the 45 SW counterparts and the customer to verify that all launch processing and/or launch support requirements have been satisfied or that shortfalls have been identified.

3.3.3-3 Standards of Performance – The standards of performance are shown in Figure 3.3.3 on the following page.

3.3.4 Testing, Pre-Launch, And Launch Day Support

3.3.4-1 Requirements – The contractor shall provide operational support and technical guidance, as required, for each launch processing flow, including on-console support as required.

Figure 3.3.3 Standards of Performance – Mission Support		
Key Required Services	Performance Standard	Method of Surveillance
Satisfy MPICD and PRD requirements	Mission requirements are met on time and to the standard specified in the requirement.	Observe performance at System Readiness Reviews and in support of mission operations.
Support of mission operations	Mission support requirements are met on time and to the standard specified in the requirement.	Observe performance at System Readiness Reviews, in support of mission operations and at mission and facility meetings.

3.3.4-2 Standards of Performance – The standards of performance are shown in Figure 3.3.4.

Figure 3.3.4 Standards of Performance – Testing, Pre-Launch, and Launch Day Support		
Key Required Services	Performance Standard	Method of Surveillance
Provide operational support and technical advice	Operational support and technical advice is rendered to the extent necessary to support on time launch processing.	Observe performance during test, pre-launch, and launch day activities. Customer Surveys

3.3.4-2.1 Following a launch, the contractor shall request the customer to complete a Customer Survey Questionnaire to provide constructive input to the quality, timeliness, and efficiency of the services and support provided.

3.3.5 Schedule and Status Reports

3.3.5-1 Requirements – The contractor shall provide daily insight into scheduled and unscheduled maintenance. Information regarding facility or system projects involving the contractor shall also be available. (ADPL 037 and 038)

3.3.5-2 Narrative Description

3.3.5-2.1 The contractor shall provide information in accordance with paragraph 1.4, Integrated Resource Management.

3.3.5-2.2 The contractor shall coordinate any scheduled outage (i.e. low voltage, elevators, cranes, fire alarms, etc.), with the government and other users to minimize operational disruptions, and include this information on all schedules.

3.3.5-2.3 The contractor shall develop and maintain facility utilization and spacecraft mission schedules. Spacecraft service systems shall be scheduled by cells, bays, transfer aisles, air locks, and support rooms capable of being scheduled independently.

3.3.5-2.4 The contractor shall provide short-range (six months), and long-range (five years) classified and unclassified schedules (see ADPL 037).

3.3.5-2.5 The contractor shall contribute to the development of launch vehicle mission schedules by providing operations and maintenance data regarding service systems and facilities to appropriate point of contact. Schedules are currently produced using 72 hour/11 day time frame.

3.3.5-3 Standards of Performance – The standards of performance are shown in Figure 3.3.5.

Figure 3.3.5 Standards of Performance – Schedule and Status Reports		
Key Required Services	Performance Standard	Method of Surveillance
Planned and unplanned facility maintenance schedules	On-line access to all facility maintenance schedules is available. Maintenance schedules are accurate and current. Maintenance schedules are coordinated to minimize operational disruptions. Scheduled outages or access limitations are fully coordinated and publicized.	Review of Schedule Database (ADPL 037) and Project Status and Projections reports (ADPL 038) through on-line access.
Facility utilization and spacecraft mission schedules	Cells, bays, clean rooms, transfer aisles, air locks, and support rooms are scheduled in a coordinated manner which makes efficient use of resources while minimizing mission schedule risk.	Review of Schedule Database and short and long range schedules.
Launch vehicle mission schedules	Launch complexes, service systems, and support facilities are scheduled in a coordinated manner which maintains a high state of readiness while minimizing mission schedule risk.	Review of Schedule Database. Review of Project Status and Projections reports (ADPL 038).
Project Status	Timely and accurate reports are provided on project status.	Review of Project Status and Projections reports (ADPL 038).

3.3.6 Maintenance Deferrals

3.3.6-1 Requirements – When the contractor determines that maintenance must be deferred due to mission requirements, approval must be obtained from the affected FAC(s). The maintenance shall be rescheduled at the earliest possible date agreeable to all parties. Maintenance that is deferred for greater than 60 days shall be reviewed monthly by the contractor and a risk analysis performed with recommendations presented to the FAC(s). (ADPL 040)

3.3.6-2 Standards of Performance – The standards of performance are shown in Figure 3.3.6.

Figure 3.3.6 Standards of Performance – Maintenance Deferrals		
Key Required Services	Performance Standard	Method of Surveillance
Deferred maintenance	Maintenance management and scheduling approaches minimize deferred maintenance. Recommendations for deferred maintenance are supported by comprehensive risk analysis.	Review of Deferral Requests (ADPL 040).

3.3.7 Facility Management

3.3.7-1 Requirements – The contractor shall provide facility management for facilities identified in the Facility Management list in Appendix A and any facility where the contractor is the primary resident.

3.3.7-2 Narrative Description

3.3.7-2.1 The contractor shall provide qualified Facility Managers with direct overall responsibility for systems readiness. The Facility Manager shall oversee the planning, scheduling, execution, and close-out of all activities within his assigned facilities and systems, both operations and maintenance. The Facility Manager shall also be empowered to authorize unscheduled work (real-time, urgent, or emergency tasks) and coordinate all activities to ensure a safe and secure working environment.

3.3.7-2.2 The contractor shall coordinate all base support activities within each area. Facility Management includes responsibility for, but not necessarily maintenance of, all facilities/structures inside and including the fence, guard shack, parking areas, and any additional structures outside that fence that support the main facility, where applicable.

3.3.7-2.3 The contractor shall coordinate base support activities with scheduled spacecraft or launch vehicle activities and service systems operations and maintenance and keep all facility users informed of facility activities which may affect them.

3.3.7-2.4 The contractor shall manage facility projects and monitor funding spent on the facility.

3.3.7-2.5 The contractor shall conduct facility safety inspections, initiate and monitor corrective actions. In case of fire or disaster, the contractor shall coordinate LO&SC response and recovery activity with the fire chief or disaster control group, as necessary.

3.3.7-2.6 Operate under the real property maintenance and construction instructions.

3.3.7-2.7 Provide data to the Civil Engineer (CE) Squadron in a format compatible with the CE Work Information Management System (WIMS).

3.3.7-3 Standards of Performance – The standards of performance are shown in Figure 3.3.7 at the top of the following page.

Figure 3.3.7 Standards of Performance – Facility Management		
Key Required Services	Performance Standard	Method of Surveillance
Facility Manager	Assigned Facility Managers are qualified and experienced. Facility systems are managed in ways which best support mission requirements.	Review of LO&SC contractor furnished list of facility managers. Review of Operations and Maintenance Procedures for Service Systems (ADPL 024) and Control Plan for Operations and Maintenance (ADPL 035) Mission Readiness Reviews.
Coordination of activities	All base support, LO&SC, and other facility related activities are effectively coordinated to minimize operational impact.	Mission Readiness Reviews. Review of facility and system reliability, maintainability, and availability data.
Facility status information	Accurate and timely data related to facility and system status, configuration, schedules for operations, and maintenance activities are readily available on-line.	On-line access to CMMS database.
Facility project management	Facility projects are managed within defined budgets and schedules. Variances are accurately analyzed and reported in a timely manner.	Review of contractor provided cost, schedules, and performance reports.
Facility safety	Facility safety inspections, corrective actions, and safety policies minimize unsafe practices, accidents, and incidents.	Review of accident and incident reports. Review of safety inspection reports and corrective actions.
Fire and disaster response support	Disaster response planning is complete and exercised routinely. Facility response actions to fires and disasters are timely and in accordance with DoD, USAF, and 45th Space Wing directives.	Review of fire and disaster response times and supporting actions.

3.3.8 Disaster Preparedness

3.3.8-1 Requirements – The contractor shall develop, maintain, and implement disaster preparedness plans for securing and safing facilities, systems, and equipment in the Facility Management list of Appendix A, during natural disasters or man-made disasters. Facility Managers are responsible for ensuring their facilities are secure. The 45th SW Disaster Preparedness Operations Plan shall be used for this effort.

3.3.8-2 Standards of Performance – The standards of performance are shown in Figure 3.3.8.

Figure 3.3.8 Standards of Performance – Disaster Preparedness		
Key Required Services	Performance Standard	Method of Surveillance
Support of disaster preparedness plans	Input to Disaster Preparedness Plans is realistic, comprehensive, and feasible. Provides responsive support to the securing and safing of facilities and other actions required by the 45th SW Disaster Preparedness Operations Plan.	Observe and monitor LO&SC response to disasters, incidents, and exercises, per the requirements of 45th SW plans. Review of Operations and Maintenance Procedures for Service Systems (ADPL 024) and Control Plan for Operations and Maintenance (ADPL 035).

3.3.8-2.1 The contractor shall assign one individual as the overall Disaster Preparedness representative to provide a single LO&SC interface to the Wing Disaster Preparedness Office.

3.3.9 Communications

3.3.9-1 Requirements – The contractor shall install, maintain, and repair all intra-facility communication cabling (includes fiber optics), circuits, wiring, conduits, and equipment/systems end-items (instruments) for facilities identified in Appendix A, except – prime launch vehicle contractor data lines directly supporting the launch vehicle; installation of Public Address systems, TOPS units, Digital Voice, and Aural Warning systems; and maintenance of the Public Address system end-items, TOPS end-items, Digital Voice end-items, Aural Warning end-items, telephones, and computer end-items, including the procurement (user funded), of the end-item. Interfaces with other Contractor equipment will be at the equipment plug-in points and at the facility communication frame connection points. The contractor shall also maintain the antennas identified in Appendix A. Maintenance of the communications lines belongs to the LO&SC.

3.3.9-2 Standards of Performance – The standards of performance are shown in Figure 3.3.9.

Figure 3.3.9 Standards of Performance – Communications		
Key Required Services	Performance Standard	Method of Surveillance
Communications support	Communications systems are maintained in a state of readiness and availability that meets all operational requirements including emergency notification capability.	Mission Readiness Reviews. Communications support of test, pre-launch, and launch missions. Facility readiness inspections.

3.3.10 Space Launch Complex Refurbishment Activities

3.3.10-1 Requirements – The contractor shall plan, prepare, and execute maintenance activities for times when no vehicle is on the launch complex. This includes post-launch activities through next vehicle arrival. The contractor shall schedule and ensure modifications occur during refurbishment periods, if necessary. Activities that have vehicle constraints, like corrosion control efforts, must be completed to meet constraints.

3.3.10-2 Standards of Performance – The standards of performance are shown in Figure 3.3.10.

Figure 3.3.10 Standards of Performance – Space Launch Complex Refurbishment Activities		
Key Required Services	Performance Standard	Method of Surveillance
Refurbishment support	Refurbishment, modification, and corrosion control activities are successfully completed in time to support the next scheduled launch.	Review of Operations and Maintenance Procedures for Service Systems (ADPL 024) and Control Plan for Operations and Maintenance (ADPL 035).

3.3.11 Cleanrooms and Contamination Control

3.3.11-1 Requirements – The contractor shall provide janitorial support to the cleanrooms identified in Appendix A and Appendix I.

3.3.11-2 Narrative Description

3.3.11-2.1 The Contractor shall maintain required cleanliness levels in cleanrooms according to FED-STD 209E.

3.3.11-2.2 The Contractor shall monitor cleanroom status as required per the PRD for the using program.

3.3.11-2.3 The Contractor shall provide all supplies and services to operate and maintain the cleanroom. Cleanrooms must be operational when required.

3.3.11-2.4 For each applicable facility, system, or equipment, the contractor shall maintain contamination control per the compliance facility Contamination Control Plan. The contractor shall monitor the contamination control and maintain historical data. The contractor shall operate the automated monitoring and control system where required. (ADPL 041)

3.3.11-3 Standards of Performance – The standards of performance are shown in Figure 3.3.11.

Figure 3.3.11 Standards of Performance – Cleanrooms and Contamination Control		
Key Required Services	Performance Standard	Method of Surveillance
Cleanliness levels	Cleanliness levels are consistent with FED-STD-209E.	Quality inspections
Cleanroom readiness	Cleanroom status and configuration meet PRD requirements.	Mission Readiness Reviews Mission preparation activities.
Contamination control	Contamination control satisfies the facility contamination control plan. An accurate and up-to-date contamination control database is maintained.	Review of Contamination Control Plan (ADPL 041). Review of contamination control database.

3.3.12 Cranes & Hoists

3.3.12-1 Requirements – The contractor shall operate, monitor, and maintain cranes, hoists, and all support equipment as listed in Appendix A, to meet required standards, certifications, and/or special mission requirements of specific customers and to be available for use during tests, operations, and other required times. This includes performing hardware and software configuration control. The Contractor shall provide a training and certification program for all crane operators of 45th Space Wing cranes. Operation of the crane is not exclusive to this contract.

3.3.12-2 Standards of Performance – The standards of performance are shown in Figure 3.3.12.

Figure 3.3.12 Standards of Performance – Cranes and Hoists		
Key Required Services	Performance Standard	Method of Surveillance
Operation and maintenance of cranes and hoists	Cranes, hoists, and support equipment are maintained in a state of readiness and availability that meets all operational requirements.	Review of CMMS database.
Hardware and software configuration control	Crane and hoist configurations are accurately maintained in a readily accessible configuration database.	Review of Configuration Management Plan. Review of CSA database. Review of ICDs and MPICDs.
Training and certification	Crane operator training and certification programs are structured and scheduled to meet all 45th SW mission and other user requirements.	Review of training plans and programs.

3.3.13 Heating, Ventilation, and Air Conditioning (HVAC)

3.3.13-1 Requirements – The contractor shall operate, monitor, and maintain HVAC systems identified in Appendix A, to meet required standards, certifications, and/or special mission requirements of specific customers, including performing hardware and software configuration control.

3.3.13-2 Standards of Performance – The standards of performance are shown in Figure 3.3.13.

Figure 3.3.13 Standards of Performance – Heating, Ventilation, and Air Conditioning (HVAC)		
Key Required Services	Performance Standard	Method of Surveillance
Operation and maintenance of HVAC systems	HVAC equipment and systems are maintained in a state of readiness and availability that meets all operational requirements.	Review of CMMS database.
Hardware and software configuration control	HVAC configurations are accurately maintained in a readily accessible configuration database.	Review of Configuration Management Plan Review of CSA database. Review of ICDs and MPICDs.

3.3.14 Low Voltage

3.3.14-1 Requirements – The contractor shall operate and maintain low voltage power systems and associated equipment and software identified in Appendix A. The contractor shall ensure proper low voltage power is available for tests and operations. The contractor shall also maintain grounding systems as shown in Appendix A, and perform grounding checks as required. Any switching operations must be coordinated with appropriate offices.

3.3.14-2 Standards of Performance – The standards of performance are shown in Figure 3.3.14.

Figure 3.3.14 Standards of Performance – Low Voltage		
Key Required Services	Performance Standard	Method of Surveillance
Operation and maintenance of low voltage power systems, associated equipment, and software	Low voltage systems are maintained in a state of readiness and availability that meets all operational requirements.	Review of CMMS database.
Maintain grounding systems	Grounding systems are maintained in a state of readiness and availability that meets all operational requirements.	Review of CMMS database. Results of grounding checks.

3.3.15 Online Lightning Monitoring System

3.3.15-1 Requirements – The contractor shall maintain the Online Lightning Monitoring System. This system is in development by 45th SW and will be turned over to the LO&SC on or about 1 Oct 98.

3.3.15-2 Standards of Performance – The standards of performance are shown in Figure 3.3.15.

Figure 3.3.15 Standards of Performance – Online Lightning Monitoring System		
Key Required Services	Performance Standard	Method of Surveillance
Maintenance of Online Lightning Monitoring System	Maintenance procedures are established and verified prior to turn over of the system. Systems are maintained in a state of readiness and availability that meets all operational requirements.	Review of maintenance procedures. Review of CMMS database.

3.3.16 Facility Control Monitoring Systems

3.3.16-1 Requirements – The contractor shall operate and maintain the facility control monitoring systems as identified in Appendix A.

3.3.16-2 Standards of Performance – The standards of performance are shown in Figure 3.3.16.

Figure 3.3.16 Standards of Performance – Facility Control Monitoring Systems		
Key Required Services	Performance Standard	Method of Surveillance
Operation and maintenance of facility control monitoring systems	Systems are maintained in a state of readiness and availability that meets all operational requirements.	Review of maintenance procedures. Review of CMMS database.

3.3.17 Elevators

3.3.17-1 Requirements – The contractor shall maintain and certify elevators identified in Appendix A, to be available for use during tests, operations, and other required times. The contractor shall provide the necessary inspections and certifications. Inspectors shall be properly certified in accordance with State and Federal law.

3.3.17-2 Standards of Performance – The standards of performance are shown in Figure 3.3.17.

Figure 3.3.17 Standards of Performance – Elevators		
Key Required Services	Performance Standard	Method of Surveillance
Maintenance of elevators	Systems are maintained in a state of readiness and availability that meets all operational requirements.	Review of CMMS database.
Certifications and inspections	Certifications and inspections are scheduled and conducted to ensure maximum availability in support of tests and other operations. Inspectors are certified in accordance with state and federal law.	Review of elevator inspection and certification reports.

3.3.18 Mobile Service Tower (MST) Traction Drive

3.3.18-1 Requirements – The contractor shall operate and maintain the MST Traction Drives and all associated equipment listed in Appendix A.

3.3.18-2 Standards of Performance – The standards of performance are shown in Figure 3.3.18.

Figure 3.3.18 Standards of Performance – Mobile Service Tower (MST) Traction Drive		
Key Required Services	Performance Standard	Method of Surveillance
Operation and maintenance of MST Traction Drives	Systems are operated properly and safely and are maintained in a state of readiness and availability that meets all operational requirements.	Monitoring of operational support. Review of CMMS database.

3.3.19 Structure

3.3.19-1 Requirements – The contractor shall operate, maintain, fabricate, install, and repair/replace structural and architectural components of those facilities identified in Appendix A.

3.3.19-2 Narrative Description – The contractor shall perform tasks which include, but are not limited to: performing corrosion control; applying and removing ablative coating; operating and maintaining access platforms; and operating and maintaining all special purpose doors. This shall include all adjacent, supporting structures which provide direct support to the facility (e.g., generator buildings). The work shall comply with the installation facilities excellence plan.

3.3.19-3 Standards of Performance – The standards of performance are shown in Figure 3.3.19.

Figure 3.3.19 Standards of Performance – Structure		
Key Required Services	Performance Standard	Method of Surveillance
Facility structure support	Facility structures are operated, maintained, and controlled in the required configurations and state of readiness to support all 45th SW and other user requirements.	Review of system maintenance management reports and the CMMS database. Periodic facility inspections and walk throughs.

3.3.20 Corrosion Control

3.3.20-1 Requirements – The contractor shall perform and support corrosion control efforts on all applicable systems and equipment listed in Appendix A. The contractor shall consider corrosion control an on-going effort. The contractor shall follow standard, commercial practices, using innovative methods to combat and prevent future corrosion. Corrosion Control efforts must often be done without interfering with other operations, so the contractor must be prepared to accomplish the mission possibly using new innovative methods/techniques despite scheduling and technical obstacles. (ADPL 042)

3.3.20-2 Standards of Performance – The standards of performance are shown in Figure 3.3.20.

Figure 3.3.20 Standards of Performance – Corrosion Control		
Key Required Services	Performance Standard	Method of Surveillance
Corrosion control	Corrosion control efforts are consistent with USAF and Space Command directives, are executed to aggressively address corrosion on critical facilities and systems, and are scheduled and performed with minimal impact on other operations. Innovative methods and techniques are used which improve the overall effectiveness of the corrosion control program	Review of Corrosion Control Plan (ADPL 042). Observation of Corrosion Control efforts.

3.3.21 Deluge System/Overpressure Suppression System

3.3.21-1 Requirements – The contractor shall operate and maintain the deluge/overpressure suppression systems and all associated equipment identified in Appendix A. The contractor shall ensure the systems are maintained in a condition to perform operationally at all required times. The contractor shall perform corrosion control on all associated equipment.

3.3.21-2 Standards of Performance – The standards of performance are shown in Figure 3.3.21.

Figure 3.3.21 Standards of Performance – Deluge System/Overpressure Suppression System		
Key Required Services	Performance Standard	Method of Surveillance
O&M of deluge/overpressure Suppression systems	Systems are properly operated and are maintained in a state of readiness and availability that meets all operational requirements.	Mission Readiness Reviews. Periodic inspections and walk throughs. Monitor performance during tests, missions, and exercises.

3.3.22 Fire Detection and Alarm Systems

3.3.22-1 Requirements – The contractor shall maintain, inspect, and certify all fire detection systems and associated equipment (including hardware and software) identified in Appendix A. The contractor shall ensure that fire detection systems remain operational to support mission requirements. Some missions may require the fire suppression system to be turned off to prevent accidental activation. The contractor shall be present during the annual inspection and testing of the fire alarm systems conducted by the Fire Inspector.

3.3.22-2 Standards of Performance – The standards of performance are shown in Figure 3.3.22.

Figure 3.3.22 Standards of Performance – Fire Detection and Alarm Systems		
Key Required Services	Performance Standard	Method of Surveillance
Support of fire detection systems and associated equipment	Systems are maintained and certified to be in a state of readiness and availability that meets operational requirements. Periodic inspections and fire alarm tests result in few and minor discrepancies.	Review of Operations and Maintenance Procedures for Service Systems (ADPL 024) and Control Plan for Operations and Maintenance (ADPL 035). Periodic inspections and tests of fire alarm systems.

3.3.23 Railroad System

3.3.23-1 Requirements – The contractor shall operate and maintain, including performing corrosion control, all of the Titan ITL railroad system, as identified in Appendix A. Operation of the railroad is not exclusive to the LO&SC.

3.3.23-2 Standards of Performance – The standards of performance are shown in Figure 3.3.23.

Figure 3.3.23 Standards of Performance – Railroad System		
Key Required Services	Performance Standard	Method of Surveillance
O&M of Titan ITL railroad system	Railroad system is operated and maintained safely to accomplish all mission requirements. System availability is maintained at a level of readiness that meets all operational requirements.	Monitoring of performance during tests, missions, and exercises. Periodic inspections and tests.

3.3.24 Access Control

3.3.24-1 Requirements – The contractor shall operate and maintain special access control systems at the SPIF and SLC 40/41 as needed. The contractor shall provide special access control for the SPIF, SLC 40/41, DPF, and NPF when required by PRD.

3.3.24-2 Standards of Performance – The standards of performance are shown in Figure 3.3.24.

Figure 3.3.24 Standards of Performance – Access Control		
Key Required Services	Performance Standard	Method of Surveillance
O&M of special access control systems at the SPIF and SLC 40 and 41, as needed	Systems are properly operated to maintain security requirements. System availability is maintained at a level of readiness that meets all operational requirements.	Monitoring of performance during tests, missions, and exercises. Periodic inspections and tests.
Provide special access control for SPIF, SLC 40/41, DPF, and NPF	Access control procedures are developed in accordance with DoD, USAF, and 45th SW directives. They are properly executed to eliminate unauthorized entry.	Review of access control procedures. Periodic inspections.

3.3.25 Propellant Vapor Detection

3.3.25-1 Requirements – The contractor shall operate and maintain Propellant Vapor Detection systems at facilities identified in Appendix A. The contractor shall monitor, certify, calibrate, and reset the systems, as necessary.

3.3.25-2 Standards of Performance – The standards of performance are shown in Figure 3.3.25.

Figure 3.3.25 Standards of Performance – Propellant Vapor Detection		
Key Required Services	Performance Standard	Method of Surveillance
O&M of propellant vapor detection systems. Monitor, certify, calibrate, and reset systems.	Systems are properly operated in support of safety requirements. System availability is maintained at a level of readiness that protects the safety of the workforce and the prevention of incidents or accidents. Systems are properly calibrated and certified.	Monitoring of performance during tests, missions, and exercises. Periodic inspections and tests. Review of certification and calibration documentation.

3.4 Logistics

3.4.1 Service System Parts Inventory

3.4.1-1 Requirements – The contractor shall warehouse and maintain cognizance of Government and contractor provided replacement parts for service systems.

3.4.1-2 Narrative Description

3.4.1-2.1 The contractor shall maintain reasonable inventory levels for all replaceable components.

3.4.1-2.2 With the concurrence of government Functional Area Chiefs, the contractor shall initiate, divest, and replace Government inventories as required to efficiently maintain full service system capability.

3.4.1-2.3 The contractor shall implement the Supply Operations Control System to maintain accountability for bench stock support, critical spares management, sources of supply/repair, receipt, storage, shipping, and interface with the SBSS and vendors. The SOCS software shall be provided at no cost to the Government.

3.4.1-2.4 The contractor shall inspect parts at least annually for serviceability and applicability.

3.4.1-3 Standards of Performance – The standards of performance are shown in Figure 3.4.1.

Figure 3.4.1 Standards of Performance – Service System Parts Inventory		
Key Required Services	Performance Standard	Method of Surveillance
Maintenance of inventory levels	Inventory levels are consistently sufficient to support facility and system readiness requirements. Inventory levels are not unnecessarily excessive.	Periodic inspections and review of inventory levels.
Replacement of Government inventories	Government inventories are replaced using the most cost effective sources, with no impact to mission readiness, safety, or security.	Periodic inspections and review of inventory levels. FAC review of recommendations for Government inventory replacement.
Parts inspection	All parts are inspected at least annually, or more frequently if necessary, by cognizant maintenance technicians for serviceability and applicability.	Review of annual parts inventory inspection plans and results.

3.4.2 Supplies

3.4.2-1 Requirements – The contractor shall provide, through the contractor’s procurement systems, repair parts and materials required to operate and maintain service systems.

3.4.2-2 Narrative Description

3.4.2-2.1 The Standard Base Supply System (SBSS) is available for parts and material procurements, but is not mandatory. If choosing to use the SBSS, the contractor shall provide the SBSS Stock Fund Manager an estimate of the expected dollar value of orders for the year for planning purposes. After existing items are depleted, SBSS will not be available for procurement of items which are valued under \$2,500.00 and are not managed by AF Depots. When using the SBSS, the contractor shall comply with procedures in AFMAN 23-110, Part 2, Vol II, and XIII.

3.4.2-3 Standards of Performance – The standards of performance are shown in Figure 3.4.2.

Figure 3.4.2 Standards of Performance – Supplies		
Key Required Services	Performance Standard	Method of Surveillance
Supply of repair parts and materials	Cost-effective sources of materials and repair parts are used to operate and maintain service systems. Timely and complete cost estimates for SBSS items are provided to the SBSS Stock Fund Manager.	Review of contractor procurement plans. Review of requests for SBSS support. Periodic inspection and monitoring of LO&SC supply activities and policies.

3.4.3 Packaging/Shipping

3.4.3-1 Requirements – The contractor shall package and ship unique failed parts to appropriate locations for repairs.

3.4.3-2 Narrative Description

3.4.3-2.1 The contractor shall package and ship unique failed parts to appropriate intermediate or depot repair sites or vendors for repairs.

3.4.3-2.2 The contractor shall secure funds for transportation and repairs of failed parts.

3.4.3-3 Standards of Performance – The standards of performance are shown in Figure 3.4.3.

Figure 3.4.3 Standards of Performance – Packaging/Shipping		
Key Required Services	Performance Standard	Method of Surveillance
Package and ship failed parts	Qualified and cost-effective vendors and repair sites are used for the repair of failed parts. Timely requests are submitted for funds to support the transportation and repair of failed parts.	Review of requests for funds.

3.5 Quality Assurance Program

3.5-1 Requirements – The contractor shall establish, plan, implement, and maintain an efficient and cost effective Quality Program that, as a minimum, adheres to the requirements of INTERNATIONAL STANDARD ISO-9001 “Quality systems - Model for quality assurance in design, development, production, installation and servicing.” (ADPL 047)

3.5-2 Narrative Description – The Contractor shall:

3.5-2.1 Plan and implement a Quality Assurance (QA) program. The planning shall include compliance with the requirements of ANSI/ASQC 9001.

3.5-2.2 Annually verify that work processes and products conform to established standards. Inspections must be performed by qualified personnel who are functionally independent of the work process or product under review.

3.5-2.3 Conduct Material Review Board (MRB) in accordance with MIL-STD-1520C, as tailored by the Contractor and acceptable to the Contracting Officer or his designated representative.

3.5-2.4 Establish and maintain a database of all nonconformances, corrective actions applied, and the costs associated with preventing, detecting, and correcting all nonconformances. The Contractor shall determine trends of nonconformance, effectiveness of corrective action, and cost of quality.

3.5-2.5 Make quality documentation and data available to the Contracting Officer or his designated representative for review. The Government may perform any necessary inspections, verifications, and evaluations.

3.5-2.6 Provide precision inspection services to operations, maintenance, and procurement/purchasing.

3.5-3 Standards of Performance – The standards of performance are shown in Figure 3.5.

Figure 3.5 Standards of Performance – Quality Assurance Program		
Key Required Services	Performance Standard	Method of Surveillance
QA Program	QA Plan and programs meet the intent and requirements of ANSI/ASQC 9001. Mission and operational requirements are not adversely impacted by quality related performance.	Review and evaluation of implementing procedures. Annual review of work process and product conformance verifications. Periodic review of MRB documentation.
Inspection services	Required inspections that satisfy all quality requirements are scheduled and conducted in a timely manner. Reports of findings are accurately recorded and submitted.	Records review. Customer feedback.

3.6 Operations Support

3.6.1 Mission Control Operations – The contractor shall establish the configuration of a mission control network for network simulations, combined systems tests, wet dress rehearsals, scheduled exercises, and launch operations per Appendix B. The mission control network consists of the communications links (secure and non secure voice, data, and fax circuits) within the Eastern Range and between inter-range facilities. The contractor shall coordinate mission documentation and test/launch operations with all participating agencies. The contractor shall develop a production schedule for the mission documentation that provides adequate time for coordination and review. The contractor shall also conduct periodic status reviews to surface items that require resolution or to highlight impediments to the document build process. The contractor shall provide mission control working group membership. The specific Mission Control Operations requirements in the area are defined in 3.6.1.1 through 3.6.1.6.

3.6.1.1 Communications Plan

3.6.1.1-1 Requirements – The contractor shall develop and maintain a communications plan for each mission event requiring multiple network node testing. Include communications network drawings, communications test plans and procedures, matrices, and other working documents for network setup and validation procedures for all voice and data lines. (ADPL 062)

3.6.1.1-2 Standards of Performance – The standards of performance are shown in Figure 3.6.1.1.

Figure 3.6.1.1 Standards of Performance – Communications Plan		
Key Required Services	Performance Standard	Method of Surveillance
Develop and maintain a communications plan	A comprehensive Communication Plan addresses all mission communications requirements and is submitted in a timely manner to support each mission event.	Review of Communications Plan (ADPL 062).

3.6.1.1-2.1 The contractor shall provide a “read only” copy of the draft Communications Plan, if unclassified, available on the SIIS for online review. The contractor shall also make available an e-mail screen for reviewers to submit comments.

3.6.1.2 Mission Scripts

3.6.1.2-1 Requirements – The contractor shall develop and maintain supporting mission scripts for payload operations to supplement the Final Countdown Document (OF/O2) or applicable MLV or STS mission documentation. The contractor shall identify network activities and mission events requiring launch team action during the countdown execution cycle. (ADPL 063)

3.6.1.2-2 Standards of Performance – The standards of performance are shown in Figure 3.6.1.2.

Figure 3.6.1.2 Standards of Performance – Mission Scripts		
Key Required Services	Performance Standard	Method of Surveillance
Develop and maintain Mission Scripts for payload operations	Mission scripts contain all required activities and mission events. Scripts are coordinated with all appropriate agencies and are submitted in time for review and preparation for launch.	Review of Mission Scripts (ADPL 063).

3.6.1.3 Launch Operations Handbook

3.6.1.3-1 Requirements – The contractor shall develop and maintain a launch operations handbook for launch team members. The contractor shall develop or incorporate mission descriptions and profiles, communications resources, security requirements, mission rules and launch commit criteria, communication operating instructions and call signs, anomaly resolution guide, mishap reporting guide, impact recovery plans, priority lists, contingency procedures, mission scripts, countdown documents, and other mission-specific information as specified in advance of document delivery. (ADPL 064)

3.6.1.3-2 Standards of Performance – The standards of performance are shown in Figure 3.6.1.3.

Figure 3.6.1.3 Standards of Performance – Launch Operations Handbook		
Key Required Services	Performance Standard	Method of Surveillance
Launch Operations Handbook	Prior to publication, the contents of Launch Operations Handbooks are coordinated with all appropriate agencies. Submittals are made on time and contain all required information in clearly presented formats.	Review of Launch Operations Handbook (ADPL 064).

3.6.1.4 Network Configuration

3.6.1.4-1 Requirements – The contractor shall coordinate changes to configuration for the mission control network. (ADPL 065 and 066)

3.6.1.4-2 Narrative Description

3.6.1.4-2.1 The contractor shall prepare Console Level Voice Matrices (CLVM) for the facilities listed in Appendix B, Figure B-1.

3.6.1.4-2.2 The contractor shall ensure all range users voice communication requirements are identified and their respective consoles are properly configured prior to needed tests and operations. Requirements will be identified through the review of UDS products, at the customer's direction, and by way of direct interface with range users. Consoles will be grouped based on functionality of the users and the configuration standardized where possible to allow relocation of personnel, without loss of communication capabilities, during outages and last minute changes.

3.6.1.4-2.3 The contractor shall establish a logical method for the placement of voice nets on the consoles to enhance the familiarization of consoles for users typically not operating consoles. The contractor shall ensure the methodology is as easy to change as possible.

3.6.1.4-2.4 The contractor shall review Program Requirements Document (PRDs), Operational Requirements (ORs), Operational Directives (ODs), and supporting instructional messages to ensure availability and adequacy of communication data and voice systems.

3.6.1.4-2.5 The contractor shall develop and coordinate, as required, OR expedites and UDS documentation modifications to account for mission changes.

3.6.1.4-2.6 The contractor shall develop a consolidated seating plan for the facilities listed in Appendix B, Figure B-1.

3.6.1.4-3 Standards of Performance – The standards of performance are shown in Figure 3.6.1.4.

Figure 3.6.1.4 Standards of Performance – Network Configuration		
Key Required Services	Performance Standard	Method of Surveillance
Prepare CLVMs and Seating Plans	CLVMs are prepared with flexibility to support changes, while satisfying all communications requirements with user-friendly configurations.	Review of CLVMs and Seating Plans.
Identify Communication Requirements and Configure Consoles	Communication capabilities and console configurations meet mission requirements. Consoles are logically grouped to best meet mission requirements.	Review of Communication Plans (ADPL 065) and Mission Scripts (ADPL 066).
Review and Satisfy PRDs, ORs, ODs, and other UDS documents	CLVMs, communications support, and Seating Plans are properly coordinated and structured to support the requirements of PRDs, ORs, and ODs.	Review of Communication Plans (ADPL 065) and Mission Scripts (ADPL 066).

3.6.1.5 Scheduling

3.6.1.5-1 Requirements – The contractor shall schedule, with government approval, required range support for mission support operations.

3.6.1.5-2 Standards of Performance – The standards of performance are shown in Figure 3.6.1.5.

Figure 3.6.1.5 Standards of Performance – Scheduling		
Key Required Services	Performance Standard	Method of Surveillance
Range scheduling	Range schedules for mission support operations are prepared in a timely manner. Schedules are prepared through complete coordination with all involved agencies and organizations. Schedules are prepared in accordance with 45th SWR 55-10. Comprehensive consideration is given to PRDs, ORs, and ODs.	Review of range schedules.

3.6.1.6 Operation of Mission Control Network

3.6.1.6-1 Requirements – The contractor shall provide real-time support for the mission control network.

3.6.1.6-2 Narrative Description

3.6.1.6-2.1 The contractor shall coordinate and troubleshoot with the ER, off-site support locations, and user contractors.

3.6.1.6-2.2 The contractor shall provide on-console network validation and network operations support before and/or during the mission event per Appendix B.

3.6.1.6-2.3 The contractor shall train users in the operation of designated communications equipment.

3.6.1.6-3 Standards of Performance – The standards of performance are shown in Figure 3.6.1.6.

Figure 3.6.1.6 Standards of Performance – Operation of Mission Control Network		
Key Required Services	Performance Standard	Method of Surveillance
Mission control network support	Coordination with all involved agencies ensures effective use of mission control network. Effective troubleshooting maximizes the availability of the network. Effective and timely training of network users supports mission success.	Monitoring of network performance and network availability. Review of network and communications training programs.

3.6.2 Ordnance Services

3.6.2-1 Requirements – The contractor shall perform all tasks related to management and control of Ordnance Services at the CCAS and other locations identified in Appendix A-12 and Appendix J. The Contractor shall receive ordnance materials; perform ordnance material condition inspections; store, maintain, modify, test, and check ordnance materials; issue ordnance materials and transport ordnance materials and items. The contractor shall perform off-site pickup and delivery services for Kennedy Space Center (KSC) and Eastern Range (ER) ordnance arriving at any of the following locations – Space Coast Executive Airport, Melbourne and Orlando, FL air terminals, and other points within 100 miles of the local area. Additionally,

the Contractor shall provide ordnance system technical assistance and support to Range users/customers. These include, but are not limited to, Delta, Atlas, Titan, STS, Navy, and Meteorological Services. (ADPL 048 and 049)

3.6.2-2 Narrative Description

3.6.2-2.1 Ordnance Personnel Training and Certification – The contractor shall develop and maintain an Ordnance Services training and certification program for assigned supervisors and technicians to include initial training/certification and refresher training. All Contractor ordnance personnel shall be qualified and trained. (ADPL 050)

3.6.2-2.2 Ordnance Facility Management/Integration – The contractor shall operate ordnance storage and material maintenance operations facilities identified in Appendix A-12. This includes controlling area access, assisting in performing intrusion system checks, facility condition inspections, monitoring facility environmental conditions (temperature and humidity), and performing ground system checks and facility lift equipment certification.

3.6.2-2.3 Ordnance Material Supply Support – The contractor shall receive, inspect, store, inventory, and issue ordnance materials for authorized ER customers. The contractor shall provide access to account balances and transaction histories for each customer. (ADPL 051 and 052)

3.6.2-2.4 Explosive Ordnance Disposal (EOD) Support – The contractor shall provide EOD support to 45th CES/CED. The contractor shall provide information, when requested, to 45th CES/CED regarding ordnance materials, technical information, recovery operations resulting from accidents or aborted launches, storage or delivery of stock rejected ordnance and pyrotechnic devices.

3.6.2-2.5 Specialized Organizational Property Maintenance – The contractor shall maintain and calibrate specialized organizational property used in the performance of Ordnance Services. The contractor shall maintain a load test certification program for non-RPIE lift equipment listed in Appendix 12.

3.6.2-2.6 User Ordnance Safety and Material Handling Training – The contractor shall provide scheduled training for ER customers and users in the safe handling of ordnance materials. This includes training for personnel that handle ordnance materials at Antigua and Ascension.

3.6.2-2.7 Meteorological Rocket Launch Support – The contractor shall perform meteorological rocket launch operations to support range operations at CCAS. This task includes but is not limited to: acquiring rocket components; transporting rocket components to the launch site; assembling and testing/checking the rocket; supporting the launch of the rocket; and post launch or post scrub safing of the rocket launch pad.

3.6.2-2.8 Test Procedure Reviews – The contractor shall review and/or assist in the development of ordnance material test procedures for Range customers or users.

3.6.2-2.9 FTS Component Tests – At 45th SW/SE request, the contractor shall perform ordnance material electromechanical tests on customer system components (e.g., flight termination system items) to ensure adherence to the requirements of EWR 127-1.

3.6.2-2.10 Disaster Preparedness Support – The contractor shall provide sustaining support to disaster preparedness operations. This task requires – acquisition and employment of ordnance materials to support disaster preparedness training; and, for natural disasters or Range incidents, on-scene technical support (advisory assistance to the Launch Disaster Control Group, the Disaster Control Group, or other appropriate responsible authority) and explosive materials handling service as required.

3.6.2-2.11 U. S. Navy Waterfront Support – The contractor shall provide torpedo handling and general ordnance support to U.S. Navy vessels and U.S. Navy sponsored vessels at CCAS port facilities for the U. S. Naval Ordnance Test Unit. This task requires – coordinating and monitoring the handling preparations, transportation, and loading/unloading of warshot and exercise torpedoes to include provision of training and certification for all ER torpedo handling personnel; procuring and maintaining required torpedo system support equipment; and creating and updating approved torpedo handling procedures. General ordnance support consists of receiving, storing, loading/off-loading other types of ordnance generally limited to small missiles or ammunitions, other torpedoes or ordnance of a similar nature. The contractor shall store exercise torpedoes and general in appropriate Contractor-operated ordnance storage facilities at CCAS. Warshot torpedo ordnance will be stored in U.S. Navy operated storage facilities at CCAS.

3.6.2-2.12 Support to Launch Operations – The contractor shall support CCAS operations for each Delta, Atlas, Titan, STS, and Navy launch conducted under the control of the 45th Space Wing. Launch operations (rehearsals and actual) support includes but is not limited to:

3.6.2-2.12.1 Ordnance Component Test/Buildup – The contractor shall support customer conduct of ordnance material electromechanical tests and buildup of flight-qualified hardware.

3.6.2-2.12.2 Material Modification – The contractor shall perform and/or assist customers in performance of ordnance material rework or modification.

3.6.2-2.12.3 Material Installation – The contractor shall perform or assist customers in performance of ordnance material installation. This includes but is not limited to installation/removal of flight ordnance items (safe/arm, destruct, pyrotechnic devices, or other ordnance materials); placing ordnance materials in launch pad or launch processing facility ordnance storage lockers; and retrieving spare or uninstalled ordnance from storage lockers for return to storage facilities.

3.6.2-2.13 Security Support – The contractor shall receive, store, issue, pack, and prepare munitions for shipment in support of Security Police both at CCAS and PAFB.

3.6.2-3 Standards of Performance – The standards of performance are shown in Figure 3.6.2 on the following page.

Figure 3.6.2 Standards of Performance – Ordnance Services		
Key Required Services	Performance Standard	Method of Surveillance
Ordnance Services	Ordnance services are provided in accordance with all DoD, USAF, 45th SW, federal, state, and local regulations and directives.	Periodic review of reports and documents, inspections, and monitoring of services provided.
Personnel training and certification	All contractor personnel satisfy minimum training and certification requirements.	Review of Ordnance Training and Certification Program. Review of training and personnel records.
Ordnance facility management	The ordnance storage and material maintenance facilities identified in Appendix A-12 are operated efficiently and managed in accordance with all applicable directives.	Periodic review of reports and documents, inspections, and monitoring of services provided.
Ordnance material supply support	Efficient and cost effective supply support is provided to authorized ER customers. Convenient access is provided to account balances and transaction histories.	Review of Ordnance Materials Account Status (ADPL 051) and Ordnance Materials Account Transactions reports.
EOD support	Responsive, safe, and effective EOD support is provided to 45thCES/CED.	Monitor performance during EOD support operations.
Property maintenance	Specialized property is maintained and calibrated to ensure maximum availability for all appropriate ordnance service operations.	Review of equipment maintenance and calibration records.
User training	Timely and appropriate training is planned and executed for ER customers and users.	Training plans and schedules. User feedback.
Meteorological rocket launch support	Meteorological rocket launch support is timely and responsive to user and customer requirements.	Review of meteorological rocket launch support operation, results, and data. User feedback.
Test procedures reviews	Assistance and support in the development of ordnance test procedures is timely and technically accurate.	Review of test procedures. User and customer feedback.
FTS component test support	Timely and knowledgeable support is provided in accordance with EWR 127-1.	Monitoring of FTS component tests.
Disaster preparedness support	Disaster response planning is complete and exercised routinely. Facility response actions to fires, incidents, and disasters are timely and IAW DoD, USAF, and 45th Space Wing directives.	Feedback from disaster preparedness officials.
US Navy waterfront support	Responsive and knowledgeable support is provided in accordance with applicable ordnance regulations and directives.	Feedback from US Naval Ordnance Test Unit and other Navy representatives.
Support to launch operations	Responsive and knowledgeable support is provided in accordance with applicable ordnance regulations and directives.	Monitoring of support during launch operations. User and customer feedback.
Support of security police	Responsive and knowledgeable support is provided in accordance with applicable ordnance regulations and directives.	User and customer feedback.

3.6.3 Operational Training and Badging

3.6.3-1 Requirements – The contractor shall conduct operational training and safety walk downs for required personnel for identified AF facilities as shown in Appendix D. The contractor shall use existing training plans, outlines, training tapes, and materials as much as possible, as well as Instructional Systems Design (ISD) principles described in AFM 36-2234. The contractor shall update at least annually, and maintain currency of training tapes and material. The contractor shall coordinate scheduling and record keeping of training courses with other contracted trainers to simplify the process of training for customers. The contractor shall maintain a 45th SW and KSC compatible and accessible database of individual training records and provide on-line access to appropriate personnel. The contractor shall provide 45th SW personnel safety badges indicating training by area. (ADPL 053 and 054)

3.6.3-2 Standards of Performance – The standards of performance are shown in Figure 3.6.3.

Figure 3.6.3 Standards of Performance – Operational Training and Badging		
Key Required Services	Performance Standard	Method of Surveillance
Operational training and badging	Operational training and badging processes are cost effective and responsive to customer and user needs. User friendly on-line access is provided to 45th SW and KSC personnel.	Training plans and customer feedback. On-line review of records.

3.6.4 Visitor Records Center

3.6.4-1 Requirements – The contractor shall operate a Visitor Records Center (VRC). (ADPL 055)

3.6.4-2 Narrative Description – The contractor shall:

3.6.4-2.1 Prepare, process, control, coordinate, distribute, and maintain visit requests.

3.6.4-2.2 Verify personnel clearances with Government and contractor security officers and shall verify contractor facility clearances as required.

3.6.4-2.3 Maintain a 45th SW-compatible database of verified clearances from visit requests. Provide and maintain mission access lists for designated operations based upon this database and, as required, data lists provided by users.

3.6.4-2.4 Maintain and process Payload Support Contract (PSC)/Launch Systems Integration Contract (LSIC) Code/Organization Matrix.

3.6.4-2.5 Maintain and process AF Forms 2586. Make available monthly VRC performance metrics. Ensure sensitive personnel data is not available to any unauthorized personnel.

3.6.4-3 Standards of Performance – The standards of performance are shown in Figure 3.6.4.

Figure 3.6.4 Standards of Performance – Visitor Records Center		
Key Required Services	Performance Standard	Method of Surveillance
Operate a VRC	Visit requests are processed expeditiously and in accordance with applicable directives. Clear interfaces and interface procedures are established with Government and contractor security officers. Accurate and easily accessible databases on visit requests and clearances are provided. Sensitive personnel information is protected. PSC/LSIC Code/Organization Matrix and AF Forms 2586 are processed expeditiously and with accuracy.	Review of VRC records and databases (ADPL 055). Review of PSC/LSIC Code/Organization Matrix and AF Forms 2586. User and customer feedback.

3.6.5 Hazardous Commodity Administration

3.6.5-1 Requirements – The contractor shall maintain cognizance of spacecraft hazardous and industrial commodities from sixty days prior to arrival at CCAS through transfer to the 45th Space Wing disposal officer. The contractor shall: request propellants as needed by the customer; schedule the use of USAF-provided propellant containers; and coordinate the removal of hazardous and industrial waste. (ADPL 057)

3.6.5-2 Standards of Performance – The standards of performance are shown in Figure 3.6.5.

Figure 3.6.5 Standards of Performance – Hazardous Commodity Administration		
Key Required Services	Performance Standard	Method of Surveillance
Hazardous commodity administration	ACAs are established with clearly defined responsibilities between LO&SC and other CCAS and KSC contractors with hazardous commodity responsibilities. Procedures are established and executed to ensure that requirements are anticipated and met in advance of mission need dates. Responsive and effective coordination approaches ensure that mission needs are satisfied.	Review of ACAs. Review of records and documentation related to hazardous commodity administration. User and customer feedback.