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RAPID PAYLOAD RIDESHARE ACQUISITION (RPRA)
STATEMENT OF WORK (SOW)

Contents

1. INTRODUCTION

The purpose of the Rapid Payload Rideshare Acquisition (RPRA) multiple award contract is to provide a cost effective, rapid and flexible means for NASA Goddard Space Flight Center (GSFC) to acquire rapid rideshare opportunities for NASA GSFC's and its partners' payloads by leveraging commercial launch opportunities and practices. These payloads are focused on scientific measurements and technology demonstration.

The mission requirements for each of the individual NASA GSFC payloads are expected to vary from payload to payload, depending on the specific scientific and technology demonstration requirements. Specific mission requirements will be documented in each of the specific mission's order. The required tasks are described in sections 3, 4, 5, and 6 of this SOW and will be tailored for each mission order.

The Sciences and Exploration Directorate in conjunction with the designated procurement organization at NASA Goddard Space Flight Center is responsible for managing this contract.

For more information regarding rideshare opportunities at NASA GSFC, visit http://rideshare.gsfc.nasa.gov.

1.1 DEFINITIONS

The following terms used in this SOW are defined below:

Rideshare Opportunity (RO) refers to the integration and operations of NASA/GSFC provided Hosted Payloads on the Host satellite, and to the integration, launch and deployment of the NASA/GSFC provided Co-manifested Payload(s) on the Host Contractor provided launch opportunity.

NASA GSFC Provided Payload refers to the NASA GSFC Provided Hosted Payload(s) and NASA GSFC Provided Co-Manifested Payload(s). NASA/GSFC provided Payloads in the context of this contract are developed by the NASA GSFC or its partners and are considered Government Furnished Property (GFP).

Hosted Payload refers to the NASA/GSFC provided instrument and/or package of equipment that is affixed to a host satellite and operates in orbit making use of available capabilities of host satellite, including mass, power, and/or communications.

Co-manifested Payload refers to NASA/GSFC provided Cubesat(s), and/or Secondary Payload(s) and/or Stand Alone Mission(s), that are integrated, launched and deployed from the Host Contractor provided rideshare opportunity.

Cubesats refers to small spacecraft missions that comply with the Cal Poly CubeSat Developer's specifications, found at http://cubesat.calpoly.edu/index.php/documents/developers.

Secondary Payload refers to a small spacecraft(s) (typically less than 180kgs) that is integrated, launched and deployed from the Host Contractor provided rideshare opportunity.

Stand Alone Mission refers to a large spacecraft(s) that is integrated, launched and deployed from the Host Contractor provided rideshare opportunity.

Host Contractor is the Owner-Operator and/or Spacecraft team, providing the use of personnel, facilities, equipment, material, software, services, launch opportunity and expertise as necessary to perform the tasks defined in this work statement.

Owner-Operator refers to the organizations that operate Host satellites and ground infrastructure to provide commercial communications services as necessary. In this capacity, Owner-Operators obtain financing (if needed); procure satellites, commercial payloads, ground equipment, and launch services; obtain frequency spectrum & orbital assignments as determined by their business plans.

Commercial Payload refers to a commercial payload built and integrated into the spacecraft to fulfill its commercial mission as determined by the spacecraft provider or the owner-operator.

Host Satellite refers to the commercial satellite with its commercial payload(s) not including the hosted payload. Host satellite manufacturers generally deliver commercial satellites to their Owner-Operators on-orbit or at launch.

Host Payload Mission refers to the commercial satellite with its commercial payload(s) with the integrated NASA/GSFC provided hosted payload.

Government Payload Organization (GPO) refers to the NASA organization responsible for acquiring the payload, managing the Host Contractor during the execution of the tasks and operating the payload on-orbit to achieve its mission objectives. The GPO is responsible for ensuring that post delivery support from the Payload Provider and payload operations control center (POCC) contractor is available to participate in mission preparation activities and resolve payload anomalies with the Host Contractor during the course of a mission. The GPO is responsible for acquiring and providing Government furnished property (GFP) Information Assurance (IA) certified interface equipment for classified missions and for performing mission assurance of the Host Contractor's accommodations and operations support for the payload mission.

Government Payload Provider (GPP) refers to manufacturing organization, contractors and their subcontractors responsible for the development, fabrication, and delivery of the payload to their Government payload program office. As authorized by the GPO, the GPP is responsible for providing the technical effort necessary to work with the Host Contractor to implement the rideshare opportunity.

Payload Operations Control Center (POCC) refers to the facility responsible for the command and control of the payload during on-orbit checkout and its operation over the life of the payload mission. The contractor/service organization responsible for this activity will be identified and managed by the GPO.

Order is an awarded effort that can be a Mission Order or a Study Order. Awarding of a Order will be accomplished by an expedited competitive selection process initiated by a request for quotation (RFQ).

Insight is defined as the understanding necessary to knowledgeably concur with the Contractor's actions through watchful observation, inspection, or review of program events, documents, meetings, tests, audits, hardware, etc., without approval/disapproval authority.

Mission *is used to denote the complete set of tasks required to implement a NASA GSFC Provided Payload mission. The description of tasks are provided in this SOW, and each mission may have more detailed descriptions of each requirement in the mission specific order SOW.*

Service *is used to identify any of the tasks described in paragraphs and subparagraphs of this SOW.*

1.2 SCOPE

This multiple award contract SOW describes the scope of effort for spacecraft accommodations, mission integration, launch, ground segment communications infrastructure, payload checkout, and satellite operations support to NASA GSFC's payload mission. The Host Contractor shall provide all personnel, facilities, equipment, material, software, services, and expertise as necessary to perform the services described herein. This contract is intended to award flight opportunities for rideshare services to low earth orbit (LEO), medium earth orbits (MEO), elliptical orbits, and geosynchronous earth orbit (GEO). Subsequent orders shall further define mission specific requirements.

1.3 IMPLEMENTATION

This SOW defines the overarching contract scope for hosting NASA GSFC's and/or its partners' payload missions. Contract awardees shall be capable of successfully accomplishing all the requirements specified in the SOW.

Missions and/or studies shall be contracted using contract orders. The scope of each individual order may include a subset of the overarching contract scope and require more specific mission and/or studies that will be required. The RFQ may include individualized quotation instructions, requirements, work statement, and tailored sets of terms and conditions. Rideshare Mission Concept of Operations

The following describes the general roles and responsibilities of the Host Contractor and Government Organizations under this contract. This description is intended to provide the context in which the tasks are to be performed.

The Host Contractor shall provide all personnel, facilities, equipment, material, software, services, and expertise as necessary to perform to implement the Rideshare Opportunity as described herein.

The Government Payload Organization (GPO) is responsible for acquiring the payload, managing the Host Contractor during the execution of the work, and operating the payload on-orbit to achieve its mission objectives. The GPP will work with the Host Contractor to prepare, integrate, launch, and checkout the payload on-orbit. The GPO operations team is located at the POCC and is responsible for the payload mission and achieving its mission objectives.

This baseline applies to all payload missions unless alternate operations concepts are identified.

For Hosted Payloads: The Host Contractor shall be responsible for the performance, safety, and operation of the host satellite, interface accommodations, and ground systems in accordance with the requirements of the order. The Host Contractor shall (1) provide a stable platform that conforms to the mission requirements, (2) support the POCC team by providing data communications for payload

command and control, and (3) coordinate satellite maneuvers and activities. In the event of anomalies, the host contractor shall lead the joint diagnostics and fault isolation of the space segment in concert with the GPO/GPP. If the fault is identified with the Government provided hosted payload, the Host Contractor shall provide the necessary support for the POCC team to resolve the issues.

For Co-manifested Payloads: The Host contractor is responsible for the integration of co-manifested payload mission to the Host contractor's launch vehicle, the launch and deployment of the co-manifested payload into the agreed upon orbit. The GPP and GPO are responsible for the checkout, commissioning, performance, safety, and operations, anomaly resolution and end of life disposal of the Co-manifested payload mission.

2. APPLICABLE DOCUMENTS

The purpose of the Rapid Payload Rideshare Acquisition (RPRA) contract is to provide a cost effective, rapid and flexible means for NASA Goddard Space Flight Center (GSFC) to acquire rapid rideshare opportunities by leveraging commercial launch opportunities and practices. Use of contractor established internal practices in lieu of these specifications and standards may be proposed if it meets the intent of the NASA GSFC requirements.

Specific documents for each individual mission will be issued for each order as required. The Rideshare Payload Mission Requirements Document (MRD) identifies the key performance requirements associated with the specific hosted payload mission.

The following documents listed in Table 1 form a part of and are applicable to this SOW, except as otherwise specified or modified herein or specified in a future order SOW. In the event of a conflict between the referenced documents and the requirements of this SOW, the SOW shall take precedence.

Table 1 - Applicable Documents

Document	Title
Rideshare Organization Documents	
Mission Specific	Rideshare Payload Mission Requirements Document (MRD)
Mission Specific	Rideshare Payload Mission Security Classification Guide (SCG)
Mission Specific	Rideshare Opportunity Mission Standard Interface Specification (ROM SIS) and Mission Addendum*
Contractor Documents	
Contractor Specific	Tailored Host Product/Mission Assurance Documentation
Mission Specific	Payload Mission Specification Verification Plan
Mission Specific	Payload Mission Verification Plan
NASA/GSFC Acquisition Specifications	
TBD	
Government Documents	
CNSS-12	National Information Assurance Policy for Space Systems Used to Support National Security Mission, Policy No. 12
NSA/CSS Policy Manual 3-16	Control of Communications Security (COMSEC) Material, dated August 2005.
NSTISSI, No.4001	National Security Telecommunications Information Systems Security Instruction, Controlled Cryptographic Items, dated July 1996.
DOD5220.22-M	National Industrial Security Program Operating Manual (NISPOM)

Document	Title
ITAR	International Traffic and Arms Regulations

- Denotes documents currently in development and will be provided for industry comment when complete.

2.1 CONTRACTOR DOCUMENTS

Tailored Contractor specific Host Product/Mission Assurance Documentation represents the internal standards that dictate the quality and processes used by the Contractor to assure the reliability and performance of its space and ground systems. Upon review and approval by NASA/GSFC that these commercial documents meet the intent of the NASA/GSFC Acquisition Specifications, these tailored documents will be incorporated as compliance documents and made part of the contract.

2.2 NASA/GSFC ACQUISITION SPECIFICATIONS

These documents define the specifications and standards required for space related systems procured by NASA/GSFC. These specifications and standards may be tailored to conform to the mission risk class and practices of individual commercial contractors with a demonstrated history of reliability and performance. The RPRA contract is intended to leverage the demonstrated reliability, performance, and cost of the commercial satellite industry, it is expected that these NASA/GSFC specifications may be replaced by internal Contractor practices that meet the intent of these standards. Contractors shall meet the intent of these documents in its own commercial processes and standards.

3. PROJECT MANAGEMENT

3.1 PROJECT MANAGER AUTHORITY

The Host Contractor shall designate a single Project Manager with the authority to plan and direct the successful and timely achievement of the work specified by this SOW. Such authority shall include overall technical, financial and management of planning, scheduling, and execution of the payload mission.

3.2 GOVERNMENT INSIGHT AND SURVEILLANCE

The Host Contractor Project Manager shall maintain close liaison with the Government Program Manager and be responsible for communicating timely and effective program and technical information, and real-time insight into program status, as well as, technical and programmatic performance information on all of the contractor’s responsibilities and activities. Insight is defined as the understanding necessary to knowledgeably concur with the Contractor’s actions through watchful observation, inspection, or review of program events, documents, meetings, tests, audits, hardware, etc., without approval/disapproval authority.

The mission order will define the mission specific insight that is required in each mission.

The Host Contractor shall notify the Government Project Manager and the Government Contracting Officer, the Government resident office or the appropriate Government operations organization or

personnel of meetings, reviews, operations or tests in sufficient time to permit meaningful Government participation.

The Host contractor shall grant access for NASA mission assurance and other representatives to conduct audits, assessments, or surveys upon notice or as otherwise requested by the Government. The Contractor shall supply documents, records, equipment, and a work area within the Contractor's facilities.

The Host Contractor shall provide Monthly Program Reports (CDRL 003), a Host Contractor Work Breakdown Structure (CDRL 004), Integrated Master Plan and Schedule (CDRL 005) and Contract Funds Status Report (CDRL 006).

3.3 PROJECT REVIEWS

The Host Contractor shall conduct reviews and provide for timely reporting of project status to the Government. This shall include discussions on problem areas and timely transfer of technical information to the Government, including progress and status on achieving major project milestones and materials required by the Government for systems review and evaluation.

3.4 Documentation

The Host Contractor shall develop, produce, deliver, and maintain all documentation required by the Contract Data Requirements List (CDRL) identified in the mission specific TA.

All efforts, including the performance of tests and analyses not otherwise explicitly stated in other parts of the SOW, but determined jointly by the Contractor and the Government to be mission critical, shall be performed and documented by the Contractor.

All documentation, data and analyses generated for, or applicable to, the RO effort, shall be made available to the Government upon request at the Contractor's facility.

3.5 CONTROL OF SENSITIVE INFORMATION

The Host Contractor shall implement appropriate management systems, which prevents the improper dissemination of competition sensitive information associated with the mission efforts of a Principal Investigator.

4. RIDESHARE OPPORTUNITY DESCRIPTION

Host Contractor shall provide a description of the available Rideshare Opportunity in the Rideshare Opportunity Description (CDRL 001) document. The Rideshare Opportunity Document will include the following information;

1. Company name, address, point of contact name, phone number, e-mail address.
2. Size of the company, number of years in business; affiliate information: parent company, joint venture partners, potential teaming partners, prime contractor (if potential sub) or subcontractors (if potential prime)
3. History of company launches in the last 5 years and customers
4. Nature of the rideshare opportunity description including;

a. Rideshare Opportunity type (Hosted Payload, or Co-manifested Payload)
b. Mission name
c. Mission type
d. Mission sponsor
e. Scheduled launch date
f. Mission Readiness Date
g. On orbit parameters (such as Apogee Altitude (km), Perigee Altitude (km), Inclination (deg), C3 (km2/s2), geosynchronous longitude (deg)
h. Available Mass (kg), Power (W), Volume (m3), Data rate (Mb/s), data interfaces, and mechanical interfaces for rideshare opportunity (as applicable)
i. Notional NTE rideshare cost and summary of proposed services (e.g. Launch support equipment, bandwidth, etc.)
j. Proposed discount mechanism for multiple orders within a set window of time.

5. MISSION INTEGRATION AND MANAGEMENT

The Host Contractor shall assure that the technical efforts of the Contractor's space and ground segments to assure the performance of the system meets mission requirements and maximize hosted payload mission success. The Host Contractor shall provide the customer and its representatives with direct access to the space segment, ground segment, and on-orbit operations engineering personnel for technical insight.

5.1 SYSTEM ENGINEERING MANAGEMENT

The Host Contractor shall provide system engineering across the space and ground segments for all work on this contract in accordance with internal processes and standards, consistent with the intent of NASA System Engineering Requirements and Products.

The Host Contractor shall perform the necessary systems engineering required to ensure that the launch vehicle, host satellite (if appropriate), options, and modifications meet all of the performance, interface, and implementation requirements of the mission specific order.

For NASA/GSFC provided payloads (either hosted or co-manifested) the NASA/GSFC Government Payload Provider will ensure that these payloads are developed under the appropriate NASA/GSFC NPRs (e.g., 7120.5, 7123, etc) NPDs, mandatory NASA standards, GSFC directives, including GOLD rules in order to insure that we will "Do No Harm" to the Host Contractor provide satellite (in the case of a Host payload) and launch vehicle (in the case of a co-manifested payload). The Host Contractor will provide insight into their appropriate satellite and launch processes-past experiences in order "to demonstrate an equivalent level of reliability across the board based on their own best practices".

5.2 SYSTEM REQUIREMENTS MANAGEMENT

The Host Contractor shall perform requirements flow down analysis to allocate payload mission and interface requirements throughout the space and ground segments to achieve the system performance necessary for the mission. The Host Contractor shall submit a Payload Mission Specification (CDRL 002) to document requirements, expected environments and constraints across all elements of the payload mission to include payload, spacecraft, interface equipment, ground

system, satellite operations, and interfaces to Government facilities and sites as appropriate to the Rideshare Opportunity Mission. These requirements shall be allocated for implementation and verification across the host provided equipment and software and interfaces.

The Host Contractor shall develop a verification system that tracks the satisfaction of Payload Mission Specification requirements. The Host Contractor shall archive the supporting verification data. The Host Contractor shall provide incremental summaries of verification results during the appropriate reviews and following completion of tests.

5.3 SYSTEM INTERFACE MANAGEMENT

The Host Contractor shall use an agreed upon system to manage and track interface requirements between the hosted payload and the host contractor provided space and ground segments to ensure the end-to-end system performance meets hosted payload mission requirements. The Host Contractor shall specify all interfaces not explicitly defined by the Government. These interfaces shall be defined, documented, verified and controlled for the duration of the TA, by the Host Contractor.

The Host Contractor shall document and maintain all design interface information between the spacecraft and the Government provided payload-instrument(s). The Host Contractor shall prepare a Payload to Rideshare Opportunity Interface Control Documents (PROICD) (CDRL 007) and shall be responsible for its maintenance and configuration management. Every effort must be made to minimize complexity and cost.

The Government and the Host Contractor will have signature approval on the PROICD.

For Hosted Payloads: The Host Contractor shall provide analytical models and shall perform all analyses and tests required to ensure proper electrical, mechanical, thermal, and operational compatibility between the Core Spacecraft and the Government provided payloads.

For Co-manifested Payloads: The Host Contractor shall provide analytical models and shall perform all analyses and tests required to ensure proper electrical, mechanical, environmental, and operational compatibility between the launch vehicle and the Government Co-manifested Payloads.

5.4 MISSION INTEGRATION AND TESTING

The Host Contractor shall perform the necessary integration analyses to verify the payload interface design is compatible with the appropriate host contractor provided launch, space and ground systems to operate in its expected operational environment. These analyses shall be provided to the customer for review.

The Host Contractor shall develop with the Government payload provider a coordinated Rideshare Mission Integration & Test Management Plan (CDRL 008) that describes the tasks to be performed upon Rideshare Opportunity payload arrival at the host contractor designated facility through launch. This plan shall address all Rideshare Opportunity related activities required to be performed including setup, staffing plans and procedures, contamination control measures, anomaly and failure review procedures, testing required, data quick-look, processing timeline, and procedures to insure the safety of the Rideshare Opportunity at the factory and launch site. This plan will govern the activities during the Flight System Integration and Launch.

The Host Contractor shall conduct a Host Accommodations Design Review (CDRL 010) to identify the host space and ground segment accommodations required to accommodate the hosted payload. Include a description of the accommodations, required changes, and achievable interface/performance specifications with supporting analyses, schedule, and implementation risks.

The Host Contractor shall coordinate with the payload provider to develop Hosted Payload-Spacecraft Test Procedures (CDRL 011) for spacecraft level integration and test activities to include electrical and mechanical mate, payload functional tests & checkout, space vehicle level testing, transport to the launch site, and pre-launch preparations at the launch site. The Contractor shall make available appropriate spacecraft test plans and procedures that will be used for each spacecraft level test to the Government via its customer accessible web portal.

The Host Contractor shall lead the planning and execution of integration and test (I&T) activities from payload mate to the spacecraft through final checks at the launch site. All I&T procedures and test activities shall be conducted in accordance with the approved Host Contractor quality assurance standards and practices. As-run procedures, test data, and results associated with all I&T activities shall be made available to the Government and payload team.. The Host Contractor shall inform the team of any key measurements made to verify the ICD, such as payload-spacecraft alignments.

The Host Contractor shall provide Test Readiness Reviews (TRR) (CDRL 012) prior to each spacecraft level activity or tests such as Vibe, Thermal-Vac, Acoustics, Functional tests, etc. during the spacecraft factory processing flow. Each TRR shall include test objectives, test configuration to include payload accommodations, test sequence, test levels & durations, contingency plans, and pass-fail criteria. It shall also include briefing by the payload provider specific payload objectives, test setup, configuration, test sequence, payload procedures, and contingency plan, and pass-fail criteria as required.

The Host Contractor shall conduct a quick-look data review immediately after the test to determine if the results are acceptable to break test configuration. A Summary Test Report (CDRL 013) shall be provided to reflect the actual tests results along with appropriate test data. The payload team and customer shall participate in this decision. The Contractor shall make available via share-point all applicable test data/results for each of the spacecraft level tests.

5.5 GROUND SYSTEMS

For Hosted Payloads: The Host Contractor shall develop a Payload Operations Control Center-to-Host Ground Segment ICD and Verification Plan (CDRL 009).

The Host Contractor shall publish a Mission Communications Plan and Procedures (CDRL 014) to include communications system description, required personnel, data and voice circuits, nodes, termination points, data interfaces, and equipment required to support the hosted payload mission. Procedures shall include nominal and contingency recovery measures required to activate, monitor, and manage the communications network.

The Host Contractor shall complete the ground system design and conduct a Ground Segment Design Review (CDRL 015) to present the system design with supporting analyses to show all hosted payload mission and communications system performance requirements are met. This review may

include requirements allocation to each of the ground segment elements, ground system design, and use of new or existing equipment, analyses, and test requirements and plan to achieve operational readiness.

The Host Contractor shall procure the remaining hardware and software necessary to implement the ground segment accommodations in accordance with the Ground Segment Design Review plan.

The Host Contractor shall activate and test the ground communications network to verify the end-to-end functionality and performance of the ground system to include all host provided nodes and sites to include the spacecraft processing facility, the payload operations control center (POCC), the host teleport, and any other payload data entry points as determined by the Ground Segment Design Review.

The Host Contractor shall conduct a Ground Operations Review (CDRL-016) to demonstrate all elements of the Contractor supplied ground system are ready to perform the hosted mission and support launch.

The Host Contractor shall work with the payload operations control center POCC provider and the Government to assure and verify the communications system performance is acceptable in all modes as defined in the Payload Operations Control Center-to-Host Ground Segment ICD and Verification Plan (CDRL 009). This includes verifying payload commands originating from the POCC are successfully received by the payload and all TT&C and mission data is successfully received at the POCC.

For Co-manifested Payloads: The Host contractor is responsible for the integration of co-manifested payload mission to the Host contractor's launch vehicle, the launch and deployment of the co-manifested payload into the agreed upon orbit. The GPP and GPO are responsible for the checkout, commissioning, performance, safety, and operations, anomaly resolution and end of life disposal of the Co-manifested payload mission. The Host Contractor shall work with the GPO and GPP to conduct a Ground Operations Review (CDRL 016) to demonstrate all elements of the ground system are ready to support the launch of the primary payload and the co-manifested payload mission.

5.6 ON-ORBIT OPERATIONS AND COMMUNICATIONS SUPPORT

For Hosted Payloads: The Host Contractor shall develop a coordinated Spacecraft-Payload On-orbit Checkout and Operations Plan (CDRL 017). The Host Contractor shall provide on-going operations support to the hosted payload on-orbit mission in accordance with the Spacecraft-Payload On-orbit Checkout and Operations Plan (CDRL 017) for the duration of the hosted payload mission.

The Host Contractor shall perform the necessary engineering to provide a Payload Operations Control Center (POCC) to include the necessary systems to operate the payload, the HPIU, and the POCC. Mission specific operations will be specified in the TA.

For Co-manifested Payloads: The Host contractor is responsible for the integration of co-manifested payload mission to the Host contractor's launch vehicle, the launch and deployment of the co-manifested payload into the agreed upon orbit. The GPP and GPO are responsible for the checkout,

commissioning, performance, safety, and operations, anomaly resolution and end of life disposal of the Co-manifested payload mission.

5.7 SYSTEM CHANGE MANAGEMENT

The Host Contractor shall develop and implement a process to manage and control the payload mission requirements and configuration baseline. This baseline shall be coordinated with the Host Contractor's commercial mission baseline so that changes from the commercial program are identified and will not impact the hosted mission baseline. In the event of engineering change proposals, deviations, and waivers, the Host Contractor shall be responsible for timely reporting, and negotiation with the Government on all proposed changes.

5.8 SAFETY AND MISSION ASSURANCE MANAGEMENT

The Host Contractor's services shall comply with the intent of the Mission Assurance Requirements of NASA GSFC. The Government may alter the baseline safety and mission assurance requirements and related CDRLs to meet the needs of each specific mission. The mission specific requirements will be documented in each mission specific order.

5.9 RISK MANAGEMENT

The Host Contractor shall establish, implement, and maintain a proactive risk management program to identify, manage, and mitigate technical, cost, and schedule risk. The Host Contractor shall coordinate risk assessments with the customer and support the customer's risk management process.

5.10 EXPORT CONTROL

The Host Contractor shall obtain the necessary export licenses, technology assistance agreements, and other documentation necessary to comply with International Traffic in Arms (ITAR) requirements if required. The Host Contractor shall identify measures required to prevent distribution and access of payload ITAR restricted information by unauthorized personnel in accordance with the export license. ITAR restricted payloads will be identified in the mission Task Assignment.

6. ADDITIONAL SERVICES

The Host Contractor shall perform the following tasks as specified in the Mission and/or Study Task Assignment.

6.1 EARLY MISSION PLANNING

The Host Contractor shall review the Rideshare Opportunity mission and develop a program plan of mission milestones and activities, contractor roles and responsibilities, technical data and equipment interchange list necessary to integrate, test, launch, and if appropriate operate the hosted payload with the Contractor's space and ground systems. The Host Contractor shall also determine alternative rides for accommodating the Rideshare Opportunity should the initial launch date be no longer feasible due to delays in payload development schedule. Options and costs associated with accommodating the payload on an alternative Host must clearly be identified. The Host Contractor shall brief the recommended plan to the Government team to ensure understanding and agreement

on the mission activities to be performed. The agreed upon plan shall be incorporated into the Contractor's Integrated Master Plan and Schedule.

The Host Contractor shall provide Spacecraft Compatibility Requirements that must be satisfied by the payload to be compatible with the Rideshare Opportunity. These requirements shall include spacecraft environmental & test requirements, spacecraft "Do No Harm" requirements, payload-spacecraft interface specifications, EMI control requirements, and ESD control requirements.

The Host Contractor shall perform a Preliminary Host Accommodations Assessment of the Payload and identify the appropriate launch, host satellite and ground segment accommodations required for the mission to include a description of the changes to the host systems, achievable interface/performance specifications with supporting analyses, and implementation risks. An update of this assessment will be performed during the Mission Integration Task to finalize and implement the host accommodations.

6.2 MISSION SPECIFIC OPTIONS

These will be defined for each mission, if applicable.

7. ACRONYMS

CDR	Critical Design Review
CDRL	Contract Data Requirements List
COMSEC	Communications Security
EMI	Electromagnetic Interference
	For Official Use Only
GEO	Geosynchronous Earth Orbit
GFE	Government Furnished Equipment
GPO	Government Payload Organization
GPP	Government Payload Provider
GSFC	Goddard Space Flight Center
HPIU	Hosted Payload Interface Unit
ICD	Interface Control Document
I & T	Integration and Test
LEO	Low Earth Orbit
NASA	National Aeronautics and Space Administration
ORT	Off-Ramp Technical Review
PDR	Preliminary Design Review
POCC	Payload Operations Control Center
PROICD	Payload to Rideshare Opportunity Interface Control Document
PSR	Pre-Ship Review
RFP	Request for Proposal
RFQ	Request for Quotation
RO	Rideshare Opportunity
ROM	Rideshare Opportunity Mission
ROM SIS	Rideshare Opportunity Mission Standard Interface Specification
RPRA	Rapid Payload Rideshare Acquisition
SDR	System Design Review
SOW	Statement of Work
SP	Secondary Payload
SRR	System Requirements Review
TBD	To Be Determined
TBR	To Be Reviewed
TBS	To Be Supplied
TIM	Technical Interchange Meeting
TRD	Technical Requirements Document
TRR	Test Readiness Review
WBS	Work Breakdown Structure

APPENDIX I TO THE SOW: CONTRACT DATA REQUIREMENTS LIST (CDRL) TABLE

Data Item	Title	SOW Ref	Approval	Submittal Schedule
001	Rideshare Opportunity Description	4	No	
002	Payload Mission Specification	5.2	Yes	Per TA
003	Monthly Program Reports	3.2	No	Per TA
004	Contractor Work Breakdown Structure	3.2	Yes	Per TA
005	Integrated Master Plan and Schedule	3.2	No	Per TA
006	Contract Funds Status Report	3.2	No	Per TA
007	Payload to Rideshare Opportunity Interface Control Documents (IICD)	5.3	Yes	Per TA
008	Rideshare Mission Integration & Test Management Plan	5.4	Yes	Per TA
009	Payload Operations Control Center-to-Host Ground Segment ICD & Verification Plan	5.5	Yes	Per TA
010	Host Accommodations Design Review	5.4	Yes	Per TA
011	Hosted Payload-Spacecraft Test Procedures	5.4	Yes	Per TA
012	Test Readiness Reviews	5.4	Yes	Per TA
013	Quick-Look and Summary Test Reports	5.4		Per TA
014	Mission Communications Plan and Procedures	5.5	Yes	Per TA
015	Ground Segment Design Review	5.5	Yes	Per TA
016	Ground Operations Review	5.5	Yes	Per TA
017	Spacecraft-Payload On-orbit Checkout and Operations Plan	5.5	Yes	Per TA
Reserved	COMSEC Security Plan		Yes	Per TA
Reserved	Key Management Plan		Yes	Per TA
Reserved	Export Control License		No	Per TA
Reserved	Payload Operations Control Center		Yes	Per TA
Reserved	Special Studies		Yes	Per TA