

Commercial Low Earth Orbit (LEO) Destination Contract (CLDC)

Attachment J-01 | Statement of Work (SOW)

ATTACHMENT J-01 STATEMENT OF WORK

National Aeronautics and Space Administration

Johnson Space Center

Commercial Low Earth Orbit (LEO) Destination Contract (CLDC)

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REVISION AND HISTORY

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STATEMENT OF WORK (SOW)**1.0 Introduction**

NASA's strategic goal is to have commercial low-Earth orbit destinations to ensure the continuous presence of United States Government (USG) crew to advance human space exploration, scientific discoveries, and United States economic competitiveness and commercial participation in low-Earth before ISS decommissioning and deorbit at the end of calendar year 2030. To accomplish this strategic goal, NASA is seeking to award multiple Phase 2 FAR-based contracts to one or more U.S. Commercial LEO Destination System contractors for the design, development, manufacture, test, launch, deployment, activation and checkout, and certification of the Commercial LEO Destination System (CLDS) to purchase end-to-end services.

1.1 Background

In 2019, NASA established the Commercial Low Earth Orbit (LEO) Development Program (CLDP) Office at the NASA/Johnson Space Center (JSC) to lead the U.S. commercialization of LEO and to stimulate private sector's investment in LEO by (a) offering Private Astronaut Missions (PAMs) to/from the International Space Station (ISS) and (b) pursuing multiple commercial LEO destination Phase 1 development agreements. These Phase 1 commercial LEO destination agreements range in scope from the Commercial Destination – International Space Station (CDISS) contract to the Commercial Destination – Free Flyer (CDFF) funded Space Act Agreements (SAA) followed by Collaborations for Commercial Space Capabilities (CCSC-2) unfunded Space Act Agreements (SAAs); all focused on developing United States (U.S.) Commercial LEO Destination System capabilities that could eventually lead to the availability of U.S. commercially offered end-to-end CLDS services for both commercial and Government customers. The Phase 1 initiatives focused on early maturation of designs for each Phase 1 partner's CLDS. This effort is a collaboration with U.S. commercial industry partners, International Space Station Program (ISSP) and the Commercial Crew Program (CCP). In June 2026, NASA established the LEO Program Office at the NASA Johnson Space Center (JSC) encompassing the scope previously under the CLDP, CCP and ISSP consolidating the responsibility for all LEO activities including development of future Commercial LEO Destinations and developing the LEO economy.

1.2 Scope

This Statement of Work (SOW) identifies the requirements for the work needed to design, develop, manufacture, test, launch, deploy, demonstrate, certify and provide engineering support of the Commercial LEO Destination System (CLDS) to its intended location in low earth orbit. In addition, this SOW defines NASA requirements, data deliverables, milestones and rules of engagement for the operational phase of the CLDS where NASA is purchasing CLDS services including crew and cargo transportation.

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The CLDS shall support at least a total crew of four (4), including at least two (2) USG Crew for Standard Service Missions. To open the design trade space and encourage innovations and efficiencies in system design solutions, NASA is not dictating a specific destination system architecture and design. Each Contractor must determine the applicable destination system requirements that best serve their target markets and that meet NASA's utilization needs in LEO as defined in SOW Section 1.5 *NASA Utilization Capability Needs in LEO*. CLDS Contractors can provide an initial minimum capability consistent with Mission A Capabilities (NASA Category 1 Utilization Needs) with an assembly plan to show how they will meet capabilities consistent with NASA Category 2 Utilization Needs and NASA Category 3 Utilization Needs.

1.3 CLDS Requirements and Standards

Attachment J-03 defines the CLDS Requirements, Standards and Plans the Contractor shall utilize for the performance of this contract.

1.4 Description of Commercial LEO Destination System (CLDS)

The Commercial LEO Destination System (CLDS), as shown in Figure 1.4-1, is the sum of all systems, facilities, and activities required to build, launch, maintain, and operate a human occupied on-orbit station. The CLDS consists of the Crew Transportation System (CTS), Commercial LEO Destination (CLD), and Cargo Transportation System (CaTS). Each of these systems consists of a Ground System (GS), a Mission System (MS), a spacecraft (Destination, Crew Visiting Vehicle (CVV), Cargo Visiting Vehicle (CaVV)), and launch vehicle. While a spacecraft is mated to its launch vehicle, this configuration is defined as the Integrated Stack (IS).

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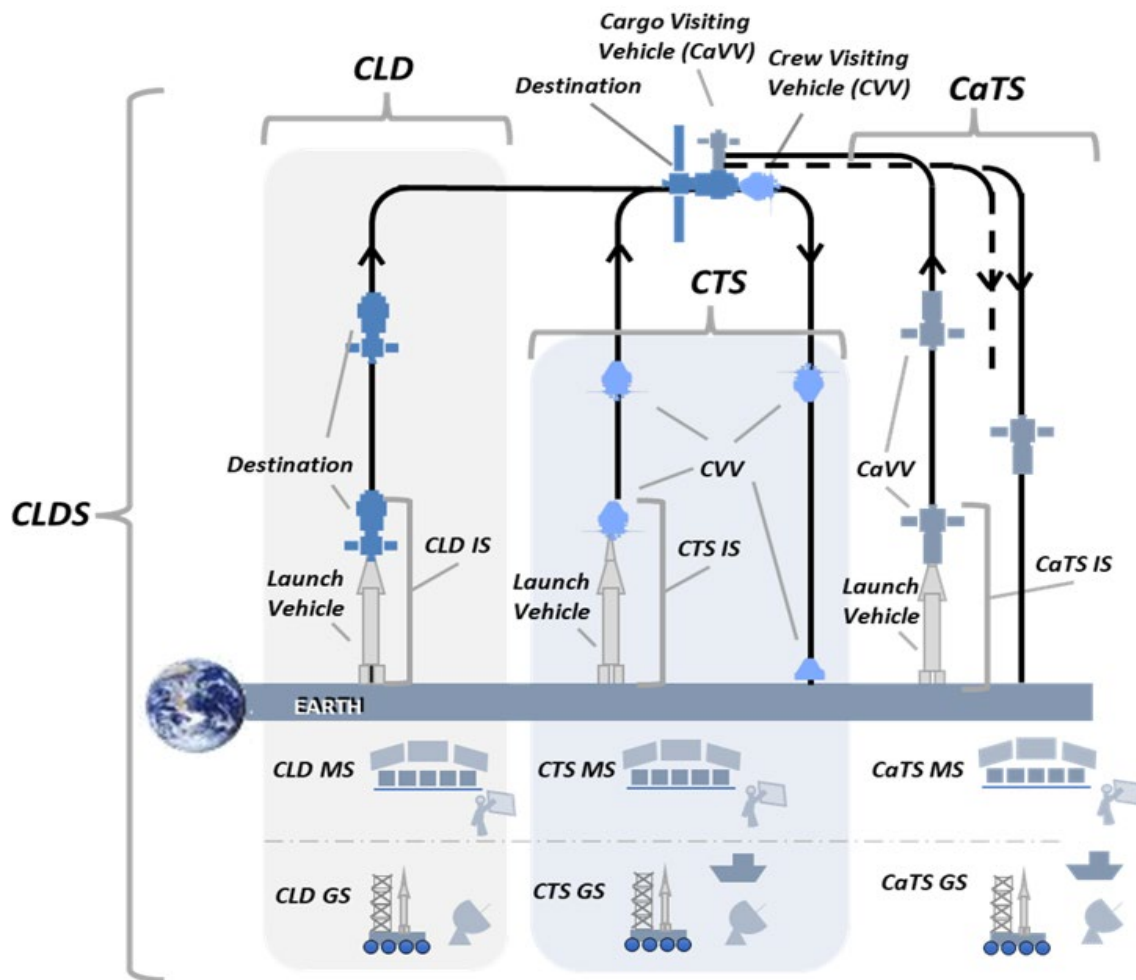


FIGURE 1.4-1 CLDS COMPONENTS

1.5 NASA Utilization Capability Needs in LEO

NASA's minimum utilization capabilities requirements and associated quantities are included in Table 1.5-1. Each line item in Table 1.5-1 is intended to be a separate unique service (unless delineated or noted). CLDP-REQ-1130 *Requirements and Standards for the CLDP* also includes requirements such as, but is not limited to, power, thermal cooling, conditioned stowage, and data to support payload operations.

NASA's minimum capability requirements are grouped into three (3) categories. Categories 1, 2, and 3 based on NASA's priorities and desired order of CLDS implementation.

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- Category 1 represents NASA's minimum needs for a 1-month Crew Tended mission capability.
- Category 2 represents NASA's minimum needs for a 6-month Continuous Crew mission capability.
- Category 3 represents NASA's minimum needs for a 6-month Standard Service mission capability.

Table 1.5-1 NASA Minimum Capability Requirements

	NASA Utilization Capabilities		
Item	Category 1	Category 2	Category 3
DESTINATION CAPABILITIES			
Total # of Reconfigurable Locker Locations (MLE)¹	3	20	58
• Heritage or non-Heritage Locker Style Payloads (MLE)	3	12	34
• Minimum # of Rack Equivalent Volume ⁵	0	1 (8 MLE each)	3 (8 MLE each)
Deployable Pressurized Powered Payloads	4	8	12
Cargo Transfer Bag Equivalent (CTBE) Stowage	20	45	150
# of locations for Vacuum Resource Access²	0	2	2
# of locations for Vacuum Exhaust Access²	0	3	3
# of locations for gaseous O₂ Access²	0	2	2
# of locations for gaseous N₂ Access² (CLDP-STD-1106 Section 3)	0	2	2
Potable/Conditioned Water Access⁶	Yes	Yes	Yes
On-Orbit Conditioned Stowage (in Liters (L))³ (Total Combined)	20	60	150
• Frozen	20	50	100
• Refrigerated	0	10	50
Workbench (CLDP-STD-1106 Section 3)	0	1	1
Glovebox (CLDP-STD-1106 Section 3)	0	1	1
	NASA Utilization Capabilities		
Item	Category 1	Category 2	Category 3

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TRANSPORTATION LAUNCH CAPABILITY ⁷			
Pressurized Delivery - Cargo Transfer Bag Equivalent (CTBE)	14	35	100
Powered Locker Locations⁴	1	3	4
Conditioned Stowage - Liters ³ (Total Combined)	10	30	70
• Frozen (up to)	10	10	20
• Refrigerated (up to)	5	20	40
• Incubated (up to)	0	5	10
TRANSPORTATION RETURN CAPABILITY ⁷			
Pressurized Trash Disposal - Cargo Transfer Bag Equivalent (CTBE)	7	18	50
Pressurized Return - Cargo Transfer Bag Equivalent (CTBE)	7	17	50
Powered Locker Locations⁴	1	3	4
Conditioned Stowage - Liters ³ (Total Combined)	10	30	70
• Frozen (up to)	10	30	60
• Refrigerated (up to)	5	10	20
• Incubated (up to)	0	5	15

References to the CLDP Utilization Standard, CLDP-STD-1106, *CLDP Utilization Capabilities Standard* provide more detail regarding each of the utilization capabilities.

Notes:

1. The CLDP-STD-1102, *CLDP Payload Interface Standard (CPIS)* for Heritage Hardware, provides interface requirements for NASA heritage lockers to ensure compatibility with commercial destinations (and transportation vehicles). For Category 1, two (out of three) lockers shall be compatible with NASA heritage lockers. For Category 2, sixteen (out of twenty) shall be compatible with NASA heritage lockers. For Category 3, forty (out of fifty-eight) shall be compatible with NASA heritage lockers.
2. The number of vacuum resources, vacuum exhaust and gaseous nitrogen supply do not include those resources needed by the Glovebox as detailed in CLDP-STD-1106, *CLDP Utilization Capabilities Standard*. At least one of the vacuum exhaust, gaseous nitrogen, and gaseous oxygen resources shall be co-located in one payload or payload facility rack or CLD location.

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3. The intention is that the CLD Provider's designs are able to meet the total conditioned stowage needs, along with each individual maximum value as provided in the table on a per Increment basis. Frozen, refrigerated, and incubated samples will be managed to not exceed the total requirement per Increment. The Increment baseline will be determined by NASA through the Request for Task Order Proposal (RFTOP). NASA shall be given first right of refusal for any excess conditioned stowage capacity in conditioned stowage assets, to be negotiated through the Request for Task Order Proposal (RFTOP).
4. Powered locker locations (along with required power) are to be provided to NASA in addition to any powered locker locations that are utilized to meet NASA's conditioned stowage requirements. NASA shall be given first right of refusal for any excess powered locker locations, to be negotiated through the RFTOP.
5. Rack Equivalent Volume equates to four (4) vertical MLE x two (2) horizontal MLE in a contiguous configuration.
6. NASA needs access to onboard water for payloads. This capability could come in many different forms, such as direct plumbing, water bags/drink bags, or potable water dispenser. The desire is to not drive the design, but to use residual water that may be available. Should NASA need amounts that are outside of the residual CLD amounts planned for an increment, NASA can provide their own water, flown in NASA's allocation/assets.
7. If capabilities listed in in Table 1.5-1 are not available at the quantities listed, NASA may request an equitable adjustment.

1.6 NASA Usage of Utilization Capabilities

NASA's projected usage for the various utilization capabilities on board the CLDS are as follows and are provided on a best estimate basis.

Table 1.6-1 Utilization Capability Usage

Utilization Capability	USG Usage Rate (%)
Workbench	50
Glovebox	100

1.7 Increment Definition

An Increment is a specific time-period which includes on-orbit utilization, logistics, maintenance, and other CLD system operations. A Crewed Increment begins upon arrival of a Crew to an uncrewed Destination or the day after any crewed vehicle undocks. An increment ends at undocking from the Destination.

1.7.1 Crew Tended Mission

A crew tended mission refers to a mission or destination that is visited intermittently by a crew for a minimum of 1 month rather than being continuously inhabited. The crew arrives, performs

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operations, maintenance, or utilization activities, and then departs—leaving the destination uncrewed between visits.

1.7.2 Continuous Crew Mission

A continuously crewed mission refers to the Destination that is continuously occupied by USG Crew with no more than a 14 day lapse in Crew presence between crew handovers. Continuous crew capability requires regular crew rotations and resupply so that a continuous human presence is maintained in space.

1.8 Definitions of Crewmembers

Table 1.8-1 defines the types of CLDS Crewmembers that will be selected, trained, and approved to fly in accordance with SOW Section 2.20 *Crew Selection and Mission Evaluation*.

TABLE 1.8-1 CREWMEMBER DEFINITIONS

Crew	Any human on board the space system during the mission that has been trained to monitor, operate, and control parts of, or the whole space system; same as flight crew or crewmember. In some instances, the use of the word Crew can also include Passengers in the context of the entire crew complement.
U.S. Government (USG) Crew	Members of NASA's Astronaut Corps; other US Government personnel; or other NASA-sponsored Crew by NASA for a mission to a Destination.
Non-USG Crew	Personnel who are not USG Crew. Can include Passengers, retired USG astronauts working for CLD providers, and Sovereign Astronauts not sponsored by USG
Passenger	Any human on board the space system while in flight that has little to no responsibility to perform any mission task for that system. Often qualify as "Space Flight Participants," as defined in 14 C.F.R. § 401.7.
Sovereign Astronauts	An individual, who is acting in their official capacity, has been qualified as an astronaut by their space agency, and is employed as a member of the astronaut corps of the agency

1.8.1 Crewmember Specific Roles

Each Crewmember in Table 1.8-1, Crewmember Definitions will be assigned a role for the mission based on experience and planned activities on-board.

1.8.1.1 Crew Commander

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The roles and responsibilities of the Commander are noted in Clause H.23 *Authority and Responsibilities of the Destination and Crew Visiting Vehicle (CVV) Commander, Chain-of-Command and Succession On-Orbit; Relationship Between Ground and On-Orbit Management*. In addition to these roles and responsibilities, an awareness and capability to perform the following is part of the role of the Commander.

- Adherence to and a thorough knowledge of the Crew Code of Conduct (CCoC), as defined in SOW Section 2.21 *Crew Code of Conduct*.
- Responsibility for the safety of the occupants of the Destination and CVV.
- Acknowledgement of final authority to initiate any immediate action deemed necessary for Crew safety.
- Able to assess Crew readiness to execute the mission plan, safety procedures, and emergency responses.
- Capable of delineating their responsibilities and authority as the Commander during emergencies. Note: It is imperative for training to outline specific scenarios demonstrating authority beyond standard Crew safety.
- Proficient in their Commander (CDR) role in response to emergencies and other major failures. Ideally with full Crew so they can consider assigning roles and responsibilities across the Crew.
- Able to safely undock the Crew vehicle without assistance from the ground.
- Understand their authority as the CDR and their role in the chain of command in relationship to the other Crewmembers, USG and non-USG, and the ground Flight Control Team (FCT), Contractor and NASA.
- Able to lead the Crew of the Destination and CVV in major recovery operations assuming a loss of communications with the ground. To include recovering communications, power, and other time critical system failures.

1.8.1.2 Mission Specialist

The role of the Mission Specialist (MS) is that of a Crew member who may perform all daily mission tasks and activities aboard the vehicle and will maintain the vehicle as part of their regular duties as custodian. This person will be an active part of the daily operations, potentially including utilization activities, be fit for daily life on orbit and meet the minimum standards as defined in SOW Section 2.20 *Crew Selection and Mission Evaluation*. Additional responsibilities may be assigned based on mission specific roles or functions as defined by the Contractor.

1.8.1.3 Passenger

This role, if used, will likely be limited in its participation in on-board activities and would expect to have no decision-making authority during contingency or emergency response. It would be expected that this person(s) would be directed to return to the safe-haven (as specified in CLDP-REQ-1130, Requirement and Standards for the Commercial Low-Earth Orbit

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Development Program) and wait until released if an emergency was annunciated. This role would be expected to be one where minimal training was provided and only specifically trained events were planned for the individual. To that end, this person should meet the minimum standards as defined in SOW Section 2.20 *Crew Selection and Mission Evaluation*. No additional requirements would be required beyond those levied by the Contractor.

1.9 Payload Specific Roles**1.9.1 Principal Investigator**

The Principal Investigator (PI) is the person or team responsible for leading the objectives and rationale for a specific utilization activity to be performed onboard the CLDS to accomplish the research sponsor's goals and objectives.

1.9.2 Payload Developer

The Payload Developer (PD) is an individual or team responsible for designing, building, testing, and deploying scientific instruments, equipment, or other items throughout the payload lifecycle that will be used on the CLDS to achieve specific research sponsor's mission objectives. They work closely with NASA, Contractor(s) and Principal Investigators (PIs) to ensure that payloads meet CLD requirements and that utilization is successfully conducted on-orbit. Additional details related to NASA's expectations of the Payload Developer can be found in CLDP-PLN-3017 *Utilization Integration Plan*.

1.9.3 Deployable Pressurized Powered Payloads

Deployable pressurized powered payloads are internal cabin (pressurized) payloads that do not have to be of the locker form factor and are able to be soft-stowed for transport. Examples include but are not limited to handheld, mounted to a multi-use bracket, or temporarily attached to a workbench or a wall.

1.10 Shall, Should, Will Definitions

The use of the words "shall", "should", and "will" are as defined:

- Shall –Denotes the imperative.
- Should –Expected course of action or policy that is to be followed unless inappropriate for a particular circumstance.
- Will – To indicate an anticipated future action, event, or result.
- Must – See "shall" per FAR 2.101

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2.0 CLDC General Requirements

This Statement of Work (SOW) provides the scope of the work with associated tasks required to manage and lead the CLDS contract performance and work statements.

The Contractor shall design, develop, test, evaluate and certify the CLDS in accordance with the requirements and standards as specified in SOW Section 1.3 *CLDS Requirements and Standards* and flow down applicable requirements to all subcontractors, vendors, and teaming partners who are performing or supporting contract requirements and deliverables.

The Contractor shall provide the capability to safely support USG Crew continuously and provide end-to-end services, including but not limited to, transportation, habitability, training, operations, utilization, and medical operations. The Contractor shall retain the primary responsibility for meeting and delivering all contract requirements regardless of their subcontract or operational arrangements.

The Contractor shall define and publish the units of measure in all engineering documentation to ensure the proper communication of English or metric units are identified. This will ensure that all communications adhere to the International System of Units (SI) or English standard.

The Contractor shall utilize the English language in all communications both written and spoken including all documents produced by the Contractor, the subcontractors, vendors and teaming partners to fulfill contract deliverables, CLDS Operational products, contract documentation, task orders, and pricing. If Insight data is required that is not in English, the Contractor shall provide English translations, at NASA request.

The Contractor shall obtain and maintain National Security Facility Clearance Level (FCL) per Clause I.12 *NFS 1852.240-75 Security Classification Requirements (SEP 2025) (DEVIATION)* up to TOP SECRET and as identified in the Task Order requirements, provide SECRET/TOP SECRET security clearances for a limited number of personnel that may need to support functions identified by NASA requiring this level of clearance in accordance with Attachment J-18 *Contract Security Classification Specification (DD254)*.

NASA is not requiring the Contractor to maintain a Sensitive Compartmented Information Facility (SCIF) but shall have the capability to support conversations over secure communication channels. The Government does not anticipate to need to use S/TS clearance until CLIN 3 at which time the Contractor will have to possess a current National Security Facility Clearance Level (FCL) up to TOP SECRET in order to work on CLIN 3.

2.1 Program Management

The Contractor shall develop, implement, maintain, and operate the CLDS in compliance with DRD CLDC-015 *Program Management Plan*, as applicable to the Contractor's program.

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The Contractor shall meet all applicable local, national, and international laws and regulations during contract performance.

The Contractor shall be responsible for obtaining and maintaining all applicable licenses, permits and agreements required to deliver the CLDS orbital elements to orbit, perform the end-to-end services, and safely deorbit.

The Contractor shall develop, deliver, and implement the Contractor's Organizational Conflicts of Interest (OCI) Plan (Attachment J-07) in accordance with DRD CLDC-003 *Organizational Conflicts of Interest (OCI) Plan*.

The Contractor shall develop, deliver, and implement the Contractor's Commercialization Plan in accordance with DRD CLDC-002 *Commercialization Plan*.

The Contractor shall develop, implement, maintain, and operate the CLDS in accordance with DRD CLDC-007 *Environmental Compliance Reports* and Clause H.38 JSC 52.223-94 JSC *Environmental Compliance (FEB 2025)*, if the contractor is performing work at Johnson Space Center under this contract.

The Contractor shall develop, deliver, implement the Small Business Subcontracting Plan and deliver required reports in accordance with DRD CLDC-008 *Small Business Subcontracting Plan and Reports*.

The Contractor shall maintain all records created for Government use or created in the course of performing the contract and/or delivered to, or under the legal control of the Government and must be managed in accordance with Federal law, including but not limited to, the Federal Records Act (44 U.S.C. chs. 21, 29, 31, 33), NARA regulations at 36 CFR Chapter XII Subchapter B, as well as NASA records policies (NPD 1440.6, NASA Records Management Program, and NPR 1441.1, NASA Records Management Program Requirements).

The Contractor shall ensure that NASA-owned/Contractor-held records are segregated from contractor-owned records and from non-record materials and report holdings of NASA records.

The Contractor shall immediately notify the Contracting Officer and NASA Records Officer upon discovery of any inadvertent or unauthorized removal, defacing, alteration, or destruction of Federal records. Destruction of Federal Records is EXPRESSLY PROHIBITED unless in accordance with records retention schedules or as directed by the Contracting Officer.

All Contractor employees assigned to this contract who create, work with, or otherwise handle Federal Records are required to complete mandatory NASA- provided records management training. The Contractor shall ensure that training has been completed according to agency policies, including initial training and any required annual or refresher training.

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The Contractor shall incorporate the substance of this requirement in all subcontracts under which the subcontractor will create, work with, or otherwise handle Federal Records under this contract, and require written subcontractor acknowledgment of same.

2.1.1 Quarterly Program Review (QPR)

The Contractor shall provide quarterly briefing packages, no later than one month following the designated quarter in review and provide the data specified below no later than two calendar days prior to the meeting. NASA will protect financial data submitted in accordance with the Contractors' markings, will not distribute publicly, and will limit distribution to need-to-know personnel only.

The Contractor shall also brief updates to DRD CLDC-002 *Commercialization Plan* quarterly to NASA Program Management. This review can be combined with the QPR or conducted separately.

The quarterly briefing package should include the following contents with details negotiated post-award.

Quarterly Program Review (QPR) Data Contents:

1. Programmatic

- a. Provide cost/schedule/technical status against the contract baseline, including milestone payment forecast with explanations and risks.
- b. Updates to Key Personnel and Facilities from Clause H.41 *NFS 1852.235-71 Essential Personnel and Facilities (AUG 2025) (DEVIATION)* and current organization chart.
- c. Change Management including list of changes that impact Government requirements or CLDS Certification that were dispositioned over the past quarter and changes currently under evaluation.
- d. DRD Submission Status, including summary level of the changes since last QPR.
- e. Status of insight team coordination, including new opportunities.
- f. Status of Government Task Agreements / Government Collaboration Agreements (GTAs/GCAs) including overview of any new interfaces, tools, and processes used for establishing effective and efficient insight and collaboration.
- g. CLIN 5 Special Tasks and Studies status including overview of work completed since previous QPR and upcoming quarter.
- h. Contracts and Agreements status, including progress and future plans for contracts and agreements with subcontractors, vendors, suppliers, and partners with a value over \$100M or is supporting scope that is in the critical path. Status shall include a high-level cash flow analysis and future forecast to support adequate funding of subcontractors, vendors, suppliers and partners.
- i. Status on Supplier/Sub-contractor technical performance, build quality progress/issues, production challenges, test status/issues, and delivery schedule status.
- j. Action Item Closure status from previous PMRs and formal corrective actions,

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- including their closure plan and status.
- k. Special topics/other areas as identified by NASA and Contractor during QPR agenda coordination.
2. Schedule
 - a. Program Plan (major events)
 - Show baseline plan vs actual progress, and forecast dates for all major events including Design, Development, Test and Evaluation (DDT&E).
 - Show critical and secondary path to readiness for element launch(es) and subsequent offering of services.
 - Include drivers of any schedule variances, schedule margin erosion, technical issues, etc. Include recovery plans and estimate closure dates.
 - Major upcoming events (next 6 months) including manufacturing and testing events for critical hardware.
 3. Certification
 - a. Summary status of trade studies, including their status, completion or due date, estimated closure date, and closure plan.
 - b. Status of the CLD design requirements, Verification and Validation. (V&V) activities, and Verification Closure Notice (VCN) closures with NASA acceptance status.
 - Burn down metrics and plans with prior and current period status showing trends.
 - Note: Refer to OCE-52, *NASA Common Leading Indicators Detailed Reference Guide* for recommended trend categories.
 - c. Test status, including a summary of all development, qualification, acceptance, and integrated system testing schedules and results.
 - d. Status of Long Lead Parts for current and next quarter including planned vs actual performance of procurement, receipt and acceptance.
 - e. Updates to Artificial/Super Intelligence (AI/SI) technology in the development or use
 4. Mission Integration
 - a. Mission Service Order Status and Transportation Status.
 - b. Updated Schedule including Performance to Plan for the increment including transportation.
 - c. Vehicle Status
 - Facility and System status, including payload facilities, system resources, etc Technical performance related to margins, actual versus predicted margin.
 - Trends on CLDS System availability and usage (NASA, Commercial, other).
 - Anticipated upcoming maintenance needs (including major upgrades and or system replacements).
 - d. Transportation vehicles status, including mission, Interface Control Documents (ICDs), joint tests, etc.
 - e. Planned Safety and Capability upgrades.
 5. Risk management

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- a. Summary risk score matrix of top risks as defined in the DRD CLDC- 116 *Risk Management Plan*.
- b. Summary Overview of Top Risks including:
 - Risk identification, title, description, potential impacts to the CLDS safety, reliability, technical, cost, or schedule performance, and U.S. Government (USG) Crew and Hardware, Likelihood, and Consequence.
 - Risk mitigation plan and status.
- c. List of any closed or accepted top risks since last quarter and closure rationale.
6. Safety and Mission Assurance (S&MA):
 - a. Status of failures, anomalies, nonconformances, waivers/deviations/non-compliances, audits & findings (including Product Assurance Action (PAA) closures and status), corrective actions, mishaps, and other relevant safety metrics;
 - b. Status of all Government-Industry Data Exchange Program (GIDEP) assessments since last quarter.
 - c. Supplier surveillance activities completed since last QPR and plans for next quarter.
7. Transportation
 - a. Integration status, ICD development, and verification
 - b. Status of joint testing (including with destination provider and with NASA)
 - c. Development and certification status

2.2 Milestone Review Process

The Contractor shall deliver the applicable DRDs defined in Attachment J-02 *Data Requirements Description* and the Milestone Review data package at least 30 calendar days in advance of the milestone review dates to allow for review time. For the Certification Baseline Review (CBR) the Contractor may deliver the data 15 calendar days ahead of the milestone review. For every day in delay of the Contractor data submission, NASA reserves the right to delay completion of the milestone a commensurate amount.

A milestone data deliverable pertains to all contract deliverables for certification and missions associated with J-11 *Certification Work Plan*, J-12 *Mission Service Work Plan Template* and any RFTOP milestones.

The Contractor shall conduct a checkpoint review 60 calendar days prior to the milestone review to finalize the Joint Implementation Plan (JIP) for each milestone (except for CBR which shall be conducted 30 calendar days prior) to include a draft agenda, list of data to be delivered to show compliance for each entrance and success criteria, logistics information, and confirmation of the availability of key stakeholders.

2.3 Government Insight

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Government insight provides NASA an understanding of the Contractor's CLDC activities and data for the design, development, testing, operation, human rating, and demonstration of their crewed destination in LEO through a collaborative working relationship, participation in the Contractor's processes, performance of Risk Based Assessments (RBA), working panels and boards, and access to products and data to provide assistance and expertise where needed and provide awareness of developing issues for resolution prior to major milestones.

The Contractor shall develop, deliver, implement, maintain, and operate the CLDS according to an insight approach that meets the intent of CLDP-PLN-3016, *Commercial Low-Earth Orbit Development Program Insight Management Plan*, and in accordance with Clause H.14 *Government Insight* and DRD CLDC-104 *Insight and Collaboration Implementation Plan*.

2.4 Schedule Management

The Contractor shall develop and maintain an Integrated Master Schedule (IMS) per DRD CLDC-001 *Integrated Master Schedule (IMS)* that contains the logically networked tasks and milestones beginning with contract award to the completion of the contract.

2.5 Risk Management

The Contractor shall develop, implement, deliver, maintain, and operate the CLDS in compliance with a Risk Management Plan submitted in accordance with DRD CLDC-116 *Risk Management Plan*.

2.6 Export Control

The Contractor shall adhere to export control laws and regulations. The Contractor shall adhere to export control requirements in accordance with NASA Procedural Requirements (NPR) 2190, NASA Export Control Program, NASA Advisory Implementing Instruction (NAII) 2190.1H, NASA Export Control Program Operations Manual in accordance with the DRD CLDC-005 *Export Control Plan*. The NASA policies and procedures are only applicable when the contractor uses physical and logical NASA assets or engages with NASA personnel, including support contractors.

2.7 Information Technology (IT)

The Contractor shall develop, implement, deliver, maintain, and operate within the Information Technology (IT) Security Plan(s) in accordance with Clause I.1 *NFS 1852.240-76, Security Requirements for Unclassified Information Technology Resources* (JAN 2026) (DEVIATION) in accordance with DRD CLDC-014 *Security Requirements for Unclassified IT Resources*

The Contractor shall ensure all IT products and services supporting this contract are approved through the NASA OCIO's Commercial IT Request (CITR) Application if NASA funds are used

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to procure IT resources throughout the life of the contract as a direct charge to the contract. This includes, but is not limited to, Federal Information Technology Acquisition Reform Act (FITARA), Supply Chain Risk Management (SCRM), IPv6, and 508 compliance. No purchases of commercial IT products or services should be made prior to coordination and approval by the OCIO if NASA funds are used to procure IT resources throughout the life of the contract as a direct charge to the contract. Contractor shall report purchases in accordance with DRD CLDC-013 *Commercial IT Authorization Report*.

The Contractor shall complete Capital Planning and Investment Control (CPIC) Reporting in accordance with DRD CLDC-012 *Information Technology (IT) Capital Planning and Investment Control (CPIC)*.

The Contractor shall provide and comply with the Cyber Supply Chain Risk Management (C-SCRM) Plan in accordance with DRD CLDC-014 *Security Requirements for Unclassified IT Resources*.

NASA shall own the license(s) or subscriptions for any software or applications purchased and all hardware shall be titled to NASA if NASA funds are used to procure IT resources throughout the life of the contract as a direct charge to the contract.

The Contractor shall ensure that all products, platforms, services, and communications delivered as part of this Statement of Work that are Information and Communication Technology (ICT) or contain ICT, conform to the Revised Section 508 of the Rehabilitation Act Standards, 36 C.F.R. § 1194.1 & Apps. A, C & D.

2.8 Configuration Management

The Contractor shall develop, implement and maintain a configuration management approach for CLDS in compliance with Society of Automotive Engineers (SAE) Engineering Information Analysis (EIA) 649-2A Configuration Management Acquisition Requirements for Aeronautics and Space, and SAE AS9100 Quality Management System Requirements for Aviation, Space, and Defense Organizations in accordance with DRD CLDC-006 *Configuration Management Plan*.

2.9 Reserved**2.10 Systems Engineering and Integration (SE&I)****2.10.1 General SE&I Requirements**

The Contractor shall perform the CLDC SE&I technical and management efforts of directing and controlling the integrated engineering effort for the design, development, manufacturing, integration, test, evaluation, verification, validation, certification, and sustaining of the CLDS to satisfy all requirements in accordance with the DRD CLDC-101 *Systems*

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Engineering Management Plan (SEMP).

2.10.2 Requirement Management

The Contactor shall be responsible for developing, implementing, and maintaining a closed-loop requirements management system that ensures the CLDS requirements are traceable to the design and can be verified and validated in accordance with DRD CLDC-101 *Systems Engineering Management Plan (SEMP)*.

Where the evaluation of NASA requirements results in non-compliance or the evaluation of usage of materials results in an elevated risk to the safety of crew, the Contractor may request relief in the form of a variance per the processes defined in CLDP-PLN-2000, *Commercial Low-Earth Orbit Destination System (CLDS) Certification Plan*. Variance requests to NASA requirements and requests for non-compliance with safety requirements require NASA approval.

2.10.3 Software Management

The Contractor shall develop, manage, implement, test, integrate and maintain, and operate CLDS software throughout the life cycle of the contract in accordance with DRD CLDC-107 *Software Management Plan (SMP)*.

2.10.4 Integrated Performance Analysis and Integrated Test Plan (IPAITP)

If applicable, the Contractor shall conduct multi-element integration and testing for each major configuration change to ensure the successful on-orbit integration with existing and planned CLDS elements in accordance with DRD CLDC-105 *Integrated Performance Analysis and Integrated Test Plan (IPAITP)*. If multi-element integrated testing is not possible, the Contractor should document in DRD CLDC-102 *Verification, Validation and Certification Plan (VVCP)* how the intent of a multi-element verification and validation is accomplished.

2.10.5 Verification and Validation (V&V)

The Contractor shall develop, implement, deliver, and maintain verification and validation of the CLDS requirements in accordance with DRD CLDC-102 *Verification, Validation, and Certification Plan (VVCP)*.

The Contractor shall deliver to NASA Verification Closure Notices (VCNs) for CLDS requirements in accordance with DRD CLDC-106 *Verification Closure Notice (VCN)*. The Contractor will consider a VCN closed only after NASA approval.

The Contractor shall provide data and support for NASA-conducted Independent Verification and Validation (IV&V), as needed, in compliance with Clause H.14 *Government Insight* and approval in accordance with DRD CLDC-104 *Insight and Collaboration Implementation Plan*.

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2.10.6 Adjudication of Standards

The Contractor shall develop, implement, maintain, and operate in accordance with DRD CLDC-103 *NASA Standards and Specifications Compliance and Tailoring Plan*.

Where the evaluation of a NASA defined standard results in the Contractor not adopting the NASA standard, the Contractor may propose an alternative standard or tailoring of the NASA standard in accordance with DRD CLDC-103 *NASA Standards and Specifications Compliance and Tailoring Plan* subject to NASA's approval.

NASA has defined an adjudication process for applicable standards and specifications to be implemented as early as possible, potentially upon contract kickoff. NASA will have primary responsibility for adjudication and final approval of each proposed alternate (or tailored) standard. The Contractor with NASA support will develop and present a joint decisional package at a NASA Control Board for a final adjudication decision that shall include the following:

- a) Rationale for using the Contractor proposed alternate standard, versus adopting the NASA standard
- b) Technical overview of the proposed alternate standard
- c) An assessment of past and current efforts to meet the intent of the NASA standard with proposed alternate standards (i.e. heritage usage summary)
- d) An assessment of the estimated schedule, technical, and risk impacts associated with implementing the NASA standard as prescribed.
- e) Impact(s) if the proposed alternate standard is not used.
- f) Associated Verification approach when utilizing the proposed alternate standard.
- g) Contractor risk assessment (cost, schedule, technical) of adopting the NASA standard.
- h) Documented key areas of disagreement with input from NASA
- i) Government risk assessment (cost, schedule, technical) of adopting the Contractor proposed alternate and/or tailored standard, or variance request

The Contractor shall incorporate NASA Control Board final adjudication decisions in their documentation.

The Contractor should start the adjudication process as early as possible. NASA proposes holding technical coordination meetings shortly after contract award to discuss the alternate standards adjudication process, expectations, and initiate coordination efforts. NASA expects adjudication to be completed by Preliminary Design Review (PDR) or on an exception basis for certain standards agreed to by NASA and the Contractor to be complete no later than Critical Design Review (CDR). In the event the Contractor proposed alternate standard is not approved by the agreed timeline, the NASA standard shall be applicable.

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2.11 Safety and Mission Assurance

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with the Safety and Mission Assurance Plan submitted per DRD CLDC-115 *Safety and Mission Assurance (SMA) Plan*.

2.11.1 Hazard Analysis and System Safety

The Contractor shall develop and demonstrate a process to identify, control, and verify critical and catastrophic hazards.

The Contractor shall develop, implement, deliver, maintain and operate in compliance with a hazard analysis and system safety plan that provides for NASA joint approval authority at co-chaired safety reviews for critical and catastrophic hazards and meets the intent of CLDP-STD-3102, *Commercial Low-Earth Orbit Development Program (CLDP) Hazard Analysis and Safety Process Standard*, in accordance with DRD CLDC-115 *Safety and Mission Assurance (SMA) Plan*.

The Contractor shall develop, deliver and maintain Safety Data Packages in accordance with DRD CLDC-118 *Safety Data Package*.

2.11.2 Software Safety & Assurance

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with a software safety and assurance plan that meets the intent of NASA-STD-8739.8B, *Software Assurance and Software Safety Standard*, Chapter 4 and Appendix A submitted as a component of the Contractor SMA Plan, per DRD CLDC-115 *Safety and Mission Assurance (SMA) Plan*.

The Contractor shall develop, deliver, maintain, and operate in compliance with a plan for third-party software Independent Verification and Validation (IV&V), in accordance with DRD CLDC-115 *Safety and Mission Assurance (SMA) Plan*. If the Contractor chooses to request Government IV&V support to meet this requirement, refer to Attachment J-14 *Government Task Agreement*.

2.11.3 Quality Assurance

The Contractor shall develop, implement, maintain, and operate in compliance with a Quality Assurance (QA) Plan submitted in accordance with DRD CLDC-115 *Safety and Mission Assurance (SMA) Plan*, for work performed by the Contractor as well as work delegated to subcontractors and suppliers.

2.11.3.1 Supply Chain Quality Surveillance

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The Contractor shall develop, implement, and maintain a sub-tier Contractor quality surveillance approach in accordance with DRD CLDC-115 *Safety & Mission Assurance (SMA) Plan*.

The Contractor shall provide Supply Chain Visibility Reporting of the Contractor's suppliers and sub-tier suppliers in accordance with DRD CLDC-122 *Supply Chain Visibility (SCV) Reporting*.

2.11.3.2 Nonconformances

The Contractor shall report emerging and confirmed hardware, manufacturing process, testing, and quality management system Nonconformances (NCs) in accordance with DRD CLDC-121 *Nonconformance (NC) Reporting*.

The Contractor shall provide operational and technical support in cases of process or product nonconformance that compel NASA to lead a technical investigation to determine the acceptability of a variance with respect to requirements conformity. This support includes submitting and reviewing technical materials used to understand the nonconformance, assess risks to product performance and reliability, and recommend timely, cost-effective corrective actions.

2.11.4 Reliability

The Contractor shall develop, implement, deliver, maintain and operate the CLDS in compliance with a Reliability Plan in accordance with DRD CLDC-115 *Safety and Mission Assurance (SMA) Plan*.

2.11.5 Orbital Debris, Jettisons, and Deorbit

The Contractor shall assess the risk to the CLDS and Crew resulting from damage or penetration of the CLDS components from Micrometeoroid Orbital Debris (MMOD) during all mission phases in accordance with DRD CLDC-119 *Micrometeoroid Orbital Debris (MMOD) Report*.

The Contractor shall develop, implement, deliver, maintain and operate the CLDS in compliance with a Jettison Plan in accordance with DRD CLDC-120 *Jettison Plan*.

The Contractor shall develop, implement, deliver, maintain, and operate the CLDS in compliance with a Destination Disposal Plan in accordance with DRD CLDC-123 *Destination Disposal Plan*.

2.11.6 Mishap Preparedness and Contingency Action Plans

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with the Mishap Preparedness and Contingency Plan and Clause H.24 *Mishap Reporting* in the

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Mishap Preparedness and Contingency Action Plan in accordance with DRD CLDC-117 *Mishap Preparedness and Contingency Plan (MPCP)*.

2.11.7 Safety and Health

The Contractor shall follow the safety and health requirements of the local NASA Center when on NASA property or at a NASA facility.

2.11.8 Integrated Maintenance and Logistics Support

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with the Integrated Maintenance and Logistics Support Plan and data submitted in accordance with DRD CLDC-133 *Integrated Logistics and Maintenance Support*.

2.12 NASA Access to Partner Facilities and Tools

The Contractor shall provide safety training, instruction, and certification for all Contractor-operated or Contractor provided integration facilities, launch sites, and landing sites to ensure NASA personnel and other users are aware of applicable hazards and possess adequate knowledge to perform their tasks safely.

The Contractor shall ensure physical and IT security for USG Payloads facilities, Payload data, and NASA personnel in Contractor-operated or provided facilities, control centers, accommodations and launch/landing sites.

The Contractor shall provide personnel sponsored by NASA (referred to in this section 2.12 as NASA personnel) general accommodations and access as follows:

- Provide accommodations and access to Health Stabilization Program facilities for two (2) NASA Flight Surgeons and three (3) USG supporting personnel, with the USG Crew, in accordance with DRD CLDC-113 *Health Stabilization Program (HSP) Plan*.
- Provide access to Health Stabilization Program facilities for USG Crew Immediate Family Members.
- Facilitate familiarization and Very Important Person (VIP) tours for up to ten (10) people of the Contractor's CVV, CaVV, or Destination control room and facilities no more than once per month.
- Provide one (1) dedicated office and accommodations for NASA Ground Personnel at each primary assembly, integration, destination and transportation location.
- Provide transportation of nine (9) NASA personnel, the USG Crew, plus an additional five (5) NASA personnel per USG Crew from NASA's Johnson Space Center (JSC) to the launch site in accordance with DRD CLDC-131 *Pre-Launch and Post-Landing Operations*.

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The Contractor shall provide NASA personnel accommodations and access for the transportation CVV flight control room (including during training/simulations) and processing facilities as follows:

- Provide one (1) console in the Crew Transportation flight control room for NASA personnel during launch, landing, phasing, Rendezvous, Proximity Operations, Docking, and Undocking (RPODU), and off-nominal operations.
- Provide one (1) console for the NASA Flight Surgeon as a part of the Crew Transport Vehicle flight control room during launch, landing, phasing, and RPODU operations, with capability to conduct privatized medical conference with USG Crew.
- Provide ten (10) consoles for NASA Mission Support Team personnel in the CVV launch control center.
- Provide a private room with access to vehicle telemetry and voice loops for five (5) NASA VIP personnel in the CVV launch control center.
- Provide access, transportation, delivery, and return of thirteen (13) NASA personnel and their equipment from a CVV-designated staging location to the supported landing site to assist the Crew and handle Time-Critical cargo in the post-landing timeframe.
- Provide NASA Ground Personnel one (1) seat on and access to helicopter for evacuation following return, if required.
- Provide no less than eleven (11) consoles for NASA personnel in the CVV launch control center during pre-launch activities, including Wet/Dry Dress for launch.
- Provide one (1) dedicated office and accommodations for up to two (2) NASA personnel at the Launch Site to support late load cargo.
- Provide NASA personnel access to the Contractor-operated CVV launch and landing processing facilities, including payload and cold stowage, and access to the launch vehicle for USG Payloads, Payload data, and USG Crew.
- Provide accommodations for five (5) NASA Personnel on the Crew Rescue and Return Team (CRRT) in the event of an emergency landing.
- The Contractor shall provide accommodation of two (2) NASA Flight Surgeons at the triage site.
- The Contractor shall provide transportation of at least two (2) USG personnel per medical evacuation vehicle containing USG Crew to support Crew once arrived at Definitive Medical Evacuation Center (DMCF) and transportation of at least three (3) USG personnel to the DMCF within 2 hours of USG Crew arrival at the DMCF.

The Contractor shall provide NASA personnel accommodations and access for the transportation CaVV flight control room (including during training/simulations) and facilities as follows:

- Provide one (1) console in the cargo transportation flight control room for NASA personnel during launch, landing, phasing, RPODU, and off-nominal operations.
- Provide one (1) console in the CaVV engineering control room (or equivalent) for NASA personnel.
- Provide one (1) console for NASA Mission Support Team personnel in the CaVV launch control center.

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- Provide a private room with access to vehicle telemetry and voice loops for three (3) NASA VIP personnel in the CaVV launch control center.
- Provide access, transportation, and delivery of three (3) NASA personnel and their equipment from a CaTS-designated staging location to and from the supported landing site to handle Time-Critical cargo in the post-landing timeframe.
- Provide one (1) office and accommodations for up to two (2) NASA personnel at the Launch Site to support late load cargo.
- Provide NASA personnel access to the Contractor-operated CaVV launch and landing processing facilities, including payload and cold stowage, and access to the launch vehicle for USG Payloads, Payload data, and NASA personnel.

The Contractor shall provide NASA personnel accommodations and access for the Destination flight control room (including during training/simulations) and facilities as follows:

- Provide one (1) console in the Destination flight control room for NASA personnel during CVV and CaVV launch, landing, phasing, RPODU, and off-nominal operations and increment utilization operations.
- Provide one (1) console in an engineering control room or program support room (or equivalent) for the duration of the increment for one (1) NASA support personnel.
- Provide one (1) console for the NASA Flight Surgeon as a part of the Destination Flight Control Room during RPODU operations and as needed for off nominal medical events, with capability to conduct privatized medical conference with USG Crew.
- Provide one (1) console for a NASA Flight Director in the Destination flight control room.
- Provide two (2) consoles for NASA personnel for mission management operations. If applicable, consoles should be co-located with Contractor mission management.

The Contractor shall provide NASA personnel accommodations and access for the Destination training flight control room as follows:

- Provide two (2) consoles with simulation telemetry and voice loop access in a training flight control room to support NASA team members during simulations.

The Contractor shall provide NASA personnel accommodations and access for the payload ground processing launch and landing sites as follows:

- Provide administrative space at or near the payload or payload facility ground processing launch and landing sites, including: a shared office/desk/cubicle space with access to secure Wi-Fi, printers, and phones, and access to conference rooms to accommodate approximately ten people at any given time during USG payload or payload facility processing.

The Contractor shall provide NASA access to all electronic tools, templates and other medium necessary for NASA insight, participation and input to the planning, execution, maintenance and

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operation of the CLDS, in accordance with DRD CLDC-104 *Insight and Collaboration Implementation Plan*.

2.13 Certification

The Contractor shall develop, implement, deliver, maintain and operate in compliance with a certification plan that meets the intent of CLDP-PLN-2000, *Commercial Low-Earth Orbit Destination System (CLDS) Certification Plan* in accordance with DRD CLDC-102 *Verification, Validation, and Certification Plan (VVCP)* and SOW Section 3.1 *Initial Development (CLIN 1)* and SOW Section 3.2 *CLDS Development & Certification (CLIN 2)*.

The Contractor is responsible for maintaining the CLDS certification and shall continually assess the operational CLDS design performance and any updates to the NASA approved certified CLDS design.

The Contractor shall present NASA with any expected updates and impacts to the baseline CLDS certification during the execution of each CLIN 3, Mission Service Task Orders (TO) Milestone as defined in SOW Section 3.3 *Mission Services Description (CLIN 3)* and Attachment J-12 *Mission Service Work Plan Template*.

The Contractor shall develop and configuration control the baseline CLDS design in accordance with DRD CLDC-006 *Configuration Management Plan*, including subsystem design and vehicle configuration, though out the CLDS lifecycle and use the baseline CLDS design to maintain design integrity during the certification process, operations, and status accounting to support Certification of Flight Readiness (CoFR).

The Contractor shall conduct Certification Milestone reviews as defined in SOW Section 3.1 *Initial Development (CLIN 1)*, SOW Section 3.2 *CLDS Development & Certification (CLIN 2)*, Attachment J-11 *Certification Work Plan* and SOW Section 2.2 *Milestone Review Process*.

2.14 Mission Integration

The Contractor shall develop, implement, deliver, maintain and operate in compliance with a mission integration plan to meet the intent of CLDP-PLN-2110 *Commercial LEO Development Program Mission Integration Plan* submitted in accordance with the DRD CLDC-201 *Mission Integration and Operations Management Plan (MIOMP)*.

The Contractor shall develop, implement, deliver, maintain, and operate in accordance with a mission execution plan for each mission in accordance with DRD CLDC-203 *Tactical Increment Execution Report (TIER)*.

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The Contractor shall develop, implement, deliver, maintain and operate in compliance with a multi-increment strategic long-term plan in accordance with the DRD CLDC-201 *Mission Integration and Operations Management Plan (MIOMP)*.

The Contractor shall receive all USG manifested hardware items for integration into launch configuration integrated assemblies (i.e. Cargo Transfer Bags (CTBs)) in accordance with the DRD CLDC-201 *Mission Integration and Operations Management Plan (MIOMP)*.

For any crew or cargo mission, the Contractor shall ensure NASA has first right of refusal of no less than 70% of the available late load and early destow volume capability. The exact volume will be documented at the CLIN 3 RFTOP award based on the Contractor proposed vehicle traffic plan.

The Contractor shall receive, de-integrate and deliver all USG return manifested items to the USG in accordance with the DRD CLDC-201 *Mission Integration and Operations Management Plan (MIOMP)*.

The Contractor shall describe the capabilities and constraints of the Destination, the Crew Visiting Vehicle(s) (CVV), and the Cargo Visiting Vehicle(s) (CaVV) as they pertain to interfaces with crewmembers and cargo items in accordance with DRD CLDC-132 *Vehicle Interface Definition Document (IDD)*.

Upon NASA issuance of Authority to Proceed (ATP), the Contractor shall conduct Mission Integration milestone reviews with NASA to meet the intent of CLDP-PLN-2110 *Commercial LEO Development Program Mission Integration Plan* in accordance with Attachment J-12 *Mission Service Work Plan Template*. The Contractor shall deliver to NASA for review, all the data packages and DRDs required in accordance with SOW Section 2.2 *Milestone Review Process*.

The contractor shall supply crew accommodations (including food, clothing, crew specific medications, medical accessory items, and crew provisions) for the duration of each mission per the items and usage rates provided in DRD CLDC-212 *Crew Accommodations Plan*, DRD CLDC-112 *Food and Nutrition Plan* and per SOW Section 1.3 *CLDS Requirements and Standards*.

2.14.1 Imagery

The Contractor shall develop, implement, deliver, and maintain imagery of commercial destination hardware, transportation system hardware, USG Crew, and GFE in accordance with DRD CLDC-204 *Imagery Plan*, Clause H.29 *Applicability of Rights in Data – Special Works*, and Clause H.21 *Communications*.

2.15 Utilization

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2.15.1 Payload Users Guide

The Contractor shall develop, deliver, and maintain the DRD CLDC-125 *Payload Users Guide*, to provide the payload developer/principal investigator and NASA with information needed to successfully integrate payloads with the Destination.

2.15.2 Utilization Integration Plan

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with a utilization integration plan in accordance with the DRD CLDC-124 *Utilization Integration Plan*.

In accordance with the DRD CLDC-124 *Utilization Integration Plan*, the Contractor shall support payload integration activities for USG payloads/facilities in accordance with the CLIN 3, Mission Service Task Orders as follows:

- Perform a technical and operational feasibility assessment for individual USG payloads/facilities and the complement of USG payloads/facilities targeting a given mission and increment in accordance with DRD CLD-207, *Utilization Feasibility Assessment*.
- Conduct and/or support routine, payload integration meetings with NASA to review the USG payload or payload facility integration schedules, utilization implementation, integrated tactical priorities, resource requests, and utilization planning data necessary to successfully certify and integrate USG utilization onboard the CLDS for operations. The frequency/timing of meetings will be mutually agreed upon.
- Support, coordinate, and integrate with NASA's utilization operations team. This support aligns with NASA's plan to manage its own Crew and Crew time for USG utilization activities and provide inputs for operations products for USG payloads/facilities.

In accordance with DRD CLDC-201 *Mission Integration and Operations Management Plan (MIOMP)* and DRD CLDC-203 *Tactical Increment Execution Report*, the Contractor shall inform NASA when conducting non-NASA utilization operations that have the potential to interfere with NASA-procured services during real-time or near real-time operations.

The Contractor shall provide NASA with tool(s) or access to their tools for populating and sharing relevant USG payload or payload facility research planning data (e.g., mass, dimensions, science objectives, etc.) between the USG payload developer, principal investigators, NASA key stakeholders, and the Contractor and ensure the tool(s) has security measures to allow for protection of proprietary or otherwise sensitive data.

2.15.3 USG Payload and Payload Facility Interface Requirements and Testing

In accordance with DRD CLDC-208 *Payloads Interface Requirements Document (IRD)*, the Contractor shall define the requirements and interface details (including physical, environmental and software) between 1) the CLD and a prospective USG payload and between 2) the Visiting Vehicle and the USG payload or payload facility. The Contractor

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shall coordinate the applicable requirements and verification methods along with any test parameters as required with USG payload developer.

For a USG payload or payload facility that has unique interface requirements beyond the Payloads IRD, the Contractor shall, in accordance with DRD CLDC-209 *Unique Payload Interface Control Document (ICD)* define the unique Interface Control Document, associated interface requirements between the 1) CLDS and the unique USG payload or payload facility and 2) the Visiting Vehicle and the USG payload or payload facility , and coordinate the applicable requirements and verification methods along with any test parameters as required with the NASA/payload developer. The Contractor shall review and disposition USG payload and/or payload facility interface requirement verification submittals.

As required by the DRD CLDC-208 *Payloads Interface Requirements Document (IRD)* or DRD CLDC-209 *Unique Payload Interface Control Document (ICD)* the Contractor shall provide a capability to:

- Support and conduct functional ground testing and fit checks, if required (along with any required resources such as power, data, test facilities and associated equipment/software, etc.) with the CLDS infrastructure to verify interface requirements for USG payloads or facilities integrated on CLDS.
- Support and/or provide environmental testing, if required (along with any required resources such as power, data, test facilities and associated equipment/software, etc.) to verify interface requirements for USG Payloads or Facilities integrated on CLDS.
- Provide subject matter expertise in the interpretation of interface requirements and verification methods including test and test plan and parameters required to meet the IRD/ICD.
- Support and provide functional end-to-end testing with the CLDS infrastructure for USG payloads or facilities integrated on CLDS.

2.15.4 USG Payload and Payload Facility Software and Commands/Telemetry

NASA will provide the Contractor with any unique USG payload or facility software (not already installed) required to operate the payload or facility onboard the CLDS.

The Contractor shall manage and support payload software testing of all USG-provided payload or payload facility software (installed or requiring uplink) to CLDS software in accordance with the *DRD CLDC-107 Software Management Plan*, DRD CLDC-208 *Payloads Interface Requirements Document (IRD)* and DRD CLDC-209 *Unique Payload Interface Control Document (ICD)*.

The Contractor shall provide NASA and the remote payloads teams the capability to perform remote commanding to payloads, as well as access to receive payload facility and payload telemetry per DRD CLDC-127 *Mission Systems Plan*.

The Contractor shall perform the following software related functions in accordance with the DRD CLDC-124 *Utilization Integration Plan* and DRD CLDC-125 *Payload Users Guide*.

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- Incorporate the USG payload developers' command and telemetry inputs into the Contractor's payload command/telemetry library and any additional engineering and flight products that are developed to support ground testing and flight operations of the payloads (e.g. Crew displays).
- Make Engineering/Flight versions of USG payload or payload facility command and data libraries available to NASA and USG payload developers based on mutually agreed-to schedule.
- Enable testing of ground data services (commanding and receipt of telemetry) for remote users and the NASA Flight Control team.

The Contractor shall collect, archive, and transmit mission and research data and timestamps to the USG data owner and NASA during all phases of operations as defined in CLDP-PLN-1122 *Commercial Low-Earth Orbit Development Program Science Data Management Plan*, DRD CLDC-126 *Science Data Management Plan* and CLDP-REQ-1130 *Requirement and Standards* for the following:

- USG payloads and facilities or other utilization activities that are active and/or are collecting research data; and
- Contractor-provided facilities operating USG payloads; and
- Conditioned stowage assets.

2.15.5 USG Payload or Payload Facility Integration and De-Integration

The Contractor shall perform the payload integration and de-integration with the Visiting Vehicle in compliance with the DRD CLDC-124 *Utilization Integration Plan* as follows:

- Safely integrate the USG payloads/facilities onto the Visiting Vehicle prior to launch with NASA/USG payload representative participation in accordance with DRD CLDC-202 *Mission Resource Allocation Document (MRAD)*. This includes air-conditioned transportation for payloads to launchpad, payload locker handling equipment, physical final installations/removals, launch packing onto the Visiting Vehicle, configuration verifications, establishment and integration of interfacing resources (e.g., electrical, transmission of vehicle commands and data, cooling, cleanliness), performing post-installation pre-flight checkouts, providing close-out photos of payloads after integration in Visiting Vehicle, support for launch scrub turnarounds (e.g., payload sample refresh), late-load payload installation and any post-integration access requirements.
- Safely integrate the USG payloads/facilities onto the Destination in accordance with DRD CLDC-203 *Tactical Increment Execution Report (TIER)*.
- Provide de-integration support from the Visiting Vehicle upon return for USG payloads and facilities with NASA/USG payload representative participation in accordance with DRD CLDC-202 *Mission Resource Allocation Document (MRAD)*. The Contractor's de-integration support includes early destow for return of time critical payload samples to NASA or USG payload representatives, air-conditioned transportation for payloads from landing site to payload turnover point and any payload locker handling equipment. The Contractor also ensures that non-time

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critical cargo is handed over to the NASA or USG payload representative after de-integration.

2.15.6 USG Payload or Payload Facility Delay

To account for potential schedule variances in mission development and integration, the Contractor shall develop processes and procedures to be able to accommodate payloads being late for scheduled integration milestones. The Contractor will determine the thresholds for acceptance including options for:

- Launching the payload or payload facility “at risk”, recognizing the possibility that safety approvals or interface verification for on-orbit operations may not be fully completed.
- Swapping the delayed payload or payload facility with another payload or payload facility that is ready for integration.
- Moving the payload or payload facility to a future flight assignment.

It is NASA’s expectation that a minimum of 15% of payloads can be accommodated that are late for scheduled integration milestones without significant impact to processing and/or analysis.

2.16 Mission Operations

The Contractor shall conduct CLDS mission operations in the English language that meets the intent of CLDP-STD-1150, *Commercial Low-Earth Orbit Development Program Operations Standards*.

The Contractor shall develop and deliver a Mission Management Team (MMT) charter in accordance with DRD CLDC-128 *Operations and Training Plan* to define the responsible entities authorized to make decisions during critical operations to ensure the safety of the Crews or CLDS and to satisfy mission objectives. For any activities or processes where USG Crew or USG owned assets (including utilization) are involved, NASA retains final decision authority over any elevated risk or safety decisions. NASA will participate in any decisions related to increment plan updates that impact NASA mission objectives or involve USG Crew or hardware, including but not limited to updates to operational priorities, crew timelines, crew assignments, maintenance schedules, etc.

The charter shall identify a near real-time Mission Management Team (MMT), in accordance with DRD CLDC-128 *Operations and Training Plan*, that is co-chaired by NASA and the Contractor and includes representation from the transportation vehicle Contractor, NASA technical authorities, and other NASA subject matter expertise as required. This will include, but is not limited to Go/ No Go decisions, policy deviations, increased risk acceptance, anomaly resolution, etc. If NASA is not present for an increment, a NASA co-chaired MMT is not required. If NASA is not co-chairing, the Contractor shall support NASA participation to ensure NASA insight and to provide feedback on decisions/activities that impact future NASA missions.

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2.16.1 Mission Design and Analysis

The Contractor shall develop and maintain processes to manage attitude control, altitude maintenance strategy and execute RPODU processes, plans and procedures for transportation vehicles and the Destination in accordance with DRD CLDC-128 *Operations and Training Plan*.

2.16.2 Operations Procedures

The Contractor shall provide NASA and USG representatives with the capability and the tools to create, access, review, and approve procedures in the same format as the contractor ground operators and crew which may be used by USG Crew or to support USG assets (including utilization) in accordance with DRD CLDC-128 *Operations and Training Plan*.

2.16.3 Timelines

The Contractor shall provide NASA with the capability and the tools to provide inputs to access and review the crew timeline in the same format as the contractor ground operators and crew per the process defined for timelines in accordance with DRD CLDC-128 *Operations and Training Plan*.

2.16.4 Flight Rules

The Contractor shall develop, implement, deliver, maintain, and execute Flight Rules in accordance with DRD CLDC-128 *Operations and Training Plan* and shall allow NASA to access, provide inputs, review, and approve any Flight Rule that would impact the safety of USG Crew or USG assets (including utilization) or require risk assessments to USG personnel or hardware.

2.16.5 Operations, Flight and Ground Training

The Contractor shall conduct training for CLDS operations as specified in DRD CLDC-128 *Operations and Training Plan*. This includes developing, implementing, and maintaining training plans, materials, lessons, and training systems as well as utilizing certified instructors to conduct training of all personnel.

The Contractor shall provide training to the prime Crew and backup Crew to the minimum role of a Mission Specialist, as defined in SOW Section 1.8 *Definition of Crewmembers* in accordance with DRD CLDC-128 *Operations and Training Plan* and SOW Section 2.20 *Crew Selection and Mission Evaluation*. Crew trained below the minimum role of a Mission Specialist (including Passenger) shall be mutually agreed upon with NASA if USG crew are present. Mission Specialist level is required to ensure all crews are trained and available to perform an equitable amount of Destination operations, maintenance and housekeeping tasks required for on-orbit operations as well as supporting assembly, outfitting and maintenance tasks during early

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CLD operations. Passenger level training drives an inequitable amount of tasks to be shared across the remaining crew along with potential additional tasks to support the Passenger.

The Contractor shall deliver a Crew training schedule coordinated with NASA feedback, in accordance with DRD CLDC-128 *Operations and Training Plan*, with the final crew training schedule jointly approved by Contractor and NASA. A portion of crew training is expected to be conducted at NASA's Johnson Space Center in Houston, Texas.

The Contractor shall provide training and certification for ground personnel who are responsible for mission essential task execution and to safely accomplish the mission (e.g. flight controllers, instructors, medical personnel, and mission management team members) in accordance with DRD CLDC-128 *Operations and Training Plan*.

The Contractor shall provide operational and training documentation that is delivered pre-flight to support flight readiness reviews in accordance with DRD CLDC-210 *Crew Specific Activities*.

2.16.6 Rules of Operation

For all CLDS Mission Operations in which USG Crew and/or USG sponsored assets are present, for all phases of flight, the Contractor shall adhere to the following general operational rules of engagement:

- NASA maintains the right and ability to monitor CLDS performance via NASA Insight as defined in SOW Section 2.3 *Government Insight*. This insight occurs at NASA-sponsored locations (e.g., NASA monitoring real-time data, voice loops, and video from MCC-H and POIC) in accordance with DRD CLDC-127 *Mission Systems Plan*.
- Coordinate and collaborate with NASA on all activities that may impact USG sponsored assets during a mission to meet the intent of NASA-STD-1150, *Commercial Low-Earth Orbit Development Program Operations Standards*.
- At all times during CLDS operations, established Flight Rules will apply.

2.16.7 Anomaly Resolution

The Contractor shall prepare, deliver, and maintain closed-loop anomaly tracking and resolution process in accordance with DRD CLDC-128 *Operations and Training Plan*.

The Contractor shall provide NASA the capability to access, review, provide inputs to, and approve anomaly tracking, investigations, and resolutions. NASA shall have final approval authority in anomaly resolution when USG Crew and/or assets are present or impacted.

The Contractor shall provide NASA first right of refusal for leading anomaly investigations and resolution process for anomalies that occur on USG-provided hardware/software, GFE, or associated interfaces.

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2.16.8 Console Tools

The Contractor shall make console tools available to the on-board Crew and ground teams (including remote operators) and grant access to operations products to the NASA ground team for real-time mission planning and execution defined in CLDP-STD-1150 *Commercial Low-Earth Orbit Development Program Operations Standards*, in accordance with DRD CLDC-128 *Operations and Training Plan*.

2.16.9 Mission Systems

The Contractor shall develop, certify, operate, and sustain Mission Systems in accordance with DRD CLDC-127 *Mission Systems Plan* and DRD CLDC-128 *Operations and Training Plan*.

2.16.9.1 Control Centers

The Contractor shall design, develop, and sustain a capability to remotely and terrestrially command CLDS, receive and store CLDS telemetry, and transmit voice and video communications between CLDS components in accordance with DRD CLDC-127 *Mission Systems Plan* as follows:

- Capable of receiving and executing commands and sending telemetry with or without onboard Crew intervention.
- Archive all commands, telemetry, voice, and video communications for the performance period of the contract.
- Provide the capability to monitor CLDS command history and telemetry and to send and receive two-way voice and video to NASA facilities.

2.16.9.2 Training Systems

The Contractor shall develop, certify, operate, and sustain, at minimum, one high-fidelity training facility in accordance with DRD CLDC-127 *Mission Systems Plan*. Additional, lower-fidelity facilities may also be developed to aid in training such as part-task trainers.

The Contractor shall develop, operate and sustain the Destination Crew and ground team training capabilities in accordance with DRD CLDC-127 *Mission Systems Plan* and DRD CLDC-128 *Operations and Training Plan*.

2.17 Transportation

The Contractor shall provide transportation systems (previously certified or new) that are capable of safely and successfully delivering and returning USG Crew and cargo to and from the Destination as a service in accordance with SOW Section 1.3 *CLDS Requirements and Standards* and DRD CLDC-102 *Verification, Validation, and Certification Plan (VVCP)* including support services, permits, and licenses necessary to complete the service in accordance with SOW Section 2.1 *Program Management*.

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The Contractor shall ensure transportation systems will accommodate a range of hardware requiring volumes of CTBE's ranging from 0.5 CTBE – 8.0 CTBE.

The Contractor shall provide an execution plan, interface documentation, certification evidence, and the data exchanges needed to verify and validate the Destination to Crew and Cargo Visiting Vehicle (VV) interfaces through all mission phases, including proximity operations and attached operations (i.e. berthed or docked) in accordance with *DRD CLDC-211 Destination to Visiting Vehicle (VV) Integration (DVVI) Documentation*.

The Contractor shall develop or facilitate the delivery of CTS and CaTS safety documentation, plans, procedures, technical analyses, etc. in accordance with applicable safety requirements, DRD CLDC-115.2 *Crew Visiting Vehicle (CVV) Safety and Mission Assurance (SMA) Plan*, DRD CLDC-115.3 *Cargo Visiting Vehicle (CaVV) Safety and Mission Assurance (SMA) Plan*, and DRD CLD-118 *Safety Data Package*, and shall ensure consistency with Federal, State, and Local government requirements at Contractor-operated or provided integration facilities and launch sites.

The Contractor shall also make available Launch processing site, Federal Aviation Administration (FAA), and Range safety required documentation to NASA upon request.

2.17.1 Transportation Certification

The Contractor shall utilize previously certified crew and cargo transportation vehicles for the first four (4) Mission Service Order increments. Previously certified crew and cargo transportation systems are defined as currently certified or in work to be certified to ISS under the CRS or CCtCap contracts as of October 1, 2026.

The contractor, in coordination with their transportation provider and in accordance with CLDP-PLN-2000, CLDS Certification Plan shall be responsible for identifying and performing delta certification activities required to meet the CTS and CaTS requirements outlined in CLDP-REQ-1130. New transportation development and certification may be proposed but decision on certification will not be formalized until the CLIN 2 RFTOP.

The contractor shall perform an assessment to identify modifications needed to previously certified transportation systems to support the CLD, considering environment, design and operational differences. The assessment shall be reviewed and concurred upon by NASA.

After the first four (4) Mission Service Order increments, the Contractor may use new crew and cargo transportation systems or may continue to utilize previously certified crew and cargo transportation systems. Final determination related to new system development and certification will be defined at CLIN 2 RFTOP.

Note: If the Contractor utilizes GFTSS they shall refer to SOW Section 2.17.3 *GFTSS*.

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2.17.2 Transportation Mission Integration Services

The Contractor shall be responsible for performing the following Transportation services for each mission in accordance with DRD CLDC-201.2: *Crew Transportation System Mission Integration and Operations Management Plan* and DRD CLDC-201.3: *Cargo Transportation System Mission Integration and Operations Management Plan* including but not limited to:

- Plan and integrate the mission to include USG Crew, USG cargo/payloads, ground integration facilities, storage facilities, launch and landing facilities and mission operations facilities utilized for the delivery of CVV and CaVV to and from the Destination.
- Deliver the USG Crew, USG cargo/payloads to the Destination and return the USG Crew and returning or disposing of USG cargo/payloads identified by NASA.

The Contractor shall develop and submit for each mission, a mission resource allocation document in accordance with DRD CLDC-202.1 *Crew Transportation System Mission Resource Allocation Document (MRAD)* and DRD CLDC-202.2 *Cargo Transportation System Mission Resource Allocation Document (MRAD)*.

The Contractor shall perform all launch service preparations, launch vehicle integration, launch site and mission operations necessary to safely and successfully deliver the CVV or CaVV and Crew and/or cargo, to and from the Destination.

The Contractor shall implement, maintain, and execute pre-launch and post-landing operations in accordance with DRD CLDC-131 *Pre-Launch and Post-Landing Operations* and DRD CLDC-124 *Utilization Integration Plan*.

2.17.3 Government Furnished Transportation and Support Services (GFTSS)

The Contractor may utilize GFTSS for all or part of the end-to-end service, but NASA is only committing at time of award to provide crew and cargo transportation for the first four (4) Mission Service Order increments under this contract. NASA plans to provide previously certified crew and cargo transportation vehicles as defined in 2.17.1 Transportation Certification. NASA will provide up to two (2) Crewed Transportation flights and up to four (4) Cargo Transportation flights per year for the first four (4) mission increments. Attachment J-15 *Government Furnished Transportation and Support Services (GFTSS)* shall further define the Contractors crew and cargo traffic model.

The Contractor may utilize GFTSS beyond the first four (4) Mission Service Order increments, if agreed to by NASA at the CLIN 2 RFTOP, but the Contractor shall assume additional transportation vehicles will not be provided by NASA.

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GFTSS may be used to support the Destination On-orbit Activation and Checkout with details expected to be documented in the first CLIN 3 Mission Service Order. Additionally, any GFTSS Cargo Transportation flights may be used for Destination outfitting, assembly and additional activation and checkout, if the activities support NASA needs outlined in this contract. NASA is not offering GFTSS for Private Astronaut Missions (PAMs) or other missions not associated with USG requirements.

An equitable adjustment to NASA for transportation provided to the Contractor for the portion of the Mission utilized by the Contractor is required. The Contractor shall provide this calculation within their CLIN 3 Mission Service Order Proposals to account for the Crew and Cargo allocations and any related support services provided by NASA to the Contractor.

For missions which utilize GFTSS, the Contractor shall provide a list of data and products the Contractor requires from the transportation provider to deliver and the schedule to support each mission.

For missions which utilize GFTSS, the Contractor shall develop and complete an integration and test campaign with concurrence of NASA and Transportation provider required to support verification of mission specific requirements and/or delta-certification. The Contractor shall provide CLD data to the transportation provider in accordance with DRD CLDC-211 *Destination to Visiting Vehicle (VV) Integration (DVVI) Documentation*.

2.17.3.1 Support Services

NASA will provide the following services for crewed GFTSS missions:

- Emergency Response at Pad: Pad rescue, Triage sites, Medivac, DMCF Readiness
- Transportation to Launch Site for USG Crew and Family & NASA HSP Personnel
- Crew Rescue for all flight phases: Aborts-Pad, Staging, Ascent, World Wide Free Flight & Landing
- Transportation out of Blast Danger Area (BDA)
- Landing & Recovery Team (LRT): NASA representatives will be included
- Crew Rescue and Return Team (CRRT): NASA representatives will be included
- Day of Launch Security
- Landing Site Security: Water and land landing. NASA will provide USCG coordination
- Landing site weather and other analysis for undocking and crew return.
- MMOD assessments based on available destination data

The Contractor shall provide the following services for all GFTSS missions.

- Pre-Launch:
 - Crew Health Stabilization Plan (HSP) implementation in accordance with CLDP-STD-1123, Medical Standards and Capabilities
 - Crew Quarantine capabilities in accordance with CLDP-STD-1150, Commercial Low-Earth Orbit Development Program Operations Standards

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- Crew Suit up Room capabilities in accordance with CLDP-STD-1150, Commercial Low-Earth Orbit Development Program Operations Standards
- Transportation Generic Medical Kit in accordance with CLDP-STD-1150, Commercial Low-Earth Orbit Development Program Operations Standards and CLDP-STD-1123 Medical Standards and Capabilities
- Crew-Specific Medical Kit (Transportation & Destination) in accordance with CLDP-STD-1150, Commercial Low-Earth Orbit Development Program Operations Standards and CLDP-STD-1123, Medical Standards and Capabilities
- Dry dress rehearsal with suited Crew operations
- Pre-launch readiness review
- Launch site personnel and facilities in support of pre-launch operations
- Pre-launch communications
- Launch Scrub turn around operations
- Post-Landing:
 - Landing site identification, preparation, and equipment logistics including weather briefings
 - Landing and recovery team composition and logistics (inclusive of NASA Landing and Recovery Team (LRT)), including transportation of USG personnel supporting recovery in accordance with CLDP-STD-1150, Commercial Low-Earth Orbit Development Program Operations Standards
 - Landing and recovery simulations, rehearsals, and training
 - Crew and cargo recovery, transportation, and turnover
 - Contingency landing and rescue operations
 - External agency coordination
 - Post-Landing communications
 - Waive off operations

Crew Rescue in accordance with CLDP-STD-1150, Commercial Low-Earth Orbit Development Program Operations Standards

2.17.3.2 Associate Contractor Agreements (ACA)

The Contractor shall work together with the GFTSS transportation provider, in accordance with Clause H.17 *Associate Contractor Agreements*, and NASA to plan and integrate the mission to include USG Crew, USG cargo, ground integration facilities, storage facilities, launch and landing facilities and mission operations facilities utilized for the delivery of CVV and CaVV to and from the Destination, as much as is technically and economically rational. Changes must be reviewed and approved by NASA for all increments supporting USG Crew.

2.17.4 Transportation and Destination Sensitive Data Handling

Destination and Transportation contractors should create opportunities to communicate directly through ACAs.

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Due to the potential transmission of competition sensitive data, the Contractor's Transportation Provider (CVV and CaVV) is allowed, with the Contractor's concurrence, to transmit data, or portions of data, directly to NASA electronically. Should this occur, the Contractor's Transportation Provider shall notify the Contractor that such delivery has been made to NASA. The Contractor is still responsible for the timeliness and delivery of each applicable Transportation DRD to the Government. If executed, this direct data delivery from the CTS or CaTS Contractor(s) would not absolve the Contractor from any responsibilities or requirements including the responsibility for overall mission success.

However, the Contractor shall also ensure NASA has the ability for direct communications with transportation (CTS and CaVV) providers including enabling access to the transportation providers' Information Technology (IT) systems as outlined in this contract to facilitate transportation certification.

2.17.5 Launch Vehicle Maturity

For the launch of elements, the Contractor shall utilize launch vehicles for transport of CLDS elements that have been accepted as NASA Launch Services Category 3 in accordance with LSP-PLN-324.01 Launch Vehicle Certification and NPD 8610.7D Launch Services Risk Mitigation Policy for launch of CLDS elements supporting NASA increments. The Contractor may request use of Category 2 vehicles with NASA approval. For approval of use of Category 2 launch vehicles, NASA will conduct an independent risk assessment which will require launch vehicle data including, but not limited to, design, manufacturing and operations, system safety, quality systems/process compliance, flight hardware and software qualification, and launch complex. Additionally, Category 2 launch vehicles will require insurance outlined in Clause H.26 *Insurance for Damage to Property*.

For the launch of cargo, the Contractor shall utilize launch vehicles for transport of CLDS cargo that have three (3) or more previous successful flights of a similar launch vehicle configuration. The Contractor may request use of launch vehicles with less than three (3) previous successful flights with NASA approval. For approval of use, NASA will conduct an independent risk assessment which will require launch vehicle data including, but not limited to, design, manufacturing and operations, system safety, quality systems/process compliance, flight hardware and software qualification, and launch complex.

NOTE: Launch vehicle requirements associated with crewed missions are outlined in CLDP-REQ-1130.

2.17.6 Crew Launch & Return

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The Contractor shall launch the CTS vehicle from a U.S. (or U. S. State Department approved) launch site(s) and meet the requirements in Clause H.8 *United States Commercial Provider and Domestic Source Criteria*.

The Contractor shall nominally return the CTS vehicle to a designated Primary Landing Site within either the Continental United States (CONUS) or adjacent U.S. territorial waters.

2.17.7 Transportation Redundancy

The Contractor shall be capable of accommodating at least one (1) NASA certified commercial crew transportation service provider and one (1) cargo transportation services providers. The Contractor should accommodate redundancy of dissimilar crew and cargo vehicles in the event of a fleet-wide failure.

2.17.8 NASA Provided USG Crew Services

The contractor shall not be responsible for the following services. NASA will provide the following services for all missions with USG Crew:

- Transportation back to Houston for USG Crew: Nominally and from DMCF as required
- Baseline Data Collection (BDC) for USG Crew (NASA conducts BDC while Contractor coordinates Facility availability)
- USG Crew Personal Effects and Psychological Support
- USG Crew Crew-worn active radiation dosimeters: Customized H/W for occupational surveillance
- USG Crew Hearing Protection for USG Crew
- USG Crew Optical Coherence Tomography (OCT): Crew specific H/W for SANS (flight unit matches ground unit)

2.18 Human Health, Medical and Performance**2.18.1 Human System Integration**

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with a human systems integration plan submitted in accordance with DRD CLDC-108 *Human Systems Integration (HSI)*.

2.18.2 Human-in-the-Loop (HITL) Testing

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with a strategic HITL Plan submitted in accordance with DRD CLDC-108 *Human Systems Integration (HSI)*.

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The Contractor shall conduct task analyses and HITL tests for the CLDS and deliver task analysis and HITL reports in accordance with DRD CLDC-108 *Human Systems Integration (HSI)*.

For planning and execution of HITLs with NASA human test subject participation and/or in NASA facilities, the Contractor shall meet the intent of JPR 1700.1M, JSC Safety and Health Requirements, Sections 6.8 and 10.2.4, JW1 1700.5, JSC SAFETY AND HEALTH REQUIREMENTS: NON-IRB HUMAN-IN-THE-LOOP (NIRB-HITL) TESTING, CK-WI-28, FOD Safety and Test Readiness Review Process for Ground Support and Test Readiness Review Process for Ground Support Activities at Non-NASA Facilities, Internal to Human Health and Performance Human in the Loop Assessment Work Instruction in accordance with DRD CLDC-108 *Human Systems Integration (HSI)*, to include: 1) maintenance of an overall CLDS HITL Plan/timeline, 2) submission of individual HITL test plans and USG Crew requests, 3) adherence to NASA Safety Review and Test Readiness Review processes, and 4) use of a joint NASA/Contractor HITL coordination working group. Acronym Note: Institutional Review Board (IRB)

2.18.3 Human Error Analysis

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with the Human Error Analysis (HEA) plan and reports submitted in accordance with DRD CLDC-109 *Human Error Analysis*.

2.18.4 Medical Operations

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with a medical operations plan submitted in accordance with DRD CLDC-111 *Medical Operations Plan*.

NASA will retain medical authority for USG Crewmembers throughout all phases of the mission, including testing, training, and real-time console support, unless delegated to the Contractor for specific scenarios and documented in DRD CLDC-111 *Medical Operations Plan*.

The Contractor shall train at least two crew per mission to operate the medical system, perform medical procedures, concisely and accurately communicate medical information with ground medical personnel, and can assist other crew in case of off nominal medical events.

The Contractor shall ensure any physicians, paramedics, nurses, psychiatrists, or psychologists responsible for crew health, that provide medical care to the crew, or who have approval authority for medical certification of the crew maintain the credentials and qualifications in accordance with CLDP-STD-1123, Commercial Low-Earth Orbit Development Program Medical Standards and Capabilities, Section 4.0

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The Contractor shall develop, implement, deliver, maintain, and operate in compliance with a medical and Crew health system plan submitted in accordance with CLDC-114, *Medical and Crew Health System Plan*.

2.18.5 Health Stabilization Program

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with a Crew health stabilization program in accordance with DRD CLDC-113 *Health Stabilization Program (HSP) Plan* and inform NASA about any infectious disease events, process breaks for HSP, and management of such events for each mission.

2.18.6 Acoustic Noise Control

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with the Acoustics Noise Control plan and reports submitted in accordance with DRD CLDC-110 *Acoustics Noise Control Plan*.

2.18.7 Food and Nutrition

The Contractor shall develop, implement, deliver, maintain, and operate in compliance with the food and nutrition plan submitted in accordance with DRD CLDC-112 *Food and Nutrition Plan*.

2.19 Government Furnished Resources, Property and Services

The Contractor may request the use of certain specified Government resources in accordance with Clause G.5 NFS 1852.245-76 *List of Government Property Furnished Pursuant to FAR 52.245-1 (DEC 2025) (DEVIATION)* and Clause H.3 *Use of Government Resources*.

2.19.1 Use of Government Resources**2.19.1.1 Government Collaboration Agreement (GCA)**

The Contractor shall follow the instructions for use of *Government Collaboration Agreements* (GCAs) in accordance with Clause H.3 *Use of Government Resources* to include use of NASA personnel and provide a quarterly briefing status in accordance with SOW 2.1 *Program Management*.

2.19.1.2 Government Task Agreements (GTA)

The Contractor shall follow the instructions to utilize Government Task Agreements (GTAs) in accordance with Clause H.3 *Use of Government Resources* to request use of the Government resources listed in Attachment J-14 *Government Task Agreements* which includes property, facilities, infrastructure assets, information and data (not furnished under this contract), or for

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services, whether obtained from NASA and provide a quarterly briefing status regarding the use of GTAs in accordance with SOW Section 2.1 *Program Management*.

During Contract performance, the Contractor shall notify the COR of any new Government Task Agreements (GTAs) the Contractor enters into in support of this contract, including by furnishing the GTA. The Contractor is responsible for furnishing any amendments to said GTAs to the COR should any occur.

2.19.2 Government-Furnished Property (GFP) Integration

The Contractor shall be responsible for the integration of any Government Furnished property (GFP), Government Furnished Equipment (GFE), or Government Furnished Data (GFD) into their CLDS design in accordance with contract Clause G.5 *NFS 1852.245-76 List of Government Property Furnished Pursuant to FAR 52.245-1 (DEC 2025) (DEVIATION)*, and in accordance with Attachment J-13 *Government Furnished Property and Data/Information*.

The Contractor shall ensure that the NASA-generated qualification for the use of NASA-designed hardware, is sufficient for use by the CLDS or perform appropriate modifications to or delta-qualification of the hardware to ensure it is sufficient for use by the CLDS.

- *Note: Where the Contractor is building or procuring the NASA-designed hardware from a supplier not previously certified by NASA to provide that hardware, or where the Contractor may need to modify the NASA design due to parts obsolescence or other issues (e.g., part called out on NASA drawings is proprietary and not available to the CLDS), it is expected that the Contractor will assign its own part number to the item and perform appropriate qualification and acceptance of the parts. The extent to which qualification-by-similarity to the NASA qualification data may be relied upon, as well as the delta-qualification effort that will be required, will need to be reviewed and approved by NASA on a case-by-case basis for each NASA-designed hardware item being used and/or modified by the CLDS.*

The Contractor shall ensure that the as-built hardware complies with the CLDS design governing specifications, drawings, qualification, and acceptance testing configuration and performance defined in the governing NASA CLDS specification and drawings (or CLD-generated specification and drawings based on the NASA documentation) governing that hardware for CLDS or CLDS-supplier manufacture and use of NASA-designed hardware.

The Contractor shall develop and deliver a *Government Property Management Plan* as Attachment J-16, which describes the Contractor's methods and processes for the identification, control, maintenance, and safeguard of Government property in accordance with DRD CLDC-010 *Government Property Management Plan*.

2.19.3 Government-Furnished Information

Government-Furnished Information (GFI), such as technical data packages, can be furnished to the Contractor for performance of the contract and listed on Attachment J-13 *Government*

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Furnished Property, Data and Information. Unless otherwise specified by the contracting officer in writing when furnished, the contractor is not required to return the GFI to the Government.

During contract performance, the Contractor should make all requests for GFI in writing to the COR. Provision of GFI may be subject to additional terms and conditions.

2.19.4 USG Furnished Crew Time

All Crew including USG Crew shall support assembly, outfitting, maintenance and operational tasks required on the Destination based on their capabilities and jointly developed increment plan. USG Crew may perform commercial payload operations for the Contractor as specifically negotiated in the mission task order and Commercial Activities in accordance with DRD CLDC-009 *Commercial Activities Management Plan*.

2.20 Crew Selection and Mission Evaluation

The Contractor shall develop, implement, deliver, maintain, and execute a Crew selection and qualification-for-flight process including medical and behavioral certification and delivery of resulting evidence in accordance with DRD CLDC-130 *Crew Selection and Evaluation Plan*.

2.20.1 Minimum Standards

The Contractor shall ensure that all Crewmembers as defined in SOW Section 1.8 *Definitions of Crewmembers* meet the following minimum criteria for NASA CLDS missions:

- Minimum age of 18
- English language proficiency which will permit an individual to reach an intermediate to high fluency prior to flight using the American Council on the Teaching of Foreign Languages (ACTFL)
- Negative results of drug screen per CLDP-STD-1123 *Medical Standards and Capabilities*
- If they are from a Designated Countries Tier II and III, NASA approval must be granted.
- Background check results show:
 - No evidence of misconduct in prior employment/military service
 - No major financial issues
 - No evidence of Criminal, dishonest, infamous, or notoriously disgraceful conduct
 - No criminal driving violations
 - No intentional false statements or fraud
 - No membership in organizations or participation in activities which adversely affect the confidence of the public or reflect unfavorably on NASA

2.20.2 Crew Commander

The Contractor shall ensure specific requirements as they pertain to the Commander position are followed as specified in DRD CLDC-130 *Crew Selection and Evaluation* and in Clause H.23 *Authority and Responsibilities of the Destination and Crew Visiting Vehicle (CVV) Commander*,

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Chain-of-Command and Succession On-Orbit; Relationship Between Ground and On-Orbit Management.

The Contractor shall provide NASA first right of refusal of the Crew Commander role for each Service Mission. The Contractor may propose taking the Crew Commander position by making a request in a Mission Service Order proposal, which will be negotiated at that time, for the subject increment. The Contractor shall include the qualifications of the proposed Crew Commander for NASA consideration and agreement.

2.20.3 Mission Medical and Behavioral Health Certification

NASA will conduct medical and behavioral evaluations of USG Crew unless delegated to the Contractor for specific evaluations and documented in the Contractor's DRD CLDC-130 *Crew Selection and Evaluation*.

The Contractor shall allow NASA participation in the mission medical and behavioral health certification process to assess risk to USG Crew and the NASA mission while USG Crewmembers are inhabitants, in accordance with CLDP-STD-1123 *Medical Standards and Capabilities*.

The Contractor shall complete mission medical and behavioral health certification of all Crew by Launch (L)-12 months for each scheduled mission launch and before Crew participates in hazardous training. The Contractor shall ensure the certification remains valid throughout each mission.

2.21 Crew Code of Conduct (CCoC)

The Contractor shall develop, implement, and maintain a Crew Code of Conduct (CCoC) in accordance with Clause H.23 *Authority and Responsibilities of the Destination and Crew Visiting Vehicle (CVV) Commander; Chain-of-Command and Succession On-Orbit; Relationship Between Ground and On-Orbit Management* and with DRD CLDC-129 *Crew Code of Conduct*.

2.21.1 Authority and Responsibilities of the Commander

The Contractor shall comply with the authority and responsibility of the Crew Commander in accordance with Paragraph C of Clause H.23 *Authority and Responsibilities of the Destination and Crew Visiting Vehicle (CVV) Commander; Chain-of-Command and Succession On-Orbit; Relationship Between Ground and On-Orbit Management*.

2.22 Commercial Activity Coordination

The Contractor shall develop, deliver, implement, maintain, and operate in compliance with clause H.30 *Commercial Activity Guidance* and in accordance with DRD CLDC-009 *Commercial Activities Management Plan*, which describes the process for coordinating with

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NASA for any Commercial Activity, and includes use of USG personnel, hardware/software, and other assets.

2.23 Communications and Public Affairs

The Contractor shall perform all communications and public affairs activities in compliance with Clause H.21 *Communications*. The Contractor shall support NASA in a minimum of four (4) minor events per month including outreach activities, media engagement, and other CLD related communication opportunities. Minor events typically span 1-2 days in duration. The contractor shall support NASA in a minimum of seven (7) major events per NASA mission including, but not limited to planned pre-launch, on-orbit, and post-landing activities, as well as contingency events. Major events typically span 1-5 days in duration.

The Contractor shall partner with NASA to maximize public engagement opportunities through all phases of the CLD activities.

Using the real-time audio transfer to NASA facilities defined in SOW Section 2.16.9.1 *Control Centers*, the Contractor shall provide real-time audio of NASA missions on CLDs to the Government for NASA to distribute publicly at the discretion of the agency. The handling and release of audio by the Contractor shall follow the guidance provided in Clause H.21 *Communications*.

3.0 CLIN STRUCTURE AND DESCRIPTION

The Contract Line-Item Number (CLIN) for the CLDC is shown in Table 3.0-1 CLIN STRUCTURE.

Table 3.0-1 CLIN Structure

CLIN	CLIN TITLE
1	INITIAL DEVELOPMENT
2	CLDS DEVELOPMENT & CERTIFICATION
3	MISSION SERVICES
3A	SERVICE MISSION A
3B	SERVICE MISSION B
3C	STANDARD SERVICE MISSION
4	PRE-PRICED ADDITIONAL SERVICES
5	CLDS SPECIAL TASKS & STUDIES

3.1 Initial Development (CLIN 1)

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The CLIN 1 scope establishes the initial phase to support the overall design, development and system readiness of the CLDS, to support the next phase and continuation of the CLDS certification. The Initial Development milestones will determine the contractor's business maturity and the CLDS technical validity through the completion of an Integrated Progress Review (IPR). The Contractor shall provide NASA all insight, certification and verification data during this period required for closure of CLIN 1. The Initial Development Milestones with details of the entrance and success criteria are specified in CLDP-PLN-2000, *Commercial Low-Earth Orbit Destination System (CLDS) Certification Plan* and are defined in Attachment J-11 *Certification Work Plan*.

3.2 CLDS Development & Certification (CLIN 2)

The CLIN 2 scope includes the design, manufacturing, testing and evaluation, integration, operational readiness and certification to meet the requirements of a CLIN 3C Standard Service Mission in accordance with Attachment J-11 *Certification Work Plan*. The Contractor shall provide NASA all insight, certification and verification data during this period required for closure of CLIN 2.

The CLIN 2 Certification process allows for interim procurement of CLIN 3A Mission A or CLIN 3B Mission B Services, which are defined in Attachment J-11 *Certification Work Plan*.

Certification Milestone definitions are defined with the entrance and success criteria as specified in Attachment J-11 *Certification Work Plan*.

3.3 Mission Services (CLIN 3)

The Contractor shall provide Mission Services in accordance with SOW Section 2.0 *CLDC General Requirements* for each mission type to support USG Crew and utilization. Mission Services shall include, but is not limited to, program management, systems engineering and integration, safety and mission assurance, operational support, certification sustainment, mission integration (including crew accommodations), payload facilities and utilization integration, mission operations, and transportation (if provided), human health and medical services. CLD maintenance, including element level upgrades post certification, shall be scoped under CLIN 3.

The scope of CLIN 3 identifies the three (3) types of Mission Services. Each mission type is defined by a set of minimum requirements the Contractor shall meet. The Contractor shall include Mission Type A and Mission Type B to offer early services, if the contractor allows for it as part of their configuration. The Contractors final configuration shall meet a Standard Service Mission.

Activation & Checkout: The first NASA Mission Service Order increment shall include the Destination Activation & Checkout objectives as described in CLDP-PLN-2000, *Commercial Low-Earth Orbit Destination System (CLDS) Certification Plan*. The Contractor may perform the Activation & Checkout under any Mission Type.

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End-to-End Service Mission: An End-to-End Service Mission is defined as the fulfillment of all CLD Mission Services that include all Crew and Cargo Transportation Services. Mission Types A, B and Standard Service Missions shall provide transportation and accommodations for two (2) USG Crew to meet the Minimum Capability required but shall allow the Government to purchase transportation and accommodations for up to four (4) USG Crew, including utilization for Mission Type B and Standard Service Missions and a total of three (3) USG Crew for Mission Type A. The Contractor shall provide pricing for this in Section B.

CLD Only Service Mission: A CLD Only Service Mission is defined as the fulfillment of the End-to-End Mission Service with the exclusion of Crew and Cargo Transportation Services. Mission Types A, B and Standard Service Missions shall provide accommodations for two (2) USG Crew to meet the Minimum Capability required, and shall allow the Government to purchase accommodations for up to four (4) USG Crew, including utilization for Mission Types B and Standard Service Missions and a total of three (3) USG Crew for Mission Type A.

For USG Crewed Standard Service Mission increments, this duration is anticipated to last approximately six (6) months during which time, NASA may use the Destination services to conduct utilization. In certain scenarios, NASA may choose to reduce or extend this duration. Destination utilization services may also be ordered during USG uncrewed periods of time, the length of which would be determined in the CLIN 3, Mission Service Task Ordering process. Variations to the Contractors Mission Service type capability and usage may be negotiated for each TO prior and/or during the life of the mission increment in accordance with the task ordering procedures and any other terms and conditions in the contract.

Mission Service Milestone definitions are defined with the entrance and success criteria in Attachment J-12 *Mission Service Work Plan Template*. The template shall be used for each Mission Service Increment.

The Contractor shall provide a summary of the overall performance of the Commercial LEO Destination System (CLDS) through the entire increment for a mission unique Task Order in accordance with DRD CLDC-205 *Post Increment Report (PIR)*.

The Contractor shall provide a comprehensive Post Flight Report (PFR) of the Crew Transportation System (CTS) or Cargo Transportation System (CaTS) and the performance of the interfaces on the Commercial Low Earth Orbit (LEO) Destination (CLD) that were utilized to support the CTS or CaTS operations in accordance with DRD CLDC-206 *Visiting Vehicle Post Flight Report*.

3.3.1 Mission A - Crew Tended Missions (CLIN 3A)

Mission A - Crew Tended Mission, is defined as a Crew Tended mission which meets the minimum capabilities identified in Table 3.3.1. CLIN 3A is optional and should be based on the Contractor's configuration.

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Table 3.3.1 – Mission A (Crew Tended) Minimum Capabilities

	Mission A
Minimum Number of Total Crew	3
Minimum Number of USG Crew	2
Minimum Duration	1 month
On-Orbit Crew Capability (SOW 1.7.1)	Crew Tended
Utilization Capabilities (SOW 1.5, 1.6)	Category 1

3.3.2 Mission B – Continuous Crew Mission (CLIN 3B)

Mission B – Continuous Crew Mission, is defined as a Continuous Crew Mission that meets the minimum capabilities identified in Table 3.3.2. CLIN 3B is optional based on the Contractor's configuration.

Table 3.3.2 – Mission B (Continuous Crew) Minimum Capabilities

	Mission B
Minimum Number of Total Crew	4
Minimum Number of USG Crew	2
Minimum Duration	6 months
On-Orbit Crew Capability (SOW 1.7.2)	Continuous Crew
Utilization Capabilities (SOW 1.5, 1.6)	Category 2

3.3.3 Standard Service Mission (CLIN 3C)

Standard Service Mission is defined as a Continuous Crew Mission that meets all of NASA's Standard Mission Minimum capabilities as identified in Table 3.3.3.

Table 3.3.3 – Standard Service Mission Minimum Capabilities

	Standard Mission
Minimum Number of Total Crew	4
Minimum Number of USG Crew	2
Minimum Duration	6 months
On-Orbit Crew Capability (SOW 1.7.2)	Continuous Crew
Utilization Capabilities (SOW 1.5, 1.6)	Category 3

3.4 Pre-Priced Additional Service (CLIN 4)

The CLIN 4 scope establishes Additional Services (which are required to be available as an add-on service) and Optional Pre-Priced Services (which are optional to offer and included as an add-on service). Services will be ordered in incremental units as a stand-alone Task Order or added to a Mission Service Order depending on NASA's requirements.

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CLIN 4 Services ordered shall be in addition to the capabilities already included within each CLIN 3 Mission Type configuration ordered under CLIN 3 or may be ordered separately from a CLIN 3 Mission Service Order.

NASA shall also use the pre-priced tables as a basis for negotiation for equitable adjustment if the subject capability cannot be provided for a specific Mission Task Order.

3.4.1 Additional Services

The Contractor shall provide the following services to support increased capabilities to a Mission Service. These include additional crew seats and additional utilization needs on-orbit and transportation.

The Contractor shall provide NASA first right of refusal for additional cargo services. Final allocations will be negotiated in the Mission Service Task Order Proposal, for each increment, up to the allocations provided in Table 3.4.1-1 NASA First Right of Refusal Allocated Cargo Per Mission. Available cargo is defined as total cargo capacity minus cargo allocated for required crew accommodations or vehicle operations or maintenance requirements. Agreement will be negotiated as part of the CLIN 3 Mission Task Order.

TABLE 3.4.1-1 NASA First Right of Refusal Allocated Cargo Per Mission

Number of Seats Purchased	% of Available Cargo
2	50%
3	65%
4	75%

Additional Crew Seat and Crew Accommodations Services include services to accommodate an additional USG Crew Member which includes all pre-flight, launch, on-orbit, return and post-flight accommodations.

Additional Utilization and Transportation Services include additional usage or quantities of capabilities already offered under a standard service under CLIN 3 Mission Services.

3.4.2 Optional Services

The Contractor may offer Optional Services, in addition to the required 3.4.1 Additional Services, which may be added to the CLIN 3 Mission Service Task Order or separately ordered as a standalone Mission Service Order as needed by the agency. Optional additional utilization capabilities can be found in CLDP-STD-1106, *CLDP Utilization Capabilities Standard*. If offered, unpressurized external utilization services should include integration and services for unpressurized external payloads. This includes the robotic removal of the external payload from

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an external location on a visiting vehicle, installation, ground processing, ground support equipment prior to launch, integration into the Visiting Vehicle as well as maintain power for the payload, power-up of the external payload onto an external location of the commercial destination, and removal. Unpressurized External Utilization Services may also include external utilization flight support equipment and on-orbit support equipment of Contractor design to support the transportation and on-orbit accommodation concept of operations.

Furthermore, NASA may procure payload developer services as defined in SOW Section 1.9.2 *Payload Developer* for Contractor-provided payload facilities.

3.5 Special Tasks and Studies (CLIN 5)

Special Tasks and Studies Description requires the Contractor to perform additional destination or transportation related services to include but not limited to: early crew training, special studies and analyses, risk reduction activities, materials, additional modifications/support of other technology demonstrations/utilization and/or fabrication of hardware in support of the CLDC. Each CLIN 5 Special Task or Study will be initiated by written direction from the NASA Contracting Officer and executed as a Task Order. These tasks include but are not limited to; advance planning and feasibility studies in support of future contemplated requirements, fabrication, and test of hardware/software to support planning studies or special tests, mission unique studies, material provision, and implementation of changes required due to changes in requirements.

(End of SOW)