80LARC26R0002

EXHIBIT B

Data Requirements List (DRL) / Data Requirements Description (DRD)

For

Geostationary Littoral Imaging and Monitoring Radiometer (GLIMR) Access to Space (ATS)

Version 1.0

July 1, 2026

REVISION HISTORY PAGE

Revision No.	Description	Release Date
Preliminary, V0.1	Initial release, for use on GLIMR Mission Access to Space Industry Concept Study	2/18/26
Preliminary, V0.2	Added MA-04 SCV reporting	5/26/26
Baseline, V1.0	Approved release for request for proposal	7/1/2026

Table of Contents

1. INTRODUCTION 4
2. DEFINITIONS 4
3. DUE DATES/MATURITY – RELATED DEFINITIONS 5
4. MEDIA - RELATED DEFINITIONS 6
5. CATEGORY - RELATED DEFINITIONS 7
6. DATA REQUIREMENTS LIST 7
7. DATA REQUIREMENTS DESCRIPTION (DRD) 12
   7.1 REVIEW DRDS 12
   7.2 PROJECT MANAGEMENT DRDS 23
   7.3 SAFETY AND MISSION ASSURANCE (S&MA) DRDS 31
   7.4 TECHNICAL DRDS 36

1. INTRODUCTION

This Data Requirements List (DRL) / Data Requirements Description (DRD) document defines the requirements for deliverable documentation to be provided by the Contractor. Section 2.0 includes definitions and instructions for delivery. Section 3.0 presents the DRL item by item, including due dates, quantity, and media format. Section 4.0 provides the DRD for each item listed in the DRL. Each DRD includes use and preparation information.

2. DEFINITIONS

Term	Definition
Access to Space (ATS)	Contractor services required to integrate the GLIMR Payload onto the GLIMR spacecraft and place the Observatory into the specified GEO orbit and that will allow the Government to acquire the necessary scientific measurements (including transmission of this data to the GSDS) to assess rapidly evolving processes such as phytoplankton physiology and bloom evolution, episodic/seasonal river discharge, dissolved and particulate carbon transformations, and coastal storm damage.
Distributed Active Archive Center (DAAC)	The Government-assigned location(s) where GLIMR data and data products will be delivered by the GLIMR GSDS for public access and permanent archive.
GLIMR Ground Segment	Provides the GLIMR Observatory command, control, and communication uplink and downlink, and data transfers from the GLIMR GMOC to the GLIMR GSDS.
GLIMR Ground Station	Provides the GLIMR GMOC communications to and from the GLIMR Observatory.
GLIMR Mission	The entire GLIMR science mission performed by the Government and the Contractor. Includes the GLIMR Payload and Access to Space, data product generation, science results, and PI-led science community.
GLIMR Mission Operations Center (GMOC)	Control center for uploading GLIMR Spacecraft and GLIMR Payload commands to the GLIMR Spacecraft and receiving GLIMR Spacecraft, GLIMR Payload, GLIMR science and housekeeping data from the GLIMR Spacecraft.
GLIMR Observatory	The combination of the GLIMR Payload to the GLIMR Spacecraft.
GLIMR Payload	The hardware that will be integrated into the GLIMR Spacecraft. The GLIMR Payload is a geostationary hyperspectral ocean color sensor capable of repeat coverage designed for the primary mission focus on ecosystem processes in the Gulf of America Includes all GLIMR Payload intra-connected cables and harnesses between the GLIMR Payload's subsystems. Does not include the Contractor-provided cables such as power, data, and communications to the GLIMR Payload-to-GLIMR Spacecraft interface.
GLIMR Science Data Segment (GSDS)	The facility operated by the Government, located at NASA Goddard Space Flight Center, that receives GLIMR mission raw data (L0) from the GMOC to generate science products and deliver

	them to the GLIMR DAAC.
GLIMR Spacecraft	The vehicle with mechanical, electrical, and thermal interface for the GLIMR Payload to achieve the GLIMR mission. For the purposes of this effort, the GLIMR Payload may be hosted on a dedicated spacecraft or share the spacecraft with other payloads.
Interface Control Document (ICD)	Defines the interface between two systems (e.g., GLIMR Payload-to-GLIMR Spacecraft Mechanical and Thermal ICD; GLIMR Payload-to-GLIMR Spacecraft Electrical ICD; GLIMR GSDS-to-GMOC ICD).
Launch Segment	A rocket system including all necessary operations for launch to insert GLIMR Observatory from Earth's surface into orbit.
Shall	Means the imperative. Compliance and formal traceability and verification by the Contractor is mandatory. Any deviations from these contractually imposed mandatory requirements require a formal change implemented through a written contract modification.
Will	Designates the intent of the Government.
May	Terms "may" or "can" denote discretionary privilege or permission.

3. DUE DATES/MATURITY – RELATED DEFINITIONS

The following definitions apply to the "DUE DATE, MATURITY." Unless otherwise specified, deadlines are in calendar days.

(a) DUE DATE:
  (1) DACA: (Calendar) Days After Contract Award.

(b) MATURITY:
  (1) Draft: An early submission of an item. To be completed as is practicable at the time of preparation. Preliminary submittals are based on the best available current information and are resubmitted when required. Major changes are expected.
  (2) Final: The submission of an item that, to the best of the Contractor's knowledge and intention, will not require further revision or updates. However, this does not preclude later updates, if found that any of the contents are no longer accurate.
  (3) Update: The item is revised with the best up-to-date information available at the time, as required. Updates require the same "approval/review/information" process as was required for the most recent submission. "Update" applies to all documentation.

4. MEDIA - RELATED DEFINITIONS

The following definition applies to the "MEDIA" column in Tables 3-1 through 3-4 of this document. If separate distribution instructions are not specified for separate submission due date/maturity items, then the listed distribution applies to all submissions.

E Electronic: The Contractor shall deliver data items to a Government specified web portal unless otherwise noted. The Contractor shall notify the Contracting Officer (CO) and Contracting Officer's Representative (COR) of electronic submission of the data item via electronic mail. The Contractor shall provide electronic deliverables in the following standard electronic formats unless otherwise approved by the CO or COR:

- Text Documents: PDF (searchable) or Microsoft Word.
- Presentations: PDF (searchable) or Microsoft PowerPoint.
- Spreadsheets: Microsoft Excel.
- Database: Delimited ASCII (American Standard Code for Information Interchange) text files accompanied with database schema document defining tables and entries or mutually agreed software.
- Schedules: PDF and native scheduling software file format (e.g., Microsoft Project, Primavera, etc.).
- Schematics and Drawings: Design Web Format (DWF) and PDF.
- Photographs: JPEG or current industry standard.
- Video: Any readily available open standard (e.g., AVI, MPEG).
- CAD models: .step files or agreed software platform
- Thermal Analysis Models: Thermal Desktop or agreed software platform
- Structural Analysis Models: Nastran or agreed software platform
- Software: code and/or executable
- Other: mutually agreed upon format

O Other: See DRD for additional distribution instructions.

A Access: The Contractor shall maintain and provide access to data items (including documentation that are produced in the normal business of carrying out the contracted work) in a Government specified web portal, unless otherwise noted in the DRD. Material shall be available for access to a Government representative or delivered for review upon request to the Government utilizing one of the other media selections noted above. NOTE: There is no specific contract requirement or action for delivery of such material and the DRD formats are suggestions for document generation to ensure all required items are addressed.

5. CATEGORY - RELATED DEFINITIONS

The following definitions apply to "Submission Category (CAT)" column Tables 3-1 through 3-4. If separate submission instructions are not specified for separate submission due date/maturity items, then the listed submission instruction applies to all submissions.

A Approval: This category requires Government signature approval of the documentation (including approval of any applicable review) before the Contractor begins implementation. If the Contractor has not received approval within 21 calendar days of delivery of a DRD item or the date of any applicable review (whichever is later), the Contractor may proceed as if approved unless otherwise directed by the CO. If the item is rejected (not approved) and returned with comments for revision, the Contractor shall follow the requirements specified by the CO or COR to resolve issues. For most cases the Contractor shall resubmit the document within 14 calendar days of receiving comments from the Government.

R Review: This category requires Government review. The Contractor may implement the document if not notified of corrective actions within 14 calendar days after receipt by the Government. If corrective actions are identified, their resolution will be mutually agreed upon and specified by the CO or COR.

I Information: Documentation items in this category are provided for Government information only. No formal feedback will be provided. Any issues or questions arising from review of the documentation will be addressed at regular oversight meetings.

6. DATA REQUIREMENTS LIST

Tables 6-1 through 6-4 comprise the DRL.

Table 6-1 Review DRL

No.	DOCUMENT	DUE DATE, MATURITY	MEDIA	CAT
RE-01	ATS Requirements Review (ATSRR)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-02	GLIMR Spacecraft to GLIMR Payload Integration Review (ATSIR)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-03	GLIMR Observatory Test Readiness Review (ATSTRR)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-04	GLIMR Mission Operations Readiness Review (ATSORR)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-05	GLIMR Mission Post Launch Assessment Review (ATSPLAR)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-06	GLIMR Mission Decommissioning Review (ATSDR)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-07	GLIMR Payload Pre-Ship Review (PSR)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-08	GLIMR Extended Mission Review for Period 1 (EMR1)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A

RE-09	GLIMR Extended Mission Review for Period 2 (EMR2)	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-10	GLIMR Mission Key Decision Point (KDP) E	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation due 7 calendar days prior to the scheduled review.	E E	R A
RE-11	GLIMR Mission Key Decision Point (KDP) F	Draft presentation and required data submittals due 30 calendar days prior to the scheduled review. Final presentation is due 7 calendar days prior to the scheduled review.	E E	R A

Table 6-2 Project Management DRL

No.	DOCUMENT	DUE DATE, MATURITY	MEDIA	CAT
PM-01	Monthly Project Status Report (MPSR)	Monthly, no later than the 15th calendar day	E	I
PM-02	Security Requirements for Unclassified IT Resources	See instructions in DRD	E, O	A
PM-03	Subcontracting Reports	See instructions in DRD	E, O	I
PM-04	Organizational Conflicts of Interest (OCI) Plan	See instructions in DRD	E, O	A

Table 6-3 Safety and Mission Assurance DRL

No.	DOCUMENT	DUE DATE, MATURITY	MEDIA	CAT
MA-01	AS9100 Compliance Documents: Quality Plan and Quality System Manual	30 DACA	Access	I
MA-02	Reporting of Discrepancies	For GLIMR Payload interface-related discrepancies: Within 24 hours after discrepancy incident For all other discrepancies, Monthly, with MPSR During On-Orbit Checkout and Operations: Within 24 hours after discrepancy incident	E Access E	A I A
MA-03	Functional and Interface Failure Modes and Effects Analysis (FMEA)	Draft due 30 calendar days prior to the PSR Final due 30 calendar days prior to the ATSIR	E Access	A I

			E	A
MA-04	Supply Chain Visibility (SCV) Reporting	See instructions in DRD	O	I

Table 6-4 Technical DRL

No.	DOCUMENT	DUE DATE, MATURITY	MEDIA	CAT
TE-01	Interface Control Documents (ICDs)	Draft due 30 calendar days prior to the ATSRR Draft due 30 calendar days prior to the PSR Final due 30 calendar days prior to the ATSIR	E E E	R R A
TE-02	Verification and Validation (V&V) Plan and Matrix	Draft due 30 calendar days prior to the ATSIR Draft due 30 calendar days prior to the PSR Final due 30 calendar days prior to the ATSTRR	E E E	R R A
TE-03	Verification Reports	Routine delivery of verification data and reports within 30 calendar days after verification activity completion.	E	A
TE-04	GLIMR Spacecraft Thermal Analysis Report and Thermal Model	Draft due 30 calendar days prior to the ATSIR Final due 30 calendar days prior to the ATSTRR Update due prior to GLIMR Spacecraft delivery to Launch Vehicle facility.	E E E	R A A
TE-05	Coupled Loads Analysis and Dynamics Environment Report	Draft due 30 calendar days prior to the ATSIR Final due 30 calendar days prior to the ATSTRR Update due prior to GLIMR Spacecraft delivery to Launch Vehicle facility.	E E E	R A A
TE-06	GLIMR Payload to GLIMR Spacecraft Integration and Test Procedures	Draft due 30 calendar days prior to the PSR Draft due 30 calendar days prior to the ATSIR Final due 30 calendar days prior to the ATSTRR	E E E	R R A
TE-07	Contamination Control Plan	Draft due 30 calendar days prior to the PSR	E E	R A

		Final due 30 calendar days prior to the ATSIR		
TE-08	GLIMR Observatory Operations Plan	Draft due 30 calendar days prior to the ATSRR Final due 30 calendar days prior to the ATSTRR Update due 30 calendar days prior to the ATSORR	E E E	R A A
TE-09	GLIMR Mission Software Integration, Test Plan and Procedures	Draft due 30 calendar days prior to the ATSRR Draft due 30 calendar days prior to the PSR Final due 30 calendar days prior to the ATSTRR Update due 30 calendar days prior to the ATSORR	E E E E	R R A A
TE-10	Host Contribution to LOS Jitter Budget	Draft due 30 calendar days prior to the ATSIR Final due 30 calendar days prior to the ATSTRR Update due 30 calendar days prior to the ATSORR	E E E	R A A

7. DATA REQUIREMENTS DESCRIPTION (DRD)

7.1 REVIEW DRDS

Title: ATS Requirements Review (ATSRR)	DRD No.: RE-01
Reference: SOW 4.2.1	
Use: The ATSRR is a multi-disciplined technical review to ensure that the ATS requirements as defined in the SOW and ATSHSRD are correctly interpreted and allocated to the GLIMR Spacecraft and GLIMR Ground Segment. The Success Criteria of this review is the Contractor's demonstration of the established GLIMR Spacecraft and GLIMR Ground Segment requirements baseline to be implemented by the Contractor.	
Preparation Information: A. The Contractor shall address all ATS contract requirements, the required ICDs, requirements/design tradeoffs and analyses, and applicable Contractor internal documentation that govern the performance of the GLIMR Spacecraft and GLIMR Ground Segment. Topics shall include: 1. Process and plan for system engineering of interfaces. 2. Preliminary storyboard for GLIMR Payload Integration, Test, Launch, and Operations (ITLO). 3. Preliminary concept of On-Orbit GLIMR Payload and GLIMR Observatory operations. 4. Overview of GLIMR spacecraft architecture, launch vehicle configuration, and Ground Segment architecture. 5. Discussion of needed deliverables and receivables between the Contractor and the Government. 6. Overview of organizational structure and personnel support team for System Engineering, ITLO, and On-Orbit operations. 7. Plans for hardware configuration management. 8. Software Configuration and Safety Assurance Plans. 9. Plans and processes for satisfying the contract requirements. 10. Plans for technical and schedule risk management, including risk matrices and mitigations. 11. Summary review of the DRDs delivered by ATSRR (per Table 3-4). 12. Schedule that includes the GLIMR Payload integration within the GLIMR spacecraft development schedule, including the dates for all DRL/DRD Reviews (i.e., RE-1 through RE-11) and the internal GLIMR Spacecraft reviews. B. The Contractor shall prepare the following: 1. Collaboration, agreement, and compliance with the terms of reference (ToR). 2. An agenda of the Review. 3. Review Package data submittals that include all DRDs to be delivered at ATSRR that are listed in Table 3-4. 4. Review presentation package. 5. A Review Report including: a. List of attendees;	

b. Updated material as needed;
c. Findings and minutes; and
d. Summary of Review Action Items.

6. Review Action Items to be organized, assigned, and closed out following the review with reports on closure status provided to the COR upon request.

C. Contractor format for the Review is acceptable.

Title: GLIMR Spacecraft to GLIMR Payload Integration Review (ATSIR)	DRD No.: RE-02

Reference:
SOW 4.2.1

Use:
The ATSIR is a multi-disciplined technical review to demonstrate that the GLIMR Spacecraft and GLIMR Ground Segment meets all requirements with acceptable risk and within the schedule constraints. Establishes the basis for proceeding with GLIMR Payload integration onto the GLIMR Spacecraft, and that the Contractor's integration facilities, support personnel, and integration plans and procedures are ready to support integration. The ATSIR success criteria is the Contractor's demonstration that acceptable design options have been selected, interfaces have been identified, verification methods have been described, and GLIMR Spacecraft is assembled and ready for GLIMR payload integration activities.

Preparation Information:

A. The Contractor shall include in this review:
    1. Review and resolution of action items from previous reviews.
    2. Review and status of the contract requirements and deliverables.
    3. ATS design descriptions, including flight system, Ground Segment, software, end-to-end information and data flow, and operations processes and scenarios.
    4. Major trade-offs, changes, and accomplishments since ATSRR.
    5. Required changes/modifications to the Contractor's standard Spacecraft and Ground Segment to host the GLIMR Payload.
    6. GLIMR ATS requirements and flow down and traceability to the Contractor.
    7. Verification and validation program, including identification of Incompressible Test List (i.e., minimum set of tests to verify requirements) items, and Test-as-You-Fly exceptions (i.e., testing configurations that are different than it will be when in flight).
    8. GLIMR ground support equipment design status for mechanical, electrical, thermal, software, and shipping and handling equipment.
    9. Contractor software and Ground Segment development, and planned tests.
    10. Progress on Launch vehicle status and interfaces.
    11. Performance capabilities (e.g., station-keeping, orbital parameters) and technical resources (e.g., mass, power, data), utilization, and margins.
    12. Status of Contractor acquisitions and facilities development (if applicable).
    13. Update of technical risks.
    14. Schedule status with margins, risks, performance against original plan, trends, and assessment.
    15. ATS integration and testing plans, including GLIMR Spacecraft and GLIMR Ground Segment, handling equipment, ground support equipment, and software.

B. The Contractor shall prepare the following:
    1. Collaboration, agreement, and compliance with the ToR.
    2. An agenda of the Review.
    3. Review Package data submittals that include all DRDs to be delivered at ATSIR that are listed in Tables 3-3 and 3-4.
    4. Review presentation package.
    5. A Review Report including:
        a. List of attendees;

b. Updated material as needed;
c. Findings and minutes; and
d. Summary of Review Action Items.

6. Review Action Items to be organized, assigned, and closed out following the review with reports on closure status provided to the COR upon request.

C. Contractor format for the Review is acceptable.

Title: GLIMR Observatory Test Readiness Review (ATSTRR)	DRD No.: RE-03

Reference:
SOW 4.2.1

Use:
The GLIMR Observatory TRR evaluates the readiness of the integrated GLIMR Payload and GLIMR Spacecraft to be environmentally, electrically, and functionally tested, and assesses the readiness of the Contractor's personnel, test procedures, test equipment, and test facilities. The ATSTRR Success Criteria is the Contractor's demonstration that all plans, procedures, and equipment are ready for GLIMR Observatory testing.

Preparation Information:

A. The Contractor shall include in this review:
    1. Review and resolution of action items from previous reviews.
    2. Test staffing, roles and responsibilities, and certifications required and status.
    3. Test requirements and test criteria.
    4. Storyboard of handling and testing flow.
    5. Test plans and procedures for all operations.
    6. Plan to close remaining open Verification and Validation items.
    7. Test facility status.
    8. Configuration of and status of the flight system hardware and software including any deviations between planned hardware and software integration and actual hardware and software integration.
    9. Status of environmental, mechanical, thermal, and electrical test support equipment required to conduct the test including all protective safety measures (i.e. Electrostatic Discharge (ESD) protection).
    10. Safety of the flight articles, including risk-reduction actions taken.
    11. Compliance with any applicable Contractor test policies, requirements, practices, and principles.
    12. Schedule of testing, including the tests required in SOW Section 6.3.2, System Level Integration and Testing.
    13. Process for handling anomalies during test activities.
    14. Contingency plans.

B. The Contractor shall prepare the following:
    1. Collaboration, agreement, and compliance with the ToR.
    2. An agenda of the Review.
    3. Review Package data submittals that include all DRDs to be delivered at ATSTRR that are listed in Table 3-4.
    4. Review presentation package.
    5. A Review Report including:
        a. List of attendees;
        b. Updated material as needed;
        c. Findings and minutes; and
        d. Summary of Review Action Items.
    6. Review Action Items to be organized, assigned, and closed out following the review with reports on closure status provided to the COR upon request.

C. Contractor format for the Review is acceptable.

Title: GLIMR Mission Operations Readiness Review (ATSORR)	DRD No.: RE-04

Reference:
SOW 4.2.1

Use:
The ATSORR evaluates the readiness of the GLIMR Ground Segment to support launch and flight operations. The ATSORR Success Criteria is the Contractor's demonstration of the readiness of the GLIMR Ground Segment to support launch and flight operations.

Preparation Information:

A. The Contractor shall include in this review:
   1. Review and resolution of action items from previous reviews
   2. Operations overview including description of organizational roles and responsibilities, (i.e. Operator staffing roles and responsibilities, certifications required, and status).
   3. Operations concept description including plans for GLIMR Observatory On-Orbit Checkout, calibration, characterization, uplink/commanding, downlink, data flows, telemetry monitoring, and planning.
   4. Description of hardware, facilities, testbeds, and simulators available to support On-Orbit operations.
   5. Ground Segment requirements and verification status with plan to complete open V&V items.
   6. Ground Segment schedule.
   7. Assessment of readiness of procedures, tools, software, and facilities for GLIMR Observatory operations, science, and ancillary data processing.
   8. Plans for data management and archival.
   9. Overview of process for problem reporting and tracking.
   10. GLIMR Spacecraft anomaly responses that impact the GLIMR Payload.
   11. Mishap and contingency plans.
   12. Support for GLIMR Mission End of Mission plans.
   13. Technical and programmatic risk assessment.
   14. Status of Launch vehicle.
   15. Status of appropriate commercial licenses to launch and operate at desired orbital slot.

B. The Contractor shall prepare the following:
   1. Collaboration, agreement, and compliance with the ToR.
   2. An agenda of the Review.
   3. Review Package data submittals that include all DRDs to be delivered at ATSORR that are listed in Table 3-4.
   4. Review presentation package.
   5. A Review Report including:
      a. List of attendees;
      b. Updated material as needed;
      c. Findings and minutes; and
      d. Summary of Review Action Items.
   6. Review Action Items to be organized, assigned, and closed out following the review with reports on closure status provided to the COR upon request.

C. Contractor format for the Review is acceptable.

Title: GLIMR Mission Post Launch Assessment Review (ATSPLAR)	DRD No.: RE-05

Reference:
SOW 4.2.1

Use:
The ATSPLAR evaluates the readiness of the GLIMR observatory to proceed with full, routine operations after post-launch deployment. The ATSPLAR also evaluates the status of the project plans and the capability to conduct the mission with emphasis on near-term operations and mission-critical events. The ATSLPAR Success Criteria is the Contractor's demonstration of GLIMR Observatory operational readiness.

Preparation Information:

A. The Contractor shall include in this review:
   1. Review and resolution of action items from previous reviews
   2. Launch vehicle performance assessment and mission implications, including launch sequence assessment and launch operations.
   3. GLIMR Observatory operations performance, including (when appropriate) the early propulsive maneuver results.
   4. GLIMR Payload performance, including ongoing calibration plans and status.
   5. Ground operations performance, including status of staffing, facilities, tools, and mission software.
   6. Command and telemetry summary, including Forward Error Correction (FEC), link and end-to- end data protection and accountability, data drop recovery, and resynchronization/recovery.
   7. In-flight anomalies and responsive actions taken, including any autonomous fault protection actions taken, any unexplained telemetry, or any alarms.
   8. Significant changes to the system (e.g., hardware, software, or interfaces), support systems, operations (e.g., schedules, processes and procedures), and staffing.
   9. Lessons Learned and recommendations for future hosting services.
   10. Technical and programmatic risk assessment.
   11. Status of appropriate commercial licenses to continue to operate at desired orbital slot.

B. The Contractor shall prepare the following:
   1. Collaboration, agreement, and compliance with the ToR.
   2. An agenda of the Review.
   3. Review Package data submittals that include all DRDs to be delivered at ATSPLAR that are listed in Table 3-2.
   4. Review presentation package.
   5. A Review Report including:
      a. List of attendees;
      b. Updated material as needed;
      c. Findings and minutes; and
      d. Summary of Review Action Items.
   6. Review Action Items to be organized, assigned, and closed out following the review with reports on closure status provided to the COR upon request.

C. Contractor format for the Review is acceptable.

Title: GLIMR Mission Decommissioning Review (ATSDR)	DRD No.: RE-06

Reference:
SOW 4.2.1

Use:
The ATSDR confirms the decision to terminate or decommission the GLIMR Observatory and assesses the readiness of the GLIMR Observatory for the safe decommissioning and disposal of its assets. The ATSDR Success Criteria is the Contractor's demonstration of GLIMR Observatory decommissioning readiness.

Preparation Information:

A. The Contractor shall include in this review:
   1. Review and resolution of action items from previous reviews
   2. GLIMR Observatory operations performance, including propulsive maneuver results.
   3. GLIMR Payload performance and status.
   4. Ground operations performance, including status of staffing, facilities, tools, and mission software.
   5. In-flight anomalies and responsive actions taken, including any autonomous fault protection actions taken, any unexplained telemetry, or any alarms.
   6. Significant changes to the system (e.g., hardware, software, or interfaces), support systems, operations (e.g., schedules, processes and procedures), and staffing.
   7. Technical and programmatic risk assessment.
   8. Plan for decommissioning and disposal of the GLIMR Payload
      a. Transfer of operations from NASA to commercial.
   9. Status of appropriate commercial licenses no longer continue to operate at desired orbital slot.

B. The Contractor shall prepare the following:
   1. Collaboration, agreement, and compliance with the ToR.
   2. An agenda of the Review.
   3. Review Package data submittals that includes all DRDs to be delivered at ATSPLAR that are listed in Table 3-2.
   4. Review presentation package.
   5. A Review Report including:
      a. List of attendees;
      b. Updated material as needed;
      c. Findings and minutes; and
      d. Summary of Review Action Items.
   6. Review Action Items to be organized, assigned, and closed out following the review with reports on closure status provided to the COR upon request.

C. Contractor format for the Review is acceptable.

Title: GLIMR Payload Pre-Ship Review (PSR)	DRD No.: RE-07
Reference: SOW 4.2.2	
Use: The GLIMR Payload PSR is a Government-led review that shall be supported by the Contractor. The Contractor shall provide content needed to assess readiness to receive the GLIMR Payload at the Contractor facilities.	
Preparation Information: The Contractor shall: A. Prepare for this review a summary of the plans and status of preparations for integration and testing of the GLIMR Payload at the Contractor facilities, including: 1. Demonstration of facility readiness for receiving the GLIMR Payload and associated Ground Support Equipment (GSE), including control of ESD, cleanliness, environmental control, and safety processes. B. Prepare the following: 1. Data Submittals of all DRDs to be delivered at PSR that are listed in Tables 3-3 and 3-4. C. Review and comment on the GLIMR Payload PSR documentation within 14 calendar days of receipt from the Government.	

Title: GLIMR Extended Mission Review for Period 1 (EMR1)	DRD No.: RE-08
Reference: SOW 4.2.2	
Use: The GLIMR EMR1 is a Government-led review that shall be supported by the Contractor. The Contractor shall provide content needed to assess readiness to extend GLIMR Mission.	
Preparation Information: The Contractor shall: A. Provide input and presentations covering the following: 1. Ground operations performance, including status of staffing, facilities, tools, and mission software 2. In-flight anomalies and responsive actions taken, including any autonomous fault protection actions taken, or any unexplained telemetry, and or any alarms 3. Significant changes to the system (e.g., hardware, software, or interfaces), support systems, operations (e.g., schedules, processes and procedures), and staffing. 4. Technical and programmatic risk assessments 5. Status of appropriate commercial licenses to operate at desired orbital slot. B. Review and comment on the GLIMR EMR1 documentation within 14 calendar days of receipt from the Government.	

Title: GLIMR Extended Mission Review for Period 2 (EMR2)	DRD No.: RE-09
Reference: SOW 4.2.2	
Use: The GLIMR EMR2 is a Government-led review that shall be supported by the Contractor. The Contractor shall provide content needed to assess readiness to extend GLIMR Mission.	
Preparation Information: The Contractor shall: A. Provide input and presentations covering the following: 1. Ground operations performance, including status of staffing, facilities, tools, and mission software 2. In-flight anomalies and responsive actions taken, including any autonomous fault protection actions taken, or any unexplained telemetry, and or any alarms 3. Significant changes to the system (e.g., hardware, software, or interfaces), support systems, operations (e.g., schedules, processes and procedures), and staffing. 4. Technical and programmatic risk assessments 5. Status of appropriate commercial licenses to operate at desired orbital slot. B. Review and comment on the GLIMR EMR2 documentation within 14 calendar days of receipt from the Government.	

Title: GLIMR Mission Key Decision Point (KDP) E	DRD No.: RE-10
Reference: SOW 4.2.2	
Use: The GLIMR KDP-E is a Government-led review that shall be supported by the Contractor. The Contractor shall provide content needed to demonstrate readiness of GLIMR ATS for launch and operations of the GLIMR Observatory and GLIMR Ground Segment.	
Preparation Information: The Contractor shall: A. Provide input and presentations covering the following: 1. GLIMR Spacecraft Status 2. GLIMR Ground Segment Status 3. Launch Vehicle Status 4. ATS technical and programmatic risks 5. Status of appropriate commercial licenses to launch and operate at desired orbital slot. B. Review and comment on the GLIMR KDP E documentation within 14 calendar days of receipt from the Government.	

Title: GLIMR Mission Key Decision Point (KDP) F	DRD No.: RE-11
Reference: SOW 4.2.2	
Use: The GLIMR KDP-F is a Government-led review that shall be supported by the Contractor. The Contractor shall provide content needed to demonstrate readiness of GLIMR ATS for closeout of the GLIMR Mission.	
Preparation Information: The Contractor shall: A. Provide input and presentations covering the following: 1. GLIMR Spacecraft Status 2. GLIMR Ground Segment Status 3. Status of appropriate commercial licenses to operate at desired orbital slot. B. Review and comment on the GLIMR KDP F documentation within 14 calendar days of receipt from the Government.	

7.2 PROJECT MANAGEMENT DRDS

Title: Monthly Project Status Report (MPSR)	DRD No.: PM-01
Reference: SOW 4.1; 4.2.4; 6.4	
Use: These reports will be used to provide an opportunity for monthly discussions between the Contractor and the Government regarding schedule, plans, and issues and to evaluate contract status.	

Preparation Information:

The Contractor shall provide the MPSR in Microsoft PowerPoint and shall contain the following minimum information:

A. Overall programmatic status summary (technical, schedule) as it relates to the ATS, including, but not limited to: progress of the GLIMR Spacecraft development; interface definition; integration and test; launch vehicle planning; and summary of programmatic or technical risks related to the GLIMR Payload-to-GLIMR Spacecraft interface design elements that may impact the GLIMR Mission.
B. Summary report on current and planned schedule activities across the span of the mission including, at a minimum:
    1. Key milestones and technical status of systems and subsystems impacted by the GLIMR Payload interface requirements; and
    2. A top level Gantt-type summary arranged by activity that summarizes the contract effort including, but not limited to, period of performance and major milestones/reviews; critical path; high level linkage of tasks; schedule margin; major mission phases (e.g., design, fabrication, integration, assembly); end item deliveries; schedule risks; and current forecast-to-complete.
C. Reporting of discrepancies.
D. DRL/DRD products status.
E. Key management and development metrics and trends including, but not limited to, a summary of open anomaly reports related to the ATS and any tracked technical resource budgets related to the ATS.
F. Technical and programmatic risks, issues, anticipated approaches for resolution, and all updates from previous reports.
G. Status of open issues/action items and problems from prior reporting periods.
H. Problems encountered during the reporting period, and anticipated approaches for resolution.
I. Significant plans, activities, meetings, and reviews for the next reporting period.
J. Any ATS changes that affect/impact the GLIMR Payload integration or launch.
K. GLIMR Spacecraft and GLIMR Ground Segment status reports during In-Orbit checkout and On-Orbit operations (Reference SOW 6.4, Launch and GLIMR Observatory In-Orbit Checkout and On-Orbit Operations).

1. DRD Title: Security Requirements for Unclassified IT Resources		
2. DRD No.: PM-02	**3. Data Type:** 1	**4. OPR: OCIO**
5. Solicitation No.: *80LARC26R00002*	**6. Contract No./TO Number:** TBD	
7. Date Issued: At Contract Award	**8. Date Revised:** N/A	**9. DRD Category:** **Technical** ☒ **Administrative** ☐ **S&MA** ☐
10. Description/Use: To ensure that IT security reporting requirements, including Cyber Supply Chain Risk Management (C-SCRM), are met for all IT systems utilized during work associated with this contract and necessary training requirements are fulfilled.		

11. Distribution: All deliverables required by this DRD, except for the C-SCRM plan, shall be submitted electronically to the CO, COR, ACOR, and NASA Organization's Information System Security Officer (ISSO) (i.e., Security Officer). Approval will be provided by the ISSO. If the organization does not have an ISSO, approval will be provided by the NASA Information Owner. C-SCRM plans shall be submitted to and approved by the ICT/C-SCRM Service Element Lead at agency-dl-ocio-cys-cp-scrm@mail.nasa.gov.

Initial Submission:
Information System Security and C-SCRM Plan(s): For contractor-owned systems, due at the start of phase-in. Initial submission not required for existing, approved plans for Government-owned and Contractor-managed systems. For new Federal Information Systems, due with the delivery of the system.

Non-Federal System Certification: Prior to any transfer of NASA non-public information to the contractor, the contractor shall provide documentation of the certification of the non-federal system to the security officer of the NASA organization that owns the information (typically the organization responsible for the contract).

If the organization does not have an ISSO, the attestation shall be provided to the NASA Information Owner.
Information on Employees in Sensitive Positions/Assignments Report: At the start of phase-in

IT Security Point of Contact: At the start of phase-in

IT Security Awareness Training: Training required prior to access to NASA information and systems.

IT Security Role Based Training: Foundational training is provided prior to performance of assigned role. Initial evidence showing completion due at the end of phase-in.

Submission Frequency:
Information System Security Plan(s) and C-SCRM Plan: As Required Non-Federal System

Certification: Annually

Information on Employees in Sensitive Positions/Assignments Report: Annually

IT Security Point of Contact: As Required

IT Security Awareness Training: Annual on anniversary date of initial training

IT Security Role Based Training: Annual on anniversary date of initial training. Evidence of

completion is due annually.

Format: Unless otherwise directed, the data requested in this DRD shall be delivered to the Government in soft-copy via an electronic transfer mechanism (e.g., electronic mail, flash drive, or file transfer protocol) in a format readable by a Government device utilizing the standards in NASA-STD-2804, "Minimum Interoperability Software Suite."

Interrelationship: N/A

Applicable Documents: Most current versions of the following:

FAR 52.240-91, Security Prohibitions and Exclusions
FAR 52.240-93, Basic Safeguarding of Covered Contractor Information Systems
FISMA 2014, Federal Information Security Modernization Act 2014
NFS 1852.240-76, Security Requirements for Unclassified IT Resources
NFS 1852.226-73, Major Breach of Safety or Security
NFS 1852.237-72, Access to Sensitive Information
NFS 1852.237-73, Release of Sensitive Information
NIST SP 800-171, Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations
NIST SP 800-53, Security and Privacy Controls for Information Systems and Organizations
NIST SP 800-161, Cybersecurity Supply Chain Risk Management Practices for Systems and Organizations
NPR 1382.1, NASA Privacy Procedural Requirements
NPD 2810.1, Information Security Policy
NPR 2810.1, Security of Information and Information Systems
NPR 2810.7, Controlled Unclassified Information
NPR 7120.7, NASA Information Technology Program and Project Management Requirements
OMB Circular A-130, Management of Federal Information Resources

Scope: All contracts that purchase, lease, network to, or otherwise utilize covered articles, which includes Government-funded IT (as defined by the FAR) must comply with NASA IT Security and C-SCRM Requirements.

Contents: The Federal Information Security Modernization Act (FISMA) and Executive Branch policy require external providers that process, store, or transmit federal information or operate information systems on behalf of the federal government to meet the same security and privacy requirements as federal agencies.

Information System Security Plan (i.e., System Security Plan, IT Security Plan, or Security Plan): When the contractor is operating a Federal Information System (FIS) on behalf of NASA or is providing a FIS in the execution of this contract, that system must have an Information System Security Plan in accordance with NIST Special Publication (SP) 800-53, "Security and Privacy Controls for Information Systems and Organizations" at the revision number required at the issuance of the contract. This plan and supporting documents shall be entered into the NASA cybersecurity system of record pursuant to Authorization to Operate (ATO) requirements set forth in NASA Policy Directive 2810.1, "NASA Information Security Policy" and NASA Procedural Requirement (NPR) 2810.1, "Security of Information and Information Systems." The FIS security plan and ATO must be in place before any system may operate in the NASA environment.

NON-FEDERAL SYSTEM SECURITY CERTIFICATION

When the contractor will receive, process, store or transmit NASA non-public information, especially Controlled Unclassified Information (CUI) including Personally Identifiable Information (PII) on a non-federal system (e.g., the contractor's corporate system) the system must meet the requirements for data protections detailed in NIST Special Publication 800-171, "Protecting Controlled Unclassified Information in Nonfederal Systems and Organizations."

This documentation may take the form of:

a. A third-party review/audit certifying that the non-federal system meets the requirements of NIST SP 800-171 or equivalent standard of information protection, such as the ISO 27001 standard.
b. A certification from another federal agency such as the DOD Cybersecurity Maturity Model Certification (CMMC) Level 2.

INCIDENT NOTIFICATION

The contractor shall report immediately upon notification any incident involving NASA information on nonfederal (contractor) systems to SOC@nasa.gov.

IT SECURITY POINT OF CONTACT:

The contractor shall identify a point of contact that NASA may reach in its attempt to address IT and cybersecurity issues. The point of contact shall have the authority to ensure the immediate notification of the NASA Security Operations Center of any incident involving NASA information.

IT SECURITY AWARENESS TRAINING:

Contractor employees subject to this contract, defined as those requiring physical access to NASA facilities or electronic access to NASA systems, shall complete the NASA approved IT Security Awareness Training annually. NASA Cybersecurity and Privacy Awareness training is available through the SATERN online system and must be completed prior to access to NASA information and systems. Completion of the training is tracked automatedly by NASA and must recur each year by the anniversary of the initial training as a condition of continued access. Cybersecurity and Privacy training is updated throughout the year as needed, so there is no defined training period.

CYBER SECURITY AND PRIVACY ROLE BASED TRAINING:

Contractor employees subject to this contract shall complete NASA's Cybersecurity and Privacy Role-Based Security Training in SATERN related to the following role-based functions prior to performing the role:

- IT Security Manager
- Information System Owner (ISO)
- Information Systems Security Officer (ISSO)
- Information System Security Engineer (ISSE)

NAMS access to these roles in the Risk Information Security Compliance System (RISCS) will be restricted to those that have completed the role-based training within a year of the previous training. Only the training specified in SATERN will be valid for the purpose of fulfilling the training requirement and those who do not take the training annually may be suspended from RISCS access.

INFORMATION ON EMPLOYEES IN SENSITIVE POSITION(S)/ASSIGNMENTS REPORT:

The Information on Employees is Sensitive. IT Security (ITS) Positions/Assignments Report shall provide information annually for personnel screening as required by NPR 2810.1(series), and NPR 1600.1 on position risk.

CYBER SUPPLY CHAIN RISK MANAGEMENT (C-SCRM) PLAN:

NIST defines C-SCRM as a systematic process for managing exposure to cybersecurity risks throughout the supply chain and developing appropriate response strategies, policies, process, and procedures. A C-SCRM plan addressing contractor systems that will be used in performance of the contract, shall be delivered prior to the

processing, transmission, or storage of non-public NASA information on these contractor systems. The C-SCRM plan shall be consistent with the template in NIST SP 800-161, "ICT SCRM Plan Template," or the attached, optional questionnaire.

Remarks: None

Maintenance:
Information System Security Plan(s) shall be kept up to date as changes to the baseline configuration of the system(s) occur.

Non-Federal System Certifications shall be maintained annually or per the certifying body's standard.

Information on Employees in Sensitive Positions/Assignments Report shall be maintained annually.

IT Security Point of Contact shall be kept up to date as changes occur.

Completion of Cybersecurity and Privacy Role Based Training is due annually in SATERN and will be tracked by NASA.

C-SCRM plans shall be kept up to date as changes occur to organizational C-SCRM processes, policies, and procedures, and/or, new components are introduced.

Title: Subcontracting Reports	DRD No.: PM-03
Reference: FAR 52.219-9, Small Business Subcontracting Plan; NFS 1852.219-75, Individual Subcontracting Reports	
Use: The Government uses Subcontracting Reports for collection of subcontract data from Federal contractors, which are required to establish plans for subcontracting with small and small disadvantaged business concerns.	
Preparation Information: A. The Contractor shall submit all subcontracting reports in accordance with FAR 52.219-9 and NFS 1852.219-75. Access to Subcontracting Plan Reporting can be found at: https://sam.gov B. The Contractor shall notify the Contracting Officer in writing within 5 business days of its submission.	

1. DRD Title: Organizational Conflicts of Interest (OCI) Plan		
2. DRD No.: PM-04	**3. Data Type:** 1	**4.OPR:** OP
5. Solicitation No.: *80LARC26R00002*	**6. Contract No.:** TBD	
7. Date Issued: At Contract Award	**8. Date Revised:** N/A	**9. DRD Category:** **Technical** ☐ **Administrative** ☒ **S&MA** ☐

10. Description/Use: The Plan will communicate the contractor's approach to identify and resolve OCIs. The contractor will be held accountable for identifying, dispositioning, and reporting OCIs during contract performance.

11. Distribution: Distribution shall be as instructed by the contracting officer.

Initial Submission: Plan shall be submitted with the initial proposal.

Submission Frequency: As needed.

Format: Contractor's format is acceptable. The electronic format shall be compatible with Microsoft Office.

Interrelationship: NASA Federal Acquisition Regulation (FAR) Supplement (NFS) 1852.209-71, Limitation of Future Contracting, NFS 1852.237-72, Access to Sensitive Information, NFS 1852.237-73, Release of Sensitive Information.

Applicable Documents: FAR Subpart 9.5, Organizational and Consultant Conflicts of Interest, NFS 1809.5, Organizational and Consultant Conflicts of Interest, NASA Guide on Organizational Conflicts of Interest.

Scope: The OCI Plan describes the contractor's comprehensive approach to identify, avoid, mitigate, neutralize, and report potential OCI issues, including conflicts described in the solicitation and those discovered during contract performance.

Contents: The OCI Plan shall meet the requirements of FAR 9.5 and include the following:

1. Point of contact for OCI issues and reports.

2. Demonstrate an understanding of (1) OCI principles and (2) the full breadth of OCI issues and the types of harm that can result. The Plan at a minimum addresses the three primary types of OCIs (i.e., biased ground rules, unequal access to information, and impaired objectivity).

3. Define company roles, responsibilities, and procedures for (1) screening (i.e., identifying/recognizing, analyzing/evaluating, resolving, and reporting) existing and new business opportunities for actual/potential OCIs and (2) monitoring and reporting all potential/actual OCIs that arise, resolving conflicts, and reporting previously unidentified OCIs or potential OCIs to the Government.

4. Describe how employees are notified of the Plan's requirements and how this notification will be documented. Establish and require entrance training for new employees, refresher training for existing

employees, and exit training for departing employees. Describe how completion of this training will be documented, including a copy of any training certification template that the contractor will use to document that its employees have completed training.

5. Describe how the contractor will report breaches of the protective measures in the Plan to the contracting officer. Describe what processes the contractor will implement following any breach and indicate that final resolution of the corrective action must be approved by the contracting officer.

6. Identify any affiliated companies/entities (e.g., a parent company or a wholly owned subsidiary) and procedures for coordinating OCIs with such affiliated companies/entities.

7. Address the process for reporting all potential/actual OCIs that arise during performance of the contract. An OCI report shall include (1) a description of the conflict, (2) the plan for resolving the conflict, and (3) the benefits/risks to contract performance associated with plan approval/acceptance. Specific resolution strategies shall be appended to the Plan upon approval by the Government.

8. Explain how the contractor will flow down the provisions of this Plan to any subcontractor that may have a conflict with regard to performing the requirements of this contract. Discuss affected subcontractors' OCI program as it relates to this contract and specifically explain how affected subcontractors will identify, resolve, and report actual/potential OCIs associated with this contract.

9. Define organizational and employee sanctions for violations of established OCI procedures/requirements/guidelines.

10. Include an assertion from the offeror that to the best of its knowledge no OCIs exist currently, if applicable. Provide a list of all the prime's and proposed subcontractor(s)'s NASA contracts and subcontracts currently being performed and contracts performed within the last five years of the release of this solicitation, in order to provide the CO a better understanding of other NASA work performed by the offeror that may give rise to an actual or potential conflict. For each prime contract and subcontract listed, the offeror shall: (1) identify the contract number; (2) describe the scope of work in sufficient detail to ascertain the likelihood of a conflict with performance of this contract; and (3) discuss any conflicts that may arise from performance of the listed contracts and award of this contract.

11. The offeror shall also list any non-NASA Federal contracts and subcontracts that it or its proposed subcontractors are currently performing or have performed in the five years preceding the release of the solicitation that may give rise to an OCI. For each and subcontract listed, the offeror shall: (1) identify the contract by number and name; (2) identify the name, address and contact information of the customer(s); (3) describe the scope of work in sufficient detail to ascertain the likelihood of a conflict with performance of this contract; and (4) discuss any conflicts that may arise from performance of the listed contracts and award of this contract.

12. For financial or other interests or relationships beyond Federal contracts or subcontracts that may give rise to an OCI, the offeror shall (1) address the nature and extent of the interest(s) or relationship(s); (2) list any entity or entities involved in the interest(s) or relationship(s) and award of this contract.

13. The offeror shall address how it will avoid, neutralize, or mitigate each potential OCI listed above. Sufficient information must be provided to allow a meaningful evaluation of the potential effect of the

interest on the performance of the statement of work.

14. Include a requirement to update this plan as necessary to address specific OCIs. All updates to the plan must be approved by the contracting officer and the updates/changes must be incorporated in the contract to be effective.

15. Require periodic self-audits to ensure compliance with established OCI procedures/requirements/guidelines.

16. Define records related to the OCI plan (e.g., training and audit records) that will be made available to the Government upon request. Note: The OCI Plan as outlined in paragraphs 1 through 12 above is not for the purpose of addressing other very important contractual obligations such as (1) the contractor's obligation to protect sensitive information in accordance with NFS 1852.237-72, Access to Sensitive Information, (2) the contractor's obligation to conduct business in an ethical manner in accordance with FAR 52.203-13, contractor's Code of Business Ethics and Conduct, and (3) the contractor's obligation to prevent personal conflicts of interest in accordance with FAR 52.203-16, Preventing Personal Conflicts of Interest.

17. In an appendix to the OCI Plan identify the strategy (e.g., mitigation, limitation on future contracting) for resolving each OCI that is either identified in the solicitation or created by the requirements of the solicitation/contract and explain the effect of such strategy on performance of the contract. If using a firewall, explain how these actions will operate to successfully address the conflict without adversely affecting performance of the contract. (Note: Specific plans to limit future competition are reflected in the clause at NFS 1852.209-71, Limitation of Future Contracting.)

Remarks: None

Maintenance: The contractor shall review the OCI Plan on an annual basis or as directed by the contracting officer to revise the OCI Plan if necessary. Revisions are subject to contracting officer approval and shall be incorporated by change page or complete reissue.

7.3 SAFETY AND MISSION ASSURANCE (S&MA) DRDS

Title: AS9100 Compliance Documents: Quality Plan and Quality System Manual	DRD No.: MA-01
Reference: SOW 5.0; ISO 10013:2001, Guidelines for Quality Management System Documentation; NPR 8735.2B, Management of Government Quality Assurance Functions for NASA Contracts; SAE AS9100D, Quality Management Systems – Requirements for Aviation, Space, and Defense Organizations	
Use: Documents the Contractor's quality management system.	
Related Documents: N/A	
Preparation Information: The Contractor shall prepare a Quality Manual addressing applicable requirements of AS9100D and submit to the Safety and Mission Assurance Office, Mission Assurance Branch, gugu.n.rutherford@nasa.gov; refer to ISO 10013:2001, Guidelines for Quality Management System Documentation, for guidelines on preparation of a quality manual. 1. The Contractor shall also submit the specific Quality System Procedures to address the following: a) Contract and subcontract management; b) Requirements review and execution; c) Task management, including work order generation and processing; d) Document control; e) Handling of supplied products; f) Corrective, preventive, and continuing improvement action systems; g) Training of employees; h) Satisfaction/performance measurement; and i) Design control. 2. The Quality Plan shall describe how the Contractor will maintain or modify existing quality system documentation needed to ensure effective planning, operation, and control of process/work activities/resources specific to accomplish the requirements of this contract. 3. The Contractor shall describe how the integrity of the Quality Management System (QMS) is maintained when changes to the QMS are planned and implemented. 4. The Quality System Manual shall describe the quality management system of an organization. The quality manuals can vary in detail and format to suit the size and complexity of an individual organization. 5. The Contractor shall submit a copy of any updated AS9100 certificates to the Contracting Officer during the period of performance of the contract.	

Title: Reporting of Discrepancies	DRD No.: MA-02

Reference:
SOW 5.0; SAE AS9100D

Use:
Report and document problems, nonconformances, failures, and anomalies for information, review, investigative activities, rationale for closure, and corrective and preventive actions related to the GLIMR Spacecraft, the GLIMR Payload interface with the GLIMR Spacecraft, or the GLIMR Spacecraft's ability to support the GLIMR Payload, including flight and Ground Segments.

Preparation Information:

A. The Contractor shall include the following minimum items in the report:
   1. Identification of project, system, or sub-system;
   2. Identification of item (e.g., assembly, sub-assembly, part, serial number or part number);
   3. Description of affected item;
   4. Type of Discrepancy (problem, nonconformance, failure, and anomaly);
   5. Description of discrepancy, including activities leading up to the discrepancy;
   6. Status of item;
   7. Date and time discrepancy identified;
   8. Personnel who originated the report;
   9. Date of original submission;
   10. Discrepancy cause, (when determined);
   11. Corrective actions implemented, (when determined);
   12. Retesting performed and results, (when determined);
   13. Other items affected, (when determined); and
   14. Risk ratings-mission impact and certainty in corrective actions, (when determined).

B. The Contractor shall include a cumulative list in the report.

C. The Contractor shall utilize the following definitions for this report:
   1. Anomaly: An unexpected event, hardware or software damage, a departure from established procedures or performance, or a deviation of system, subsystem, or hardware or software performance outside certified or approved design and performance specification limits.
   2. Failure: The inability of a system, component, process, or crew to perform its required functions within specified performance requirements.
   3. Nonconformance: A condition of any article, material, process, or service in which one or more characteristics do not conform to requirements specified in the contract, drawings, specifications, or other approved documents.
   4. Problem: Any circumstance that fits or is suspected of fitting one of the following categories:
      a. Conditions that would result in waivers;
      b. Unsatisfactory condition;
      c. Unexplained anomaly (hardware or software);
      d. Overstress or potential overstress of hardware;
      e. In-flight anomaly; or
      f. Any nonconformance (hardware, software, or process) that has been shown by a trend analysis to need recurrence control.

Title: Functional and Interface Failure Modes and Effects Analysis (FMEA)	DRD No.: MA-03
Reference: SOW 5.0	
Use: The FMEA is a reliability design analysis technique used to analyze postulated failures systematically, determine the resultant effects, and to identify mitigations. The purpose of the FMEA is to identify potential design deficiencies and failures so that appropriate risk reduction/risk management steps may be undertaken for flight design and GLIMR Payload operations. The objective is to identify mitigations of critical failures early in the development process so that mitigations can be implemented.	
Preparation Information: The Contractor shall: A. Provide a functional block diagram that identifies and describes interfaces and functional relationships between elements to be analyzed (i.e., GLIMR Payload and the GLIMR Spacecraft, GLIMR Ground Segment) B. Identify potential failure modes of each element being analyzed (generally include issues such as incorrect states; spurious transitions; inability to operate, open, short). C. For each failure mode, determine the local and system effects (consideration shall be given to equipment usage, configurations, and collateral effects). D. Identify mitigations for each failure that explain the method for detecting the failure and how to reduce the impact of the failure effects. E. For interface FMEA development, Mechanical Interface Control Drawings, Circuit Data Sheets, and the Operations Plan describing both sides of the interface shall be utilized to identify potential failure modes for evaluation.	

1. DRD Title: Supply Chain Visibility (SCV) Reporting		
2. DRD No.: MA-04	**3. Data Type:** Type 1	**4. OPR:** NASA Office of Safety and Mission Assurance (OSMA), Supply Chain Risk Management (SCRM) Program
5. Solicitation No.: *80LARC26R00002*	**6. Contract No.:** TBD	
7. Date Issued: At Contract Award	**8. Date Revised:** N/A	**9. DRD Category:** **Technical** ☐ **Administrative** ☐ **S&MA** ☒

10. Description/Use: SCV Reporting by prime contractors to NASA is required to systematically build and maintain visibility into the supply chains for NASA mission programs/projects to enable pro-active Supply Chain Risk Management (SCRM) that supports situational awareness, planning, risk analysis and informed decision-making at NASA project, program, center and agency levels.

11. Distribution: The SCV Reporting application of the NASA Supply Chain Insight Central (SCIC) information and analysis services platform shall be used by the prime contractor to securely fulfill SCV reporting requirements in accordance with instructions provided in this DRD and the SCV Reporting application. The reporting will be maintained within SCIC, which is part of a secure NASA / U.S. Government information system with access restricted to authorized users. SCIC is operated in accordance with NASA / U.S. Government requirements for the management of Controlled Unclassified Information (CUI).

Initial Submission: Within thirty (30) days from contract award the prime contractor shall use the publicly available SCV Reporting User Registration website (https://www.nasa.gov/visibility-scic/) to identify the primary individual and an alternative individual designated by the prime contractor to perform the submission of the required SCV reporting. The prime contractor shall use the SCV Reporting User Registration website to change or update information on the designated individuals at least thirty (30) days in advance of the next reporting due date. The SCV Reporting User Registration website provides instructions for the provisioning of secure access by the designated individuals to the SCV Reporting application. The prime contractor shall submit an initial report via the SCV Reporting application within ninety (90) days after contract award or amendment incorporating this DRD.

Submission Frequency: The prime contractor shall submit an updated report via the SCV Reporting application every six (6) months after the due date of the initial report for the duration of the contract.

Format: The SCV Reporting application provides the format.

Scope: The SCV Reporting by the prime contractor shall provide information as specified in the Contents section of this DRD.

Contents:
SCV Reporting by the prime contractor shall contain information pertaining to the prime contractor *(Tier One (1) by contractual supply chain level)* and the product and/or service deliverables required by the NASA contract, and on the prime contractor's sub-tier suppliers issued contracts to provide products and/or services in fulfillment of the

NASA contract, which, at a minimum, shall encompass all of the prime contractor's direct sub-contractors *(Tier Two (2) by contractual supply chain level)* and all of the direct suppliers to the sub-contractors *(Tier Three (3) by contractual supply chain level)*. The SCV Reporting by the prime contractor shall provide specific information on the Tier One

i. Operating (doing business as) name of the entity;
ii. Direct contractual customer for the issued contract(s);
iii. Location(s) of places of contract performance with complete addresses (street number, city, state, country and zip code or equivalent for non-U.S. locations);
iv. Unique identification codes or contract numbers for the contract(s) as issued by NASA, the prime contractor, and the sub-contractor(s)
v. Commercial and Government Entity (CAGE) code, Unique Entity Identification code or North Atlantic Treaty Organization Commercial and Government Entity (NCAGE) code, as applicable;
vi. Summary description of the contractually required product and/or service deliverables, including product/service name, product part or model number or other identifying information as applicable
vii. Identification of the technology area(s) and associated subordinate technology subarea(s) and technology type(s) of the most recently released NASA Technology Taxonomy corresponding to the contractually required products and/or services and their utilization, application or integration, and provide a text description of the contractually required products and/or services and their utilization, application or integration if the technology area(s), subarea(s) and type(s) of the NASA Technology Taxonomy are not applicable.
viii. Contract start and end dates as awarded and amended; and,
ix. Identification of new, completed or terminated contracts with supplier entities since the prior reporting and if a new contact with an entity is for the same or similar product(s) or service(s) awarded to another supplier entity.

The prime contractor shall incorporate requirements into their subcontracts as necessary to support the prime contractor's fulfillment of the SCV Reporting DRD.

Maintenance: Fulfillment of the SCV Reporting DRD will be maintained via the SCIC SCV Reporting application.

7.4 TECHNICAL DRDS

Title: Interface Control Documents (ICDs)	DRD No.: TE-01
Reference: SOW 6.1.1; 6.2.1; 6.2.2; 6.3.3; GLIMR Payload to Host Interface Definition Document	
Use: Defines the interfaces between the GLIMR Payload and GLIMR Spacecraft, and GMOC to GSDS and ensures the appropriate integration and functioning of the GLIMR Payload when integrated to the GLIMR Spacecraft, and GMOC to GSDS and to fully describe both sides of the interface.	

Preparation Information:

A. The Contractor shall deliver ICDs that describe the interface requirements and detailed implementation of the interface to a level of detail sufficient to fabricate compatible hardware to support integrated assembly and operations including flight hardware, software, ground handling, assembly, and test interfaces.

B. The GLIMR Payload-to-GLIMR Spacecraft Mechanical and Thermal ICD shall describe and control the complete mechanical and thermal interface between the GLIMR Payload and the GLIMR spacecraft, including:
   1. Connector locations and interface features, and cable routing.
   2. Mechanical layouts and drawings including coordinate systems, mounting interfaces, dimensions, tolerances on dimensions, configurations, swept volumes, static and dynamic envelopes, and masses.
   3. GLIMR Spacecraft flight configurations.
   4. Thermal interfaces including thermal conductivity, emissivity, radiator fields-of-view, and temperature ranges.
   5. Handling, installing, and testing interfaces and required ground support equipment.
   6. Load bearing capabilities, tolerable vibrations and shock levels, and sensitive resonant frequencies.
   7. Mass and center of mass ranges and moment of inertia disturbances.
   8. Remove-before-flight items.

C. The GLIMR Payload-to-GLIMR Spacecraft Electrical ICD* shall describe and control the complete electrical interface between the GLIMR Payload and the GLIMR spacecraft, including:
   1. Electrical interface schematics.
   2. Connector definitions.
   3. Connector pin-outs.
   4. Power allocations.
   5. In-rush specifications.
   6. Grounding tree diagrams.
   7. Cabling and wire treatments.
   8. Ground test interfaces.
   9. Ground support equipment.
   10. Electrical and power interface design parameters such as timing, waveforms, impedance requirements, ground requirements.
   11. Safety functions including sensors, actuators, and control description.

*NOTE: Circuit data sheets shall be exchanged to support ICD development.

D. The GLIMR Ground Segment ICD shall describe and control the complete operations, software, command and telemetry interfaces between the GLIMR Ground Segment and the GSDS, including:
   1. Data size rate and format.
   2. Memory register maps.
   3. Packet Definitions.
   4. Time synchronization and timing relationships.
   5. GLIMR Payload and GLIMR Spacecraft telemetry.
   6. Telemetry rates.
   7. Operational phases including command and telemetry data rates.
   8. Command summary; detailed command dictionary; operational modes and functions and other software as required.
   9. Command checking and validation.
   10. Ground operations interfaces.
   11. Interface verification.
   12. Packet verification.
   13. Data error handling and recovery, data error rates description, data packaging description.

Title: Verification and Validation (V&V) Plan and Matrix	DRD No.: TE-02
Reference: SOW 6.1.1; 6.2.1	
Use: To provide the overall approach, plan, and methods for executing the V&V program and to provide the traceability and status of the requirements verification activities.	
Preparation Information: A. The V&V Plan shall: 1. Provide an overview of the entire V&V program. 2. Describe the approach (test, analysis, inspection, demonstration) that will be utilized to verify each contract requirement. If verification to any of the requirements relies on verifications at lower (or other) levels of assembly, the V&V Plan shall describe how the lower-level verifications are used in verifying the parent requirements. 3. Describe the process for waivers or deviations. 4. Describe the process for closure of verifications and requirements. 5. Include tracking of any waiver requests and Government approvals/disapprovals. B. The Requirements Verification Matrix shall: 1. Provide the traceability for the verifications for each contract requirement. 2. Define the verification method (test, analysis, inspection, demonstration) for each contract requirement. If verification to any of the requirements relies on verifications at lower (or other) levels of assembly, the Matrix shall define the traceability for this dependence and the verification approach for any lower-level requirements/specifications. 3. Define the event and date that will generate the verification artifact for each requirement. 4. Define the artifact that will be used to close each verification. 5. Define the status of each verification (not yet planned, planned, in progress, closed, waiver) 6. Name the verification engineer and the requirement owner. 7. Be sortable in a manner that allows for determining verification status and metrics.	

Title: Verification Reports	DRD No.: TE-03
Reference: SOW 6.2.2; 6.3.3	
Use: To provide objective evidence that all GLIMR ATS requirements have been verified.	
Preparation Information: The Contractor shall submit verification reports that contain: A. The ATS requirement(s) verified. B. Method of verification. C. Objective verification results with all details and supporting information to document requirement(s) fulfilment. D. A unique identifier to facilitate formal close-out of TE-02, Verification and Validation (V&V) Plan and Matrix.	

Title: GLIMR Spacecraft Thermal Analysis Report and Thermal Model	DRD No.: TE-04
Reference: SOW 6.1.2	
Use: Defines the analytical thermal mathematical models and required documentation.	

Preparation Information:
The Contractor shall include:

A. Geometric Math Model (GMM): To represent the geometry and the associated bounding thermo-optical properties to use in determining radiation exchange factors and absorbed environmental fluxes for the different GLIMR Payload operational phases. The preferred format for the GMM is C&R's Thermal Desktop/RADCAD*.

B. Thermal Math Model (TMM): To represent the nodal capacitances, linear and radiative thermal conductance, heater and user logic, and any internal heat sources (power dissipations) for the different GLIMR Payload operational phases. The TMM fidelity shall be such that there is a node that maps directly into hardware thermal requirements. The preferred format for the TMM is C&R's Thermal Desktop/SINDA/FLUINT*.

*The Contractor shall identify codes that will translate or output the model into the stated preferred format if the Contractor's thermal software codes other than the preferred.

C. Supporting documentation that summarizes the nodal descriptions and thermal model network, and any boundary conditions including environmental heating parameters (e.g., solar constant, albedo, planetary IR), orbital parameters (e.g., altitude, beta angle), and interface temperature assumptions.

D. Each of the thermal models shall be limited to a maximum of 200 nodes. If detailed models are developed for the hardware thermal design that contain significantly more nodes or conductors, reduced thermal math models (RTMM) with the required level of fidelity shall be provided. The RTMM shall be representative of the detailed models, particularly in characterizing the heat flow(s) at the interface(s). The final submittal shall include a comparison of temperature results and heat flow maps from both the detailed and reduced versions to validate accuracy of the reduced model. The correlation between the two models shall be in the range of □3°C for areas representing the hardware thermal requirements.

E. The Contractor shall submit detailed reports that outline the results generated from the models, including:
   1. The necessary heat flow maps and any nodal network calculations generated by hand (e.g., ka/l - thermal conductivity multiplied by cross-sectional area/characteristic length, hA –convective heat transfer coefficient multiplied by heat transfer surface area, and joint conductance that are not generated by the software).
   2. Explanation of any heater and user logic that is used in the TMM.
   3. Description of how the models were checked for accuracy and consistency.

NOTE: The use of sub-models in both the GMM and TMM is strongly encouraged so that

subsequent model integration can be efficiently accomplished by the Government. Material properties shall be clearly labeled with the TMM provider's ID (e.g., company initials), and the source of the properties (e.g., Aerospace Handbook) so that they will not conflict with GLIMR Payload properties during integration. Version control of the thermal models shall be documented with each delivery. SI units (kilogram (kg), meter (m), second(s), joule (J), and coulomb(C)) of measure shall be used in all thermal models.

Title: Coupled Loads Analysis and Dynamics Environment Report	DRD No.: TE-05

Reference:
SOW 6.1.2

Use:
Defines the Coupled Loads Analysis (CLA) and Dynamic Environment Analyses performed by the Contractor, boundary conditions, models used, analyses, and results.

Preparation Information:
The Coupled Loads Analysis and Dynamic Environment Analyses Report shall include:

A. A summary describing the analyses covered in the report, factors that have been applied, and how to interpret the reported loads.

B. An introduction describing:
   1. The analyzed hardware including the launch vehicle, GLIMR Spacecraft, and payload(s), and the analyzed configurations;
   2. Summary description of the models used to represent the components in the analyzed configuration, what is included in each model, model features and simplifications, how the models are coupled in the configurations that were analyzed and damping assumptions;
   3. List of load cases that represent the launch events that will be encountered before launch, during launch and in orbit;
   4. Uncertainty factors applied to responses to reflect degree of uncertainty in the results;
   5. Flight acceleration and thrust time history;
   6. Summary of trajectory load cases; and
   7. Damping schedules for the GLIMR Spacecraft and launch system.

C. A description of dynamic models including:
   1. Description of GLIMR Payload* and GLIMR Spacecraft dynamic models including numbers of elastic and constraint modes, descriptions of transformation matrices, and uncertainty factor for dynamic responses;
   2. Description of launch vehicle dynamic models representing sequential launch events;
   3. Description of coupled GLIMR Spacecraft/launch vehicle dynamic models including GLIMR spacecraft orientation with respect to the launch vehicle, mass, and stiffness matrices and equations of motion; and
   4. Mass properties and modal characteristics.

***NOTE:** The Government will provide a model of the stowed GLIMR Payload in a size that will be sufficient to capture the GLIMR Payload dynamic characteristics. The Government will also provide a finite element model report documenting the model assumptions and interface degrees of freedom to the GLIMR Spacecraft; providing the model total mass properties, center of gravity location, analytical frequencies, and modal masses; and providing a nodal map, including node and element numbers as a

pictorial guide for the integration of the assembly model into the GLIMR Spacecraft model.

D. A description of load cases including:
   1. Explanation of selection of load cases that represent maximum expected launch vehicle and GLIMR Spacecraft responses;
   2. Descriptions of the selected load cases (e.g., ground winds load, liftoff abort, liftoff, aerodynamic flight, main engine cutoff, stage separation, second engine cutoff); and
   3. Description of the dynamic load environment specification such as sine, random vibration, acoustic, and shock applicable to the GLIMR Payload.

E. A results summary including:
   1. Description of the analyses performed including static and dynamic uncertainty factors;
   2. Summary of results of the analyses showing overall maximum GLIMR Spacecraft and GLIMR Payload equivalent Center of Gravity (CG) Load Factors;

F. Summary of axial and lateral net CG response of the GLIMR Payload for flight events;

G. Summary of GLIMR Payload interface loads for each degree of freedom for the load cases analyzed;

H. Summary of GLIMR Payload CLA results based on the Output Transformation Matrix (OTM) provided by the Government;

I. Summary of GLIMR Payload dynamic load environment; and

J. For each set of results, explain uncertainty factors applied and describe how they were calculated.

F. A results transmittal that provides tables of maximum and minimum responses and overall maximum responses, and specifically requested output transformation matrix results including loads, accelerations, and displacements.

Title: GLIMR Payload to GLIMR Spacecraft Integration and Test Procedures	DRD No.: TE-06

Reference:
SOW 6.1.2; 6.3.3

Use:
To provide detailed step-by-step procedures for Contractor integration and testing that involves GLIMR hardware.

Preparation Information:

A. The Contractor shall deliver Integration and Test Procedures that cover all operations required to integrate the GLIMR Payload onto the GLIMR Spacecraft and test its functionality. Each procedure shall:
   1. Ensure equipment and personal safety.
   2. Indicate any requirements formally verified through the procedure in accordance with the V&V Plan and Matrix (reference DRD TE-02).
   3. Describe each activity or test, its objectives, the required accuracy or precision or tools or measurements, and the measurement or verification method to determine that objectives have been achieved.
   4. Describe the required personnel, their responsibilities and the chain of command authority during the procedure.
   5. Document the environmental conditions that must be tracked, the required contamination controls, the top level functional operations, safety provisions and possible hazards, contingency operations in case of failures, rationale for retest determination, methods of process documentation.
   6. Provide detailed step-by-step integration and test procedures including:
      a. Required environmental conditions and documentation of actual environmental conditions during the process.
      b. Required GSE, special equipment, cables, adapters, connector savers, and set-up.
      c. Required GSE calibration dates.
      d. Fastener type, lubrication, and torque.
      e. Cable verification and safe-to-mate process.
      f. Alignment measurements.
      g. Bill of materials, configuration control, and any deviation between planned and as-built configuration.
   7. For environmental test procedures, document all environmental test operations to be performed, including:
      a. Environmental Test environment (levels and durations).
      b. Environmental Test tolerances.
      c. Functional modes required during environmental exposure.
      d. Environmental Test set-up and description, including test article installation, test control procedures, instrumentation and data recording.
   8. Provide preparation information, including:
      a. Equipment interfacing with unit under test, including details on interfaces, and grounding and shielding in the interfaces.
      b. Requirements applicable for auxiliary hardware, personnel and facility safety, and equipment.
   9. Document planned method to ensure safe-to-mate conditions.

B. The Contractor shall maintain all Test Procedures at the Contractor's facility.

Title: Contamination Control Plan	DRD No.: TE-07

Reference:
SOW 6.1.2

Use:
The Contamination Control Plan describes the requirements, documentation, analyses, evaluation, and testing of the contamination control methods used for the GLIMR Spacecraft and plans to control contamination of the GLIMR Payload.

Preparation Information:

A. The Contamination Control Plan shall detail the Contractor's contamination control methods, including:
   1. References to applicable institutional policies, procedures, specifications, and instructions.
   2. A description of requirements, sources of requirements, and methodologies selected for implementing the documents and plans, as indicated.
   3. A description of the Contamination Engineer's (or Contractor equivalent) authority and responsibility with respect to meeting the contamination control requirements.
   4. A description of fabrication, testing, storage, and shipment environments to be encountered by the GLIMR Payload.
   5. A description of measurement and verification techniques and activities necessary for meeting contamination control requirements.
   6. A description of how the Contractor will impose its Plan on all subcontractors and suppliers, including the assignment of responsibilities.

B. The Contamination Control Plan shall detail how the Contractor intends to implement the contamination control program for the GLIMR Payload during storage, handling, assembly, test, and delivery, including:
   1. Compliance with out-gassing requirements.
   2. Implementation and verification of facilities requirements.
   3. Contractor facility cleaning requirements and procedures by which the requirements will be met.
   4. How verification will be performed and documented.

Title: GLIMR Observatory Operations Plan	DRD No.: TE-08

Reference:
SOW 6.1.2; 6.4

Use:
The GLIMR Observatory Operations Plan documents the Contractor's plan to support the GLIMR Mission Flight Operations.

Preparation Information:
The GLIMR Observatory Operations Plan shall include:

A. Introduction.
B. Purpose.
C. Applicable Documents.
D. Team Organization and Structure.
    1. Roles and Responsibilities.
    2. Team Operations Processes.
E. Concept of Operations.
    1. In-Orbit checkout operations.
    2. Commanding.
    3. Telemetry review and routing.
    4. Science data delivery.
    5. Operational coordination with the GSDS.
    6. Data interfaces with the GSDS.
    7. Routine operations for the GLIMR Mission including timeline, day/week in the life, science data operations, communication links, and data transmission.
    8. Anomaly resolution, including recovery from error cases.
    9. GLIMR Payload Decommissioning operations.
F. Team Operations Tools.
    1. Hardware and/or software tools to be developed for use during GLIMR Observatory operations.
    2. Calibration/Test Data to be provided for GLIMR Payload operations.
    3. Testbeds provided for GLIMR Payload operations.
    4. Flight Software (FSW), including plans for providing copies/updates/testing for use in GLIMR Observatory operations.
G. Team Operations Procedures (listing and content).
H. Operational Interface Agreements (listing and content of providing and receiving OIAs).
I. Software Interface Specifications (listing and content of providing and receiving SISs).
J. Specification constraints and idiosyncrasies.
K. Contractor facilities.
L. Contractor networks.
M. Export Compliance Plans, including ITAR considerations and Technical Assistance Agreements (TAAs) to be developed, (if needed).
N. Contractor contingency plans.

Title: GLIMR Mission Software Integration and Test Procedures	DRD No.: TE-09

Reference:
SOW 6.2.1

Use:
Documents the overall philosophy and plans for integrating and testing Contractor software components that interface with the GLIMR Payload and GLIMR Ground Segment.

Preparation Information:
The Contractor's Software Integration and Test Plan shall include:

A. Integration Testing Overview, including:
   1. Testing philosophy and overall approach to testing (unit testing, integration, verification, validation & acceptance, and levels of testing, including the success criteria for progressing from one level to the next).
   2. Identification of capabilities that will be verified and validated by methods other than test (e.g., simulation, analysis, audit or inspection).
   3. Verification of software readiness for software system integration and test, including the review of unit test results.
   4. Regression testing, including test after fixes.
   5. Approach to thread testing, end-to-end testing, boundary testing, and stress testing.
   6. Approach to validation of user documentation.
   7. Plans and schedules to support system-level testing, acceptance testing, operational readiness testing, and operational verification testing.
   8. Approach to testing for security vulnerabilities and weaknesses.
   9. Approach for identification, tracking, and closing problems.
   10. Nominal and off-nominal testing regimes, including any operator inputs, data source irregularities, and data transmission errors.

B. Development and management of the test environment, including:
   1. Description of the GLIMR Spacecraft simulator and usage of integrated software/hardware.
   2. Description of the GLIMR Ground Segment simulator and usage of integrated software/hardware.
   3. Identification of and measures taken to address differences among three test environments: 1) the integration and verification environment; 2) the validation environment; and 3) the operational environment.
   4. Verification of test tools (COTS, in-house tools, and simulator).
   5. Development of data sets used in testing, including simulated faults.

C. Verification of readiness to commence testing.

D. Verification testing, including:
   1. Approach (e.g., sequential or continuous integration & test).
   2. Regression testing.
   3. Success criteria.
   4. Requirements to be verified in each delivery.

5. Approach to documentation and analysis of test results, including problem reports and traces to software requirements, interface control documents, and other applicable documentation.
6. Definition of metrics used to track testing progress, including anomalies open and closed vs. time, test coverage, requirements coverage, percent of planned test cases executed, and actual vs. planned testing effort.
7. Identification and labeling of safety-critical test cases.

Title: GLIMR Spacecraft Bus Disturbance Contributions to LOS Jitter and Model	DRD No.: TE-10
Reference: SOW 6.1.1	
Use: This document describes the GLIMR Spacecraft disturbance sources and disturbance monitoring performance and specifications. This data is used to model the combined GLIMR Spacecraft and GLIMR Payload Line-Of-Sight (LOS) performance. It also describes translational acceleration and rotational displacement Power Spectral Density (PSD) disturbance performance at the Host Spacecraft to GLIMR Sensor Assembly interface.	

Preparation Information:

The Contractor shall:

A. Provide translational acceleration and rotational displacement Power Spectral Density (PSD) disturbance performance information with the following format:
   1. A table with PSD versus frequency data points
   2. Plots of the PSD versus frequency data points
B. Provide performance specifications of GLIMR Spacecraft bus components that monitor disturbances at the GLIMR Spacecraft to Payload interface. The minimum specifications to include are:
   1. Frequency response
   2. Measurement data latency
   3. Measurement sampling rate
   4. Measurement filtering (if applicable)