Statement of Work (SOW)

FOR

Regulated Transformer Rectifier Unit (RTRU) 400 AMP

PR #: FD2060-26-00099

December 10, 2025

1.0 Introduction

1.1 Purpose: This Statement of Work (SOW) describes the services required to procure a production first article flight-ready Regulated Transformer Rectifier Unit (RTRU) 400 AMP for use on the C-5 aircraft. The RTRUs provide regulated +28 Volts Direct Current (VDC), at 400A maximum. The RTRU takes as input 115 Volts Alternating Current (VAC), 400 Hertz (Hz), 3-phase power. For the 400 AMP RTRU, there are two (2) assets per aircraft. These items will be used on the C-5 aircraft until the expected aircraft retirement of 2050.The RTRU is an essential asset for C-5 Avionics. The contractor shall deliver production first article assets that pass all qualification testing along with the official test results. Upon First Article approval, the Government reserves the right to execute subsequent delivery orders for production quantities. In production of the Regulated Transformer Rectifier Unit (RTRU) 400 AMP the contractor shall manufacture, inspect, test, and deliver Regulated Transformer Rectifier Unit (RTRU) 400 AMP assets that conform to the approved design.

1.2 Background: 1.2 Background: The SOW tasks the contractor to provide a Form, Fit, Function and Interface (F3I) production flight-ready Regulated Transformer Rectifier Unit (RTRU) 400 AMP with support of first article requirements. RTRU is unique to the C-5M aircraft. Diminishing Manufacturing Sources and Material Shortages (DMSMS) and obsolescence issues identified during the design/manufacture of these components will need to be resolved.

2.0 Contractor Requirements

2.1 Loss of Government Property: Reporting Loss of Government Property, the contractor shall use the Defense Contract Management Agency (DCMA) eTools software application to report loss of Government property at the site below IAW the FAR and applicable supplements and shall be in compliance with all applicable guidance and clauses listed in the contract. The reporting requirement does not change any liability provisions or other reporting requirements that may exist under the contract/order. http://www.dcma.mil/aboutetools.cfm

2.2 Return/Retention of Government Property: All deliverable items generated under the contract/order becomes the property of the Government and shall be returned to the Government upon completion of the contract/order. All Department of Defense (DD) Form 1423-1, Contract Data Requirements List (CDRL) deliverables become the property of the Government upon receipt.

2.3 Data Requirements: Contractor shall ensure that all reporting as specified under the following CDRLs is accomplished. All data requirements apply to each year and shall not be separately priced. Some exhibits may apply to out-years.

A001: Item Unique Identification (IUID) Marking Plan, DI-MGMT-81803A
A002: Item Unique Identification (IUID) Marking Activity, Validation and Verification Report, DI-MGMT-81804A
A003: Counterfeit Prevention Plan (CPP), DI-MISC-81832

A004: First Article Qualification Test Plan and Procedures, DI-NDTI-81307A
A005: Test/Inspection Report, DI-NDTI-80809B

2.4 Government System(s): The Government will provide contractor personnel access to system(s) necessary to perform tasks under the contract/order. Upon completion/termination of the contract/order or transfer/termination of contractor personnel, the system account(s) will be closed.

3.0 Technical Requirements

All requirements within this document are IAW Source Control Drawing (SCD) 4B99005, Specification document LG03ER0144, and Interface Control Document LG03ER0124.

3.1 Period and Place of Performance

3.1.1 Contract/Order Period of Performance: The period of performance for the contract/order is for one (1) basic year followed by four (4) one-year options for a total of five (5) years with delivery of first article flight-ready prototypes within 6 months of contract award.

3.1.2 Place of Performance: These services will be performed at facilities established by the contractor. Flight testing or integration testing is expected to be performed on an USAF installation.

3.2 Task Description: The Regulated Transformer Rectifier Unit (RTRU) 400 AMP design shall be a Form, Fit, Function, and Interface (F3I) replacement for the legacy item and shall incorporate current, nonproprietary parts and technology with qualified sources defined by drawings and specifications. All production first article units shall pass the Formal Qualification as specified in Source Control Drawing (SCD), 4B99005. The Contractor shall deliver to the 409th SCMS/GUMAA for validation, two (2) production first articles flight-ready unit within 6 months of contract award

3.3 Item Unique Identification (IUID) Marking Plan

3.3.1 Item Identification and Valuation, unique item identification is a method of marking items with unique item identifiers which have machine-readable data elements. Unique item identification is required for all items to be delivered to the DoD that meet the criteria established IAW the FAR and applicable supplements and shall be in compliance with all applicable guidance and clauses listed in the contract.

3.3.2 The contractor shall mark items in accordance with contract clauses, and Military Standard (MIL- STD)-130N, Department of Defense Standard Practice / Identification Marking of U.S. Military Property. [A001, DI-MGMT-81803A, IUID Marking Plan]

3.3.3 IAW the Department of Defense Guide to Uniquely Identifying Items Assuring Valuation, Accountability and Control of Government Property, the Government agent or

contractor representative responsible for causing "life cycle events" (i.e., abandoned, consumed, destroyed by accident, destroyed by combat, donated, exchanged – repair, exchanged – sold, exchanged – warranty, expended – experimental/target, expended – normal use, leased, loaned, lost, reintroduced, retired, scrapped, sold – foreign Government, sold – historic, sold – non Government, sold – other federal, sold – state/local, and stolen) will update applicable item record(s) in the IUID Registry.

3.3.4 IUID Marking Activity and Verification Report: The contractor shall provide an IUID Marking Activity and Verification Report. A key attribute for the report is the Verification column which indicates pass/fail for each item's Data Matrix Symbol Quality. [A002, DI-MGMT-81804A, IUID Marking Activity, Validation and Verification Report]

3.4 Counterfeit Electronics Parts: The contractor shall establish policy and procedures to mitigate the risk of counterfeit electronics parts being installed in end items or otherwise entering the USAF/DoD inventory IAW Aerospace Standard AS5553A, Counterfeit Electronics Parts; Avoidance, Detection, Mitigation, and Disposition.

3.4.1 Counterfeit Prevention Plan (CPP): Contractors that supply electronic parts or systems that contain electronic parts shall establish policies and procedures to avoid, detect, mitigate and disposition counterfeit electronic parts to prevent such parts from entering the USAF/DoD supply chain. These policies and procedures shall be documented in a CPP for submission and approval IAW Data Item Description (DID) DI-MISC-81832 and accomplished for all specified contract items. DI-MISC-81832 is applicable to Parts, Material and Processes Selection (PMPS) associated with delivery of systems and assemblies to the USAF and DoD. The requirements established by DI-MISC-81832 also apply to electronics components procured in sustainment of such systems and assemblies. The requirements of the recently DoD-adopted SAE AS5553 Counterfeit Electronics Parts; Avoidance, Detection, Mitigation, and Disposition shall also apply. At a minimum, the CPP shall address: [A013, DIMISC- 81832: Counterfeit Prevention Plan]

3.4.2 At a minimum, the CPP shall address:

3.4.2.1 Applicability: The contractor shall identify all Business locations and programs to which the CPP applies. The CPP shall address materials, hardware, electronic parts, and procured assemblies.

3.4.2.2 Definitions: The contractor shall utilize definitions per AS5553 to ensure consistency. Any contractor-derived definitions must be included in an appropriate CPP appendix or annex. (Ref. AS5553, paragraph 3, 3.1, 3.2, 3.3, appendix H)

3.4.2.3 Parts Availability and Use of Parts Brokers: The contractor shall not procure materials, systems, assemblies, subassemblies or parts from parts Brokers when available from Original Equipment Manufacturers (OEM) or their

Authorized Distributors. In cases where materials, systems, assemblies, subassemblies or parts are no longer available from the OEM or their Authorized Distributors, procurement from Brokers may be authorized as defined by the contractor's policy and their CPP. (Ref. AS5553, paragraph 4.1.1, 4.1.2.e., appendix A)

3.4.2.4 Procurement Policies: The contractor shall provide and implement policy directing development and implementation of business practices and procedures, and processes to prevent procurement of Counterfeit materials and parts. The contractor shall identify the appropriate office(s), business units, functional organizations, and programs, which shall have responsibility for development, maintenance and implementation of the CPP. The CPP shall identify the specific roles and responsibility for each. (Ref. AS5553, paragraph 4.1.2, 4.1.3, appendix B, C, D)

3.4.2.5 Risk Assessment: The contract shall address the risk of using unknown sources and/or unauthorized suppliers in the CPP. Application or technical risk assessments shall establish the effect that counterfeit parts may have on performance. Vendor or source of supply risk assessments shall establish the potential for obtaining counterfeit parts. Using any risk analysis tool acceptable to the Government, the contractor shall conduct a risk assessment based upon item characteristics and how likely it is that a counterfeit part will be received. The contractor shall identify and describe in the CPP how parts are selected for assessment and what risk is acceptable based upon the parts design, construction, material and functional requirements. As a minimum, analysis shall be completed for flagging high risk items, such as items that are obsolete, discontinued, rare, etc. The contractor shall require completion of a trade study, documented within the CPP that shall facilitate determining whether 100% testing of parts procured from after-market sources is more cost effective than qualification or requalification of a manufacturer. (Ref. AS5553, paragraph 4.1.2, 4.1.3, appendix B, C, D).

3.4.2.6 Testing and Verification: The contractor shall establish and accomplish testing and verification processes for items not received from an original equipment manufacturer, original component manufacturer, or authorized distributor that are identified as having high risk for counterfeit potential. These processes apply to prime contracts, and to subcontracts or suppliers below the prime contracts. The contractor shall provide a list of acceptable test facilities if the subcontractor or supplier does not have the capability to perform required testing. Submittal of Certificates of Compliance indicating the parts are not counterfeit shall be acceptable for verification of testing. (Ref. AS5553, paragraph 4.1.4, appendix E)

3.4.2.7 Configuration Identification and Traceability: The contractor shall identify and control the configurations of all systems, assemblies, subassemblies

and parts, and enable mechanisms to provide traceability of parts. The contractor shall report to the Government when control of the configurations of all systems, assemblies, subassemblies and parts, and mechanisms to provide traceability of parts are not possible. The contractor shall identify the specific systems, assemblies, subassemblies and parts beyond the contractors' control. The contractor shall be responsible for detecting and avoiding the use or inclusion of counterfeit materials and parts, to include procured assemblies and subassemblies, in such products and shall be responsible for the rework or corrective action that may be required to resolve the use or inclusion of counterfeit materials and parts. The cost of counterfeit electronic parts and suspect counterfeit electronic parts and the cost of rework or corrective action that may be required to remedy the use or inclusion of such parts are not allowable costs under Department contracts , unless: a) the contractor has established a counterfeit avoidance/detection system approved by the DoD, b) the counterfeit parts were procured from a DoD-accredited trusted supplier or provided as Government property, and c) the contractor has provide timely notification to the Government. (Ref. AS5553, paragraph 4.1.6, appendix F)

3.4.2.8 Counterfeit Notification and Reporting: The contractor shall report in writing to the Procuring Activity within 30 days of determining any end item, component, part, or material contained in supplies purchased by the Department of Defense, or purchased by a contractor or subcontractor for delivery to, or on behalf of, the Department, contains counterfeit electronic parts or suspect counterfeit electronic parts for the purpose of investigation and notification of the Air Force Office of Special Investigations (AFOSI). The PCO shall coordinate reporting to the appropriate Program Management/Item Management, System Engineering Management, the AFMC Discrepant Materiel Reporting Program (DMRP) Office in 406 SCMS/GULAB, and the AFOSI. Additionally, the contractor shall within the same 30 day period ensure all suspected or confirmed counterfeit items are entered into the Government-Industry Data Exchange Program (GIDEP) system, which will serve as the DoD central reporting repository. (Ref. AS5553, paragraph 4.1.7, appendix G)

3.4.2.9 Counterfeit Prevention Training: The contractor shall provide appropriate training and shall require all personnel working procurement within their company, to include at a minimum their supply chain management specialists, receiving inspectors, and engineers, to complete said training. The contractor shall determine the appropriate training required. Training may be developed in-house or may be other Industry accepted training. The CPP shall describe and list the training provided by the contractor to their personnel.

4.0 Packaging: The Contractor shall package and mark material in accordance with the contract/order Air Force Materiel Command (AFMC) Form 158, Packaging Requirements, and

applicable Government regulations. The Contractor shall ensure that classified material is packaged, marked and delivered in accordance with 32 CFR Part 117, National Industrial Security Program Operating Manual (NISPOM).

5.0 Administrative

5.1 Security: Contractor shall not release or remove system documentation, data, or reports generated by or through use of Government systems. All requests for information shall be forwarded to the PCO.

> **5.1.1 Security Clearance:** The Contractor shall ensure applicable contractor/subcontractor personnel have security clearance(s) at the SECRET level for proper accomplishment of contract/order requirements. The security clearance(s) shall be obtained in accordance with the Department of Defense (DD) Form 254, Department of Defense Contract Security Classification Specification. The Contractor shall obtain necessary security clearance(s) by award of contract.
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> **5.1.2 Cybersecurity:** The Contractor shall complete an assessment of Cybersecurity impacts and provide Cybersecurity technical support. The Contractor shall design into the prototype the best practices of cybersecurity which include but are not limited to confidentiality, integrity, availability, authentication, and non-repudiation. The Contractor shall protect the system against compromising security requirements at all facilities committed to the prototype effort. The Contractor shall identify and document the applicability of the security for the system, the implementation of control compliance actions and technical measures recommended to meet or mitigate non-compliant controls.

5.2 Government Facility Access: The Government Program Manager will assist Contractor in processing the necessary DoD forms to obtain base or area badges for access to Government facilities. The Contractor shall obtain base identification for all Contractor personnel who make frequent visits to or perform work on the Air Force installation(s) cited in the delivery order. Contractor personnel are required to wear or prominently display installation identification badges or Contractor-furnished, Contractor identification badges while visiting or performing work in the installation. Access to Government facilities is limited. Control of the facilities shall remain with the Government.

5.3 Contract Management: The PCO shall be responsible for contract management. Only the PCO can make changes affecting this contract. Any instances where implied or explicit direction, received from any Government representative and perceived by the contractor to affect performance of tasks under this contract, or to have a material impact on costs incurred in association with this contract, shall be brought to the immediate attention of the PCO for disposition and instructions before proceeding with any work thus affected. The 409 Supply Chain Management Group will provide the Government Program Manager for this contract. Only the PCO/Government Program Manager has authority to review and approve contract deliverables.

5.4 Government Furnished Information, Equipment, Materials, and Software: All Government Furnished Equipment (GFE), Government Furnished Software (GFS), Government Furnished Information (GFI), and Government Furnished Material (GFM) shall be returned to the Government upon completion of this contract. The Contractor shall provide a comprehensive list of all anticipated GFE/GFI/GFS/GFM requirements at the time of proposal and in the monthly status report. Additionally, the Contractor shall provide a criticality level for each item and a description of possible workarounds if an item is unavailable for use under this delivery order. Upon contract award, official requests shall be made through appropriate Government PCO channels NLT 30 days prior to actual need date.

5.5 Travel Requirements: Telecoms will be the primary means for conducting all meetings. No separate Travel line item will be incorporated into this effort. If instances arise in which the contractor determines it is in their best interest to send a representative, the contractor shall submit a Base Access Request to the PM and PCO in order to have the individuals properly cleared to attend the event. All costs for any such travel shall be borne by the contractor.

5.6 General Safety Requirements

> **6.6.1** The Contractor shall comply with all safety provisions, e.g., technical specifications, technical publications, Federal Occupational Safety and Health Standards (Title 29 CFR. Part 1910). If there is no applicable Occupational Safety and Health Administration (OSHA) standard, use other applicable nationally recognized sources of safety, health, and fire prevention standards referenced in the work requirements of this contract.

5.6.2 The Contractor shall protect Government property to prevent damage during the period of time the property is in the possession of the Contractor. The Contractor shall report promptly to the Administrative Contracting Officer (ACO) all available facts relating to each instance of damage to Government property.

6.0 Supply Chain Risk Management: The contractor shall identify, assess, plan for, and mitigate actual or potential threats, vulnerabilities, and disruptions to the Air Force's supply chain throughout the lifecycle to ensure mission effectiveness. The contractor shall inform and include the Government in any mitigations or alterations to the program. The SCRM plan shall address the broad spectrum of supply chain risks that have the potential to: jeopardize the integrity of products, services, people, and technologies; compromise intellectual property; disrupt the flow of product, materiel, information, and finances needed for continued Air Force operations; and drive materiel cost increases to the program. The contractor shall develop and execute processes for identifying supply chain risks as early as possible; the persistent and comprehensive tracking, monitoring, and re-evaluation of supply chain risks and their corresponding mitigation actions; and communicating supply chain risks to affected stakeholders and the Government. The contractor shall notify in writing the identified actual and potential supply chain risks. The contractor's SCRM program and processes shall apply to the prime and their suppliers, subcontractors, associated integrators, and vendors, spanning the entirety of the supply chain, from raw material stage to delivery of a finished product and/or service. As part of

the overall SCRM approach, the Contractor shall establish, document and maintain documentation about subcontractors/vendors for all parts that will be used for Government contracts. The contractor shall continuously monitor their sources of supply for unknown, unauthorized, non-certified, or unqualified sources providing parts or services from any sub-tier supplier within the contractor's supply chain. The contractor shall investigate and submit findings to include root causes, impacts and a corrective action.