Statement of Work (SOW) for

Outsourcing of Technical Support activities towards LRU Hardware PI checks,

SW porting, Tag update, Rig Tests

Qty: 1 Job

1. INTRODUCTION

Avionics & Weapon System (AV&WS) is one of the major systems in LCA Tejas aircraft that provides Mission function, efficient Pilot Vehicle Interfaces and other functions. In the process of development flight tests of Tejas, Avionics system Line Replacement Units (LRU) needs to be updated / installed on Aircraft time to time wrt software & hardware improvements. These software & hardware improvements are certified by CEMILAC after rigorous tests at various levels from development rigs till aircraft on ground. Hardware modification on LRUs undergo, Integration testing carried out at various Rig like AIR (Avionics Integration Rig), WIR (Weapon Integration Rig), Avionics Bird, Iron Bird and subsequently on Aircraft ground test. Similarly, Software modifications undergo tests at development rigs, tests by IV&V, Integration tests at AIR and then aircraft on ground. The process involves many procedural activities like Software porting on LRU, Pre-installation checks (PI), HAT, ATP, Documents / Test Report generation & Approval by certification agencies, Tag update, LRU movement for Aircraft installation, etc.

All the above stated technical support activities are highly involved tasks and require coordination with Design groups, IV&V, QA&SEG, Program office, NFTC, RCMA, ARDC HAL and Certification agencies (AQA & CEMILAC). These support activities need to be carried out by a team of Technicians, responsible & dedicatedly executing these tasks, so that availability of LRUs is ensured meeting the program timeline/milestone.

In view of the above, Outsourcing of Technical Support activities towards LRU HW, SW porting, Rig tests, PI checks, Report generation & clearance, Tag update, etc as a Work package is resorted to.

2. DURATION AND EFFECTIVENESS

1. This outsourcing Work package shall be effective from the date as mentioned in the contract / PO which is agreed upon. Duration of this work package is for a period of 2 year.
2. The outsourcing work package shall remain in force until 2 years (24 months).
3. The outsourcing Work package may be amended at any time by mutual agreement of outsourced company and ADA.

3. SCOPE OF WORK

The work package shall cover the following Technical Assistance activities related to MF-UFCP, EVDR, UVDR and CWS LRUs.

1. LRU Software porting, Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team.

2. LRU testing at various Rig like AIR (Avionics Integration Rig), WIR (Weapon Integration Rig), Avionics Bird, Iron Bird, Aircraft ground RFT, etc

3. Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities, etc

4. Technical activity related support on Real time clock (RTC) updation of MF-UFCP.

5. Maintenance of LRU inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc

6. Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team.

7. Documents and TMs coordination with different design groups.

8. Support for Provisional Clearance certification from RCMA for new HW & SW updates.

9. Any other non-technical support required on need basis.

4. RESPONSIBILITIES

4.1 ADA

1. Introduce the outsourced Technicians on the activities as listed in Sec. 3.0

2. Provide templates, formats & Technical documents for LRU Tag update, PI checks etc

3. Provide existing data and other required docs/info for the workpackage activities.

4. Workspace, PC and other facilities as available for ADA engineers would be provided.

5. Additional data required if any will be provided during project execution.

4.2 OUTSOURCED COMPANY

1. Outsourced company shall place a team of Technicians at ADA for a period of 2 years to carry out all the listed activities as per Sec 2.0. Team profile shall be as per Sec 5.2.

2. Technician Profiles to be provided compulsorily along with Technical Bid & would be scrutinized by ADA committee as a part of Technical Evaluation of Vendor.

3. T0 will start from full deployment of the resources.

4. Vendor shall monitor the attendance, maintain records of the working team during the project and report to ADA project coordinator on weekly basis. Leaves of members shall not affect deliverables.

5. During long leaves / resignation of Technician, the company shall be responsible of suitable replacement without break in project schedule. For this purpose, the company shall keep trained standby Technicians.

6. It is required to have the same Technician & members throughout the duration of this project. However, in case of change/replacement due to unavoidable reason, advance information (before 3 months) shall be given to ADA. ADA shall evaluate Technician for technical suitability /adequacy for this project. The qualification, expertise & screening requirements remain the same for the proposed candidates for replacement.

7. Technician shall train the replacement member for minimum two weeks in advance during the overlap period to ensure without break in service.

8. Working place is at AV&WS Dte, ADA / NFTC, HAL, Bangalore and working hours as per HAL/ADA. Team shall abide by the rules and regulations of ADA, as applicable for Work packages.

9. The deputed Technician team shall execute the assigned tasks in coordination with Design groups of Av&WS team, IV&V, QASEG, other agencies of HAL ARDC, LCA-TD, RD AQA & RCMA A/c.

10. Team shall have Police Verification done preferably within 2 weeks from the date of PO & PVC to be submitted to ADA before commencement of the project.

11. Vendor shall review the performance of the team wrt technical and managerial, at ADA atleast once in 2 weeks.

12. Vendor shall take necessary action wrt ADA feedback for Performance/ improvements of team, if any.

13. Certification of confidentiality is to be agreed upon by the vendor for technical details provided by ADA and the total documentation prepared is the property of ADA. Vendor cannot claim for any documentation of this project. IPR rests with ADA.

14. This contract will be a fixed price contract, spanned over 02 years. The anticipated duration of Milestone - 01 to Milestone – 08 would be 03 months each.

15. Payment will be released upon successful completion of work defined for a milestone as per timeline and acceptance/ approved by ADA Project co-ordinator, as defined in Sec 6.4.

16. Vendor shall sign Non-Disclosure Agreement (NDA) on placement of PO.

5. PROFILE DETAILS

5.1 EVALUATION CRITERIA

1. Shall have undertaken or have exposure to Aircraft Avionics system Integration related activities in any of the aircraft programs like LCA, LCH, Jaguar, Mirage, MiG, Su-30 etc.

2. Shall have exposure to Airborne Avionics systems testing & certification.

3. Shall have experience in Aircraft Maintenance / Upgradation activities.

5.2 TEAM SIZE, ROLE & EXPERIENCE

1. Based on the experience, ADA is of the opinion that typical team strength to be about 24 Man-months (ie, min 1 Technician for 2 years) for the total project.

2. Technicians shall be Diploma with specialization in ECE/ EEE/ Aircraft Maintenance with minimum 2.5 to 3 years of experience in Aircraft LRU testing, Aircraft Maintenance/ Upgradation activities, Documentation, Software porting etc. Exposure to Mil-Std 1553B Bus, RS422 protocols, Avionics Architecture and test tools are preferable.

6. DELIVERABLES & PAYMENT SCHEDULE

6.1 Delivery schedule:

The duration of this Phase of project is 2 years (24 Months).

6.2 Project Milestones:

T0 - will start from full deployment of the resources.

6.3 Milestone Timeline:

6.3.1 Mile Stone1 - T0 + 3 months

1. MF-UFCP LRU Software porting, Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team, Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities, Technical activity support on Real time clock (RTC) updation.

2. MF-UFCP LRU testing at various Rig like AIR (Avionics Integration Rig), WIR (Weapon Integration Rig), Avionics Bird, Iron Bird, Aircraft ground RFT.

3. Maintenance of LRU inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc for MF-UFCP

4. Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team, TMs coordination, Provisional Clearance certification from RCMA for new HW & SW updates for MF-UFCP

5. Any other non-technical support required on need basis.

6.3.2 Mile Stone2 - T0 + 6 months

1. EVDR LRU Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team, Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities.

2. EVDR LRU Maintenance -inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc.

3. Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team, TMs coordination, Provisional Clearance certification from RCMA for new HW & SW updates for EVDR

4. Any other non-technical support required on need basis

6.3.3 Mile Stone3 - T0 + 9 months

1. CWS LRU Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team, Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities.

2. CWS LRU testing at various Rig like AIR (Avionics Integration Rig), WIR (Weapon Integration Rig), Avionics Bird, Iron Bird.

3. Maintenance of LRU inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc for CWS

4. Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team, TMs coordination, Provisional Clearance certification from RCMA for new HW & SW updates for CWS

6.3.4   Mile Stone4 - T0 + 12 months

1.   UVDR LRU Software porting, Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team, Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities.

2.   UVDR LRU testing at various Rig like AIR (Avionics Integration Rig), WIR (Weapon Integration Rig), Avionics Bird, Iron Bird, Aircraft ground RFT.

3.   Maintenance of LRU inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc for UVDR

4.   Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team, TMs coordination, Provisional Clearance certification from RCMA for new HW & SW updates for UVDR

5.   Any other non-technical support required on need basis

6.3.5   Mile Stone5 - T0 + 15 months

1.   MF-UFCP LRU Software porting, Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team, Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities.

2.   MF-UFCP LRU testing at various Rig like AIR (Avionics Integration Rig), WIR (Weapon Integration Rig), Avionics Bird, Iron Bird, Aircraft ground RFT.

3.   Maintenance of LRU inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc for MF-UFCP

4.   Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team, TMs coordination, Provisional Clearance certification from RCMA for new HW & SW updates for MF-UFCP

5.   Any other non-technical support required on need basis.

6.3.6   Mile Stone6 - T0 + 18 months

1.   EVDR LRU Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team, Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities.

2. EVDR LRU Maintenance -inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc.

3. Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team, TMs coordination, Provisional Clearance certification from RCMA for new HW & SW updates for EVDR

4. Any other non-technical support required on need basis

6.3.7　Mile Stone7 - T0 + 21 months

1. CWS LRU Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team, Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities.

2. CWS LRU testing at various Rig like CWS Test Jig, AIR (Avionics Integration Rig), WIR (Weapon Integration Rig), Avionics Bird, Iron Bird.

3. Maintenance of CWS LRU inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc for CWS

4. Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team, TMs coordination, Provisional Clearance certification from RCMA for new HW & SW updates for CWS

6.3.8　Mile Stone8 - T0 + 24 months

1. UVDR LRU Software porting, Pre-installation checks (PI), document generation ECN, Tag update & coordination with certification team, Material Gate Pass generation, movement of LRUs between work centre, HAL & other test facilities.

2. UVDR LRU testing at various Rig like AIR (Avionics Integration Rig), WIR (Weapon Integration Rig), Avionics Bird, Iron Bird, Aircraft ground RFT.

3. Maintenance of UVDR LRU inventory, Record documents, keep Track of LRU installation on Aircrafts, LRU History, etc for UVDR

4. Support for Avionics COD papers movement for Coordination with IV&V, Integration team & Weapon team, TMs coordination, Provisional Clearance certification from RCMA for new HW & SW updates for UVDR

5. Any other non-technical support required on need basis

6.4   Payment:

1.   This will be a fixed price contract, spanned over 02 years (24 months).

2.   The Payment would be made based on milestone achieved with a detail work done report and would be paid upon Completion of respective milestone.

3.   The Payment claim procedure against each milestone shall be followed as per ADA terms & conditions, 3 copies of original invoice; all deputed Engineers PF deposited individual statement/proof & Workmen's compensation policy/ESI proof for the invoice period, duly approved Milestone delivery acceptance certificate by ADA Project co-ordinator & other applicable Bank guarantee, documents if any to be submitted.

4.   The table below summarizes milestone timeline and payments.

Milestones	Milestones Timeline	Payment in % of total value of contract
Milestone 1	T0 + 3 months	12.5%
Milestone 2	T0 + 6 months	12.5%
Milestone 3	T0 + 9 months	12.5%
Milestone 4	T0 + 12 months	12.5%
Milestone 5	T0 + 15 months	12.5%
Milestone 6	T0 + 18 months	12.5%
Milestone 7	T0 + 21 months	12.5%
Milestone 8	T0 + 24 months	12.5%
Total Payment		**100%**