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स्वतंत्रमेव जयते

No. EL/4.2.15/EoTT

Date: 21.05.2021

SPECIAL MAINTENANCE INSTRUCTION NO. RDSO/ 2021/EL/SMI/0329 {REV. '0'}

1.0 Title :

Special Maintenance Instructions No. RDSO/2021/EL/SMI/0329 Rev '0' for guidelines of Comprehensive Annual Maintenance Contract for End of Train Telemetry (EoTT) system on IR.

2.0 Brief History :

2.1 Railway Board vide letter number 2018/Elect(Dev)/181/4 dated 20.08.2018 had advised RDSO to finalize the Specification of End of Train Telemetry (EoTT) project. RDSO had prepared Functional Requirement Specification No. RDSO/2019/EL/FRS/0025 Rev '0' dated 25.06.2019 for End of Train Telemetry (EoTT) System for Indian Railways. ECoR and BLW has placed the developmental orders for use of EoTT on IR. Final Specification for EoTT No. RDSO/2021/EL/ SPEC/0144 Rev '0' dated 11.05.2021 has been issued.

2.2 As per clause 1.7.2 of the above Specification, the firm shall submit their bid for Comprehensive AMC of the EoTT for a period of 7 years after expiry of warranty period.

2.3 As per condition laid down in Specification a need is felt to provide a uniform guidelines for Comprehensive Annual Maintenance Contract (AMC) of EoTT system over IR. Zonal Railways have also requested to follow uniform guidelines in this respect

3.0 Object:

Special Maintenance Instructions No. RDSO/2021/EL/SMI/0329 Rev '0' for guidelines of Comprehensive Annual Maintenance Contract for End of Train Telemetry (EoTT) system on IR.

4.0 Modified Instructions:

Guidelines of Comprehensive Annual Maintenance Contract for End of Train Telemetry (EoTT) system on IR is attached as Annexure.

5.0 Application:

All Electric & Diesel Locomotives (Conventional & 3 phase)

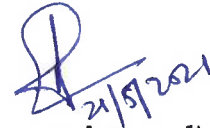
6.0 Agency of Implementation:

All PUs, POH Workshops and Electric/Diesel Loco Sheds.

7.0 Periodicity of Implementation:

As and when required maintenance

Encl.: As above



(Anurag Agarwal)
for Director General/Electrical



सत्यमेव जयते

भारतसरकार (GOVERNMENT OF INDIA)
रेलमंत्रालय (MINISTRY OF RAILWAYS)

**GUIDELINES FOR COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT
FOR**

**End-of-Train Telemetry (EoTT) System
For Indian Railways**

**Total no of pages:14
Issued on: 21.05.2021**

**ELECTRICAL DIRECTORATE
RESEARCH DESIGNS AND STANDARDS ORGANISATION
LUCKNOW-226011**

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1.0 General

This annual maintenance contract covers the comprehensive maintenance requirement of End Of Train Telemetry System for Electric/Diesel locomotives and the agreement is required to be entered between OEM/ supplier of End Of Train Telemetry System and Zonal Railways on behalf of president of India for use and operation by the Zonal Railways at Headquarter/ divisional level.

These guidelines shall be read in conjunction with Clause 1.7 of the Specification No. RDSO/2021/EL/SPEC/0144, Rev'0' (or latest) of End of Train Telemetry(EoTT) System for Indian Railways.

2.0 Definitions

Throughout this document, the terms:

- a) **'EoTT'** means End of train telemetry system.
- b) **'IR'** means government of India. Ministry of Railways, Railway Board, New Delhi or its nominees.
- c) **'RDSO'** means Research Design & Standard Organization.
- d) **"Tendered"** Means the firm/company submitting the offer for annual maintenance of distributed power wireless control system fitted on three phase freight locomotives.
- e) **Contract** ' means the contract for annual maintenance of End Of Train Telemetry system fitted on three phase freight locomotives proposed to be entered into between IR and the firm, against the tender.
- f) **Contractor** ' means the firm/ company or its wholly owned subsidiary in India on whom the order form annual maintenance of End Of Train Telemetry system fitted on three phase freight locomotive is to be placed.
- g) **Sub-contractor** ' means any person firm or company from whom the contractor may obtain any services for maintenance.
- h) **'User Railway'** means the Zonal Railway or divisional Railway which has placed the contract on firm in terms of this agreement.
- i) **Designated shed**- shall be the shed so designated by the user railway, within the zone of the user railway, where the locomotives shall be brought for maintenance.

- j) **'Nominated Officer'** means the person nominated by user Railway for the purpose of execution of contract.
- k) **'Loco month'** is the total number' of hours in service/ breakdown over a period of one month.
- l) **'GCC'** shall mean general conditions of contract (Works) contract, of the concerned zonal Railway.

3.0 SCOPE

3.1 The AMC contract shall begin when:

- a) Immediately w.e.f next day when the warranty period expires.
- b) In case if the AMC is awarded beyond the warranty period, the joint inspection& OEM/ supplier recommended rectification, if any at the cost of IR shall be required before the commencement of AMC.

- 3.2 The contract shall be comprehensive in nature wherein preventive as well as Breakdown Maintenance of EOTT is to be attended by the contractor including the arrangement of spares, tools, consumables, technical expertise and manpower. The replaced consumables, tools items will be contractor's property. Contractor shall remove the same from the shed's premises with due authority.

All maintenance activity shall be carried out as per maintenance schedule approved by IR. Loco shall be made available to the contractor within +/- 7 days of the scheduled periodicity.

- 3.3 The Maintenance and support by the contractor shall consist of Preventive checks as per the preventive maintenance schedule of the EoTT as prescribed by the OEM/Supplier and shall also include all the extra and out of course attentions including breakdown, if any required.

- 3.4 Annual maintenance contract (AMC) shall not cover the failures due to external circumstances to the EoTT such as fire, accident explosion floods etc.

3.5 Availability and Downtime

- 3.5.1 The contractor shall ensure that during the billing period (three months) combined downtimes of all the locomotives covered under the contracts on account of out of course repair and online failures of equipment under AMC covered under the scope of work, does not exceed 1.5% of total loco hours for the locomotives covered in the contract, downtime accountal shall be carried out every month and the contractor has to ensure not less than 98.5% availability on account of equipment under AMC.



- 3.5.2 The contractor shall ensure that downtime on account of out of course repairs and online failures of equipment under AMC covered under the scope of works, does not exceed an amount equivalent to 5% of individual loco hours for each of the locomotives covered in the contracts. Downtime accountal shall be carried out by the contractor every month and the contractor shall ensure not less than 95% availability of each loco on account of equipment under AMC. The down time calculation for para 3.5.1 and 3.5.2 above shall be as under.
- a. Downtime on out of the course repair shall start from the time when the stipulated maintenance schedule of the locomotive is completed but waiting for the repair or the loco exclusively on account of equipment under AMC.
 - b. Downtime on account of online failures shall be from the time, loco fails on line and reported to the contractor till the loco is given ready for service. If the time taken from the reporting of inability to repair at site till handing over of the locomotive to the contractor at nearest shed (Including trip shed) is more than 24 hours, the time above 24 hours shall not be considered for calculating the downtime occurred due to that failure. If the locomotive breakdown complaint is given for online failure, the service engineer shall proceed by road or rail from designated shed with necessary spares & tools within two hours of receipt of complaint and will attend the loco at the earliest opportunity. If the contractor confirms in writing after checking the loco that the problem con not be attended online, loco may be moved to the nearest maintenance shed/ trip shed for repair. If the loco is not handed over to contractor within 24 hours from the time contractor has expressed inability to repair/ attend online or at failed site, the extra time taken is beyond the contactor scope and hence shall not be taken as down time till the loco is handed over to contractor for repair/ attention.
- 3.5.3 All the penalties shall be calculated on the entire fleet covered under this contract.
- 3.5.4 In case any loco is held up in shed for repairs/ want of material (other than related to equipment under AMC) for more than 30 days, the same shall be communicated to the contractor in writing and the complete held-up period shall be excluded from the availability figures and hence no payment shall be made for that period. The contractor shall not remove



any material from the loco without prior written consent from Railway authorities.

- 3.5.5 The comprehensive AMC will include maintenance of server/cloud service/Data by the firm.

4.0 **PLACE OF WORK**

The locomotives are based/ proposed to be based at Electric/Diesel Loco sheds under various Zonal Railways. However, contract shall cover any other place nominated during the currency of the contract. The contractor shall arrange required men and material at the designated sheds with immediate effect or maximum within 2 weeks of information of Railways.

The maintenance/breakdown repairs shall be carried out by the contractor through its nominated Service Engineers at designated shed, or at any location within that zonal Railway including trip sheds. If it is not possible to bring the loco to the designated sheds, the contractor's Service Engineer shall reach the spot immediately by means of transport on receiving the advice from the shed with necessary travel authorizations for the service engineer to undertake such travel from the respective zonal Railways. After examination of the loco at out station, in case, the loco can not be repaired/attended the locomotive can be moved to shed for further attention. Necessary support and resources required shall be provided by the shed.

5.0 **AUTHORITY FOR OPERATION OF CONTRACT**

Based upon this agreement the contract shall be signed by the user loco shed at zonal HQ and shall be executed under the overall supervision of Zonal Railway.

The user Railway shall nominate an officer who shall operate the contract for maintenance of the equipment and who shall be responsible for making the contract (Liaison) firm at the defined address by telephone/ telex/ fax or in person immediately when the preventive maintenance breakdown is to be attended to as required. The nominated Railway officer shall also responsible for supervision of the contractor's works for the verification of contractor's bill for payment.



6.0 RESPONSIBILITIES OF PARTIES

Following are the responsibilities of Railways and the contractor.

6.1 RAILWAYS

- 6.1.1 The Railway authority shall permit the contractor to work on End of Train Telemetry System fitted on locomotives under preventive maintenance or break down.
- 6.1.2 User Railways shall nominate the officer/supervisor for supervision of the work done by the contractor under the contract.
- 6.1.3 The user Railway shall issue the necessary identity card, road permit and other related statutory forms/ documents to facilitate movement of materials and man (Even if temporary) to the working staff/ service engineer for their entry on the platform and other railway premises.
- 6.1.4 The necessary space, electricity and water connection shall be provided by Railway free of cost as required, at the nearest possible point of the site. In addition, a lockable room to store the tools and tackles shall be provided free of cost by the IR to the contractor.
- 6.1.5 The user Railway shall make the locomotives available for the maintenance.
- 6.1.6 Railway shall mention the details of the locomotives including the locomotive nos. covered under AMC for the reference of both the parties. In case, the base maintenance designated shed of the locomotive is shifted to any other location, than that specified in the scope, the scope of AMC shall accordingly shifted to new site/ base after as mutually agreed between firm & Railways.
- 6.1.7 The nominated railway officer shall intimate the firm by Telephone/ Fax or in-person mentioning the loco numbers and location of the locos along with the time of call. He shall maintain the register of such calls made for reference of both the parties.
- 6.1.8 The user railway shall extend necessary infrastructure support to service engineer of contractor like crane, fork lift, other material handling & storage facilities suitable for repair & maintenance of equipments.

6.2 CONTRACTOR

All the work including checks shall be carried out on the stable conditions at the designated shed.

- 6.2.1 The contractor shall post adequate no. of qualified service engineers/ backup engineers and arrange required materials exclusively for the



execution of this contract at the designated shed/ sheds with immediate effect.

- 6.2.2 Service engineer shall carryout preventive maintenance on locos at all days and times including Sundays and Gazetted Holidays depending upon availability of locomotive in the shed.
- 6.2.3 Normally service engineer shall be available in the shed during normal working hours to attend breakdown calls/ preventive maintenance. A backup engineer shall be located at one of the contractor's office and shall be available at the designated shed if required to attend the complaints in case of absence of service engineer at the designed shed
- 6.2.4 The service engineer shall report within two hour at the designated shed to the nominated officers of Railway, if breakdown call is given during 06:00hrs to 22:00hrs and within three hours if breakdown call is given during 22:00hrs to 06:00hr on all days of the week.
- 6.2.5 The contractor shall keep all the necessary tools, testing equipment/ spare parts, sub- assemblies & consumables in the ready stock in the firm's premises at the location of the designated shed of maintenance or at their workshop or in the nearest office. IR shall, however, provide a lockable room to the contractor at the designated shed.
- 6.2.5.1 All components/ materials required for effective and timely execution of this AMC contract may have to be moved by contractor from their warehouse of any other location. Risk of loss or damage during such movement will be to the account of the contractor.
- 6.2.5.2 "Contractor" must keep adequate stocks of the components/materials received from their warehouse or any other location in order to ensure minimize down time in the execution of this AMC contract. Materials kept in the stock-point for the AMC relating to the particular shed cannot be removed by the contractor from the stock-point except for use in this AMC entered into by the Contractor with any other loco sheds.
- 6.2.5.3 Subject to clause- 6.2.5.2 above, title in the components used in the AMC will remain with contractor until it passes to the Railways by accretion in the execution of the AMC.
- 6.2.5.4 Documents for movement of components/ materials from contractor's warehouse or any other location to the stock- points: The documents employed for the inter-state movement of the components/ materials required for the execution of the present AMC must make explicit reference to the particular AMC contract apart from the locomotive reference for which the AMC is entered into.



- 6.2.6 The contractor shall furnish the standard (OEM recommended) list of spares, consumable & tools to be stocked by the contractor at the designated shed.
- 6.2.7 It shall be responsibility for contractor to keep the adequate spares consumable and tools (that may be required to service the AMC) to avoid any delay in repair time. The Railway official can check the stock of spares if so desired.
- 6.2.8 The service engineer nominated for the repair on the shed duty shall observe all safety and security rules prevailing at the pace of work.
- 6.2.9 Some maintenance spares for the equipment under AMC may be available at the contractor's premises at the location of the designated shed of maintenance of their workshop or in the nearest office of the electric loco sheds. These can be utilized by the contractor (The assessment is to be made by the contractor before quoting). However any such spares used by the contractor from the stock is the IR property and shall be replaced by new/ repaired ones within 3 months of their uses at no extra cost. However if such spares are used for correcting damages caused by external reasons (e.g. accident cattle over run etc.) the same need not be replenished.
- 6.2.10 The contractor shall maintain all such records/ log-books as mutually agreed by the Railway & firm, and produce for inspection by the Railway whenever required.
- 6.2.11 The contractor shall arrange required men and material at the designated sheds with immediate effect. However for new service locations a reasonable time frame of 3 months shall be provided.
- 6.2.12 whenever any locomotive has had an adverse incident/ unusual occurrence or failure online or in shed, the contractor has to submit a detailed repair report to the user railway official within two weeks from the date of completion of repairs. Failures investigation report based on troubleshooting, data analysis and primary failure analysis shall be provided by the contractor within 60 days from the date of completion of repairs. Any modifications required to improve reliability shall be carried out free of cost by the contractor with prior approval to Railway.

7.0 **VALIDITY OF CONTRACT**

The Comprehensive AMC of the EoTT (with rates and terms & conditions) shall be valid for a period of 7 years after expiry of warranty period. Indian Railways may, based on its experience of the service offered and



reliability of equipment, operate the AMC for less than 7 years in which case payment for the AMC will be made on pro rata basis.

8.0 **RATES**

The rates to be quoted for comprehensive AMC covering both the break down & preventive maintenance (including spares and service) per locomotive per year consisting EOTT in figures and in words. Firm has to quote for Comprehensive AMC - including Data charges, Cloud Service/Server maintenance, spares and manpower required to keep the equipment operational at all times.

The rates under this contract shall be in INR and exclusive of all applicable taxes and will be charged at actual during the execution of the contracts. The "Contractor will have to keep the Railways indemnified for any consequences that the Railways may be exposed to as a result of the omission on the part of the contractor to discharge such liability. The gross amount paid by the Railways to the contractor for the execution of the present AMC contract will be inclusive of such central sales tax and exclusive of applicable service tax.

9.0 **OWNERSHIP OF THE REJECTED & OLD COMPONENTS.**

The ownership of the rejected or defective replaced components/ parts vests with the contractor against the replacement made by them on equipment supplied to make it operative.

10.0 **PENALTY:**

For smooth execution of AMC by contractor, Zonal Railways/PUs may include suitable penalty clause as special condition of contract for AMC. However sample penalty clauses are given as under for guidance of Zonal Railways/PUs.

10.1 **PENALTY FOR COMBINED DOWNTIME OF ALL THE LOCOMOTIVE (ref Clause 3.5.1):**

For this purpose, downtime shall be calculated as percentage of total downtime hours for the month to the total loco hours of all the locos covered under the AMC. In case the contractor fails to maintain the contracted availability requirements, a penalty shall be levied.



Down Time Penalty

1.5% or less: NIL

>1.5%-5% : 02% of the total monthly proportionate bill

>5%-10% : 5% of total monthly proportionate bill

>10% : 10% of the total monthly proportionate bill

10.2 PENALTY FOR DOWNTIME OF INDIVIDUAL LOCOMOTIVE (ref. Clause 3.5.2):

For this purpose downtime shall be calculated as percentage of individual downtime hours for the month of a loco to the individual loco hours of the same loco covered under the AMC. In case the contractor fails to maintain the contracted availability requirements, a penalty shall be levied.

Individual loco downtime % penalty Rate

5% or less : NIL

>5% : 5% of the individual loco's monthly proportionate bill.

10.3 Overall liability in any case shall not exceed 10% of the contract value.

11.0 PAYMENT

11.1 The total yearly payment shall be made in four equal installments and such installments of the payment shall be made against the bill by the contractor every quarterly which is certified by the nominated officer for completion of maintenance and after calculation of penalties as stipulated in para 10.0, 10.1, 10.2, 10.3, 10.4. On account of penalty or non- performance of a planned scheduled maintenance, such dues, if any be deducted as above.

11.2 The bills submitted by the firm for payment must accompany:

11.2.1 The certificate of maintenance of the locomotives issued by nominated officer.

11.2.2 The above bill shall bear the individual locomotive number of the locomotives maintained by the firm for each quarter covered under this AMC.

12.0 PAYING AUTHORITY

The payment against this contract shall be made by the user Electric Loco shed. Any taxes including income tax required to be deducted at source



shall deducted and certificate to that effect shall be issued to the contractor as prescribed under the rules.

13.0 **CONTRACT PERFORMANCE GUARANTEE**

The contractor shall submit performance guarantee for amount equivalent to 5% of contract agreement. The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the Contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days. This performance guarantee shall be in the form of Bank guarantee. The user railway may forfeit the B.G in case of the failure of firm in execution of the contract or in the event of breach of any terms and conditions of contract by the contractor.

14.0 **FORCE MAJEURE CLAUSE**

Force majeure shall comprise the occurrence beyond the control of the railways and the firm as the case may be. This shall include but not limited to the events such as explosion flood, fire, major power failure, accident, breaches, act of God, act of public enemy, wars, riots, sabotage or any law of state or ordinance or the order or regulation of govt. or local public authority. In such situation, either party shall promptly notify the other party in writing about such event with evidence of happening, where possible and mentioning that it is beyond their control to carry out obligation of this contract and agree for mutually acceptable course of action. The penalties shall also not be applicable during this period.

15.0 **ARBITRATION**

- 15.1 In the event of any question, dispute or differences arising under the condition of this contract which can not be resolved by mutual discussions, such dispute can be referred to the sole arbitrator nominated by the General Manager of user Railways. The sole arbitrator appointed by the General Manager in this case shall be Gazetted Railway officer. However the person shall not be one of those who have dealt with the matter related to or who in the course of their duties as railway servant have expressed views on all or any of the matter under dispute or differences. The award of the sole arbitrator shall be final and binding on both the



parties to this contract. Subject as after said, the arbitration act 1996 & the rule of their under and any statutory modifications thereof for the time being in force shall be deemed to apply to the arbitration proceeding under this clause.

- 15.2 Where the arbitral award is for the payment of money no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.

16.0 LAWS GOVERNING THE CONTRACT.

The contract shall be governed by the Laws of India for the time being enforced irrespective of the place of performance or payment under the contract.

17.0 JURISDICTION OF THE COURTS

The courts of the place where the contract has been entered into by the user railway and the firm shall alone have the jurisdiction to decide any dispute arising out of or in respect of the contract.

18.0 FAILURE

If the contractor fails in the performance of the contract (except in case of force majeure & having been allowed a reasonable time to complete the obligation), the user Railway may without prejudice to his other rights, cancel the contract or a portion thereof and if it so desires, to enter into another contract for fulfillment of the obligation for the remaining period at the risk and cost of the contractor.

19.0 SUBLETTING AND ASSIGNMENT

The contractor shall not, save with the previous consent in writing of the user Railway, sublet, transfer or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever. In the event of the contractor's subletting or assigning this contract or any part thereof without any such consent, this shall be deemed as the breach of contract and the user railways shall be entitled to cancel the contract without prejudice to Railways right to recover damages and taking any action including legal action as deemed fit by Railways.



20.0 OTHER CONDITIONS

In the proposed contract for the condition not specified therein, General Conditions of contract with the latest amendments shall apply. The execution of works covered by the tender shall be governed by the general conditions of contract (GCC) of Indian Railways with all the latest amendments up to date. By signing the contract it would be deemed that the contractor has kept himself informed of the provisions of the general conditions of contract including all corrections and amendments issued up to date a copy of GCC shall be enclosed to the agreement and which shall form part and parcel of the agreement.

21.0 CONTRACT ISSUING AUTHORITY

- 21.1 This contract is issued on M/s Firm & shall remain valid for a period of seven years. However Railways may vary the period before going into contract as per their requirement
- 21.2 For the conditions not covered in this document, General conditions of contract shall apply. This concludes the contract and issued for and on behalf of the president of India.

