

## SCOPE OF WORK AND TERMS & CONDITIONS

1. The scope of work shall include design, supply, installation, commissioning, performance testing and maintenance (for the period of specified warranty) of aspiration type Fire/Smoke detection with alarm System and brake module for standalone coach in AC coaches as per RDSO spec.No RDSO/2008/CG-04(Rev-6) with coach alteration instruction (CAI) RDSO Letter No.MC/ACF/Fire Detection/AC Dt.22.07.21 and all modification issued by RDSO/PUs/RB for FSDS.
2. In AC coaches, Aspiration Smoke detectors in Passenger area, Doorway area, electrical cabinet area, lavatory area as per coach alteration instruction (CAI) RDSO Letter No.MC/ACF/Fire Detection/AC Dt.22.07.21, sampling points should be class-A as per EN 54-20 covering the entire area of the coach.
3. Sampling point shall be provided as per Location drawing available in RDSO letter no. MC/ACF/Fire Detection/AC dated 02.02.2024.
4. The cables used shall be fire survival cables (E- Beam). Cables shall be laid in segregated manner for positive & negative in separate conduit as per RDSO letter No. MC/ACF/Fire detection/AC dtd 12.08.2024.
5. Separate 2 A DC MCB with current limiter module as per standardization letter to be provided by the firm as per RDSO Letter No. EL/6.8.21 dated 15.07.2024.
6. FSDS unit to be provided at Standardized location of FSDS system as per RDSO Letter No. MC/ACF/Fire detection/AC dated 27.07.2024.


S. No.	Coach type	Standardised Location of FSDS system
1.	1 <sup>st</sup> AC	Separate enclosure in attendant cabin on PP side with provision of door having transparent opening by acrylic sheet.
2.	2 <sup>nd</sup> AC	Separate enclosure in linen room (above attendant berth on NPP side) with metallic partition frame and transparent opening with acrylic sheet for visibility of indication of FSDS system.
3.	3 <sup>rd</sup> AC	Existing location beside electrical cabinet (SBC panel) with transparent opening with acrylic sheet for visibility
4.	3 <sup>rd</sup> AC Economy	Existing location beside electrical cabinet (SBC panel) with transparent opening with acrylic sheet for visibility
5.	AC Chair car	Separate enclosure with metallic partition frame opposite to pantry equipments on PP side with transparent opening with acrylic sheet for visibility.

7. Locking arrangement for isolating cock of FSDS & sealing of solenoid valve of FDSS shall be in scope of firm as per RB Letter No.2023IM(C)/141/6 dtd 30.09.2024.
8. Firm shall ensure fault indication & data generation facility & necessary data logging facility as per the provision in RDSO spec and downloading of the same through USB 2.0 port.
9. Firm shall arrange testing of FSDS unit as per RDSO spec during commissioning including smoke detection test for each sampling points, checking of the threshold values, Airflow monitoring test, testing of brake application & hot wire test as per RDSO Letter No. MC/ACF/Fire detection/AC dated 13.06.2024. Any tools, meters, tackles, specialized equipments required for this purpose shall be arranged by the firm at their own cost and shall perform & record these test on each units installed.

10. The stripping & re-fitment of existing panels or any other fittings as per requirement for installation, the subject work will be carried out by the contractor ensuring the work to be done carefully without any damage in consultation with nominated SSE/furnishing at CRWS.
11. Any required arrangement/modification in coach/paneling for installation of the system shall be done by the contractor.
12. Tools, Fixtures, consumables, PPE's for staff or any other items required for installation, commissioning & testing of the system shall be arranged by the contractor. However, electricity, compressed air and water shall be provided by Railways free of cost based on site availability. Railways will also provide paneling material for necessary modification / repairs of interior panels. Material handling devices such as forklift, electric operated platform truck etc. for the movement of material within the working places also to be provided by Railways, if available at site.
13. The supplier/OEM will ensure provision of Operating instructions in bilingual form (Hindi and English) in the form of information boards or inscriptions/signage intelligible to everyone & Danger signs for high pressure vessels and high-pressure pipeline at appropriate locations in coach.
14. Supplier should have prior approval of successful completion for installation & commissioning of at least one complete system as per STR RDSO/2008/CG-04(Rev-6) from RDSO/ICF/RCF/MCF/Zonal Railways as on the date of tender opening.

**15. Warranty:-**

- 15.1 Supplier/OEMs shall be liable for warranty of 36 months from the date of commissioning /48 months from the date of supply whichever is earlier as per RDSO spec.No RDSO/2008/CG-04(Rev-6) for Provision of fire and smoke detection system in AC coaches.
  - 15.2 If any part which has been fitted/replaced by the contractor, found defective or not working properly when coach in service at any stage during the warranty period, contractor has to change the defective part(s) at respective maintenance depot for which no extra payment will be given to the contractor.
16. The work will be normally to be executed in working days only, matching with the working times of respective location of works. Working on Sunday as well as holidays or beyond working hours will be allowed only as per the supplier's special request subjected to convenience of Railways.
  17. Railways will provide secured storage space for keeping tools/gadget/materials on free of cost during the currency of contract. However, storage of materials not exceeds two months or mutually agreed quantity of scheduled in respective work location. Supplier is responsible to vacate the storage space as soon as work is completed or as per the requirement of Railway administration. Supplier is responsible for safe storage of materials, its unloading & handling etc.
  18. Supplier is responsible for safety of their staff working in coaches. Adequate safety measure should be ensured in welding work, electrical work etc. in coaches. The coaches may be involved in shunting movements in working places; therefore staff may be counseled for safe working and their personal protection.

  
SSE/ETL/CRWS/BPL

  
WM/E/CRWS/BPL

  
Dy.CME-I/CRWS/BPL



**19. Inspection:**

- 19.1 M/s RITES Limited or any other TPI nominated by Railway of the concerned region will be the inspecting agency at the manufacturing premises of the vendor before dispatch.
- 19.2 The contractor shall submit the certificate of inspection of material issued by RITES or other TPI nominated by Railway at the time of supply.
- 19.3 Inspection on installation & commissioning in coaches:
- (a) For CRWS/Bhopal: Nominated SSE/ETL shop, SSE/Furnishing & SSE/Air-Brake shall be the inspection agency for complete work of installation and commissioning of system. SSE/ETL will forward the duly checked and certified bill to Dy.CME-I/CRWS/BPL or his nominated official.
- (b) The coach shall be jointly inspected by the nominated Railway representative as per para 19.3(a) and firm's representative for performance of fire and smoke detection system in AC coaches joint inspection note shall be recorded on the prescribed Performa jointly signed by Firms & Railways representatives as per proforma in. RDSO spec.

20. **Training:-** The supplier/OEM shall arrange theoretical and practical training to nominated Railway staff (both mechanical and electrical) at CRWS/BPL for the maintenance and troubleshooting of the system supplied by them.

21. **Location & Quantity of execution of work:-** The work has to be carried out in the following locations of Railways for the provision of fire and smoke detection system in AC coaches during MLR/SS2/3 as per quantity mentioned below:

Location	Quantity*		Minimum Execution quantity /month
	LHB	TOTAL	
CRWS/BPL	31	31	5
TOTAL	31	31	

\* However, execution of various quantities at CRWS/BPL may vary & accordingly prior information shall be given to contractor.

**OTHER TERMS AND CONDITIONS****1. Completion Period:**

- 1.1 Completion period of the work is 12- months from the date of issue of Purchase order including maximum one month time for preparatory work, i.e., arrangement of resources comprising labour and material for starting the work at CRWS/Bhopal.
- 1.2 The contractor has to execute the work as per the schedule given para-9 to 20 of scope of work at CRWS/BPL. However, quantity of coaches per month may increase or decrease depending on the availability of coaches at CRWS/BPL.
- 1.3 Contractor has to complete each coach within 120 hrs (i.e., 5 working days) after handover of the coach to contractor for executing the work. However, any delay due to other shop activities of railway shall not be considered in firm's account. A register should be maintained jointly by Railways and contractor for take over and handover of coaches.

SSE/ETL/CRWS/BPL

WVE/CRWS/BPL

Dy.CME-I/CRWS/BPL

## 2. Commencement of work:

- 2.1 First one month:- Contractor should arrange adequate resources comprising of sufficient labour and material within first one month and submit the work start letter to Dy.CME-I/CRWS/BPL or his authorized representative for the allotment of coaches.
- 2.2 From second month onward, contractor is responsible for completion of coaches as para-21 in scope of work. This monthly quantity shall be amended as per requirement of Railway, for which prior information shall be given to contractor.
- 2.3 The firm has to ensure availability of sufficient quantity of materials required for uninterrupted progress of work. Current material status has to be provided by contractor to concerned nominated SSEs every 15 days.

## 3. Penalty:

- 3.1 The Railway reserves right to deduct following penalty for non-compliance of terms and conditions of this contract:
- 3.2 Delay in starting the work: A penalty of Rs.1000/- will be levied per day or part thereof from the working intimation and delay in taking over by contractor per coach.
- 3.3 Delay for completion of work: A penalty of Rs.1000/- will be levied per day or part thereof delay beyond 120 hrs (05- working days) from the handing over of coaches to contractor per coach. However, any delay due to other shop activities of railway shall not be considered in firm's account.
- 3.4 The decision that whether delay in execution of activity is on account of Railways/Contractor shall be taken by Railways and shall be binding on Contractor.
- 3.5 If damage to Railway components/material/machines/tools occurred during contract work, due to Contractor's workmanship or negligence, cost of same components/ material/ machines/tools as deemed suitable by Dy.CME-I/CRWS/BPL may be deducted from Contractor's running bill.
- 3.6 Penalty imposed by Govt. authorities due to non-compliance of the statutory provision of laws, shall be liable to be paid by the contractor. Railways shall not pay or reimburse this penalty to the contractor.
- 3.7 A penalty of Rs.1000/- per day will be deducted if repair work during warranty period is not attended by contractor within 07 calendar days from date of intimation in writing.
- 3.8 Dy.CME-I/CRWS/BPL shall have the discretion for waiver/reduction of penalty on case-to-case basis, depending on merit of each case, subject to submission of convincing and reliable reason by the contractor.

## 4. Tools and tackles:-

- 4.1 All tools and tackles required to execute the work & subsequent testing for commissioning have to be arranged by the contractor.
- 4.2 For testing of units and control panels, only calibrated measuring instruments shall be made available by the contractor for which a copy of calibration certificate for each instrument must be submitted to Railways. If calibration expired during the concurrency of contract it should be recalibrated immediately.

## 5. Payment clause:

- 5.1 The rate must be quoted separately for (1)- material portion (including transportation) and (2)- installation & Commissioning for the purpose of payment; however, the evaluation of the offer shall be done on overall (total) cost.
- 5.2 In case supplier is failed to quote rate separately for (1) material portion including transportation and (2) installation & Commissioning for the purpose of payment, then complete payment shall only be released after installation and commissioning of material in coaches.
- 5.3 80% payment of material cost will be released against inspection certificate and on receipt material as per inspection certificate by consignee. Balance 20% of material plus 100% installation cost will be released on monthly basis after installation and commissioning of system in coaches at CRWS/BPL & at other respective Divisions, subjected to supplier will submit a

  
Dy.CME-I/CRWS/BPL

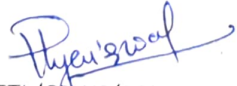
  
Dy.CME-I/CRWS/BPL

  
Dy.CME-I/CRWS/BPL



bank guarantee amount of 10% of total contract value, as **warranty security**. The validity of bank guarantee will cover completion period of work from date of starting the works up to warranty periods as per clause No.10 of scope of work plus 60- days.

- 5.4 On receipt of purchase order copy, supplier shall contact Railway competent authority or his nominated **authorized representative**. The nominated **authorized representative** (Coordinator in-charge) of the CRWS shall be responsible for maintaining the accountability of material receipt, certification of material as per inspection certificate and submission of the same after counter signature of supplier or his authorized representative to Railway competent authority or his authorized official for payment to supplier. Coordinator in-charge is also responsible for arranging final inspection, testing and commissioning of system in coaches along with authorized representative of supplier and submits installation and commissioning certificate after counter signature of Supplier or his authorized representative to Railway competent authority or his authorized official for payment to supplier.
- 5.5 Successful supplier on receipt of purchase order shall contact to Railway competent authority or his **authorized representative** for making an action plan for successful execution of work which including allotment of work area, allotment of secured storage space, methodology on handing over/taking over of coaches, method of preparing report, inspection and commissioning of coaches, provision of electric connections, pneumatic connections, issue of identity cards and all other important matters which are related to execution of works.
- 5.6 On completion of warranty period of last coach commissioned firm will submit a certificate in connection with no-warranty claim to Railway competent authority. On the basis of no-warranty claim certificate received after technical scrutiny, the bank guarantee will be released by CRWS.

  
SSE/ETL/CRWS/BPL

  
WM/E/CRWS/BPL

  
Dy.CME-I/CRWS/BPL