

**COMMENTS/SUGGESTIONS RECEIVED FROM FIRMS ON DRAFT AMENDMENT SLIP NO. 1 OF SPECIFICATION No. IS/RDSO/CG/S/22001  
UPLOADED ON RDSO WEBSITE (04.06.2024 TO 06.07.2024)**

| Clause No. of RDSO Draft STR No. IS/RDSO/CG/S/22001  | M/s Sanrok Enterprises NDLS (S. No. 589)  | RDSO Remarks   |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
|--|---|--|-----------------------|---------------------------------|-----------------------|--------------------------------|--------------------|--|--------------------|--|------------------|---|------------------|---|------------------|---|----------------------------|----------------|
| <p><b>1. Clause No. 4.1 modified and shall be read as under:</b></p> <p>The System designed shall be a proven and established technology/system on reputed National/ International Railway systems. Documentary evidence along with proof of supply and satisfactory performance certificate (minimum 3 months successful functioning) from user Railway(s)/Rolling Stock manufacturer shall be provided by the Supplier/OEM.</p> <p>In case, a supplier/OEM offering product which has not been fitted by any reputed International Railway and product prima facie appears suitable and meeting technical and functional requirements, the same can be referred to RDSO to judge suitability of system for trial order to encourage the indigenous sources as per Make in India program. <b>The system will be subjected to a 3 months' field trial after commissioning on IR system on minimum 2 coaches for checking and verifying the fitment, design and requirements as specified in this specification</b></p>   | <p>The Trial Period of 3 months is too small and needs to be sufficient so as to cover all weathers and environmental conditions i.e. 1 year.</p> | <p>Not agreed.</p> <p>IR has gained the experience of more than 5 years of FDSS, hence trial period of 03 months is considered adequate.</p> |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
| <p><b>2. Clause No. 4.2 table modified and shall be read as under:</b></p> <table><tr><th>Documents Name/No</th><th>Description</th></tr><tr><td>ARGE Guideline Part 1</td><td>Fire Detection in Rolling Stock</td></tr><tr><td>ARGE Guideline Part-2</td><td>Fire Fighting in Rolling Stock</td></tr><tr><td>EN 50 121-3-2 2007</td><td>Railway applications – Electromagnetic compatibility – Rolling stock – Apparatus</td></tr><tr><td>EN 50 125-1 – 2014</td><td>Railway applications – Environmental conditions for equipment – Equipment on board rolling stock</td></tr><tr><td>EN 50 126 - 2017</td><td>Railway applications – The specification and demonstration of reliability, availability, maintainability and safety (RAMS);</td></tr><tr><td>EN 50 128 – 2012</td><td>Railway applications – Communications, signalling and processing systems – Software for railway control and protection systems;</td></tr><tr><td>EN 50 153 – 2014</td><td>Railway applications – Rolling stock – Protective provisions relating to electrical hazards</td></tr></table> | Documents Name/No   | Description  | ARGE Guideline Part 1 | Fire Detection in Rolling Stock | ARGE Guideline Part-2 | Fire Fighting in Rolling Stock | EN 50 121-3-2 2007 | Railway applications – Electromagnetic compatibility – Rolling stock – Apparatus | EN 50 125-1 – 2014 | Railway applications – Environmental conditions for equipment – Equipment on board rolling stock | EN 50 126 - 2017 | Railway applications – The specification and demonstration of reliability, availability, maintainability and safety (RAMS); | EN 50 128 – 2012 | Railway applications – Communications, signalling and processing systems – Software for railway control and protection systems; | EN 50 153 – 2014 | Railway applications – Rolling stock – Protective provisions relating to electrical hazards | <p>Noted &amp; agreed.</p> | <p>Agreed.</p> |
| Documents Name/No  | Description   |  |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
| ARGE Guideline Part 1  | Fire Detection in Rolling Stock   |  |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
| ARGE Guideline Part-2  | Fire Fighting in Rolling Stock  |  |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
| EN 50 121-3-2 2007   | Railway applications – Electromagnetic compatibility – Rolling stock – Apparatus  |  |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
| EN 50 125-1 – 2014   | Railway applications – Environmental conditions for equipment – Equipment on board rolling stock  |  |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
| EN 50 126 - 2017   | Railway applications – The specification and demonstration of reliability, availability, maintainability and safety (RAMS);                       |  |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
| EN 50 128 – 2012   | Railway applications – Communications, signalling and processing systems – Software for railway control and protection systems;                   |  |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |
| EN 50 153 – 2014   | Railway applications – Rolling stock – Protective provisions relating to electrical hazards   |  |                       |                                 |                       |                                |                    |  |                    |  |                  |   |                  |   |                  |   |                            |                |

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|--|---|--|--------------|
| EN 50 155 – 2017   | Railway applications – Electronic equipment used on rolling stock   |  |              |
| IEC 61373-2010   | Railway applications – Rolling stock equipment – Shock vibration tests  |  |              |
| EN 50159-1 2010  | Railway applications – Communication, signaling and processing systems – Part 1: Safety-related communication in closed transmission systems; |  |              |
| BS EN 45545-6 :2013  | Railway applications – Fire protection on railway vehicles – Part 6: Fire control and management systems                                      |  |              |
| NFPA 750   | Standard on Water Mist Fire Protection Systems  |  |              |
| IS/ISO 7240-5 or EN 54-5   | Point - type heat detectors   |  |              |
| IS/ISO 7240-7 or EN 54-7   | Point-type smoke detectors using scattered light, transmitted light or ionization   |  |              |
| <b>3. Clause No. 4.3.3 modified and shall be read as under:</b><br><br>For monitoring the readiness for working, the reservoirs shall be provided with pressure gauges. Further, there should be provision also for audio indication on control panel whether solenoid coil of solenoid valve is connected with Nitrogen cylinder head or not.   |   | Noted & agreed.                          | Agreed.      |
| <b>4. Clause No. 4.3.4(viii) modified and shall be read as under</b><br><br>The luggage compartment of power car will be protected with Linear Heat Detector (LHD) cable (UL or EN approved, 105-110 deg C, approx. 20 meters). The system should be so designed that on receiving a fire signal from luggage compartment, the buzzer should sound and DG set(s) should shutdown. Activation of suppression system should <del>not</del> take place automatically in luggage portion whenever fire signal is received from luggage compartment. Sensor installation/protection should be robust enough to prevent damage during luggage loading/unloading. Provision of High pressure water mist based fire suppression system along with associated piping, solenoid valves, sectioning valves, nozzles etc. in luggage area of Power car. The similar material which is presently used by the concerned OEM during fitment of suppression system in DG set area of Power car should be used. |   | Noted & agreed.                          | Agreed.      |

| Clause No. of RDSO Draft STR No. IS/RDSO/CG/S/22001   |   | M/s Sanrok Enterprises NDLS (S. No. 589)   | RDSO Remarks                                 |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
|---|---|--|--|--|-------------------|----------------------|------------|----|---|----|----|--|--|----|---|----|----|---|----|----|--|----|----|-------------------------------------|----|--|--|
| <p><b>5. Clause No. 4.3.4 (x) (new clause) added.</b></p> <p>Provision of High pressure water mist based fire suppression system along with associated piping, solenoid valves, sectioning valves, nozzles is also to be provided in escorting staff area. On activation of smoke alarm through smoke detector in escorting staff area, the fire suppression is to be activated manually in the escorting staff area only after automatic shutting down of DG set. Thus the system should have the capability to differentiate the location of fire alarm and sectioning valves should be so programmed that suppression system should activate only in the area from where fire alarm is generated.</p>  |   | Noted & complied                           | Agreed.                                      |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| <p><b>6. Clause No. 4.3.11 (New clause) added.</b></p> <p>Two-digit Error code for FDSS system should be as per following format:</p> <table><tr><td>S. No.</td><td colspan="2">For FSDS System Error codes are as per below</td></tr><tr><td></td><td>Error Description</td><td>Error Code</td></tr><tr><td>1.</td><td>Wiring Break/Electrical discontinuity within the system</td><td>E1</td></tr><tr><td>2.</td><td>Networking fault in Smoke &amp; Fire detection circuit</td><td>E2</td></tr><tr><td>3.</td><td>Alert due to Smoke detector with location</td><td>E3</td></tr><tr><td>4.</td><td>Alert due to Heat detector or LHD with location</td><td>E4</td></tr><tr><td>5.</td><td>Nitrogen cylinder Solenoid coil disconnected</td><td>E5</td></tr><tr><td>6.</td><td>System functional without any error</td><td>00</td></tr></table> |   | S. No.                                     | For FSDS System Error codes are as per below |  |                   | Error Description    | Error Code | 1. | Wiring Break/Electrical discontinuity within the system | E1 | 2. | Networking fault in Smoke & Fire detection circuit   | E2   | 3. | Alert due to Smoke detector with location | E3 | 4. | Alert due to Heat detector or LHD with location | E4 | 5. | Nitrogen cylinder Solenoid coil disconnected | E5 | 6. | System functional without any error | 00 | Noted<br>Alerts due to Smoke and heat are Alarms and not Errors. This is the primary function of the system. The same may classified accordingly as Alarm 1 (A1) and Alarm 2 (A2). | Agreed and clause is modified accordingly. |
| S. No.  | For FSDS System Error codes are as per below            |  |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
|   | Error Description                                       | Error Code                                 |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| 1.  | Wiring Break/Electrical discontinuity within the system | E1   |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| 2.  | Networking fault in Smoke & Fire detection circuit      | E2   |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| 3.  | Alert due to Smoke detector with location               | E3   |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| 4.  | Alert due to Heat detector or LHD with location         | E4   |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| 5.  | Nitrogen cylinder Solenoid coil disconnected            | E5   |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| 6.  | System functional without any error                     | 00   |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| <p><b>7. Clause No. 4.3.12 (New clause) added.</b></p> <p>Data downloaded from Fire Detection cum Suppression System (FDSS) shall be as per following format:</p> <table><tr><td>S. No.</td><td>Control Panel ID along with make</td><td>Date and time of activation of suppression</td><td>Trouble /Error id</td><td>Message address etc.</td></tr><tr><td>1.</td><td></td><td></td><td></td><td></td></tr></table>  |   | S. No.                                     | Control Panel ID along with make             | Date and time of activation of suppression | Trouble /Error id | Message address etc. | 1.         |    |   |    |    | Noted The system will record only the events such as Alarms, or any fault according to the Error codes as per Clause 1 of this Amendment. Control Panel Id will be pre-established and will appear on the report prominently, however this may not be required to be displayed in every row as it will be the same entry every time. The table may be corrected accordingly. | Accepted and clause is modified accordingly. |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| S. No.  | Control Panel ID along with make                        | Date and time of activation of suppression | Trouble /Error id                            | Message address etc.                       |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |
| 1.  |   |  |  |  |                   |                      |            |    |   |    |    |  |  |    |   |    |    |   |    |    |  |    |    |                                     |    |  |  |

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| <b>8. Clause No. 5.3 of (New clause) added.</b><br>USB 2.0 output port for data downloading on Fire Detection cum Suppression System (FDSS) Control Panel at suitable location to be available for configuration, status monitoring, command input, event log extraction & software up-gradation during service & maintenance.  | USB output port can be used only for Data Downloading. No input function like command, software up-gradation etc can be done. Firmware and Software are embedded and need other methods of updating. | Accepted and clause is modified accordingly.  |
| <b>9. Clause No. – 8.3.1 (New clause) added.</b><br>The price proposal for refilling of Nitrogen cylinder, water cylinder and recertification-cum-refilling of Nitrogen cylinder should be quoted along with the tender. PUs to advise these details to Zonal Railways along with coach details.  | Noted & agreed   | Agreed.   |
| <b>10. Clause No. 10.1 modified and shall be read as under:</b><br>The prototype approval of the complete system will be done by PUs/RDSO. Prototype approval shall be done by actual fitment on a coach and successful functional test as per this specification.  | Noted & agreed   | Clause is modified in view of Railway Board's letter no. 2020/M©/142/4 pt VI dated 25.06.2024 for Vendor controlling by RDSO. |
| <b>11. Clause No. 10.4 modified and shall be read as under:</b><br>For supplier whose prototype approval is not done by any of the PUs/RDSO and are supplying to Zonal Railways, the prototype approval will be conducted by <del>Zonal railways</del> PUs/RDSO and the prototype approval by <del>that Zonal Railways</del> PUs/RDSO will be considered for future references by other Zonal Railways. | Noted & agreed   | Clause is modified in view of Railway Board's letter no. 2020/M©/142/4 pt VI dated 25.06.2024 for Vendor controlling by RDSO. |

**Note :**

1. There should be provision of protection covering of manual activation switch to avoid any no intentional activation of suppression system.
2. STR is also added as annexure-A in the specification for infrastructural requirement.