Corrigendum-IV

RFP for Selection of Bus Operator for Supply, Operation and Maintenance of Buses for Managing Public Transport across the Cluster-II, III, IV & V routes under LAccMI Scheme on Gross Cost Contract (GCC) Model

RFP No. 1679 Date: 11/09/2023

No.1827/OSRTC/IM(TR)-11/2023 (pt.I) **Date:13/10/2023**

<table>
<tr><th>Sl.No.</th><th>Section / Page No.</th><th>Existing Clause</th><th>Revised Clause</th></tr>
<tr><td>1.</td><td>Schedule Bidding Process</td><td>Last date for Proposal e-submission 13/10/2023 (03:00 PM)</td><td>16/10/2023 (03:00 PM)</td></tr>
<tr><td>2.</td><td>Schedule Bidding Process</td><td>Date and time for opening of technical bids. 13/10/2023 (05:00 PM)</td><td>16/10/2023 (05:00 PM)</td></tr>
<tr><td>3.</td><td>Sec 1.1.14
Volume- II</td><td>
<table>
<tr><th>Sl. No.</th><th>Particulars-Dimensions</th><th>Description</th></tr>
<tr><td>1.</td><td>Cabinet size</td><td>912 x 180 x 53 mm</td></tr>
<tr><td>2.</td><td>Display Area</td><td>842 x 120 mm</td></tr>
<tr><td>3.</td><td>Character Height</td><td>120 mm</td></tr>
<tr><td>4.</td><td>LED Parameters</td><td></td></tr>
<tr><td>5.</td><td>Type of LED</td><td>Dot Matrix</td></tr>
<tr><td>6.</td><td>Color</td><td>Amber Colored</td></tr>
<tr><td>7.</td><td>Wavelength</td><td>591 to 595 nm Dominant Wavelength as per AIS-012 standard</td></tr>
<tr><td>8.</td><td>Intensity</td><td>40 mCd</td></tr>
</table>
</td><td>PIS System :
All driver-related interfaces (input/output/feedback) for PIS must be provided on Single Control Unit (SCU) & Bus Driver Console(BDC).
Amber colored, alphanumeric with graphic capability
In-built light sensor with continuously variable brightness control to enable the display intensity to change based on ambient light conditions.
Viewing distance
Front, side and rear signs 50 meters minimum, for single line text, in day and night.
Inner 15 meters minimum, for single line text in day and night.
Display Characteristics
Fixed, scrolling and flashing mode (with fixed route number, up to 6 characters, on front, side and rear signs).
Capability to show customized graphics.
Two lines English /one-line local language.
Total display height should accommodate two lines in English language and the Individual heights of each line should be adjustable to enable one line to be</td></tr>
</table>

<table>
<tr><th>Sl.No.</th><th>Section / Page No.</th><th>Existing Clause</th><th>Revised Clause</th></tr>
<tr>
<td></td>
<td></td>
<td>
<table>
<tr><td>9.</td><td>Viewing Angle</td><td>45 Degree all around</td></tr>
<tr><td>10.</td><td>UV resistant</td><td>Yes</td></tr>
<tr><td>11.</td><td>Electrical Parameters</td><td></td></tr>
<tr><td>12.</td><td>Operating Voltage</td><td>Nominal + 24V DC or + 12 V Optional: Extended Supply Range 9 V to 36 V DC</td></tr>
<tr><td>13.</td><td>Power Consumption</td><td>0.4 A @ 24V DC</td></tr>
<tr><td>14.</td><td>Protection</td><td>Power supply input is protected against Reverse Polarity, over voltage, Cranking voltage, Load Dump
Resettable fuse inside the cabinet for over current
Communication lines are protected against high voltage application and ESD</td></tr>
<tr><td colspan="3">Quality</td></tr>
<tr><td>15.</td><td>EMI/EMC</td><td>Test complied as per – AIS 004 Part 3</td></tr>
</table>
</td>
<td>
larger/smaller than the second line. However, during next stop announcement only single line text is required.
○ It should be possible to display, concurrently, different messages on each of the signs (front, rear, side and inner).
○ It should be able to display special signs like signs for 'PWD enable bus', ‘ladies special’.
○ Display and voice announcement in English and local languages using Microsoft fonts (or any other as specified in tender) via window-based software package (window 7 or latest at the time of inviting the tenders).
• Signs should have ability to retain the last message displayed in the memory of the sign even in the event of power failure and without the message being reloaded from SCU. Test will be performed by disconnecting the SCU from the sign and power to the sign will be switched ‘off’ and ‘on’ to see if the Last message is retained and displayed.
• The system should have a programming capability as under
○ Minimum 75 routes UP and DOWN (150 numbers of destinations) on front, side and rear signs.
○ GPS triggered next stop display on Inner sign with synchronized voice announcement for minimum 75 stops on each route.
○ The inner sign should be able to display and announce up to three languages, one after the other in sequence. For example, make display and announcement in English, then Hindi to be followed by local language for benefit of the passengers. Display and announcements should be possible "before arrival" of the bus at the bus stop, "on arrival" of the bus at bus stop and "after departure" of the bus from the bus stop.
○ In event of GPS failure, the above functionality should be possible through manual intervention on BDC.
○ Display driver and conductor ID once in between the stops on Inner sign vi Inner sign should be able to display text and customized graphics and announce up to pre-recorded messages by driver selecting 1~9on BDC display panel of the controller.
</td>
</tr>
</table>

<table>
<tr><th>Sl.No.</th><th>Section / Page No.</th><th>Existing Clause</th><th>Revised Clause</th></tr>
<tr>
<td></td>
<td></td>
<td>
<table>
<tr><td>16.</td><td>Ambient Environment</td><td>Operating temperature: -15°C to 80°C</td></tr>
<tr><td>17.</td><td>Humidity</td><td>95% RH for +25°C/+55°C ,24 Hrs. for 6 cycles in off condition</td></tr>
<tr><td>18.</td><td>Vibrations</td><td>10g as per AIS 012</td></tr>
<tr><td colspan="3">Display Characteristics</td></tr>
<tr><td>19.</td><td>No. of Sides</td><td>Single sided</td></tr>
<tr><td>20.</td><td>Line Matrix</td><td>16 x 112</td></tr>
<tr><td>21.</td><td>Pitch</td><td>7.62 (H) x 7.62 (V)mm</td></tr>
<tr><td>22.</td><td>Intensity of display</td><td>In-built light sensor with continuously variable brightness control to enable the display intensity to change based on ambient light conditions.</td></tr>
<tr><td>23.</td><td>Viewing distance</td><td>15 meters minimum, for single line text in both Day and Night</td></tr>
<tr><td>24.</td><td>Data interface</td><td>Via RS 485</td></tr>
<tr><td>25.</td><td>Memory</td><td>Ability to retain the last message</td></tr>
</table>
</td>
<td>

Display customized graphics plus synchronized voice announcement – location based viii Functionality of Display 'clock'-GPS based or ‘Default Messages’ on Inner sign.

Display size

For 12m AC buses

Front minimum 200x1800 mm –one
Rear and side: minimum 200x900 mm-one each
Inner : minimum100x800 mm –one
For Articulated buses 1 front, 2 inner, 2 side sign and one rear will be employed.

For midi buses

one sign in front of size minimum 200X900 mm,
back size minimum 200X900 mm
one inner sign minimum100x800 mm and accordingly the size will be adopted in as per rules & guidelines.

Pitch

Front- maximum. H 13.4 mm x V14.1 mm (maximum H10.5 mm x V 14.1mm for midi buses & as per OEM in 12m buses)
Side and rear maximum. H10.5 mm x V 14.1mm
Inner 8 x 8 mm maximum

LED and display quality front, side and rear signs

Amber colored LED, dominant wavelength 591~595nm (color matched and bin graded).
UV resistant, diffused lens 4 mm (minimum) or ‘SMT PLCC2 standard package’
Wide viewing angle 120º horizontal & 60º Vertical
Ensure enhanced readability with full clarity on scrolls and long-life usage by incorporating non multiplexed system (constant current drive circuit) with typical LED Intensity 400~700 mCd at If =20 mA, alternatively multiplexed design (maximum 4:1) with typical LED intensity 950~1150 mCd at 20 ma

</td>
</tr>
</table>

<table>
<tr><th>Sl.No.</th><th>Section / Page No.</th><th>Existing Clause</th><th>Revised Clause</th></tr>
<tr>
<td></td>
<td></td>
<td>
<table>
<tr><td></td><td></td><td>displayed in event of power failure without the message being reloaded from Controller</td></tr>
<tr><td colspan="3">Structure</td></tr>
<tr><td>26.</td><td colspan="2">Aluminum Cabinet, Powder Coated finish with Polycarbonate at front</td></tr>
<tr><td>27.</td><td colspan="2">Weight - 5 kg</td></tr>
<tr><td>28.</td><td colspan="2">Mounting arrangement by roof hanging, wall mounting</td></tr>
<tr><td>29.</td><td colspan="2">Automotive grade components used, with conformal coated PCB boards</td></tr>
<tr><td>30.</td><td colspan="2">Technical Specification</td></tr>
<tr><td>31.</td><td colspan="2">To display Bus number and Destination in Fixed, Scrolling, and flashing mode formats with the help of SCU / Bus Controller with fixed route number up to 6 characters with capability to show customized graphics</td></tr>
<tr><td>32.</td><td colspan="2">Display in English (2 lines) / Hindi (1 line) / Odia (1 line)</td></tr>
<tr><td>33.</td><td colspan="2">Total display height is capable to accommodate two lines in English language and the Individual heights of each line are adjustable to enable one line to be larger/smaller than the second line.</td></tr>
</table>
</td>
<td>

LED and display quality inner sign

LED amber dot matrix viewing angle 45º all around, intensity minimum 40 mCd, dominant wavelength 590 ~595 nm.

Structure

Front ,side, back and rear signs : light weight structure with toughened glass fixed with UV resistant adhesive in front.
Inner sign: light weight structure with poly glass /acrylic/toughened glass.
Electronic devices used to be 'automotive grade' rated for temperature -25ºC to +85ºC with conformal coated PCB boards.
Power to signs shall be supplied through bus multiplex wiring system.

EMI/EMC

Test complied as per – AIS 004 Part 3

Ambient Environment

Operating temperature: -15°C to 80°C

Humidity

95% RH for +25°C/+55°C ,24 Hrs. for 6 cycles in off condition
Possible to change/choose/select a 'route' remotely over the air from back office and provide current route information to back office through SCU.
Back office can check, via SCU, the version of firmware loaded on the display.
Able to store Diagnostic trouble codes (DTC), Parameters identifiers (PID) as per Annex-3 and data retrievable through SCU.
(Note : the size of carriage may increase or decrease as per Authority during Prototype. The Sizes may increase for 12m AC buses according to Govt. norms)

Wi-Fi connectivity in Buses

The Operator needs to provide seem-less connectivity throughout the travelling time for the passengers free of cost.
The Operator needs to lay optical cable or use the existing optical fiber or via wireless mode for providing free internet facility to the public. (The communication back bone should be only being optical fiber).

</td>
</tr>
</table>

<table>
<tr><th>Sl.No.</th><th>Section / Page No.</th><th>Existing Clause</th><th>Revised Clause</th></tr>
<tr>
<td></td>
<td></td>
<td>
<table>
<tr><td>34.</td><td>Possible to display, concurrently, different messages</td></tr>
<tr><td>35.</td><td>Able to display special signs like signs for 'PWD enable bus', ‘ladies special’.</td></tr>
<tr><td>36.</td><td>Display in English and Odia using Microsoft fonts via window-based software package</td></tr>
<tr><td>37.</td><td>Possible to change/choose/select a 'route' remotely over the air from back office and provide current route information to back office through SCU</td></tr>
<tr><td>38.</td><td>Back office can check, via SCU, the version of firmware loaded on the display.</td></tr>
<tr><td>39.</td><td>Able to store Diagnostic trouble codes (DTC), Parameters identifiers (PID) as per Annex-3 and data retrievable through SCU</td></tr>
</table>
</td>
<td>

The numbers of hot spots should be designed or installed to ensure the seam less undisrupted (Seamless) internet network. Also, it should have the capability of alter bandwidth on selected hotspots areas.
Optimum deployment of Access point/ small cells would be designed by the Operator installation team to ensure best Wireless performance.
OSRTC will have all rights over the equipment deployed and wireless services offered at the premises.
Internet Services can be used by subscribers of all service providers and having any Wi- Fi compatible device.
Any kind of security threat in terms of access to the network has to be controlled and validated by the service provider.
Grant of access to the network has to be controlled by the service provider. The protocols to be used should be robust and should follow the latest internet protocols.
Those websites or web pages having any kind of security/ are banned by Govt. of India should be blocked by the service provider.
Operator shall be responsible for any damage and resolution to the device and 2-hour downtime of any hotspot shall be considered. Above 2 hours could lead to a penalty.
The hardware specifications should comply with the ADSL and IEEE 802 standards.
The minimum end user bandwidth should be minimum 5 Mbps.
Operator should give access to OSRTC of the hot spots real time information. The decision on voice over IP should be discretion of OSRTC and the administration. If allowed then the feature needs to be upgraded.
OSRTC has the complete right over the system for any recovery related to performance or cost.

Specifications:
<table>
<tr><td>Feature</td><td>Wi-Fi (802.11b)</td></tr>
<tr><td>Primary Application</td><td>Wireless LAN</td></tr>
<tr><td>Channel Bandwidth</td><td>25 MHz</td></tr>
<tr><td>Frequency Band</td><td>2.4 GHz ISM</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr><th>Sl.No.</th><th>Section / Page No.</th><th>Existing Clause</th><th colspan="2">Revised Clause</th></tr>
<tr><td></td><td></td><td></td><td colspan="2"><table>
<tr><td>Half/Full Duplex</td><td>Half</td></tr>
<tr><td rowspan="2">Radio Technology</td><td>Direct Sequence</td></tr>
<tr><td>Spread Spectrum</td></tr>
<tr><td>Bandwidth</td><td><=0.44 bps/Hz</td></tr>
<tr><td>Modulation</td><td>QPSK</td></tr>
<tr><td>FEC</td><td>None</td></tr>
<tr><td>Encryption</td><td>Optional- RC4m (AES in 802.11i)</td></tr>
<tr><td>Mesh</td><td>Vendor Proprietary</td></tr>
<tr><td>Access Protocol</td><td>CSMA/CA</td></tr>
</table></td></tr>
</table>

-Sd-

General Manager(A),
OSRTC, Bhubaneswar