Nagpur Metro Rail Corporation Limited

Date : 28.12.2016

Name of Work: Design, Manufacture, Supply, Installation, Testing and Commissioning of Telecommunication System

Tender No. : N1TL-01/2016

Tender No. (As uploaded in E-Tender Portal of NMRCL): No. 58

Corrigendum VIII

Additional Clarifications to Bidders (Addendum)

GM/Procurement

Nagpur Metro Rail Corp. Ltd.

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Part 1 Section III Annexure III Initial Filter

1. **Replace the existing provision of A (FILTER OF APPLICANTS – CHECKLIST), Item No. 11 with following**

   Is the applicant not having the experience of systems & software interface at least 4 subsystems out of FOTS, TETRA, Telephony, CCTV, PAS, PIDS, ACIDS of the Telecom Project in Metro or large public utility infrastructure project for public uses like Airport or Stadium or educational institutes.

2. **Replace the existing provision of B (ASSESSMENT TOPICS), Item No. T2 (Profitability) with following**

   The minimum requirements to 'Pass' this criterion is that the Balance sheets should indicate that the Profitability (Earnings or Profit before tax but after interest) shall be positive in at least 2 financial years out of last five financial years.

   The financial year as applicable in the country of origin of the bidders would be considered. The 'last financial year' will be the latest financial year that ended before the date for bid submission.

   In case of a Joint Venture/Consortium, the evaluation against the above eligibility criteria will be done in totality (i.e. algebraic aggregate of evaluation of each member) and not as individual member.

3. **Replace the existing provision of B (ASSESSMENT TOPICS), Item No. T4 (Average Annual Turnover with following**

   The minimum Average Annual Turn Over for the last five financial years (in terms of rupee equivalent adjusted to last date of the financial year by assuming 5% escalation for Indian Rupee and 2% for foreign currency per year shall not be less than INR 1200 Million.

   The financial year as applicable in the country of origin of the bidders would be considered. The 'last financial year' will be the latest financial year that ended before the date for bid submission.

   In case of a Joint Venture/Consortium, the above evaluation will be done in totality after applying pro-rata percentage participation of each member and not as individual member. For example, if there are three members in a Joint Venture/Consortium with pro-rata percentage participation of 'A%', 'B%' and 'C%' and the Average Annual Turnover of the respective members are 'X', 'Y' and 'Z', then the evaluation for the above criteria will be based on the pro-rata percentage applied algebraic aggregate i.e. 'AX+BY+CZ'.

4. **Replace the existing provision of (PRO-FORMA SECTION 3), item No. 17c with following**

   Annual financial turnover as on 'last date of the financial year that ended before the date of issue of NIT for this tender' for the last 5 financial years (in terms of rupee equivalent adjusted to 'last date of the financial year that ended before the date of issue of NIT for this tender' by assuming 5% escalation for Indian Rupee and 2% for foreign currency per year, along with audited copy certified by an Independent Chartered Accountant / CPA for Annual financial turnover of last 5 financial years.

5. **Replace the existing provision of B (ASSESSMENT TOPICS), Item No. T6 a viii with following**

Lead partner / Non-substantial partner / Change in JV / Consortium

    (a)   Lead partner must have a minimum of 26% participation in the JV / Consortium.

    (b)   Each Partner shall have minimum 26% participation. Partners having less than 26% participation will be termed as non-substantial partner and will not be considered for evaluation, which means that their financial soundness and work experience shall not be considered for evaluation of JV / Consortium except to the extent brought out in Note (i) of Clause T6 (b), all the requirements of clause T6 (b) and Section C – Bid Capacity Evaluation of this document shall be met by substantial partners only.

    (c)   All members combined shall meet 100% requirement.

    (d)   In case of JV / Consortium, change in constitution or percentage participation shall not be permitted at any stage after their submission of application otherwise the applicant shall be treated as non-responsive. Lead partner shall be one of the substantial partners based on whose strength work experience is accounted for in meeting the criteria of Clause T6 (b).

6. Replace the existing provision of B (ASSESSMENT TOPICS), Item No. T6 b i a(ii) with following

In the above Telecommunication work under clause T6 b i a (i), Applicant must have experience of Commissioning & interfacing of at least 4 subsystems out of FOTS, TETRA, Telephony, CCTV, PAS, PIDS, ACIDS, of telecom sub-systems in Metro or large public utility infrastructure project for public uses like Airport or Stadium or educational institutes.

7. Replace the existing provision of B (ASSESSMENT TOPICS), Item No. T6 b note(i) with following

In case the experience of successfully completing the work(s) is not met fully by substantial member of JV/Consortium, then the JV/Consortium should include a member having percentage participation not less than 5% who should meet that part of experience criteria (which is not met by substantial partner).

8. Replace the existing provision of C (Bid Capacity Evaluation), A with following

  A   Maximum of the value of works executed in any one year during the last five financial years (updated to last date of the financial year by assuming 5% escalation for Indian Rupee and 2% for foreign currency every year)

The financial year as applicable in the country of origin of the bidders would be considered. The 'last financial year' will be the latest financial year that ended before the date for bid submission

Part 1 Annexure IV B (Pricing Documents) Appendix 1

9. Replace the existing provision of Appendix 1 BOQ 1. Minimum BOQ for PIDS/PAS B1 item No.6,8,10,11,12 with following

Deleted

10. Replace the existing provision of Appendix 1 BOQ 1. Minimum BOQ for PIDS/PAS B1 item No.13 with following

Ambient Noise sensor with IP65 box Qty No. 150

11. Replace the existing provision of Appendix 1 BOQ 2. Minimum BOQ for Master clock system B2 item No.3 & 5 with following

3. Analogue Outdoor Clock Double Sided – IP65 Qty. No. 150

5. Analogue Outdoor single façade Clock (1- 3.5 meter dia) – IP65 Qty. No. 5

12. **Replace the existing provision of Appendix 1 BOQ 6. Minimum BOQ for CCTV System B6 item No.28 with following**

Video Analytics and Intrusion Detection along with hardware, software & Licenses at 4 Stations Qty. No. 4

13. **Add following provision to Appendix 1 BOQ 9. Minimum BOQ for T-SCADA B9 as item No.8 & Replace Appendix 1 BOQ 9. Minimum BOQ for T-SCADA note 7 with following**

Item No. 8.   Incident management system along with associated hardware & software & licenses Qty. No. 1
Note 7.   Price for T-SCADA or any part of it shall be given as optional Item.

Part 2 Section VIIA General Specification

14. **Replace the existing provision of General Specification 1.12.3 with following**

Requirements for Class A

Minimum Temperature -5 Deg C

Ambient Temperature -25 Deg C

Maximum Temperature-35 Deg C

Relative Humidity -

Minimum 5%, Nominal 65%,

Maximum 95% (Non Condensing)

Part 2 Section VIIB Technical Specification

15. **Replace the existing provision of 1.3.9 with following**

The Contractor shall develop and maintain an Asset Database for all assets provided under the contract, including equipment with serial number and version number, software with version number, system configurations, documentation. The Contractor shall handover the initial database to the Employer on completion of the testing and commissioning works. The Contractor shall be responsible to maintain and update the Asset Database until the end of the Defect Liability Period, and handover the final database to the Employer. Contractor shall be responsible to interface, extend & implement major/critical telecommunication system alarms to centralized asset management system or centralized fault management system of NMRCL.

16. **Replace the existing provision of 2.5.10.1.1.17 with following**

The PAS/PIDS MMI at OCC, BCC, and Stations should be minimum 20" Touchscreen & PAS Back up Console shall have minimum 3.5" or better Touchscreen suitable for public announcements in metro rail environments.

17. Replace the existing provision of 3.1.1.5. (A) with following

Bidder may propose Virtualized solution by having all services applications, Database, Management servers including other system applications in Virtualized manner to optimize the solution hardware etc as per bidder design. Virtual Machine solution must not lead to single point of failure and must be design with proper redundancy. Contract to ensure backup server for virtual machines in the network in such a way that all service profiles / data base gets updated automatically with in the network which is getting connected live to the network and work in N:1 redundancy in case of catastrophic failure of the central/Station server. In case of degraded mode all data / software and configuration should be secured and recoverable from redundant server. Contractor to mention recovery of configuration in the document clearly for review. In case of failure of Subsystem/system redundant software shall be residing in separate server other than primary application server which should work in Hot standby mode.

18. Replace the existing provision of 4.6.2.1 with following

The Master Clock System shall comply with the NTP Protocol standard. Master Clock to be equipped with an internal quartz oscillator. This oscillator ensures that the Master Clock accuracy is better than $1 \times 10-9$ (deviation of 86μs/24 h) in case of GPS failure.

19. Replace the existing provision of 1.3.9 with following

5. Analogue Outdoor single façade Clock (1- 3.5 meter dia) at the selected station building. Clock shall be aesthetically suitable for station building. N1TL01 shall coordinate with civil contractor to ensure location of the clock along with cable containment.

7. Analogue Clock shall be IP65 & indoor digital clock shall be IP54.

20. Replace the existing provision of 6.1.2.7 with following

Supply of TETRA switching Infrastructure, Base Station, Train Born equipment and Subscriber mobile radios should be from a single OEM or if above said equipment are from different OEM then should be Inter-Operability Certificate by TETRA Accredited Test House shall be submitted for validation.

The radio system shall be designed to have suitable interfaces for integrating with other related subsystems as specified in interface functionality requirement elsewhere in this TS.

21. Replace the existing provision of 6.2 with following

The TETRA OEM shall furnish certificate for TETRA Radio core Software meeting the requirement of EN 50128 or equivalent standard for safety related rail communications systems. Further Contractor shall submit Safety Assurance Plan for the systems as per requirement.

22. Replace the existing provision of 6.4.6 (VI) with following

It is required to ensure interface and communication between

> N1TL01 TETRA network with other TETRA network (existing or to be planned in future)

> N1TL01 Tetra with other UHF / GSM / CDMA services with inter System Interface (ISI) OR through network Gateways. Contractor shall submit design to NMRCL for approval.

23. Replace the existing provision of 6.4.9.2 with following

The Contractor/Supplier of the Contractor shall be a TETRA Accredited manufacturer of TETRA Switching Infrastructure equipment (the base station can be integrated as an OEM partnerships) and shall have Inter-Operability Certificates issued by TETRA Accredited Test House. Copy of current and valid IOP certificate has to be submitted. The Certification shall cover all features as listed above in Clause 4.6, as a minimum.

24. Replace the existing provision of 8.5.2.3.3 (4) & (8) with following

4. Construction –

Aluminum housing & casing, neoprene gaskets, UV – resistant polymer end caps. All anchor- fasteners, nuts, washers shall be of stainless steel material

8. Deleted

25. Replace the existing provision of 8.5.2.3.4 with following

The housing shall either be integrated with the camera by manufacturer or it shall be of same make as of the camera.

26. Replace the existing provision of 8.5.2.1.6 (d) with following

Deleted

27. Replace the existing provision of 8.5.2.5 – E with following

High Definition IP Fixed Box Camera (Day / Night)

Video resolution - Minimum 5 Mega pixels, it shall be possible to configure camera in lower resolution

28. Replace the existing provision of 8.5 .2 .6 (5) with following

High Definition IP Fixed Dome Camera (Day / Night)

Video resolution - Minimum 5 Mega pixels, it shall be possible to configure camera in lower resolution

29. Replace the existing provision of 8.5 .2 .7 (E) with following

High Speed High Definition IP PTZ Dome Camera (Day/Night)

Video resolution - Minimum 2 Mega pixels, it shall be possible to configure camera in lower resolution.

30. Replace the existing provision of 8.5.2.17.2 with following

Intelligent Video Analytics shall be implemented on the proposed cameras. Different types of Video analytics feature shall include but not limited to:

- • Intrusion detection,
- • Unattended baggage detection,
- • crowd estimation, overcrowding detection and crowd management alarms for platforms,

- line control,
- counter flow detection
- camera tampering alerts

Video Analytics should also meet redundancy same as Video Management System.

The Video Analytics functionality shall have mechanisms to continue alarm generation in case of failure of the Server. The Video Analytics shall not be bound to the MAC address of the device and hence any video analytics feature shall be possible to be deployed on any of the applicable cameras. The Video Analytics system shall also have functionality to help tracing the person who left baggage unattended.

This will allow Employer to use CCTV / Video License independent of MAC Address of the camera/server/archiver/device.

31. Replace the existing provision of 8.5.2.17.7 with following

Rule Based Detection

a) Rule Based Detection: The video management system shall support solution that makes it possible to integrate video content applications seamlessly into viewing client environments to trigger alarms.
b) Minimum of 16 cameras of each station, 4 cameras of depot, 16 cameras of OCC shall be provided with Video Analytic functions. The distribution of the total Analytics to the various cameras at the relevant locations shall be developed during detailed design.
c) Contractor shall implement Video Analytics as per rules specified in the Technical Specification at 16 Cameras per Station. Initially Video Analytics shall be implemented for any four station of NMRCL Corridors. Contractor is required to achieve availability 85% or better and demonstrate functionality satisfactorily to NMRCL.
d) Upon successful demonstration as per item no.C above NMRCL may notify the Contractor to implement the same setup of video analytics in all stations of the NMRCL & the cost shall be worked out for rest of the stations on pro-rata basis as per price quoted in price bid for item b above.

32. Replace the existing provision of 8.5.2.18.1(T) with following

The system shall support multicasting of video feeds to client workstations in order to conserve network resources. Multicasting shall send a single stream of video to multiple clients, where the stream may be decoded and displayed on all clients simultaneously. While the camera(s) is (are) communicated on a pre-configured protocol, it shall be possible to manually switchable to unicast/multicast features to ensure stability of video stream. The OEM shall provide the Software Development Kit for smooth integration of CCTV system with other telecommunication systems specified in this technical Specification.

33. Replace the existing provision of 8.5.2.18.11 with following

Deleted

34. Replace the existing provision of 9.3.5.2 with following

MTTR for the OA / IT network shall be less than 4 (Four hour) (All Inclusive). Notwithstanding the MTTR, the contractor shall ensure that the availability parameters are met.

35. Replace the existing provision of 10.1.3.2 (vii) with following

Enclosures for smart card readers, override key-switches, egress equipment and power supply equipment. All access point facilities shall be vandal resistant and tamper proof. Access point controller and Battery shall be properly housed in an enclosure having IP rating of IP 54. Contractor to ensure aesthetics view of the station /OCC/ depot area where ACID system will be delayed. Exposed cabling, conduiting , cable containment is not allowed. Contractor to interface with civil works contractor to ensure timely deployment of secondary containment so that cable laying can be done. Door equipment like I/O box, battery Boxes, CPUs shall not be exposed. This equipment

to be installed above false ceiling or below false floor to ensure easily maintenance. IP 65 shall be required for outdoor installations whereas for indoor installations Box with protection IP 54 shall be provided.

36. Replace the existing provision of 10.1.5.4 (2) with following

Temperature range shall be 0 to 45*C for indoor installation, and same shall be 0 to 70*C outdoor installation.

Degraded mode of operation shall be defined and finalized during the design stage, whereas for clarity Controller may be treated as Control Sever where local controller should work as independently in case of degraded mode of operation. Access point Controller should be POE , POE+ or 12 Volt DC supply may be accepted enabled capable of battery charging, powering up readers etc.

37. Add following provision to Chapter 11 T-SCADA as 11.7 INCIDENT MANAGEMENT SYSTEM for CCTV

11.7 Incident Management System for CCTV shall have following features

a. It shall provide a unified viewing and management GUI that enables operators to manage situations in exactly the same way, regardless of underlying integrated systems.

b. It shall be responsibility of supplier/OEM of the Incident Management System to provide Software Development Kit for above software and to integrate the Incident Management system with CCTV system as specified in Technical specification. Also it is responsibility of OEM/Supplier to demonstrate below features.

c. It shall process events automatically, perform correlations, prioritization and rule based calculations according to a flexible predefined business logic as well as facilitate the management of situations as opposed to individual alarms.

d. It shall have applications to support the complete operational cycle of Planning, Responding and Debriefing. It shall be capable of running on a single or multi-screen environment, as desired by the customer. In multi-screen, all application panes will be capable of being docked or undocked and be sent to specific screens.

e. It shall support the planning and activation of dynamically adapting response plans according to real time varying situations.

f. It shall have a dedicated Incident Log screen intuitively providing situation decision guidance support.

g. It shall have the following Incident creation options: automatically as a result of pre-configured rules, on demand by operators or from scheduled triggers.

h. It shall have the ability to open incidents on demand via pre-configured action buttons and keyboard function keys.

i. It shall provide the ability to add incident comments, in either a predefined form format or free text format, and task comments.

j. It shall display an indication of an overall situation threat level (also referred to as Security Alert Level). The threat level indicator shall be visible at all time and shall have several levels with different colors.

k. Authorized users shall be able to change the threat level on demand.

l. Administrators shall be able to configure threat level changes as actions triggered by various predefined events or as a result of predefined events.

m. Administrators shall be able to predefine threat level change triggers such as – 'level raised/reduced to high' for example. Administrators shall be able to define various actions to take place upon triggering threat level events. An example may be deploying a threat level increase procedure whenever the level is raised to a certain level.

n. It shall provide a visual environment to design business workflow processes that map business rules into a set of workflows to provide automatic responses

o. It shall include conditional branching steps, parallel activities, actions, listener steps, timers, If-Then-Else steps, Workflow termination steps, etc.

p. It shall have tools to facilitate and automate routine operations. These are activities that are performed by the operation on a regular or semi-regular basis.

q. It shall support the simulation of events, such as triggering a non-real alarm for training purposes.

r. Simulation feature shall require special permissions.

s. It shall support the automatic triggering of simulated events on a predefined schedule.

t. It shall allow the incorporation of video movies to be used instead of real camera live video for training purposes. All simulated events and responses shall be stored in the system database and be available for post-training debriefing and lesson learning sessions.

u. It shall be designed and built to allow smooth and fast integration with all control room systems, sensors and edge-devices.

v. External systems interfaces shall be available separately from the core product, come with their own installers and not require any modification to core product version.

w. In addition when an emergency call is made by a radio hand portable device an alarm must be sent to the OCC and SCR with the location information of the hand portable device and the CCTV consoles there must automatically display the associated camera viewing the incident.

x. Above Incident management system shall be installed and in operation for minimum one project in India for one year.