Clarification-II dated 09/10/2024 to the Bidding Documents for 220kV GIS substation Package SS-136 associated with Augmentation of Transformation capacity at 765/400/220kV Vadodara (GIS) S/s in Gujrat by 400/220kV, 1X 500MVA ICT (3); Spec. No. CC/NT/W-GIS/DOM/A06/24/11914

Sl. No.	Volume / Section/Clause No.	Description	Bidders Query	POWERGRID Reply
1	Q.8 Clause No.32.9 Pg.No. 27/91 AnnexureIII_Specific Requirement_Rev 08 with Annexures	The equipment offered shall have six (6) output ports. Various combinations of output ports shall be selected by the customer, during detailed engineering, from the following : • Potential free contact (Minimum pulse duration of 50 milli seconds.) • IRIG-B • RS232C • SNTP Port (at least 4 ports) • IEEE 1588 PTP (Applicable only for Process bus automation station)	We understand our scope is limited to integration of present bays to existing GPS, hence supply of GPS is not in our scope	Supply of GPS for SAS is not envisaged under the present scope. Bidder to quote accordingly.
2	R.2 Pg. No. 28/91 Annexure-III_Specific Requirement_Rev 08 with Annexures	The Substation Automation System shall have communication ports on each gateway (two gateways per station) as follows: (a) Three ports for Remote Control Centres on Secure IEC60870-5-104 protocol. (b) Two port on IEC 60870-5-104 for Regional System Coordination Centre (RSCC)	We understand our scope is limited to integration of present bays to existing SAS, hence supply of Gateways are not in our scope.	Supply of Gateways is not envisaged under the present scope. Bidder to quote accordingly.
3	R.3 Pg. No. 28/91 Annexure-III_Specific Requirement_Rev 08 with Annexures	The bidder shall also provide 2 Nos. managed Ethernet switches with at least 16 copper RJ45 ports on each switch to form managed "Redundant System LAN" for connecting different NTAMC subsystems devices (SCADA Gateways, VMS, VOIP etc.) as per Revised system architecture (attached as Annexure S5). The specification of the switches is enclosed at Annexure S6.	We understand our scope is limited to integration of present bays to existing SAS, hence supply of Ethernet Switches is not in our scope.	The referred clause is applicable for New Substations / New SAS only. Supply of Managed Ethernet Switches as per referred clause (R.3 of Specific Requirement_Rev 08) is not envisaged under the present scope. Bidder to quote accordingly.
4	R.4 Pg. No. 28/91 Annexure-III_Specific Requirement_Rev 08 with Annexures	Contractor shall provide 2 nos. Next Generation Firewalls (NGFW); one No. Main & one No. Standby having electrical Ethernet interfaces/ports and placed between FOTE & SAS gateways, NTAMC switch etc. at the substation. All ethernet based applications (e.g. PMU, AMR, VOIP, SAS/SCADA etc.) shall be terminated in the firewall ports directly. Each port of firewall shall work as a separate zone. Firewall shall be hardware based with functionality of Block/Allow/drop and IP Sec VPN (network encryption). Minimum 16 Nos. of ports/interfaces shall be provided in each firewall (i.e. Main & Standby) Contractor can use either single firewall or multiple firewalls to meet this interfaces requirement, each for main as well as standby firewall. Minimum throughput of firewall shall be 300 Mbps. The Firewall shall be managed/ configured as standalone at present and shall also have compatibility to manage/ configure through Centralized Management Console (CMC) remotely in future. OEM Support on 24x7 basis for 7 years shall be provided for all the functions & features of the Firewall. Firewall shall be tested and certified for ISO15408 Common Criteria for least EAL4+. Further, the OEM must certify that it conforms to Secure Product Development Life Cycle requirements as per IEC62443-4-1. The firewall shall generate reports for NERC-CIP Compliance. The specifications for the firewalls are attached at Annexure-S7.	We understand our scope is limited to integration of present bays to existing SAS, hence supply of NGFW are not in our scope.	Supply of NGFW is not envisaged under the present scope. Bidder to quote accordingly.

Sl. No.	Volume / Section/Clause No.	Description	Bidders Query	POWERGRID Reply
5	R.5 Pg. No. 28/91 Annexure-III_Specific Requirement_Rev 08 with Annexures	The substation routers shall have the following features:-Rounding protocols such as OSPF and support for IPv4 and IPv6 - 8 Ethernet interfaces of 10/100 Mbps - 2 E1 interfaces - Hot standby operation with a similar router - Support IEEE 802.3u, 802.1p, 802.1Q, 802.1d, 802.1w, Traffic priorization for routed IP flows/ports.	We understand our scope is limited to integration of present bays to existing SAS, hence supply of Router are not in our scope.	Supply of Router is not envisaged under the present scope. Bidder to quote accordingly.
6	R.9 Pg. No. 29/91 Annexure-III_Specific Requirement_Rev 08 with Annexures	LIST OF EQUIPMENTS v) Two nos. Disturbance Recorder/ Engineering Work Station where atleast one workstation shall have Linux based operating system.	We understand our scope is limited to integration of present bays to existing SAS, hence supply of DR(s) are not in our scope.	Supply of DRs is not envisaged under the present scope. Bidder to quote accordingly.