Scope Of Work / Technical specification:

1. Technical Specification – Industrial 5G Dual SIM Router

Industrial-grade **5G cellular router** suitable for PLC/HMI, SCADA, industrial automation and secure remote-access applications, with the following minimum requirements:

1. **5G NR cellular router**, supporting 5G NR and 4G/LTE networks.
2. Support for automatic fallback between 5G and 4G/LTE to maintain communication during 5G network unavailability.
3. Dual SIM capability with 2 × physical SIM interfaces, supporting automatic SIM failover/switchover in case of loss of network, weak signal or communication failure.
4. Minimum 2 × Gigabit Ethernet RJ45 ports, supporting 10/100/1000 Mbps, for connection with PLC/HMI and other network equipment.
5. Minimum 4 × external 5G/LTE antenna interfaces, suitable for 5G MIMO operation.
6. 12–24 V DC or 9–30 V DC power supply, suitable for installation inside an industrial control/communication panel.
7. Operating temperature: −30°C to +60°C or better.
8. Minimum **IP30 protection**, suitable for installation inside an industrial control cabinet.
9. **DIN-rail or equivalent industrial panel mounting** provision.
10. Integrated **industrial firewall** with configurable security rules.
11. Support for secure VPN communication, including **IPsec and/or Open VPN**, for secure remote access to the PLC/HMI network.
12. Support for **NAT/NAT-T** and port forwarding/routing functions.
13. Secure device management through **HTTPS and SSH**.
14. Support for **IPv4**, with IPv6 preferred.
15. Support for remote configuration, monitoring, diagnostics and firmware management.
16. Built-in automatic reconnection/watchdog functionality for recovery from cellular or communication failure.
17. Suitable for **continuous 24/7 industrial operation**.
18. The router shall be suitable for secure communication between PLC/HMI/SCADA systems and authorized remote users/control centers through 5G/4G cellular networks.
19. Equipment shall be supplied complete with 5G/LTE antennas, power connector, DIN-rail/panel mounting accessories and all necessary accessories for operation.
20. The equipment shall be new, unused and latest available model at the time of supply.
21. Manufacturer's original technical datasheet/catalogue shall be submitted along with the bid for technical evaluation.
22. The offered equipment shall be from an established industrial networking manufacturer and shall be suitable for industrial automation/SCADA applications.

2. Bidder Qualification and Documentation Requirements:

23. The bidder shall clearly specify the make and model of the offered router in the technical bid.
24. The bidder shall be a System Integrator with relevant experience in the supply, configuration, and integration of industrial routers or similar communication equipment.
25. The bidder shall submit a Company Profile along with the bid documents, including relevant experience and details of similar projects executed, where applicable.

ENGR. SEEMA SAEED
Engineer (P&D)
Sui Southern Gas Co. Ltd

SUI SOUTHERN GAS COMPANY SSGC

3. Configuration Requirements:

The router shall be supplied with the necessary configuration for industrial remote connectivity, including SIM configuration, network settings, firewall/security settings, and PLC-HMI remote access, as applicable. The supplier shall provide the necessary configuration and commissioning support to ensure proper operation of the router in coordination with SSGC.

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