**TECHNICAL QUESTIONNAIRE**

| **Version: v2024** |
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**Supply, Installation and Construction of a Water Distribution Network and Elevated Tank for Al-Nahdeen Area Sana’a city.**

**( IUS-AF-UWS-SAN-021-Lot-02)**

**1: HDPE Pipes and fittings**

**2: Domestic Water -Meters**

**3: Valves**

**4: Pumping Units, Riser Pipes, Genset, and accessories**

**RFQ reference no: [insert RFQ reference No.]**

**Name of Bidder: [insert name of Bidder]**

**Technical specifications for goods – Comparative Data Table**

| **TECHNICALQUESTIONNAIRE - ( IUS-AF-UWS-SAN-021-Lot-02)** | | | |
| --- | --- | --- | --- |
| **1: HDPE Pipes and fittings** | |  |  |
| Item | Specifications required | Is quotation compliant? Bidder to complete | Bidder’s Offer specifications |
| Bidder to complete |
| 1 | Date of manufacturing (pipes, fittings) | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 2 | Manufacturer Name (pipes, fittings) | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 3 | Country of origin (pipes, fittings) | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 4 | The bidder confirms that the Size range as per the BoQ. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 5 | Pipe grades (PE. 100) with (SDR. 11) Minimum Required Strength (MRS) 10 Mpa. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 6 | Pressure Rating: PN 16 | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 7 | The density (PE 100) should not be less 0.95 g/cm | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 8 | Polyethylene (PE) Pipes Dimensions satisfies the requirements of DIN 8074, ISO 4427 or equivalent | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 9 | HDPE pipe’s Length | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 10 | Generally Marking the pipes have to be marked according to DIN 8074 No.8. intervals not exceeding 4 m the minimum marking should indicate: Dimension Nominal Size manufacture, Dimension Ratio (e.g., SDR 11) , Standard PE code designation (e.g PE100) , Applicable Standards and Year of Manufacture | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **11** | The bidder confirms that the manufacturer quality control test results and report will be provided. | **☐ Yes ☐ No** | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **2: Domestic Water -Meters** | |  |  |
| Item | Specifications required | Is quotation compliant? Bidder to complete | Bidder’s Offer specifications |
| Bidder to complete |
| 1 | Date of manufacturing | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 2 | Manufacturer Name | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 3 | Country of origin | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 4 | Model | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 5 | The bidder confirms that the Size range of meters are DN15, DN20 and DN25 as per the BoQ. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 6 | comply with ISO 4064 latest version, or equivalent international standards. for dry, multi-jet Cold-Water Meters with magnetic drive. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 7 | The nominal pressure of the water meters shall not be less than PN 16 | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 8 | The meters comply with the Directive 2014/32/EU (MID) | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  |
| 9 | The material of meters is brass or bronze | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 10 | The meters shall operate properly in horizontal position | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 11 | The meter shall be direct reading, without using multiplying factor. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 12 | All meters must be fitted with an in-built non removable maintenance free non return valve that shall prevent meter reversal. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 13 | Inlet strainers should be of nickel-plated copper, stainless steel or other materials having satisfactory characteristics. | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 14 | The meter body shall be locally reinforced and thickened at the connections. Two (2) connecting threaded tailpieces conforming to BS 21 or equivalent, and back nuts and sealing washers shall be supplied with each meter. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 15 | The meters with pulse output shall be suitable for use the water, temperature class: T 500 C. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 16 | The meter shall have sealed wire to prevent access to the Registers/Counter mechanism and shall be provided with a hole for sealing the meter with the service valve on the inlet and outlet sides of the meter. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 17 | Permanent Flow Rate (m3/h) for | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| DN15 = 2.5, DN20 = 2.5 |
| 18 | lower ratio R (Q3/Q1) ≥100 H | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 19 | Registers/Counter mechanism shall be straight-reading hermetically sealed dry type and shall read in cubic meters. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| · The register must be protected and can’t be accessed and manipulated even if the glass is broken and must be waterproof IP68. |
| · The meter shall not be affected with external magnetic. |
| · The meter should resist any water hammers impact. |
| **20** | The register that is furnished with the meter shall be the same register that was on the meter when it was tested for accuracy. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **21** | The unit symbol (m3) shall appear immediately adjacent to the numbered display | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **22** | The totalizer shall reset to 0 (zero) at 100,000 m3. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **23** | The totalizer should be able to protect readings against condensation. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **24** | Register Boxes: The window shall be fully covered by the lid, which shall be designed to protect the window and exclude dirt and dust. It shall be designed in such a way so that if the counter protective glass is broken for any reason the counter still cannot be removed from its place. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **25** | Marking: | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| a. Manufacturer's name or trademarks |
| b. Permanent Flowrate Q3 (m3/hr) and lower ratio (R). |
| c. Applicable Standards |
| d. Dimensions, mm (nominal diameter (DN), |
| e. Serial Number |
| f. measuring unit (m³) |
| g. One or two arrow/s indicating the direction of flow |
| h. Nominal pressure |
| i. date of manufacture |
| j. Mark of type approval |
| k. The letters “Dhamar” shall be clearly and indelibly marked (cast or stamped) on the outer cases of all meters. |
| **26** | All meters should be under warranty for one year from date of supply. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **27** | The bidder confirms that the manufacturer quality control test results and report will be provided. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **28** | The bidder shall bear the cost of unloading at (Dhamar - WSLC) warehouses. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **29** | Handling, transport, loading and unloading Water meter at (Dhamar - WSLC) warehouses will be according to the manufacturer's recommendations. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **30** | The authorization of the manufacturer (Form G) is attached to the offer. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **3: Valves** | |  |  |
| **Item** | Specifications required | Is quotation compliant? Bidder to complete | Bidder’s Offer specifications |
| Bidder to complete |
| **1** | Date of manufacturing | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **2** | Manufacturer Name | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **3** | Country of origin | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **4** | The bidder confirms that the Size range as per the BoQ including bults, nuts, gaskets rubber and washers | Bidder to insert | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **5** | All valves are flanged joint / Brass Thread type as per the BoQ | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **6** | All valves Pressure class are PN16 | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **7** | General Design of Gate Valve according to: BS 5163 | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **8** | The face-to-face dimensions: according to DIN3202-F4 | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **9** | All flanges of Gate Valve according to: EN 1092 | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **10** | All materials used in the manufacture of the Gate valves conform to the following minimum standards or equivalent: | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| Body, Wedge, and Bonnet: Ductile iron, GG-25/GGG-50, to DIN 1693 |
| Coating: Electrostatically applied epoxy coating |
| Stem: Stainless steel |
| O-rings, Gaskets: EPDM rubber |
| Bonnet bolts: Stainless steel |
| **11** | All accessories are included such as: Hand wheels, spindle heads, spindle extensions, bolts, nuts gasket rubber and other accessories according to the internationally accepted standards. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **12** | The bidder confirms that the manufacturer quality control test results and report will be provided. | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |

| **TECHNICAL UESTIONNAIRE - ( IUS-AF-UWS-SAN-021-Lot-02)** | | | |
| --- | --- | --- | --- |
| **No.** | **Item Description** | **Is quotation compliant?**  **Bidder to complete** | **Bidder’s Offer**  **specifications**  **Bidder to complete** |
| **3. Pumping Units, Riser Pipes, Genset, and accessories** | |  |  |
| **3.1. Submersible Pumping Unit** | |  |  |
| **3.1.1** | **Submersible PUMP** |  |  |
| 1. **1** | Brand/Manufacturer's Name | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| 1. **2** | Country of assembly | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | -Model: | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Year of Production: | To be inserted by bidder | To be inserted by bidder |
|  | The pump has to deliver = 54 (+5% or – 3%) m3/hr  at Total Head =450m | ☐ Yes ☐ No | To be inserted by bidder |
|  | Pump capacity = ...…. KW | To be inserted by bidder | To be inserted by bidder |
|  | Pump efficiency not less than 65% | ☐ Yes ☐ No | To be inserted by bidder |
|  | Materials:  - Casing/Diffuser: fabricated stainless steel AISI 304.  - Impellers/ stainless steel AISI 304  - Driving Shaft/ Stainless steel 304/420  - Sleeves/ Stainless steel AISI 329/ 304  - Gaskets/ Rubber Gaskets  - Bearings/ AISI 329 stainless steel  - Coupling & Screen + Cable Guard/ Stainless steel AISI 316/319/304/420 | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **3.1.2** | **Submersible motor** |  |  |
|  | Brand/Manufacturer's Name | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Country of assembly | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | -Model: | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Year of Production: | To be inserted by bidder | To be inserted by bidder |
|  | Motor capacity: Not less than (1.15× capacity of the pump) = .......KW | ☐ Yes ☐ No | To be inserted by bidder |
|  | Motor efficiency not less than 83% | ☐ Yes ☐ No | To be inserted by bidder |
|  | Winding material 99.99% Copper | ☐ Yes ☐ No | To be inserted by bidder |
|  | Motor operating with variable speed through V/F control. | ☐ Yes ☐ No | To be inserted by bidder |
|  | Motor rated voltage of 380 / 415 Volts at 50 Hz. | ☐ Yes ☐ No | To be inserted by bidder |
|  | The synchronous speed 2850-2950 RPM | ☐ Yes ☐ No | To be inserted by bidder |
|  | Insulation class PE2/PA has to be (high temp. windings) | ☐ Yes ☐ No | To be inserted by bidder |
|  | Materials of motor: shaft, motor housing, Bolts, nuts, washers, … etc /stainless steel. | ☐ Yes ☐ No | To be inserted by bidder |
| **3.1.3** | **Electrical Pump Inverter (V/F Controller)** |  |  |
|  | Brand/Manufacturer's Name | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Country of assembly | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Model: | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Year of Production: | To be inserted by bidder | To be inserted by bidder |
|  | Inverter Capacity: Not less than (1.25 × capacity of the pump) = .......KW | ☐ Yes ☐ No | To be inserted by bidder |
|  | AC input and output (AC) voltage:3-phase 380/420 volts | ☐ Yes ☐ No | To be inserted by bidder |
|  | Efficiency not less than 95% | ☐ Yes ☐ No | To be inserted by bidder |
| **3.1.5** | **Submersible Cable** |  |  |
|  | Brand/Manufacturer's Name | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | AC Submersible cable Type: (H07RN-F) | ☐ Yes ☐ No | To be inserted by bidder |
|  | Power Cable Size: 1x 120 mm2 | ☐ Yes ☐ No | To be inserted by bidder |
|  | Sensor Cable (2\*1.5mm2) | ☐ Yes ☐ No | To be inserted by bidder |
| **3.1.6** | **Riser Pipes** |  |  |
|  | Brand/Manufacturer's Name | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Seamless Steel riser pipes (4 inches, length of 6 meters) | ☐ Yes ☐ No | To be inserted by bidder |
|  | - Non-return carbon steel flange valve (16 bar) (4 inches)  - Pumping pipe (4 inches) with 90-degree flanged elbow  - Carbon steel flanged gate valve (16 bar) (4 inches)  - Non-return flanged valve (4 inches)  - wire (1 x 6 mm2) to connect (electric cables to pipes) | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **3.2** | **(350) KVA GENERATOR WORKS:** |  |  |
| **3.2.1** | **GENERATOR SETS** |  |  |
|  | Brand/Manufacturer's Name | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Country of assembly | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Gen-set -Model: | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Year of Production: 2025 | To be inserted by bidder | To be inserted by bidder |
|  | Skid-mounted Generator Set with Outdoor weather protective Sound-Proof Prime Power, silence inside container including the diesel engine, alternator, MCCB, control panel, starting equipment, and fuel Daily tank**.** | ☐ Yes ☐ No | To be inserted by bidder |
| **6** | Total net rating prime power Generator Set at site condition after de-rating: 350 (+3% **-**4%) KVA. | ☐ Yes ☐ No | To be inserted by bidder |
| **7** | Max. Fuel consumption: 75 Litre/H @100% Prime Power. | ☐ Yes ☐ No | To be inserted by bidder |
| **8** | Fuel tank of suitable construction with capacity sufficient to run the generator set continuously for (6-8) hours at the rated capacity. | ☐ Yes ☐ No | To be inserted by bidder |
| **3.2.2** | **Diesel Engine** |  |  |
|  | Brand/Manufacturer | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Country of Origin | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Model | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Year of Production: | To be inserted by bidder | To be inserted by bidder |
|  | Diesel, 4 stroke, direct injection, Water-cooled Engine | ☐ Yes ☐ No | To be inserted by bidder |
|  | Aspiration: Turbo Charged and After-Cooled | ☐ Yes ☐ No | To be inserted by bidder |
|  | Net engine power output Before de-rating **= …... KWe** | To be inserted by bidder | To be inserted by bidder |
|  | Total Percentage (%) of de-rating in accordance to ISO 8528 or equivalent at site conditions:   1. Altitude: 2300 m A.S.L, 2. Temperature: 40°C 3. Humidity: 60%.   **The calculation and reference graph of de-rating for site conditions is provided** | %  (To be inserted by bidder) | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Net engine power output after de-rating **= …... KWe** | (To be inserted by bidder) | To be inserted by bidder |
|  | Rated speed: 1500 rpm | ☐ Yes ☐ No | To be inserted by bidder |
|  | Governor type: Electronic | ☐ Yes ☐ No | To be inserted by bidder |
|  | Starting system: 24 Volt DC motor, maintenance-free lead acid batteries with charging system. | ☐ Yes ☐ No | To be inserted by bidder |
|  | Set-mounted radiator cooling with proper size fan. | ☐ Yes ☐ No | To be inserted by bidder |
|  | Exhaust system with silencers residential type. | ☐ Yes ☐ No | To be inserted by bidder |
| **3.2.3** | **Alternator** | | |
|  | Brand/Manufacturer | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Country of Origin | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Model | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Year of Production: | To be inserted by bidder | To be inserted by bidder |
|  | Alternator Capacity (Continuous/Prime): …... KVA | To be inserted by bidder | Insert details of goods offered |
|  | **Alternator** Rated Net Power: Not less than 270 KW  at Site Conditions: (2300) m.a.s.l. | ☐ Yes ☐ No | Insert details of goods offered |
|  | Three phase, synchronous, drip proof, self-excited | ☐ Yes ☐ No | To be inserted by bidder |
|  | Brushless Exciter | ☐ Yes ☐ No | To be inserted by bidder |
|  | Voltage: 380-415 V &Frequency: 50 Hz | ☐ Yes ☐ No | To be inserted by bidder |
|  | Insulation class: H | ☐ Yes ☐ No | To be inserted by bidder |
|  | (AVR): Automatic Voltage Regulator model: | To be inserted | To be inserted by bidder |
|  | Temperature rise Class: H (allowable temperature rise 125 oC over ambient temperature: 40 oC) | ☐ Yes ☐ No | To be inserted by bidder |
| **3.2.4** | **Control Panel and Instrumentation:** | | |
|  | Brand/Manufacturer | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Model | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Set-mounted Auto-start control panel of IP 23 metal sheet enclosure with digital screen complete with all protection, metering and monitoring system. | ☐ Yes ☐ No | To be inserted by bidder |
|  | Provide complete autonomous generator set control and integration, precise frequency and voltage regulation, protection, fault detection, alarm notification. | ☐ Yes ☐ No | To be inserted by bidder |
| **3.2.5** | **Auto-Transfer Switch (ATS)** | | |
|  | Brand/Manufacturer | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Model | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | ▪ Motorized and Auto-Transfer Switch (ATS) type with all required accessories.  ▪ IP 54 for outdoor installation  ▪ Ue 400/415, Ie 630 A, Isc ; 50KA, 4 Pole.  ▪ Vertical mounting type  ▪ Product integration in compliance with IEC / EN 61439, Rated operational currents Ie (A) according to IEC 60947 | ☐ Yes ☐ No | To be inserted by bidder |
| **3.2.6** | **Main Distribution Board (MDB)** | | |
|  | Brand/Manufacturer | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Models for: MCCB,MCB, ELCB | To be inserted by bidder | To be inserted by bidder |
|  | **MDB** including:  - 4poles CU Busbars 800A ,50KA  - MCCB: (630 ,300,100 and 63)A , 4P, Isc 50KA  - MCB: ( 40 and 3\*10)A & ELCB (10)A  - Enclosure Ingress protection IP-54 | ☐ Yes ☐ No | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
| **3.2.7** | **AC Cables:** | | |
|  | Brand/Manufacturer | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Power Armature Copper Cables : CU/XPLE/SAW/PVC, 1.0KV Size: (4X1cX150) SQ.mm | ☐ Yes ☐ No | To be inserted by bidder |
| **3.2.8** | **Earthing System:** | | |
|  | Brand/Manufacturer | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | Earthing system for the Genset, ATS and Electrical Pump Inverter, including all conductors, copper bars tap-clamps, fixing, earthing pits, manhole …etc. The design of the system and all items according to BS 7430 and ANSI IEEE Std 80 to obtain required earth resistance less than (3 Ω), all of which according to the specifications, codes of practice and highest prevailing engineering standards for the following main system component:  a. Extendible copper electrodes, (suggested length 1.6~2.4 m).  b. Main earthling cable: copper bared 70 mm², earthling cables for gensets, hanger frame and any other equipment: insulated cooper 35 mm², Copper earthing bar, Earth pit with manhole cast iron cover plate complete as per standard, the cover of the manhole is preferred to be clearly stamped with grounding sign.  c. Ground Enhancement Material (Bentonite).  d. Earthing busbar protected fixed inside sealed box. | To be inserted by bidder | Insert details of goods offered, including specifications, picture, and brand/model offered if applicable |
|  | **Others** | | |
|  | The bidder confirms that the equipment and accessories is Brand-new current-model and never-used. | ☐ Yes ☐ No | To be inserted by bidder |
|  | The bidder confirms that the catalogues and data sheet , performance curves are attached **for the offered brands and models.** | ☐ Yes ☐ No | To be inserted by bidder |

The offered goods and related services (if applicable) are in accordance with the required specifications and requirements specified in **Section III: Schedule of Requirements**.

☐ Yes ☐ No

ANY DEVIATION MUST BE LISTED BELOW:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Title : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_