# *ANNEX II + III :* TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

**Supply of equipment for the monitoring of the water supply system of Herceg Novi**

**05-4966/24**

**Columns 1-2 should be completed by the Project partner**

**Columns 3-4 should be completed by the tenderer**

**Column 5 is reserved for the evaluation committee**

Annex III - the Contractor's technical offer

The tenderers are requested to complete the template on the next pages:

* Column 2 is completed by the Project partner shows the required specifications (not to be modified by the tenderer),
* Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words “compliant” or “yes” are not sufficient)
* Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offeredspecifications.

The requirements set out in the technical specifications represent the minimum technical characteristics which offered goods must satisfy, unless stated otherwise, and tenderers are not allowed to modify technical specification in any way.

For each item for which it is not explicitly stated that it is allowed to offer goods of the equal characteristics, i.e. for each item where it is not stated “or equivalent”, for the purposes of this tender documentation it is assumed that words “or equivalent” are stated, and tenderer is allowed to offer equivalent goods / goods of equivalent characteristics.

| **1.**  **Item no.** | **2.**  **Specifications Required** | **3.**  **Specifications Offered** | **4.**  **Notes, remarks,  ref to documentation** | **5.**  **Evaluation Committee’s decision (Y/N)** |
| --- | --- | --- | --- | --- |
| **1**  **2.**  **3.**  **4.**  **5.** | **Leakage noise logger for hydrophonic detection on main pipelines - 2 (two) pieces** | | | |
| Upgrade of the existing system of hydrophone leak noise loggers with correlation "Gutermann HiScan" with additional sensor kit  Description: The existing set of hydrophonic leakage noise loggers manufactured by "Gutermann HiScan" – Switzerland, consisting of "ComLink", a roof antenna for the vehicle, a program for data storage and processing, a tablet computer with an accompanying program under "Android OS" for field work and an associated transport case, needs to be upgraded with an additional set of sensors for hydrophone leak detection on trunk pipes.  The upgrade consists of the purchase of a kit consisting of hydrophonic correlation loggers, leakage noises, accompanying equipment for power supply and radio communication. The kit consisting of the hydrophone-correlation leak noise logger and its accompanying equipment shall be fully compatible with existing communication equipment and data processing programs already in use. | | | |
| **Memory:**  Defining the start time of the recording  - Storage in the logger memory of the hydrophone record for correlation  - Retroactively unlimited display, correlation of noise levels and publication of read data within the data processing program |  |  |  |
| **Downloading, programming and communication:**  - Wireless reprogramming of the hydrophone logger from the vehicle  - Automatic and instantaneous data transfer from the logger to the vehicle and vice versa  - Audio and visual notification with indication for each measuring point  - Personal logger number, date and time are automatically synchronized  - Transmission and reception of data (two-way radio communication) without dismantling the logger  - Wireless radio communication up to 100 m from the vehicle (automatic download, remote communication)  - External logger antenna for communication |  |  |  |
| **Power:**  - Independent external power supply with a battery life of 5 years or longer  - Power supply housing with IP68 protection  - Battery replacement without removing the sensor from the pipeline  - Use of standard replaceable battery with the possibility of field replacement |  |  |  |
| **Shape and dimensions:**  - Sensor housing made of stainless steel  - Threaded connection for pipeline mounting  - Connector for connecting an external antenna  - Connector for connecting an external power supply  - Logger with IP68 degree of protection  - Operating temperature from – 30\*C to + 70\*С |  |  |  |
| 24-month warranty on the supplied equipment. |  |  |  |
| ISO 9001:2015 Certification for Equipment Providers |  |  |  |
| A statement by the manufacturer of the offered equipment that it is fully compatible with devices and software packages that are already in use. |  |  |  |
| Catalog of offered equipment or excerpt from the catalog |  |  |  |
| Certificate (certificate of authorization) of the manufacturer that the bidder is authorized to sell the goods in question on the territory of Montenegro, on the manufacturer's letterhead with the seal and signature of the authorized person of the manufacturer, original or certified copy with translation. |  |  |  |
| One upgrade kit contains:  - Hydrophonic correlation radio leak noise logger  - Power Supply Unit  - Antenna for radio communication |  |  |  |
| **Consumption monitoring device with meter and remote data upload – 80 pieces** | | | |
| **Upgrade of metering and information devices for monitoring consumption on the water supply system "Dynosonic EcoKing" with additional equipment kit**  Description: The existing set of measuring information devices for collecting, reading and storing data from flow meters or water meters manufactured by "Dynosonic EcoKing" – Great Britain, consisting of data acquisition devices, integrated power supply inside the housing, remote data upload, cloud platform for data viewing and application for mobile devices, needs to be upgraded with an additional set of measuring devices.  The upgrade includes the purchase of additional meters that include a data collection device, an integrated rechargeable battery, a supplementary battery supply, the ability to charge from the city network, remote data upload and software packages for viewing consumption via cloud services and mobile devices. The set of measuring devices and its accompanying equipment must be fully compatible with existing equipment and programs for viewing and processing data already in use | | | |
| **Features:**  - Ability to read the pulse output signal from the flow meter or water meter (cut-off)  - Data transmission via GSM network  - Built-in memory capacity of the device lasts for 1 year  - Export data to a CSV file  - Alarms for the presence of leaks, increased consumption or low consumption  - Power supply of the system via the city network with an integrated battery in the event of a power outage lasting at least 15 days  - Battery powered with a capacity of 60 days or more  - Reading interval and uploading data in 15-minute mode  - Remote adjustment of reading and dispatch intervals  - Operating temperature from -15°C to +65°C  - Data viewing platform with the ability to connect multiple users  - Application for monitoring consumption via mobile devices under Android OS  - Measuring instrument with collar to generate a pulse signal |  |  |  |
| 24-month warranty for delivered equipment |  |  |  |
| A statement by the manufacturer of the offered equipment that it is fully compatible with devices and software packages that are already in use |  |  |  |
| Catalog of offered equipment or excerpt from the catalog |  |  |  |
| Certificate (certificate of authorization) of the manufacturer that the bidder is authorized to sell the goods in question on the territory of Montenegro, on the manufacturer's letterhead with the seal and signature of the authorized person of the manufacturer, original or certified copy with translation. |  |  |  |
| - ISO 9001:2015 certification for equipment providers |  |  |  |
| Contents of the kit:  - A device for reading and storing and sending measurement data via the GSM network  - Battery powered with office charger  - A gauge with a pulse signal transmitter based on the diameter of the pipeline   |  |  |  | | --- | --- | --- | | No. | Description | Number of sets | | 1. | Consumption Metering Kit with Diameter Pipeline Gauge DN50 | 5 | | 2. | Consumption Metering Kit with Diameter Pipeline Gauge DN80 | 5 | | 3. | Consumption Metering Kit with Diameter Pipeline Gauge DN100 | 8 | | 4. | Consumption Metering Kit with Diameter Pipeline Gauge DN150 | 10 | | 5. | Consumption Metering Kit with Diameter Pipeline Gauge DN200 | 35 | | 6. | Consumption Metering Kit with Diameter Pipeline Gauge DN250 | 5+3=8 | | 7. | Consumption Metering Kit with Diameter Pipeline Gauge DN300 | 5+4=9 | |  | **Total Supply Kits:** | **73+7=80** | |  |  |  |
| **Correlation radio logger of leakage noise – 20 pieces** | | | |
| **Upgrade of the existing system of accelerometer leak noise loggers with correlation "Gutermann ZoneScan 820" with an additional sensor kit**  Description: An existing set of leakage noise loggers manufactured by 'Gutermann – ZoneScan 820', which is consists of "ComLink", a roof antenna for the vehicle, a program for storing and processing data, a tablet computer under "Android OS" for field work, with the associated transport case needs to be upgraded. The upgrade consists in the procurement of new leakage noise loggers for existing equipment fully compatible with devices and software packages already in use. | | | |
| **Memory**  - Storage in the logger memory of leakage values expressed in "dB" for each logger individually for a period of 30 days.  - Storage in the logger memory of records for performing correlations.  - Retroactive, unlimited display of noise level correlations and publication of the read data within the program.  Automatic download of data from the vehicle with audio notification and visual indication at each measuring point.  Remote listening, digital recording and data retrieval from the vehicle. |  |  |  |
| **Downloading, programming and communication**  - Wireless reprogramming of the logger from the vehicle.  - Automatic and instantaneous data transfer from the logger to the vehicle and vice versa  - Personal logger number, date and time are automatically synchronized  - Transmitting and receiving data (two-way communication) without moving the logger  - Wireless communication up to 100 m from the vehicle (automatic download, remote synchronization, two-way communication and reprogramming |  |  |  |
| **Shape and dimensions:**  - Antenna integrated into the logger, magnetic mount for ferromagnetic materials  - Integrated battery with a lifespan of up to 5 years  - Waterproof, submersible up to 2 meters deep  - Logger protection "IP 68"  - Operating temperature -30°C to +70°C |  |  |  |
| 24-month warranty for the equipment supplied |  |  |  |
| ISO 9001:2015 Certification for Equipment Providers |  |  |  |
| Certificate (certificate of authorization) of the manufacturer that the bidder is authorized to sell the goods in question on the territory of Montenegro, on the manufacturer's letterhead with the seal and signature of the authorized person of the manufacturer, original or certified copy with translation. |  |  |  |
| Catalog of offered equipment or excerpt from the catalog. |  |  |  |
| A statement by the manufacturer of the offered equipment that it is fully compatible with devices and software packages that are already in use. |  |  |  |
| **Configuration:**  - Correlation radio logger leakage noise |  |  |  |
| **Digital manometer with integrated pressure sensor – 3 pieces** | | | |
| **Upgrade of the existing digital manometer kit for pressure monitoring "Keller LEO 5" with a complete set of sensors**  Description: The existing set of digital manometer with the accompanying equipment of the manufacturer "Keller – LEO 5" for monitoring the pressure on the water supply system needs to be upgraded. The upgrade consists of the purchase of additional sets of sensors that must be fully compatible with the existing device and software package that are being implemented. | | | |
| Pressure sensor  - Isolated piezo resistive high-pressure sensor  - Relative pressure measurement range from -1 to 30 bar (overload resistance up to 60 bar)  - Material of manufacture: stainless steel  - Mounting thread G1/4"  - Detection of sudden pressure changes with a minimum sampling rate of 5 kHz  - Measurement accuracy ±0.05% FS |  |  |  |
| Data recording:  - Storage of pressure, temperature and measurement execution time data  - Memory capacity of up to 56,000 measured values  - Measurement interval of 1 second or more |  |  |  |
| Data transmission:  - USB cable connection between the digital manometer and the data processing computer  - Ability to read data directly in real time. |  |  |  |
| Digital manometer housing:  - Stainless steel metal housing  - Screen protector – IP66 protection or equivalent |  |  |  |
| Screen:  - LC backlit display  - Display of current, minimum and maximum pressure  - Display of data in values: bar, mbar, m2H20, cmH20  - Capacitive keys to view and configure parameters |  |  |  |
| Data recording:  - Storage of pressure, temperature and measurement execution time data  - Memory capacity of up to 56,000 measured values  - Measurement interval of 1 second or more |  |  |  |
| Power:  - Integrated rechargeable battery with a capacity of more than 2Ah (2,000 operating hours or more) |  |  |  |
| Program for viewing and processing data:  - Program for Windows OS or equivalent  - Setting the start time of recording with delayed start  - Graphical and numerical display of measured quantities  - Ability to select a specific part of the measurement period  - Automatic generation of reports in Word and Excel format or equivalent |  |  |  |
| 24-month warranty for the equipment supplied |  |  |  |
| ISO 9001:2015 Certification for Equipment Providers |  |  |  |
| Certificate (certificate of authorization) of the manufacturer that the bidder is authorized to sell the goods in question on the territory of Montenegro, on the manufacturer's letterhead with the seal and signature of the authorized person of the manufacturer, original or certified copy with translation. |  |  |  |
| Catalog of offered equipment or excerpt from the catalog. |  |  |  |
| A statement by the manufacturer of the offered equipment that it is fully compatible with devices and software packages that are already in use. |  |  |  |
| Contents of the kit  - Digital manometer with integrated pressure sensor  - Transport case |  |  |  |
| **Battery booster – 7 pieces** | | | |
| For engines working on 2Ah and 12V |  |  |  |
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