**TERMS OF REFERENCE**

**for the supply and installation of water treatment equipment**

**for the Kumtor Mine Water Treatment Plant for household and drinking needs.**

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| **Item**  **No.** | **Principal Data**  **and Requirements** | **Principal Data and Requirements** |
| 1 | Construction site | Issyk-Kul Province, Jeti-Oguz District, Kumtor Gold Deposit |
| 2 | Customer | Kumtor Gold Company CJSC |
| 3 | Contractor | To be assigned by the Customer |
| 4 | Facility Purpose | Treatment of water for drinking and household needs |
| 5 | Special construction conditions | The construction site is located at an elevation of 3,673.5 m - 3,681 m asl.  Climate data:   * Humidity zone - dry; * Climatic sub-zone- IA; * The calculated average temperature of the coldest five-day period is -31°C; * The calculated average temperature of the coldest day is -49°C; * The absolute maximum air temperature is +23°C. * The construction site seismic intensity is 8 points as per MSK‐64 seismic intensity scale. * Average wind speed is 9 m/s;   - The calculated weight of snow cover is Р = 67 kgf/m²; |
| 6 | Requirements and scope of work | The Customer plans to increase the Camp capacity from 1,981 to 3,121 beds. As part of this work, it is required to increase the capacity of the existing Water Treatment Plant in stages.  The water treatment plant currently has 2 units of equipment with the capacities of 21 m3/h and 6 m3/h.  **Stage 1**: Replace the 6 m3/h equipment with the 21 m3/h equipment.  The water treatment plant restructuring work includes the following types of work:   * The Customer prepares the design documentation for the restructuring of the water treatment plant according to the technological concepts and diagrams and technical parameters of the water treatment plant equipment provided by the Supplier; * Dismantling of the existing wastewater treatment equipment with the capacity of 6m3/h; * Supply and installation of the new wastewater treatment plant with the capacity of 21 m3/h, according to the decision, the design documentation of which has received all the required state expertise approvals; * The supplier is required to carry out the start-up and commissioning of the installed equipment.   **Stage 2**: Supply and install the additional 21 m3/h water treatment equipment in the course of the Camp capacity increase. The second phase of the wastewater treatment plant restructuring includes the following types of work:   * The Customer prepares the design documentation for the restructuring of the water treatment plant according to the technological concepts and diagrams and technical parameters of the water treatment plant equipment provided by the Supplier; * If necessary, the Customer performs restructuring of the building according to the design documentation, which has received the required state expertise approvals for installation of additional 21 m3/h water treatment equipment. * Supply and installation of the new wastewater treatment plant with the capacity of 21 m3/h, according to the decision, the design documentation of which has received all state expertise approvals. * The supplier is required to carry out the start-up and commissioning of the installed equipment.   To select the equipment technology for water treatment, the composition of the water source and the norms for maximum allowable concentrations (MAC) of contaminants in drinking water are attached as a separate file. |
| 7 | Automation and dispatching requirements | There should be installed a multi-level Automated Control System (ACS).  To ensure the upper-level ACS functions, the control panel status signal outputs shall be provided. Provide for the following modes of operation for the automated control system:   * The mode of monitoring the technological process; * Automatic/manual control mode. |
| 8 | Requirements for the preparation of documents | 1. The Commercial Offer should be sufficiently detailed and at least include information on the following items: manufacture and delivery, installation, a detailed list of equipment with technical parameters (capacity, drawings with overall dimensions, weight, etc.). 2. The Supplier shall provide an estimate for each item of the scope of work. The Customer has the right to exclude certain items of work before or after the conclusion of the contract, which have been carried out by and at the expense of the Customer. |
| 9 | Requirements for work quality and procedures. | 1. The materials and equipment used must comply with state standards and specifications. The Supplier shall provide supporting documentation, including certificates of conformity, a passport for the equipment manufactured. 2. In the performance of the contract, the Supplier shall ensure that the work quality control is carried out by the services equipped with technical means ensuring the necessary reliability and completeness of the control.   During the acceptance inspection, concealed work must be inspected and photographic material attached. Subsequent work shall not be carried out in the absence of the acts for concealed work inspection and acceptance by the Customer, otherwise the Customer shall be entitled to require the Contractor to open any part of the work and then reinstate it at the Contractor's cost. |
| 10 | Documentation provided by the Customer | 1. Sketch plan, drawings of existing water treatment plant. 2. Other additional data required. |