**Terms of Reference for water treatment station for Alba D05 4000 and Alba D05 5000 steam generators**

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| *Item №* | *Requirement parameters for goods, works, services to be purchased (subject of the purchase)* | *Specific requirements for goods, work, and services* |
| 1 | Name/type/quantity/volumes/measure unit | - Water treatment station for steam generators: 1 unit. |
| 2 | Delivery location | Equipment installation location: Kumtor Mine. |
| 3 | Delivery Deadline | Delivery and installation of water treatment equipment shall be discussed when concluding the Agreement (preference shall be given to the shortest possible delivery and installation period). |
| 4 | Procedure (sequence, stages) of works | 1. Calculation of the water treatment system with a capacity of 16 m³/h. 2. Submission of a Commercial Proposal. 3. Coordination and signing of the Agreement. 4. Manufacturing of the station at the industrial manufacturing site. 5. Delivery to Marshalling Yard. 6. Installation of the module and connection to KGC communications. 7. Integration with the steam generator system. 8. Start-up operations and commissioning of the station. |
| 5 | Requirements for the water treatment station | 1. Operation in high-altitude conditions above 4,100 m above sea level, at temperatures ranging from –40 °C to +25 °C.  2. Minimum capacity: 16 m³/h.  3. Type of water treatment station: modular.  4. Water quality requirements:  - Turbidity ≤ 10 NTU. - Iron content ≤ 0.3 mg/L. - Water hardness ≤ 0.5 mg-eq/L (≤ 5 °F). - Cavitation protection. - Power supply 220–380 V, 50 Hz.  5. Minimum required equipment:  - Coarse filtration system.  - Fine filtration system.  - Pumping station.  - Deaerator.  - Water softening system.  - Integration system with steam generators.  6. Spare parts and consumables:  - Consumables for 6 months.  - Special tools (if available).  7. Water treatment station shall comply with:  - Code of Practice SP 89.13330.2016 "Boiler installations" - section 8.  - Code of Practice SP 89.13330.2016 "Boiler installations" - section 11.  - State Standard GOST 20995-75 "Feed and boiler water. General requirements".  - Guideline RD 34.35.507–94 "Instructions for chemical water treatment".  - and other relevant regulatory documents of the Kyrgyz Republic and the EAEU.  8. Automatic switch-on/switch-off depending on the level gauge reading. |
| 6 | Completion and Acceptance Procedure | 1. The following shall be checked:  - Water analysis at the system outlet.  - Operation of automatic systems.  - Reliability and tightness of connections. 2. Submission of required documents.  3. Submission of spare parts and consumables.  4. Signing the Equipment Acceptance Certificate. |
| 7 | Requirements for the submission of technical and related documentation to the Client upon completion and delivery of the work | - Certificate of conformity for registration in the state register of hazardous facilities of the Kyrgyz Republic. - Installation passport.  - Operating and maintenance instructions.  - Warranty cards.  - Commissioning report.  - Connection and wiring diagram.  - List of spare parts. |
| 8 | Additional services and materials | 1. The equipment supplier shall provide the following:  - Personal protective equipment (PPE) for the supplier's personnel.  - Safe performance of work.  - Results of medical examinations of personnel in the form provided by the Client.  - Tools for the station installation.  2. The Client shall provide the following:  - Transportation of personnel from Bishkek to the Kumtor Mine and back.  - Accommodation and meals for personnel.  - Consumables (electrodes, grinding discs, rags, etc., according to the preliminary list provided by the supplier).  - Cargo transportation and lifting equipment.  - Necessary drawings and diagrams upon request.  - The results of water analysis prior to filtration are attached to these Terms of Reference. |
| 9 | Assembly, acceptance, transfer and commissioning | 1. The supplier shall provide a specialist for start-up and commissioning operations at the Mine Site.  2. Acceptance Certificate shall be signed after the complete assembly and commissioning of the water treatment system.  3. All defects identified during the equipment inspection shall be eliminated by the supplier. |
| 10 | Warranty obligations | Warranty for the equipment and works at least 12 months from the date of commissioning. |

Appendix 1

Water analysis

