

## TERMS OF REFERENCE

for major repairs of double-cantilever self-erecting electric gantry crane KKS-10 with a lifting capacity of 10 tons, serial № 226, registration № P-1029

Item №	List of basic data and requirements	Basic data and requirements
1	Location of the facility	Industrial zone, Tokmok, Kyrgyz Republic
2	Client	Kumtor Gold Company CJSC
3	Contractor	To be assigned by the Client
4	Name of the facility, basic technical specifications	Crane with a main hoist lifting capacity of 10 tf. Type of crane: double-cantilever self-erecting electric gantry crane, manufacturer – “Mechanics” Siauliai Experimental Plant, year of manufacture - 1980, serial № 226, registration № P-1029. Operation mode is medium. Lifting capacity is 10 tons. Cantilever span is 9+32+8 meters. Base is 14 meters. Track is 32 meters. Hook lifting speed is 15 m. min. Crane speed is 36 m. min. Trolley speed is 40 m. min. Crane weight is 41,360 kg.
5	Type of work	Major repairs and upgrade
6	Main objectives of the work	Restoration of reliable, trouble-free operation of equipment and installation of remote-control panel from the floor.
7	Special conditions for the work	<ol style="list-style-type: none"><li>1. All works shall comply with this Terms of Reference, design, rules, and regulations applicable in the Kyrgyz Republic.</li><li>2. All works shall be performed under the conditions of an operating enterprise without stopping any production processes.</li><li>3. Working hours of the Contractor's personnel at the Client's facility shall be specified in the terms of the Agreement.</li><li>4. This TOR may be clarified, modified, and finalized taking into account the Client's proposals at the stage of approval of design and estimate documentation.</li></ol>
8	Requirements and scope of the work	Based on the Client's TOR and in accordance with the applicable rules and regulations, major repairs of the gantry crane shall be conducted in the following stages: <b>Stage 1</b> <ol style="list-style-type: none"><li>1. Conduct a complete audit and defect identification of all components, units, and mechanisms of the gantry crane, including electrical part and crane tracks, and draw up an act on specific defects in units and mechanisms of the crane, or on the absence of certain components, units, and mechanisms of the crane. The act shall contain complete information about the presence/absence of components, units, and</li></ol>

		<p>mechanisms of the crane, as well as the presence of defects in them and recommendations for their repair and replacement. The Contractor shall be responsible for the completeness of the information about the condition of the gantry crane specified in the act.</p> <ol style="list-style-type: none"> <li>Based on the act, the cost of completing and supplying spare parts, units and mechanisms of the crane shall be calculated, taking into account the cost of major repairs.</li> <li>The list and cost of spare parts, units and mechanisms and cost of the crane major repairs shall be agreed with the Client.</li> </ol> <p><b>Stage 2</b></p> <ol style="list-style-type: none"> <li>Complete and supply spare parts, units, and mechanisms of the crane.</li> <li>Repair the electrical part of the gantry crane.</li> <li>Repair the mechanical part of the gantry crane.</li> <li>Install the missing parts of the gantry crane (fences, casings, covers, cab parts, etc.).</li> <li>Perform commissioning works, in particular, adjustment of all devices and equipment responsible for the safe operation of the gantry crane.</li> <li>Eliminate the deformation of the crane tracks (if necessary).</li> <li>Prepare for coating with polyurethane-based anticorrosive compounds and/or epoxy paints.</li> <li>Brand the overhead cranes by applying a sticker with a logo, if necessary.</li> <li>Hand over the completed works to the Client.</li> </ol>
9	Requirements for the supplied equipment	<ol style="list-style-type: none"> <li>All equipment installed on the crane shall be new and comply with the KR and EAEU applicable requirements for the design and safe operation of lifting cranes.</li> <li>Electrical panels and equipment control panels shall be installed, and necessary switching elements and cables shall be selected by the Contractor. Connection of power parts of electric panels shall be agreed with the Client.</li> <li>Modern and new electrical equipment, automatic machines, switching devices and instruments shall be used.</li> <li>Replacement of mechanical and electrical part of the gantry crane with modern analogues with appropriate technical specifications is a priority.</li> </ol>
10	Requirements for documentation	<ol style="list-style-type: none"> <li>The commercial offer shall be sufficiently detailed and, at least, contain information on the following points: <ul style="list-style-type: none"> <li>- defect identification and audit of units and mechanisms of the crane;</li> <li>- purchasing/manufacturing and completing spare parts, units and mechanisms;</li> <li>- delivery of spare parts, parts of units and mechanisms;</li> <li>- repair/replacement/assembly of units and mechanisms;</li> <li>- commissioning works;</li> <li>- detailed list of spare parts, units, and mechanisms.</li> </ul> </li> <li>Prior to commencement of the work, the Contractor shall submit to the Client an agreed and approved work project and work schedule, indicating the number of personnel. Working and as-built documentation shall be maintained in accordance with the KR SNiP and agreed with the Client by the Contractor.</li> </ol>

		<p>3. The Contractor shall submit an estimate for each item of the scope of work. The Client has the right to exclude certain items from the scope of work before or after the conclusion of the Agreement, which were performed by and at the expense of the Client.</p> <p>4. In the course of work, the Contractor shall duly draw up all as-built documentation: work logs, acts of hidden works with photos, interim acceptance acts, work permits, hot work permits, etc.</p> <p>5. The work schedule shall be developed by the Contractor and agreed with the Client and shall be an integral part of the Agreement. Any deviation from the schedule agreed with the Client is not allowed unless the Contractor has submitted to the Client a prior written notice 7 (seven) working days before the planned change in the work schedule and the Client has confirmed it in writing.</p> <p>6. Upon completion of the work, the Contractor shall submit to the Client an act of acceptance of completed works in 2 copies, an invoice, a bill, acts of completed installation works, acts of completed individual tests, acts of maintenance of the lifting crane safety devices and equipment, technical report on electrical measurements of insulation resistance, verification of protective grounding of electrical equipment and automatic protection actuation.</p>
11	Requirements for production methods and quality of the work.	<p>1. The materials and equipment used shall comply with national standards and specifications. The supplier shall provide supporting documentation, including certificates of conformity according to the standards of the Kyrgyz Republic or the Eurasian Economic Union (EAEU), passports for the equipment.</p> <p>2. Technology and quality of the work shall comply with the requirements of the applicable national standards, construction, fire safety and sanitary rules and regulations (GOST, SNIP, SanPiN) established for this type of work.</p> <p>3. Prior to the installation of equipment and components, the Contractor shall familiarize himself/herself with the constructed building, check the compliance of design solutions with the actual conditions at the facility, and, if additional components and works are required, notify the Client in writing before the commencement of repair/installation works.</p> <p>4. In accordance with the applicable regulatory requirements, the Contractor shall perform incoming inspection of units, mechanisms, products and materials, geodetic control, and operational control of the work, and draw up appropriate documentation.</p> <p>5. When executing the Agreement, the Contractor shall ensure that the work quality control is performed by the services equipped with technical means that ensure the necessary reliability and completeness of the control.</p> <p>6. During the acceptance inspection, hidden works with attached photographic materials are subject to examination. If there are no acts of inspection of hidden works and their acceptance by the Client, subsequent works shall not be performed, otherwise the Client shall have the right to demand from the Contractor to open any part of the work, and then restore it at the expense of the Contractor.</p> <p>7. The Contractor shall perform the work in the designated work area. Materials and equipment shall be stored provided that the Contractor has arranged locations equipped with fire extinguishing equipment at the storage</p>

		<p>site. Within three working shifts after the completion of the work, the Contractor shall eliminate the work area, dismantle the fencing, and dispose of the garbage in accordance with the rules and regulations established by KGC.</p> <p>8. The Contractor shall be responsible for:</p> <ul style="list-style-type: none"> <li>- Performance of the work within the deadline set out in the Agreement;</li> <li>- Ensuring a good quality of work;</li> <li>- Compliance with the production technology when performing the works;</li> <li>- Conducting individual tests of the installed equipment and structures (if necessary);</li> <li>- Timely elimination of defects (deficiencies) identified during the acceptance of the work and during the warranty period (the period for elimination of defects or deficiencies may not exceed three working days).</li> </ul> <p>9. The Contractor shall be responsible for the safety of all materials and equipment delivered to implement the Agreement until the finished facility is put into operation (the terms of this clause may be changed by written Agreement with the Client).</p> <p>10. In case of damage to structural parts, finishing of premises and engineering systems due to the works performed by the Contractor, all restoration works shall be performed by and at the expense of the Contractor.</p> <p>11. The quality warranty period for the work performed under the Agreement shall be at least 12 months. The warranty period for components and materials used during the work shall comply with the manufacturer's warranty documentation. The warranty period shall start from the date of signing the act of acceptance of the completed facility.</p> <p>12. The Client reserves the right to carry out technological and other control over the progress of repair and installation works at all stages and to engage additional resources at his/her own expense to ensure timely and high-quality completion of the works under this Terms of Reference, with subsequent deduction of the cost of the works performed by and at the expense of the Client, from the Contractor's scope of works under this Terms of Reference.</p>
12	Requirements to the Contractor and conditions of the work	<p>1. All works stipulated in this TOR shall be performed by organizations having relevant experience in performing works similar to those being tendered for in terms of scope, purpose, and type of structures (confirm the above list with the relevant documents).</p> <p>2. The experience of the Contractor shall be at least five years.</p> <p>3. The Contractor shall be fully responsible to the Client for compliance with the design coordinate and elevation marks.</p> <p>4. Repair works shall be performed by the Contractor's tools. Specialized equipment (cranes, towers) for the work shall be provided by the Contractor. The Contractor's engineering and technical personnel performing the work at the Client's facility shall be provided with light vehicles by and at the expense of the Contractor during the entire period of the work.</p> <p>The Contractor's personnel shall be provided with personal protective equipment at the Contractor's expense.</p> <p>5. Industrial and fire safety rules shall be observed.</p>

		<p>6. Upon completion of the works at the facility, the Contractor shall provide the Client with photographs taken prior to commencement of the works, during the works and upon completion of the repair and installation works, as well as work logs, acts of hidden works, as-built surveys, acts of completed works and other as-built documentation.</p> <p>7. All related materials for the work specified in these Terms of Reference shall be provided by the Contractor. Spare parts, materials, tools, equipment, and components shall be transported to the construction site by the Contractor. Consumables (compressed gases (oxygen, propane), electrodes, cutting and grinding discs, etc.) may be provided by the Client upon prior request and Agreement with the Contractor.</p> <p>8. The estimate is recommended to be calculated in accordance with the Unified Norms and Prices and GOSSTROY rates currently applicable in the Kyrgyz Republic.</p> <p>9. Prices for spare parts, materials, equipment, and components shall not exceed market prices at the time of purchase. The Contractor shall provide all necessary supporting documentation and certificates (KR certificates of conformity, if required) for the materials supplied.</p> <p>10. Unrecorded scope of work shall not be the basis for refusal to perform the work.</p>
13	Technical documentation required for operation, maintenance, assembly-disassembly, and repair	<ol style="list-style-type: none"> <li>1. Protocol of preliminary (factory) tests;</li> <li>2. Passport for mechanism, equipment or device indicating: <ul style="list-style-type: none"> <li>• "life" - the total operating time, upon reaching which operation of the machine or equipment shall be discontinued, regardless of its technical condition;</li> <li>• "life cycle" - the period of time from the beginning of the machine, equipment design to the completion of disposal, including interconnected stages and method of disposal;</li> <li>• repair cycle before major repairs, indicating the operating time between repairs;</li> <li>• catalog of spare parts and materials indicating the life;</li> <li>• logbook, including delivery set, technical data, safe operation period of equipment;</li> <li>• rated/consumed power of current collectors;</li> <li>• Power supply schematic diagram.</li> </ul> </li> <li>3. Installation, operation and repair manual, including 1 copy on electronic media, including: <ul style="list-style-type: none"> <li>• instructions for preservation/depreservation of equipment;</li> <li>• detailed description of maintenance and current repairs;</li> <li>• indication of harmful factors and hazards in the operation of equipment and necessary safety measures;</li> <li>• diagrams and description of the principle of operation of mechanical, hydraulic and other systems;</li> <li>• procedure for diagnostics and control tests;</li> <li>• lubrication chart with the volume of each chamber, table of main lubricants, filters, working fluids and their substitutes recommended by the equipment manufacturer, indicating technical parameters and manufacturer's company.</li> </ul> </li> </ol>

		<p>4. Maintenance checklist, indicating the frequency and time limits for each type of work according to the approved format.</p> <p>5. Specification of main parts and units. Data sheets for components of purchased units, assemblies, bearings of manufacturers.</p> <p>6. Equipment assembly drawings, indicating the total weight and dimensions, as well as individual components (including drawings of the machine in transport position).</p> <p>7. Layout drawings describing the components.</p> <p>8. List of fast wear components and parts.</p>
14	Control and acceptance procedure	<p>1. Completed works shall be accepted by the Client's and Contractor's representatives at the Client's facility. During the acceptance, the scope and quality of the work are checked.</p> <p>2. Upon completion of the works, the Contractor shall submit to the Client an act of acceptance of completed works, a set of as-built documentation, including acts of completed installation works, acts of completed individual tests, acts of maintenance of the lifting crane safety devices and equipment, technical report on electrical measurements of insulation resistance, verification of protective grounding of electrical equipment and automatic protection actuation.</p> <p>3. Technical supervision of compliance with the technology of the scope and quality of work shall be carried out by the Client's representatives appointed by the order.</p> <p>4. In case of violation of the work technology, deviations from the requirements, the work shall be stopped by order of the person carrying out technical supervision, and a deadline for eliminating the violation shall be established, which is mandatory for prompt implementation.</p> <p>5. The works shall be monitored and accepted in accordance with the crane passport, operating manual, rules for installation and safe operation of lifting cranes.</p> <p>6. Final acceptance of equipment shall be carried out by the Commission, with the participation of the Contractor's representatives and the state inspector.</p>
14	Payment terms and work deadlines	<p>1. To be specified in the Agreement.</p>
15	Additional terms	<p>1. Accommodation for the Contractor's personnel for rest shall be arranged by and at the expense of the Contractor.</p> <p>2. Transportation for the Contractor's personnel to the work area shall be arranged by and at the expense of the Contractor.</p> <p>3. Catering for the Contractor's personnel performing the works at the Client's facility shall be arranged by and at the expense of the Contractor.</p>
16	Documentation to be provided by the Client	<p>1. Copy of the crane passport.</p> <p>2. Copy of the technical diagnostics report.</p> <p>3. Copies of electrical drawings and diagrams.</p> <p>4. Other documentation required for major repairs of the crane upon the Contractor's written request.</p>