

**SIX MILE EAST CABLE TERMINAL REACTOR REPLACEMENT  
BID UNIT DESCRIPTIONS  
W.O. E2120054**

<b>BID UNIT</b>	<b>DESCRIPTION</b>
<b>NOTES</b>	<b>GENERAL NOTES APPLICABLE TO ALL BID UNITS</b>
	<p>1. Cost for loading, transporting to construction site and offloading of Chugach furnished material is incidental to the cost of the affected Bid Unit. No additional compensation will be paid for loading, transporting to construction site and offloading of Chugach furnished material. Reference List Of Owner Furnished Material for materials furnished by Chugach and Bid Units affected by the material.</p> <p>2. Chugach will only furnish materials identified on the List Of Owner Furnished Material. All other materials required to complete the Work are to be furnished by the Contractor.</p> <p>3. Cost of dewatering is incidental to cost of affected Bid Unit. No additional compensation will be paid for dewatering.</p> <p>4. Cost of surveying is incidental to cost of affected Bid Unit. No additional compensation will be paid for surveying or surveying related expenses.</p> <p>5. Cost of excavations including but not limited to those excavations provided for general excavation of the substation site, foundations, conduits, etc. shall include removal, from site, of excess excavated materials. Cost of this work is incidental to the cost of the Contract. No additional compensation shall be paid for removal of excess or unusable excavation.</p> <p>6. Excavation in substation areas with existing conduit to remain in tact outside the limits of construction shall be done using a vac-truck. A vac-truck shall be provided on this project for excavation between the substation equipment, and the cost of this equipment shall be considered incidental to the cost of the Contract.</p> <p>7. Mobilization is incidental in this contract. This work consists of furnishing and delivering to the site, mobilization of all construction equipment, materials, supplies, appurtenances, and the like, manned and ready for commencing and prosecuting the work, having completed all JBER requirements to begin construction. This work includes furnishing preparation of the Contractor's work and / or storage area; the complete assembly, in working order, of equipment necessary to perform the required work; and all other preparatory work on construction items for which payment is provided under the Contract.</p> <p>8. Demobilization is incidental in this contract. This work consists of removal from the site of all equipment, appurtenances and the like used for the performance of the work, as well as restoration of the Contractor's work and / or storage area, clean-up and disposal of all debris, spoils and trash in compliance with all JBER requirements after all work is completed.</p>
F1	<p>FOUNDATION, TYPE F1 - This unit includes all material and labor to install one Type F1 foundation. The unit includes all required excavating, compaction, forming, and finishing; providing all testing services; furnishing and installing all rebar, embedments, grounding materials, conduit, conduit fittings, concrete, classified fill and miscellaneous materials as required for a complete concrete foundation. This unit includes the possible reroute of a drainage pipe as specified in the Drawings and Specifications to prevent standing water in the project area. The cost for clearing and grubbing required to install the pipe will be incidental to the cost of this unit. This unit includes the final grading and compaction of all excavated areas prior to placement of the crushed rock surface course and geotextile fabric. The cost for installing geotextile fabric and crushed rock surface course are an incidental cost to this unit.</p>
F2	<p>FOUNDATION, TYPE F2 - This unit includes all required labor, miscellaneous materials, tools, inspection, testing, and equipment to install one Chugach furnished Type F2 steel H-pile foundation and Contractor furnished welded top plate. This unit includes welding the top plate to the steel H-pile. This unit includes all labor, materials, tools, and equipment for any obstruction removal or relocation necessary to install the H-pile to the specified depth.</p>
H1	<p>REACTOR, 230kV, 30 MVAR - This unit includes the complete installation of the HICO reactor and all reactor accessories such as the conservator, radiator, bushings, etc. This also includes the process required to fill the reactor with oil by pulling a vacuum onto the tank prior to filling the oil for as long as the manufacturer representative requires. It includes assisting in setting the reactor on the pad which involves preparing the site for a crane, rigging and transportation equipment; coordinating with Chugach, and Reactor transportation and crane contractors. This unit also includes all miscellaneous labor and material to weld the Reactor to the pad and all labor to install ACSR jumpers between Reactor bushings, circuit breaker bushings and surge arresters as specified in the Drawings and Specifications.</p> <p><b>Note: Crane operation will require the temporary removal of the low tier guy wire of the communication tower. The guy wire removal shall comply with the requirements in Appendix H. The cost of removal and installation of the comm guy wire is incidental to this unit.</b></p>

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K1	OUTDOOR ENCLOSURE - The unit includes all labor and materials to complete installing of the outdoor enclosure, and installing the conduit sleeves and esutcheon plates, weatherproof sealing of the openings in the enclosure and exterior wall in accordance with drawings, specifications and manufacturer's instructions.
K2	CONDUIT - The unit includes furnishing and installing all couplings, fittings, elbows, bending, grounding hardware, trenching, bedding sand, trench backfill, compaction and testing, and wall or floor penetrations. This unit includes providing and installing conduit sealing bushings for spare conduits, and providing and installing pull ropes in all conduits. This unit includes all flexible liquid tight conduits and fittings for risers from GRS conduits to equipment cabinets and provision of entrance hole in equipment cabinets. This unit includes all miscellaneous labor and material for a complete conduit system. This unit includes the final grading and compaction of all excavated areas prior to placement of the crushed rock surface course and geotextile fabric. The cost for installing geotextile fabric and crushed rock surface course are an incidental cost to this unit.
K3	CABLE, CONTROL & POWER -This unit includes furnishing and installation of all 600V power cables, control cables and instrumentation cables as shown on drawings and in cable schedules. This unit includes providing all labor, equipment and materials to install cables, cable tags, cable ties, conduit sealing materials in order to provide a complete cable installation. This unit also include pulling an innerduct with pull rope through one of the conduits as shown in the Drawings and Specifications. This unit includes termination of 120V AC power from the AC panel in the Switchgear to the Reactor as specified in the Drawings and Specifications. This unit includes testing of the cables as defined in the Technical Specifications.
*K4	MANHOUR - This unit includes all labor and miscellaneous support tools required to perform Owner-directed work.
*M1	EXCAVATION - Includes all labor, equipment, and material required to ecavate and dispose of one cubic yard of material as directed by Owner. This unit does not include excavation that is included in other Bid Units.
*M2	CLASSIFIED FILL - Includes furnishing, importation, placement, smoothing, rolling, compaction, testing services, and all miscellaneous labor, equipment, and material to provide one ton of Classified Fill as directed by Owner. This unit does not include furnishing and placement of material that is included in other Bid Units.
O1	GROUNDING - This unit includes furnishing all grounding materials except the copper ground rods and DMC connectors listed in the Owner Furnish Material List, and providing all labor and equipment to install all copper ground conductors, ground grid, jumpers , all ground rods, copper connectors, clamps, and fittings to upgrade the grounding system, in in accordance with plans, specifications and manufacturer's instructions. This unit includes grounding for the new shunt reactor. This unit includes the final grading and compaction of all excavated areas prior to placement of the crushed rock surface course and geotextile fabric. The cost for installing geotextile fabric and crushed rock surface course are an incidental cost to this unit.
X1	COMPOSITE FIREWALL - This unit includes all required labor, miscellaneous materials, tools, and equipment to install a Chugach furnished composite firewall as shown on the drawings.
I-A1	RETIREMENT - This unit includes all labor, equipment and material necessary for the removal and disposing of reactor including oil, foundation, cable and conduits, all conductor, bus supports, insulators, connectors, filler compounds, fasteners, ground wires and connections, excess fill, miscellaneous materials associated with Reactor as specified in the Drawings and Specifications.

\*Note: This unit will be applied only if required and authorized by Chugach Electric. Unit quantity of this Bid Unit may be increased, decreased, and/or deleted from the Contract without adjustments to the unit price.