Great St. James Power Cable Request For Quotation

1 Bid Submittal Instructions

The accompanying documents are a Request for Quotation (RFQ) for a 15 kV multi-conductor submarine power distribution cable, with a 24 –strand single mode fiber optic cable. The cable will be approximately 18,800 circuit feet for island of Great St. James near St. Thomas Virgin Islands. HKT energy consulting group has has contracted to provide consulting services for this project.

1.1 Bid Review and Schedule

Prior to submission of the Proposal, the Supplier shall make and be deemed to have made a careful examination of the information provided and contract forms in the RFQ. This shall include careful consideration of all other matters that may affect the cost and time of the deployment for the Cable design in the response to this RFQ.

Table 1: Submittal Schedule

#	Description	Date
1	RFQ Release	August 2nd , 2016
2	RFQ Response Due	September 16th , 2016
3	Notification selected Bidder	September 23rd ,2016
4	PO or Contract Negotiation and award	September 30th , 2016

All Supplier proposals shall be sent via email no later than September 2nd , 2016 before 12 p.m. AST

All proposals must be submitted on the dates specified on proposal letter and addressed to:

Hugo Hodge
HKT Energy Consulting Group
Address: P.O. Box 307144
St. Thomas, V.I. 00803
[redacted](Cell) or [redacted](office)

Bids shall be good for at least 120 days and be submitted in a legal name of the actual firm or party whom would be bound by any resulting contract or Purchase Order. All questions and inquiries regarding any matter affecting the bid/quotation or the Supplier's potential response shall be sent to Mr. Hugo Hodge Jr. or HKT Energy Group via email at [redacted] no later than August 1, 2016.

Cable Specs:

- Quotations shall be for a 2/0 Copper cable and an alternate quote for 4/0 Copper Conductor
- The first cable reel shall be 13,800 feet with the proposed pulling eye attached (Please submit drawings for the Pulling eye to be manufactured).
- The second cable reel shall be 5,000 feet with the proposed pulling eye attached (Please submit drawings for the Pulling eye to be manufactured).
- Copper conductors shall consist of layer in accordance with ASTM B3, B8 and B33.all bare strands or tin coated strands in the outer
- Conductors shall be Compressed, Class B stranded, and Copper in accordance with the requirements of ICEA S-68-516.
- Conductor Shield: (Stress Control Layer) shall be an extruded, black-colored, non-conducting thermoset material in accordance with Section 2.7 of ICEA S-68-516.
- The cable shall be designed to operate at conductor temperatures of 90°C normal, 130°C emergency, and 250°C , short circuit conditions as defined by ICEA S-68-516 (NEMA WC-8).
- The cable provided shall be multi-conductor cable insulated with a high quality, heat, moisture, impact, ozone and discharge resistant, thermosetting rubber-based elastomer which shall be suitable, for use in subsea applications.
- Insulation shall be a discharge resistant, EPR based compound.
- Insulation Shielding shall consist of a nonmetallic conducting material extruded directly over the insulation. The nonmetallic layer shall be black-colored with properties and thickness conforming to the requirements of Table 4a of ICEA S-68-516. The layer shall be free stripping from the EPR insulation.
- The minimum average thickness of the insulation shall be in accordance with Table 1.
- The discharge resistance of the insulation shall be in accordance with Section 3.9.3.3 of ICEA S-68-516 as demonstrated by withstanding 8 kV (60 Hz, 25°C, 20% R.H.) For 250 hours without failure when tested in accordance with the method described in ASTM D2275-89 "Standard Test Method for Voltage Endurance of Solid Electrical Insulating Materials Subjected to Partial Discharges (Corona) on the Surface".

TABLE I

Voltage KV	Conductor Size AWG/KCMIL	Insulation Thickness (mils) 100%	AC Test Voltage (kV) 133%
15	2/0 or 4/0 Alt.	220	40

- There should be a one third (1/3) concentric neutral.
- Individual Conductor Jacket shall be extruded black-colored Polyvinyl Chloride (PVC) material with physical properties and thickness in accordance with Section 4.4.5 and Table 4-6 of ICEA S-68-516.
- Cable Assembly shall consist of the three concentric neutral conductors cabled in accordance with ICEA S-68-516.
- The interstices shall be filled with a suitable filler material to make a round core. A binder tape shall be helically applied over the core. Optional grounding conductors may be supplied if requested.
- Biological Protection shall be a 10 mil (0.010 inch) bronze tape with a 20% lap, which shall be applied over the inner jacket for protection against the attack of torpedo worms.
- Armoring a double reverse layer of polypropylene shall be provided to act as bedding for the armor wires. The polypropylene bedding shall be in accordance with Section 4.5.9 of ICEA S-68-516.
- Armor wires shall consist of British Wire Gauge (BWG) galvanized steel wire with a high-density polyethylene jacket on each wire.

Production Testing shall consist of the following:

- Continuous DC Spark testing of the non-conducting stress control layer prior to extrusion of the EPR insulation:
- Mooney Viscosity Scorch Viscosity and Specific Gravity of each batch of the EPR Insulation prior to extrusion:
- AC Voltage Withstand test for a 5-minute duration of each finished cable at the values specified in Table I:
- Insulation Resistance of each finished length

cable:

- Volume Resistivity of the nonmetallic shield:
- DC Resistance of all insulated conductors and metallic shields:
- Dimensional Verification of all extruded layers:
- Absence of water in conductors and interfaces confirmed

Great St. James Fiber Optic Cable Specifications

24 Strand, single-mode, mini bundle color coded fiber contained in filled, loose tube, color-coded dual-layer buffer tubes stranded (reverse oscillation) around a dielectric central member, filled core, aramid yarn and fiberglass reinforced strength member, with a black UV resistant medium density poly-ethylene outer sheath (3mm thick).

Cable Info:

Core Diameter (µm)	8.3
Cladding Diameter (µm)	125
Buffering Diameter (µm)	250
Cable Outside Diameter (in)	.58
Cable Outside Diameter (µm)	14.4
Cable Weight (lb/ 1000')	147
Cable Weight (kg/km)	218

Transmission Performance (1310/1550nm)

Maximum Attenuation (db/Km)	.4/. 3) On-the –reel Measurement
Atten. Calculated at 130 0 ft. Depth	1.7/4.2 Installed Measurement
Maximum Dispersion (psec/nm.km)	< Or equal to 2.6 Typically 17

Cable Make-Up

BT No.	1	2	3	4	5
BT Color	BL	OR	GR	BR	SL
# Fibers	6	6	6	6	F
Fiber Colors	BL	OR	GR	BR	SL