**SPECIAL CONDITIONS**

* + 1. Time is the essence of the contract. Time of completion allowed is 21 days including supply, installation & energizing.
	1. Tender shall be opened on **29.06.2019. 3.30 PM**
	2. The letter of intent shall be issued soon followed by the formal work order.

* 1. Only first quality materials shall be allowed for the work. The samples of all materials shall be got approved by the consultant before supplying for the work.
	2. Contractor has to prepare all necessary drawings and submit to the Kerala State Electricity Board and Kerala State Electrical Inspectorate for the scheme approval for the revised scheme including new Transformer and Diesel Generator and associated equipments within 5 days of award of work.
	3. Owner shall give basic drawings of all installation.The actual drawings prepared by the contractor must be complete in all respects for the smooth functioning of the theatre which should be ensured by the contractor in consultation with the owner and the consultant. Any addition or alterations required can be included with their concurrence. Necessary follow up action shall be taken by the Contractor to obtain the sanction from the Electrical Inspectorate and Electricity Board.
	4. On completing the installation the completion report shall be produced before the Kerala State Electrical Inspectorate for approval. The observations/comments issued by the electrical Inspector has to be rectified at no extra cost
	5. The contractor shall be responsible to obtain the energisation approval from EI and HT service connection obtained from KSEB on behalf of the owner as soon as possible.
	6. Owner, shall pay all statutory fee and service connection charges, Caution Deposit, Deposit Work etc for the above works. All other cost shall be included in the offer.
	7. The test certificate, operators manual and warranty of all equipment has to be submitted to Owner on completion of work.
	8. The payment shall be made as under:-
1. 70% of the value of goods supplied/work executed at site, shall be made immediately after supply of materials/work executed at site.
2. 15% of the value of goods supplied/work executed at site, shall be made immediately after completing and commissioning the equipments/work executed.
3. 12.5% after rectification of defects, obtaining energization order from authorities, informing KSEB (including executing agreement with Electricity Department if required), energizing the complete system to the full satisfaction of Owner.
4. Balance 2.5% after defect liability period of 12 months.
	1. The rates quoted by the contractor shall include cost of all materials, conveyance, labour supervision thereof, hire of all tools and implements, incidental charges and all that is required for the complete work.
	2. The contractor is expected to visit the site and study the probable routes of transportation of material to the site before quoting.

3.14 All the items of the work are to be executed as per relevant IS specifications.

3.15 The Contractor has to agree and strictly abide to all the conditions stipulated in the tender and any offer with deviation or request for deviation are liable to be rejected.

3.16 The guarantee shall be 12 months from the date of handing over the installation duly energised.

3.17 The contractor has to prepare a time schedule for the complete work in detail and submit to Owner in triplicate within 2 days from the day of letter of intent. This shall be modified to suit the civil construction work.

3.18 Penalty : Owner shall impose a penalty for every work of delay as @ 1 % of total contract to a maximum of 10 % of the total contract value after which the contracts stands cancelled this will apply plan wise according to the contract value of each phase.

4. **PARTICULAR SPECIFICATION**

4.1 SCOPE:-

 The scope of work covers installation of Transformer, DG set, supply and installation of panels, cables as indicated in the schedule and earthing as per standards. All necessary clearance shall be obtained from authorities and service connection obtained to the satisfaction of the owner.

 4.2 GENERAL

 Work shall be carried out in accordance with specification local rules. Indian Standard Code of Practice No.IS:732-1963. Definition of terms shall be as in the I.E. Rules.

4.3. HT CABLES – 11KV GRADE

4.3.1 INSTALLATION

 Cables shall be laid in the routes marked in the drawings. Where the route is not marked, the contractor shall mark it out on the drawings and also on the site and obtain the approval of the Architect/Consultant before laying the cable. Procurement of cables shall be on the basis of actual site measurements with sufficient extra length on both ends and the quantities shown on the schedule of work shall be regarded as a guide.

 Cables, rising indoors shall be laid on walls, ceiling inside shafts or trenches. Single cables laid shall be fixed directly to walls or ceiling. All supports shall be at not more than 500mm. Where number of cables are run, necessary perforated cable trays shall be provided wherever shown. Cables laid in built-up trenches shall be on steel supports. Plastic identification tags shall be provided at every 20mtr. Cables shall be bent to a radius not less than 15 times the overall diameter of the cable , or in accordance with the manufacturer’s recommendations whichever is higher.

 In case of direct buried cables, the cable route shall be parallel or perpendicular to road ways , walls, etc., Cables shall be laid in excavated, graded trenches over a sand cushion to provide protection against abrasion. Width of excavated trenches shall be as per drawings. The cable shall be provided with cable markers at every 20 meters.

 Cables shall be identified at and terminations indicating the feeder number and the Panel/Distribution board from where it is being laid.

4.3.2 TESTING

Cables shall be tested up to installation with a 1000V Megger and the following readings established.

* + - 1. Continuity on all phases
			2. Insulation resistance.
				1. between conductors
				2. all conductors and ground

 All the Tests shall be recorded. The insulation readings should conform to the recommended values .

4.3.3 MODE OF MEASUREMENT

 Cables will be measured on the basis of unit length and shall include the following:-

1. Cables and clamps
2. Installation, commissioning and testing.
3. Cable route marker.

 Each cable joint will be measured as one unit for payment.

 The item shall include the following:-

1. Cable glands, lugs, bolts, nuts.
2. All jointing materials
3. Installations, testing and commissioning.
4. Earthing the gland.

 Cables buried under ground will be measured on the basis of unit length and paid for at unit rates and shall include:

1. Excavation to 1.2mtr/0.6mtr and back filling.
2. 6” sand cushioning below and above cable.
3. Protective bricks/tiles above the sand cushioning.
4. Fixing of cable route markers.

4.4 UNITISED SUBSTATION

4.4.1 INSTALLATION

Check the position to be occupied by the unit as indicated in the relevant layout drawing.

The recommended minimum distance from the unit to the walls should be adhered to and the location of the switchgear should be free from dampness of humidity, excessive vibration and chemical fumes.

The installation charges shall include the cost of supply, fabrication and installation of all the necessary steel supports for the erection of the panel.

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4.4.2 FOUNDATION

Contractor shall supply the foundation details required. The rag-bolts shall be prepared and the floor toughened at the location of the supports, the units can be placed in position. Care shall be taken to ensure that unit occupies its correct position.

4.4.3 BUSBAR CONNECTIONS

 The contract surfaces of the busbars should be thoroughly cleaned on both sides with emery cloth and any burrs should be removed with a smooth file. The joints should be assembled as soon as possible.

 The busbars should be connected up on such a way as to be parallel to the line of the unit and suitable for extension where necessary. Busbar shall be bolted very securely and in correct alignment.

4.4.4 CABLE CONNECTIONS

Access to the cable box is obtained by removing the cover sheets at the back.

4.5 EARTHING

4.5.1 Earthing shall conform **to I.S.3043/1987.**

 The earth bar should be continuous and solidly connected to the station main earth.

4.6. TESTING AND COMMISSIONING

4.6.1 Before commissioning, the entire equipment must be thoroughly cleaned both internally and externally.

4.6.2 VOLTAGE TRANSFORMER

 All transformers are to be tested for ratio error and phase difference and high voltage tests in accordance with recommendation of B.S.3941 before leaving the works.

 The resistance to earth of primary and secondary windings when tested using a 1,000Volts megger should not fall below an absolute minimum of 500 and 10 megohms respectively.

In each case, the voltage must be obtained from A.C supply. D.C should not be used as it is liable to set up abnormal electric stresses.

 4.7 EQUIPMENT EARTHING

All apparatus and equipment transmitting or utilizing power shall be earthed in the following manner . Copper earth wires shall be used where copper wires are specified.

a. An equipment earthing grid is to be established. All earth connections to all panels and equipment shall be connected to the nearest point of the earthing grid.

5 RECOMMENDED MAKES OF MATERIALS

|  |  |  |
| --- | --- | --- |
| **No** | **ITEM DECRIPTION** | **RECOMMENDED MAKE** |
| 1 | TOD meter  | L&T ,HPL |
| 2 | USS | KIRLOSKAR, ABB, INTRANS |
| 3 | Current transformer (LT) | AE, Intrans, Kappa, MEC, Indus. |
| 4 | Push buttons | Tecnic, Siemens, BCH |
| 5 | Indication Lamps | Tecnic , Siemens, BCH, Rishab |
| 6 | Relays Digital  | JVS, L&T, C&S |
| 7 | Indicating meters  | Prok dv’s, ENERCON, MECO, L&T Esba, Elmeasures |
| 8 | Integrating meters (Electronic) | SIMCO, Enercon, Elmeasures |
| 9 | Contactor | Siemens, Tele mecanique, L&T, Cutler & Hammer |
| 13 | LT/HT XLPE Cables./Flexible copper cable | Empire,V-Guard NICCO, Gloster, Universal, Polycab, Torrent, RPG, KEI. |
| 14 | Cable gland (Heavy Duty)/LUGS | COMEX / PRABHATH / DOWELS / JAINSON |
| 21 | Wires/control cable 650/1100V Grade  | V-Guard Finolex,Polycab Q flex, RR Kabel, RPG cables, Lapp Kabel, , Torrent, Primecab, Gloster. |

NOTE: The contractor can use any other make of material whose technical specifications conforms to the relevant IS/IEC ,if approved by Owner before finalizing the offer. The order of priority is as in the above list.

1. EXTRA ITEMS

6.1 Any item of work that do not find a place in the schedule of quantities, in the original

 tender or in the accepted tender which has been directed by KSFDC to execute is deemed

 as an extra item of work. All such works that are necessary to be carried out under the

 direction of KSFDC shall be carried out by the contractor. No such variation will violate the Contract.

6.1.1 Extra items of work thus carried out by the contractor will be paid at the rates worked out by KSFDC

6.2 WATER AND ELECTRICITY

6.2.1 The contractor shall make his own arrangement for water and electricity required for the

work. KSFDC shall take no responsibility for the supply of either electricity or water

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6.3 INSURANCE

The successful tenderer shall take out Contractor’s All Risk (CAR) insurance policy, jointly

in the name of KSFDC Projects and the contractor, and the original policy

shall be deposited with KSFDC.

6.4 This Notice Inviting Tender (NIT) will form part of the tender document and the

agreement executed by the successful tenderer.

**MANAGING DIRECTOR,**

**KERALA STATE FILM DEVELOPMENT CORPORATION.**