



KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)

Reg. Office: Vidyuthi Bhavanam, Pattom, Thiruvananthapuram – 695 004

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ABSTRACT

Routine relay and equipment testing at KINESCO – Estimate for MOU - Sanction accorded - Orders issued.

Corporate Office (SBU-T)

B.O.(FTD)No. 368 /2021/D(T&SO)/T5/KINESCO -Testing/2021-22/Thiruvananthapuram dated.17.5.2021

- Re :
1. Letter No KINESCO/KSEBL/Relay/2020-21/234 dated 16/2/2021 from Chief Executive Officer of KINESCO to the Chief Engineer (TSO).
 2. Letter. No. CESO/TECH/KINESCO/P/20-21/222 dated 20/4/2021 of the Chief Engineer (Transmission System Operation) to the Director (T&SO)
 3. Proceedings No.CESO/Tech/Gnl/20-21/1,236 dated 25/8/2020 from the office of Chief Engineer (TSO)
 4. Draft Memorandum of Understanding submitted by Chief Engineer (TSO)
 5. Note. No D(T&SO)/T5/ KINESCO -Testing/2020-21/7dated.4/5/2021 of the Director (T&SO) (Agenda Item No 7/5/21)

ORDER

M/s KINESCO Power and Utilities Pvt Ltd is a subsidiary company of KINFRA which is a Government Organization. The firm as per letter read as 1st above had requested KSEBL to take necessary steps for conducting testings at KINSECO sites where the firm had the licensee operation of distribution of electricity, as they do not have any testing units of their own.

Accordingly as per letter read as 2nd above, the Chief Engineer (TSO) submitted an work deposit estimate amounting Rs 976330/- (Rupees nine lakh seventy six thousand three hundred and thirty only) including 10% departmental charges for routine relay and equipment testing once in a period of 2 years and testing in the case of tripping/troubleshooting during break down under emergency situations twice in a period of two years for the items listed in the annexures II,III & IV from the date of signing of MoU . The estimate for the work deposit is prepared based on the schedule of rate for deposit works w.e.f 01/9/2020 as per proceedings read as 3rd above.

Substation	Relaytesting charge(Rs)	Power equipment testing charge(Rs)	Dignostic testing charges(Rs) (twice/2year)	Conveyance charge (Rs)	Departmental charges(10%) (Rs)	Total (including GST)
Kakkanad	157350	326950	114200	22825	62132.5	806479.86
Kalamassery	15570	00	11000	8300	3487	45261.26
Kanjikode	72660	0	15000	8325	9598.5	124588.53
Grand Total (Rounded off)						976330

Also a draft MoU read as 4th above, to be executed between M/s KSEBL and M/s KINESCO is submitted by Chief Engineer (Transmission System Operation), where in following points are included.

- The MOU shall be valid for two years
- KSEBL shall carry out routine testing (once per 2 year) and diagnostic tests/trouble shooting during breakdowns(twice per 2 year) at the sites with out any additional charges during the validity of this MOU. The items to be tested are listed as annexures II,III & IV.
- Any additional work likes newly added relays and equipments and major trouble shooting exceeding the estimated number of days shall be chargeable extra.
- Pre-commissioning /Commissioning tests/ retrofitting / refurbishment or adding new elements also shall be charged extra.
- M/s KSEBL shall not be liable to pay any cost of damages for the relays / equipment during testing and any consequential damages due to non functioning / malfunctioning of the relays / protection scheme.
- Any dispute arising out of this contract will be subject to the exclusive jurisdiction of Civil courts at Thiruvananthapuram.

The matter is placed before the Full time Directors as per note read as 5th above seeking decision.

Having considered the matter in detail, the Full Time Directors in the meeting held on 7/5/2021,

Resolved to accord sanction for the deposit work amounting Rs.9,76,330/- (Rupees nine lakhs seventy six thousand three hundred and thirty only) (includes 10% departmental charges) for the routine testing of relays and equipments once per 2 year and testing on emergency cases of tripping / break down) twice in a period of 2 year for the items listed in the Annexure I to IV by KSEBL at 110kV Substation KINFRA, Kakkanad, 11kV Substation KINFRA Kalamassery and 22kV Substation, KIITP, Palakkad where M/s KINESCO Power and Utilities Pvt.Ltd is the distribution licensee.

Further resolved to authorise the Chief Enginner (TSO) to execute a Memorandum of Understanding to the above extent after observing all formalities including leagal vetting.

Orders are issued accordingly.

By Order of the Full Time Directors

Sd/-

Lekha G.

Company Secretary (In- Charge)

To : The Chief Engineer, Transmission System Operation

Copy to:

The Chief Engineer (IT,CR&CAPS)

The Deputy Chief Engineer(IT)

The Financial Adviser/ The Chief Internal Auditor.

The RCAO/ RAO.

The TA to CMD/ D(T,SO&S)/ D(D, IT&HRM)/ D(G-C)/ D(G-E& SCM)

The PA to Director (Finance)/CA to Company Secretary

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Annexure 1 to BO (FTD) No 368/2021/D(T&SO)/T5/KINESCO - Testing/2021-22/Thiruvananthapuram dated 17/5/2021


Sl No.	Item
A-1	Routine Testing of Relays
1	KINESCO Substation, Kakkanad- (Annexure-2)
2	KINESCO Substation, Hitech Park, Kalamassery (Annexure-3)
3	KINESCO 22kV Substation at KIITP,Kanjikode (Annexure-4)
	Total A-1
A-2	Routine Testing of Power Equipments
1	KINESCO Substation, Kakkanad (Annexure-2)
3	KINESCO 22kV Substation at KIITP,Kanjikode (Annexure-4)
	Total A-2
A-3	Diagnostic tests/ Troubleshooting during breakdown
1	KINESCO Substation, Kakkanad (Annexure-2)
2	KINESCO Substation, Hitech Park, Kalamassery (Annexure-3)
3	KINESCO 22kV Substation at KIITP,Kanjikode (Annexure-4)

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	IR value measurement	Nos	9
	Ratio test	Nos	9
14	110KV PT (Suman controls)		
	IR value measurement	Nos	5
	Ratio test	Nos	5
15	110KV CT (TELK/Mehru)		
	Capacitance & Tan delta test	Nos	6
	IR value measurement	Nos	6
16	110KV CT (Suman controls)		
	Capacitance & Tan delta test	Nos	9
	IR value measurement	Nos	9
17	132KV LA (Oblum/Lamco/Elpro/Crompton)		
	Online leakage test	Nos	15
18	110/11KV 20MVA Power Transformer		
	IR vlue of Transformer windings using DC 5kV	Nos	1
	Capacitance and tan delta of Transformer windings	Nos	1
	Capacitance and tan delta of transformer bushing	set	1
	Capacitance and tan delta of transformer oil	sample	1
	DGA of transformer oil (CO + H2 only)	sample	1
19	110/11KV 12.5MVA Power Transformer		
	IR vlue of Transformer windings using DC 5kV	Nos	1
	Capacitance and tan delta of Transformer windings	Nos	1
	Capacitance and tan delta of transformer bushing	set	1
	Capacitance and tan delta of transformer oil	sample	1
	DGA of transformer oil (CO + H2 only)	sample	1
	Total A-2		
	Part A-3. (Diagnostic tests/ Troubleshooting during breakdowns)		
1	Testing services per bay for troubleshooting of C&R panels like lightness checks, IR measurement, Relay testing, checking CT/PT	days	2
2	Testing services per bay for troubleshooting of power equipment like CT, PT, CBs & LAs	days	2
3	Testing services per bay for troubleshooting of power Transformers	days	1

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Annexure 2 to BO (FTD) No 368/2021/D(T&SO)/T5/KINESCO – Testing/2021-
22/Thiruvananthapuram dated 17/5/2021


List of items for Routine testing and expected brakedown of relays and equipment at KINESCO 110kV Substation, Kakkanad under SOC,Kalamassery.			
Sl No.	Item	Unit	Qty
	Part A-1. Testing Relays		
1	O/C+E/F relay(L&T MC31A-nx)		
	Non directional IDMT O/c (3 elements) + IDMT E/f (1 element)	Nos	9
	Non directional DT O/c (3 elements) + DT E/f (1 element)	Nos	9
2	O/C+E/F relay (Siemens 7SJ6001-4E00-0DAO/BB)		
	Non directional IDMT O/c (3 elements) + E/f (1 element)	Nos	1
	Non directional DT O/c (3 elements) + E/f (1 element)	Nos	1
3	O/C+E/F relay(Siemens 7SR1003-1LA20-2CAO/DD)		
	Non directional IDMT O/c (3 elements) + E/f (1 element)	Nos	4
	Non directional DT O/c (3 elements) + E/f (1 element)	Nos	4
4	Auxiliary relay 3NO+3NC(ABB PQ8NCH2JS)	Nos	1
5	Numerical feeder management relay (ABB REF 610)-basic functions only	Nos	8
6	Numerical feeder management relay (ABB REX 521)-basic functions only	Nos	1
7	Numerical TFR management relay (ABB RET 541)-standard features only	Nos	1
8	O/C+E/F relay (ABB SPAJ 140C)	Nos	
	Non directional IDMT O/c (3 elements) + E/f (1 element)	Nos	1
	Non directional DT O/c (3 elements) + E/f (1 element)	Nos	1
9	Numerical Transformer protection relay (SR745-W2-P15-G1-H1)- standard features only.	Nos	2
10	Electromechanical relays (single element)	Nos	8
11	Checking of Tripping and Alarm of 22kV/11kV panel	Nos	24
12	Checking of Tripping and Alarm of 66kV & 110 kV panel	Nos	3
	Total A-1		
	Part A-2. Testing Power Equipment		
11	110KV Circuit Breaker (CG)		
	Contact Resistance Measurement	Nos	4
	IR value measurement	Nos	4
12	110KV Circuit Breaker (ABB)		
	Contact Resistance Measurement	Nos	1
	IR value measurement	Nos	1
13	110KV PT (TELK/Mehru)		

Annexure 3 to BO (FTD) No 368/2021/D(T&SO)/T5/KINESCO - Testing/2021-22/Thiruvananthapuram dated 17/5/2021

List of items for Routine testing and expected brakedown of relays and equipment at KINESCO 11KV Substation, Hitech park, Kalamassery under SOC, Kalamassery.

Sl No.	Item	Unit	Qty
Part A-1. Testing Relays			
1	O/C+E/F relay (L&T MC31A-nx2200)		
	Non directional IDMT O/c (3 elements) + IDMT E/f (1 element)	Nos	1
	Non directional DT O/c (3 elements) + DT E/f (1 element)	Nos	1
2	O/C+E/F relay		
	Non directional IDMT O/c (3 elements) + IDMT E/f (1 element)	Nos	2
	Non directional DT O/c (3 elements) + DT E/f (1 element)	Nos	2
3	Checking of Tripping and Alarm of 22kV/11kV panel	Nos	3
	Total A-1		
Part A-2. Testing Power Equipment			
	Not requested	Nos	0
	Total A-2		
Part A-3. (Diagnostic tests/ Troubleshooting during breakdowns)			
1	Testing services per bay for troubleshooting of C&R panels like tightness checks, IR measurement, Relay testing, checking CT/PT circuits/ DC circuits, Trip and alarm circuits	bays	1
2	Not requested	bays	0

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Annexure 4 to BO (FTD) No 368/2021/D(T&SO)/T5/KINESCO -
Testing/2021-22/Thiruvananthapuram dated 17/5/2021

List of items for Routine Testing of Relays and expected breakdown attending at KINESCO 22kV Substation at KIIP, Kanjikode of Relay Sub Division, Palakkad under SOC, Kannur			
Sl No.	Item	Unit	Qty
Part A-1. Testing relays			
1	O/C+E/F relay(GE Multilin 650)		
	Non directional IDMT O/c (3 elements) + IDMT E/f (1 element)	Nos	14
	Non directional DT O/c (3 elements) + DT E/f (1 element)	Nos	14
2	Checking of Tripping and Alarm of 22kV/11kV panel	Nos	14
	Total A-1		
Part A-2. Testing Power Equipment			
	Not requested		
Part A-3. (Diagnostic tests/ Troubleshooting during breakdowns)			
1	Charges for attending break down (L/S)	days	2

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