KERALA STATE ELECTRICITY REGULATORY COMMISSION
THIRUVANANTHAPURAM

Present: Shri. T.M.Manoharan, Chairman
Shri. S.Venugopal, Member
Shri. K.Vikraman Nair, Member

O.P. No.8/2016

In the matter of		Petition in respect of notifying TMRs Thirumala, Pallom, Shornur and Kannur of KSEBL as "approved laboratory" as per provisions in the Kerala Electricity Supply Code, 2014
Applicant(s)	:	KSEB Ltd

Order dated 26.08.2016

K Vikraman Nair

1. The KSEB Ltd submitted a petition before the Commission on 17.02.2016 for notifying TMRs of Thirumala, Pallom, Shornur and Kannur as approved laboratory for testing energy meters with the following prayer.

> *'In view of the submissions made above, it is humbly prayed that Hon'ble commission may kindly notify the TMRs of KSEB Ltd at Thirumla, Pallom, Shornurand Kannur as "approved laboratory" as defined in Kerala Electricity Supply Code, 2014'.*

2. The KSEB Ltd has, in their petition, submitted as follows:

> *(i) Hon'ble Commission has published Kerala Electricity Supply Code,2014, (herein after referred as KESC, 2014) which is applicable to all licensees including deemed licensees and all consumers and users in the State of Kerala with effect from 1.4.2014.*
>
> *(ii) As per regulation 104(2) of Supply Code ,2014 " the meter shall be tested and installed by the licensee and it shall conform to the requirements as specified in the Central Electricity Authority (Installation and Operation of meters) Regulations ,2006 as amended from time to time."*

(iii) *As per Regulation 115(1) &(2) of Supply Code 2014, " The meter shall normally be tested in the laboratory of the licensee, approved by the Commission. In case the licensee does not have a testing facility approved by the Commission, or if so desired by the consumer,the meter shall be tested at any other laboratory accredited by the National Accreditation Board for testing and Calibration of Laboratories(NABL)."*

(iv) *As per the definition in KESC 2014, 'Approved Laboratory' means a laboratory approved by the Commission for testing and calibration of energy meters. Regulation 113 of KESC 2014 specifies that it shall be the responsibility of the licensee to satisfy itself regarding the accuracy of the meter before it is installed and the licensee shall test and get them tested in an accredited laboratory or an approved laboratory.*

(v) *After the notification of KESC,2014 KSEBL took steps for improving the standards of its TMR units. KSEBL is having 5 TMRs at Thirumala, Pallom, Angamaly, Shornur and Kannur for testing of energy meters. TMR Angamaly is already having NABL accreditation. TMR Shornur and TMR Kannur are now equipped with most modern equipments capable to operate at par with NABL criteria.*

(vi) *Since the TMRs except TMR Angamaly are not having NABL accreditation, in order to meet the requirements specified in KESC 2014 regulations, KSEBL submitted a proposal before Hon'ble Commission seeking approval of the TMRs as approved laboratories, based on existing facilities as well as based on various modernization proposals submitted therein.*

(vii) *Hon'ble Commission vide letter no. 0645/C.Engg/TMR/2015/509 dated 21.04.2015 directed KSEBL to file a petition as per KSERC (Conduct of Business) Regulations,2003. Commission observed that a large quantum of work is needed for upgradation of the status of some of the TMR units to the desired level. It was also directed to submit a detailed action plan with following particulars.*

(1) Equipment and machinery additionally required at each lab.
(2) Present availability of trained staff and additional requirement of trained staff,if any required,
(3) Action plan with Timelines
(4) Cost/benefit analysis

(viii) *The TMRs at Thirumala, Pallom, and Kannur are already having facilities to carry out meter testing as stipulated in Indian Standards. The number of meters tested during the previous year in TMRs Thirumala, Pallom,Shornur and Kannur is submitted as follows.*

Thirumala	
	Qty(Nos)
single phase new meter	*175000*
Three phase new meter	*11125*
single phase repaired meter	*17515*
3phase repaired meter	*2918*
Pallom	
	Qty(Nos)
single phase new meter	*279000*
Three phase new meter	*12700*
single phase repaired meter	*36500*
3phase repaired meter	*2918*
Shornur	
	Qty(Nos)
single phase new meter	*250000*
Three phase new meter	*12500*
single phase repaired meter	*60000*
3phase repaired meter	*2500*
Kannur	
	Qty(Nos)
single phase new meter	*210000*
Three phase new meter	*21000*
single phase repaired meter	*49331*
3phase repaired meter	*5514*

(ix) It is humbly submitted that, with the existing facility itself, the requisite testing of meters can be carried out as stipulated under Indian Standards and thus TMRs are eligible to be declared as approved laboratories. Also, KSEBL has already initiated steps to modernize the TMRs and improve the existing facilities so that the standards can be at par with the NABL accredited laboratories, thereby the quality of testing and quantity of meters that can be handled can be increased.

(x) The additional equipments that are required by each TMRs are attached as Annexure 1. It is submitted that the additional requirements are for improving the performance of TMRs in testing and to form outdoor testing units. The financial

requirements for each TMR are shown below. The cost of equipments required for outdoor testing units are also included.

Sl.No.	*TMR division*	*Approximate cost for purchasing additional equipments(Rs lakhs)*	*Remarks*
1	*TMR Thirumala*	*128.5*	*For purchase of fully automatic meter testing bench with high precision reference standard meter and cost of equipments for formation of an additional outdoor unit.*
2	*TMR Pallom*	*128.5*	
3	*TMR Shornur*	*-*	*Fully automatic meter testing bench already installed. Also, outdoor units already functioning.*
4	*TMR Kannur*	*16.10*	*Fully automatic meter testing bench already installed. For purchase of equipments for outdoor units included.*

(xi) KSEBL plan to complete the required works within 7 months from the date of getting sanction in TMR Thirumla and Pallom as costly equipments are to be purchased. The amount of Rs 2.24 Cr. for procuring the costly equipments at TMR Thirumala and Pallom has been sanctioned by the Full Time Directors. Also, Rs 16.10 lakhs each for procuring equipments for formation of outdoor testing units at Thirumala, Pallom and Kannur has also been sanctioned by the Full Time Directors. To complete this process, much time is not required. In addition one Assistant Engineer and one Electricity Worker and a vehicle with driver on hire basis has also been sanctioned by the Board for each Outdoor testing unit. The time frame of completing the works are submitted as Annexure 2.

(xii) The existing staff pattern and additional man power requirement of each TMR is tabulatedand is placed as in Annexure 3 to this petition.

(xiii) The cost benefit analysis of investment in each TMR is done considering two scenarios. In the first scenario, the number of LT meters tested in each TMR for the year 2014-15 is considered. The additional expenditure including investment on equipments and expenditure on additional manpower,vehicle etc

are taken. The rate of testing meters as per the rate at TMR and the rates approved by government for testing meters is taken. The same number of meters are tested as per government rate and the rate at TMRs are compared.

(xiv) In the second scenario, the number of new connections given during 2014 -15 and the number of meters replaced in 2014-15 are taken. As per KESC, 2014, the meters are to be tested before installation. Out of the total number of connections given and meters replaced, it is assumed that 1/5th of meters are tested in each TMR. Comparison has been done with meters tested at government approved rates and existing rate prevailing at TMR.

(xv) In each scenario, the cost involved in testing of meters at rates approved by Government is more compared to testing in KSEBL labs. The return on investment will be received within one year from the date of investment.

(xvi) KSEBL is proposing to provide outdoor testing facilitates in the TMRS at Thirumala, Pallom and Kannur units.

(xvii) For the outdoor testing facilities a 7 seater vehicle with driver is required. KSEBL is planning to provide such vehicle facility on rental basis with 2000 km monthly Limit. The approximate expenditure to be incurred is Rs 37500/month.

(xviii) The testing procedure in TMR Angamaly is as per the standards stipulated by NABL.The same procedure of testing can be followed in other TMRs also with the existing facility itself.

(xix) In view of the facilities available and the facilities to be provided within a short span, the TMRs may kindly be declared as approved laboratory by the Hon'ble Commission as per the definition 9 of Kerala Electricity Supply code 2014. In order to satisfy the obligation of licensee as per Regulation 115(1) &(2) of KESC 2014 & Regulation 113 of KESC 2014, the TMRS at Thirumala, Pallom, Shornur and Kannur are to function as approved laboratories as per the definition 9 of KSEC,2014, in addition to TMR, Angamaly which already has NABL Accreditation.

3. The Commission had, after scrutinizing the petition, decided to constitute a team for assessing the facilities available in the TMRs consisting of the following members:

(1) Compliance Examiner, Kerala State Electricity Regulatory Commission
(2) An Electrical Inspector deputed by Chief Electrical Inspector

(3) Deputy Director (Technical), Kerala State Electricity Regulatory Commission.

4. The Commission conducted hearing of the petition on 10.5.2016 at the Court Room, Kerala State Electricity Regulatory Commission. Sri B Pradeep, Deputy Chief Engineer (TRAC) represented KSEB Ltd and made a presentation on the petition reiterating the facts submitted by KSEB Ltd and answered to the queries of the Commission.

5. The Commission in the daily order on 17.5.2016 directed KSEB Ltd to initiate steps for obtaining NABL accreditation to the TMRs as required by CEA (Installation and Operation of meters) Regulations, 2006{hereinafter referred to as CEA regulation}.

6. The Committee visited the TMR units of KSEB Ltd, as scheduled below;

TMR, Thirumala, Thiruvananthapuram	06.05.2016.
TMR, Shornur	24.5.2016.
TMR, Pallom, Kottayam	06.06.2016.
TMR, Kannur	10.06.2016.

Smt. Jayasree D, Deputy Electrical Inspector, Thiruvananthapuram, Sri R Balagopal, Deputy Electrical Inspector, Thrissur, Sri. Sagar V K, Electrical Inspector, Kottayam and Sri P N Anil Kumar, Electrical Inspector, Kannur were present for the inspection of TMR units at Thirumala, Shornur, Pallom and Kannur respectively.

7. The Committee assessed the facilities in the TMR units of KSEB Ltd and submitted the report;

TMR, Thirumala

(1) The meter testing equipment avaialable at Thirumala for testing LT energy meters is Accuchek LT+ portable 3phase standard meter of Secure 2004 make, having an accuracy class 0.2 direct and 0.5 in clamp mode. The equipment is tested at Meter testing and standards laboratory of Department of Electrical Inspectorate. The laboratory is accredited by National Accreditation Board for Testing and Calibration Laboratories. The calibration is valid up to 07.06.2016.

(2) The HT Accuchek + secure make class 0.2S used for field calibration of energy meter is covered under certification by manufacturer who is having NABL accreditation. This is valid up to 24.05.2016. This is used for HT meter testing.

(3) M/s Red Phase Make CT-PT error tester cannot be used for testing CTs as the testing procedure is not as per IS 2705/1992.

(4) Other equipment available are not properly calibrated. From the information available at TMR, the process of procuring additional equipment has already initiated.

From the above, the Committee concluded that TMR, Thirumala is having testing equipment calibrated at NABL accredited lab for LT whole current meter testing with validity up to 07.06.2016 and HT whole current meter testing with validity up to 24.05.2016

TMR, Shornur

(1) The meter testing equipment used at Shornur for testing of LT energy meters is Zera GmbH, Germany EPZ 303-08, Model No- MTS-320-20, class of accuracy 0.02. The equipment is capable of testing 20 Nos of single phase meters and 10 Nos of 3 phase meters at a time. The equipment is calibrated at NABL certified laboratory namely M/s Yadav Measurements Private Limited. The validity of calibration is upto 17.04.2018.

(2) The LT Accuchek + secure make class 0.2 used for LT energy meter testing is calibrated at Meter testing and standards laboratory of Department of Electrical Inspectorate. The laboratory is accredited by National Accreditation Board for Testing and Calibration Laboratories. The validity of calibration is up to 23.02.2017.

(3) M/s Schlumberger make class 0.05 equipment used for HT and LT energy meter testing is calibrated at Meter testing and standards laboratory of Department of Electrical Inspectorate. The laboratory is accredited by National Accreditation Board for Testing and Calibration Laboratories. The validity of calibration is up to 05.06.2016.

The Committee concluded that TMR, Shoranur is having testing equipment calibrated at NABL accredited lab for testing LT energy meters with validity up to 17.04.2018 and HT meter testing with validity up to 05.06.2016.

TMR, Pallom

(1) M/s Schlumberger make, SM 3050 class 0.05 equipment used for HT and LT energy meter testing is calibrated at Meter testing and standards laboratory of Department of Electrical Inspectorate, which is accredited by National Accreditation Board for Testing and Calibration Laboratories. The validity of calibration is up to 17.12.2016.

(2) The meter testing equipment used at Pallom for testing of LT energy meters is Accuchek LT+ portable 3phase standard meter of Secure make. This is having an accuracy class 0.2S direct and 0.5S in clamp mode. The equipment is tested at Meter Testing Division, KSEB Ltd, Angamaly.

(3) M/s Red Phase Make CT-PT error tester cannot be used for testing CTs as the testing procedure is not as per IS-2705/1992.

From the above the Committee concluded that TMR, Pallom is having testing equipment calibrated at NABL accredited lab for testing of HT/LT/whole current meters with validity up to 17.12.2016.

TMR, Kannur

(1) The meter testing equipment used at Kannur for testing of LT energy meters is Zera GmbH, Germany, Model/Type EPZ 303-08, Serial No. – 050031097 with class of accuracy 0.02. The equipment is capable of testing 20 Nos of single phase meters and 10 Nos of 3 phase meters at a time. The equipment is calibrated at NABL certified laboratory namely M/s Zera India Private Limited. The validity of calibration is upto 02.06.2018.

Hence the Committee concluded that TMR, Kannur is having testing equipment calibrated at NABL accredited lab for LT meter testing with validity up to 02.06.2018.

Analysis and Decision of the Commission

8. The Commission examined the petition in detail. The Commission observes that KSEB Ltd has only one meter testing unit, viz, TMR, Angamaly, accredited to NABL. The Commission, also analyzed in detail, the report of the committee constituted by the Commission and the documents submitted by KSEB Ltd and the regulations prevailing.

Section 55 of the Electricity Act 2003 is quoted below:

55. (1) No licensee shall supply electricity, after the expiry of two years from the appointed date, except through installation of a correct meter in accordance with regulations to be made in this behalf by the Authority:

Provided that the licensee may require the consumer to give him security for the price of a meter and enter into an agreement for the hire thereof, unless the consumer elects to purchase a meter:

Provided further that the State Commission may, by notification extend the said period of two years for a class or classes of persons or for such area as may be specified in that notification.

(2) For proper accounting and audit in the generation, transmission and distribution or trading of electricity, the Authority may direct the installation of meters by a generating company or licensee at such stages of generation, transmission or distribution or trading of electricity and at such locations of generation, transmission or distribution or trading , as it may deem necessary.

(3) If a person makes default in complying with the provisions contained in this section or regulations made under sub-section (1), the Appropriate Commission may make such order as it thinks fit for requiring the default to be made good by the generating company or licensee or by any officers of a company or other association or any other person who is responsible for its default.

9. Section 73 of the Electricity Act 2003 deals with functions and duties of authority and provides as under:

……
(e) specify the conditions for installation of meters for transmission and supply of electricity
…….

10. The relevant Regulations applicable to the metering facilities required for testing energy meters are reproduced below:

(i) CEA regulations (Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006**).**

17. Quality assurance of meters. -
(1) The distribution licensee shall put in place a system of quality assurance and testing of meters with the approval of Appropriate Commission.

(2) ***The licensee shall set up appropriate number of accredited testing laboratories or utilize the services of other accredited testing laboratories. The licensee shall take immediate action to get the accreditations of their existing meter testing laboratories from NABL, if not already done.***

(3) The generating company or licensee shall ensure that all type, routine and acceptance tests are carried out by the manufacturer complying with the requirement of the relevant IS or BS or IEC as the case may be

18 (2) ***Consumer meters***
The testing of consumer meters shall be done at site at least once in five years. The licensee may instead of testing the meter at site can remove the meter and replace the same by a tested meter duly tested in an accredited test laboratory. In addition, meters installed in the circuit shall be tested if study of consumption pattern changes drastically from the similar months or season of the previous years or if there is consumer's complaint pertaining to a meter. The standard reference meter of better accuracy class than the meter under test shall be used for site testing of consumer meters up to 650 volts. The testing for consumers meters above 650 volts should cover the entire metering system including CTs, VTs. Testing may be carried out through NABL accredited mobile laboratory using secondary injection

kit, measuring unit and phantom loading or at any accredited test laboratory and recalibrated if required at manufacturer's works.

(3) ***Energy accounting and audit meters***
Energy accounting and audit meters shall be tested at site at least once in five years or whenever the accuracy is suspected or whenever the readings are inconsistent with the readings of other meters, e.g., check meters, standby meters. The testing must be carried out without removing the CTs and VTs connection. Testing may be carried out through NABL accredited mobile laboratory using secondary injection kit, measuring unit and phantom loading or at any accredited test laboratory and recalibrated if required at manufacturer's works.
……
Part I Standards Common To All Type of Meters
(1) These standards provide for specification of meters, immunity to external factors, sealing points and functional requirements that are required from regulatory perspective. Detailed technical specification shall be prepared by the purchaser of the meter.

(2) Specifications of meters
……

(ii) Regulations in Kerala Electricity Supply Code, 2014

2 (9)"approved laboratory" *means a laboratory approved by the Commission for testing and calibration of energy meters and associated equipment;*

104. Requirement of meters.-*(1) The licensee shall not supply electricity except through a correct meter installed in accordance with the provisions of the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, as amended from time to time.*
(2) The meter shall be tested and installed by the licensee and it shall conform to the requirements as specified in the Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006, as amended from time to time.
……
105. Option of the consumer to purchase the meter.-*(1) At the time of seeking a new connection the consumer shall have the option to either;*
(a) purchase the meter and associated equipment himself from a vendor; or
(b) require that the meter and associated equipment be supplied by the licensee:
Provided that the meter and associated equipment purchased by the consumer shall be of a make and specification approved by the licensee from time to time.

(2) The consumer shall indicate his option in the application form and licensee shall supply him with the list of approved vendors and makes.

(3) Once the consumer has procured the meter, the licensee shall test, install and seal the meter.

(4) The testing shall be done in an accredited laboratory or in an approved laboratory on realisation of fee as approved by the Commission.

……..

113. Testing of meter.-*(1) It shall be the responsibility of the licensee to satisfy itself regarding the accuracy of the meter before it is installed and the licensee shall test them or get them tested in an accredited laboratory or in an approved laboratory.*

……

115. Procedure for testing of meter.-*(1) The meter shall normally be tested in the laboratory of the licensee, approved by the Commission.*

(2) In case the licensee does not have a testing facility approved by the Commission, or if so desired by the consumer, the meter shall be tested at any other laboratory accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL).

(3) The list of the accredited laboratories and approved laboratories for testing of meters shall be made available on the website of the licensee.

……..

(8) If a consumer disputes the result of testing at the laboratory of the licensee, the meter shall be got tested at a laboratory selected by the consumer from among the laboratories accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL).

……..

11. The Electricity Act 2003 mandates the distribution licensee to provide supply only through a correct meter in accordance with CEA Regulation. As per the CEA Regulations, the meter testing is to be carried out through a laboratory accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL).

12. The KSEB Ltd reported that TMR, Angamaly has been accredited by NABL. The Commission observes that the CEA Regulations mandate the licensees to set up appropriate number of accredited testing laboratories or to utilize the services of other accredited testing laboratories. Also, the licensees have to get accreditation to their existing meter testing laboratories from NABL, if not already done.

13. The IS 15707 for testing, evaluation, installation and maintenance of AC electricity meter – code of practice, provides that,

1.3 Reference Standard — A standard whose measurement traceability has been verified at an accredited laboratory and is used for in-house verification of other standards in the meter test station (M. T.S.).

3.5 Working Standard — A standard including a complete meter testing system, which has been verified by comparison to either a reference standard or a transfer standard, and is used for calibration and testing of metering equipment.

3.31 Accredited Laboratory — The laboratory for maintaining electrical energy standards and accredited as per IS/IEC/ISO 17025 in a national/ international calibration chain traceable to primary S.I. standards.

14. The laboratory accreditation services to testing and calibration laboratories are provided in accordance with ISO/ IEC 17025: 2005 (E) 'General Requirements for the Competence of Testing and Calibration Laboratories'. NABL has published documents on accreditation in different disciplines.

15. Clause 5.6 of the ISO/ IEC 17025: 2005 (E) is reproduced below;

5.6 Measurement traceability

5.6.1 General All equipment used for tests and/or calibrations, including equipment for subsidiary measurements (e.g. for environmental conditions) having a significant effect on the accuracy or validity of the result of the test, calibration or sampling shall be calibrated before being put into service. The laboratory shall have an established programme and procedure for the calibration of its equipment.

NOTE :Such a programme should include a system for selecting, using, calibrating, checking, controlling and maintaining measurement standards, reference materials used as measurement standards, and measuring and test equipment used to perform tests and calibrations.

5.6.2 Specific requirements

5.6.2.1 Calibration 5.6.2.1.1 For calibration laboratories, the programme for calibration of equipment shall be designed and operated so as to ensure that calibrations and measurements made by the laboratory are traceable to the International System of Units (SI) (Système international d'unités).

A calibration laboratory establishes traceability of its own measurement standards and measuring instruments to the SI by means of an unbroken chain of calibrations or comparisons linking them to relevant primary standards of the SI units of measurement. The link to SI units may be achieved by reference to national measurement standards. National measurement standards may be primary standards, which are primary

realizations of the SI units or agreed representations of SI units based on fundamental physical constants, or they may be secondary standards which are standards calibrated by another national metrology institute. When using external calibration services, traceability of measurement shall be assured by the use of calibration services from laboratories that can demonstrate competence, measurement capability and traceability. The calibration certificates issued by these laboratories shall contain the measurement results, including the measurement uncertainty and/or a statement of compliance with an identified metrological specification (see also 5.10.4.2).

……

16. As per NABL 100, the general information brochure, *Accredited laboratories can objectively state conformance of product or service to specified requirements. It is important for the purchaser, regulator, government, and the public to be able to identify accredited testing and calibration laboratories.* Also, in case the laboratory performs site testing/ calibration, it must also comply with NABL 130 'Specific criteria for site testing and site calibration laboratories'. The accredited laboratories are required to comply at all times with the terms and conditions of NABL given in NABL 131 'Terms & Conditions for obtaining and maintaining NABL Accreditation'. Hence the Commission is of the view that KSEB Ltd should be vigilant in continuous maintenance of the requirements of NABL accreditation. Commission also observes that the NABL accreditation requires sufficient facilities and procedures which are to be got approved after verification by the NABL. The Commission therefore feels that sufficient time should be allowed to KSEB Ltd to get their meter testing laboratories accredited by NABL as required by the above regulations.

17. The Committee constituted by the Commission visited all the four TMRs and appraised the status of equipments available and submitted report to the Commission. The Committee has analyzed the procedure followed in each TMR. The Commission examined the report of the Committee in detail. The Commission also examined in detail the test reports and other documents submitted by the Committee along with the inspection report. The two TMRs, viz, Kannur and Shornur already have required equipment and hence K S E B Ltd. shall take immediate action for getting accreditation from NABL.

18. The Commission also analysed in detail the proposal submitted by KSEB Ltd on the investment required for accreditation of the four TMR units. The meter testing facility proposed at Thirumala and Pallom are capable of testing single phase and three phase whole current meters, LT and HT three phase CT meters and ABT meters. Outdoor units are also proposed in the TMRs of Pallom, Thirumala and Kannur for calibration of HT & EHT meters in the field. The investment is proposed for meeting the statutory requirements for testing of energy meters as per CEA Regulation and Supply Code. KSEB Ltd serves around 120lakh consumers with an annual addition of 3.2 lakh consumers. Hence the Commission, after prudent check, approves the investment proposal of KSEB Ltd in the TMRs for obtaining NABL accreditation. Current

Transformer and Potential Transformer (CT & PT) are part of metering equipment and hence these are also to be tested along with meters. Hence the Commission is of the opinion that KSEB Ltd. shall procure testing equipment for CT and PT also. KSEB Ltd may submit application for investment approval for purchase of optimum number of equipment to test CTs and PTs.

19. Commission is of the opinion that a temporary approval can be given to the TMR units of KSEB Ltd at Thirumala, Pallom, Shornur and Kannur as approved laboratories for testing the consumer meters, with the testing equipments calibrated at a NABL accredited lab. The permission is granted considering the essentiality of keeping sufficient stock of energy meters with KSEB Ltd so that consumer interests are not adversely affected.

Orders of the Commission

20. Considering the facts and circumstances as above, the Commission hereby orders that;

(i) The KSEB Ltd shall initiate action immediately for obtaining accreditation from NABL for their TMR units at Shornur and Kannur for testing of the energy meters since the equipment are already installed.

(ii) The KSEB Ltd shall immediately take necessary steps for procurement of the equipment for testing meters and get accreditation from NABL for their TMR units at Thirumala and Pallom.

(iii) The following investments for the three TMRs are approved, the details of which are given in Annexure 1. The standard procurement process may be followed.

Sl No	TMR	Cost Estimate Approved by the Commission (Rs Lakh)
1	Thirumala	128.5
2	Pallom	128.5
3	Kannur	16.10

Any further investment required for purchase of equipment shall be incurred only after getting approval of the Commission.

(iv) Commission approves the meter testing facilities at the TMR units of KSEB Ltd at Shornur and Kannur for testing the single phase and three phase whole current meters, CT operated meters and ABT meters excluding instrument transformers, upto a period of one year or till the validity of the calibration equipment at the TMRs expires, whichever is earlier.

(v) Commission approves the meter testing facilities at the TMR units of KSEB Ltd at Thirumala and Pallom for testing the single phase and three

phase whole current meters, LT and HT CT operated meters excluding instrument transformers, upto a period of one year or till the validity of the calibration equipment at the TMRs expires, whichever is earlier.

(vi) KSEB Ltd shall submit the progress of the accreditation process of each of the four TMRs and the status on continued accreditation of TMR, Angamaly every six months from the date of this order.

Sd/-	Sd/-	Sd/-
K.Vikraman Nair	**S Venugopal**	**T.M. Manoharan**
Member	**Member**	**Chairman**

Approved for issue

Sd/-
Secretary

Annexure .1

Equipment and machinery additionally required at TMR

1.TMR, Thirumala

Sl.No	Name of the Equipment	Approximate Cost Rs (Lakh)	Remarks
1	Fully Automatic Meter Testing Bench with high precision reference standard meter of 0.02S class of accuracy 1No	112	For testing of single phase and three phase whole current meters and LT and HT three phase CT meters, ABT Meters
	OUTDOOR unit (proposed)		
2	Digital multimeter	0.10	
3	Tong tester	0.50	
4	Tool kit	0.50	
5	Portable Standard reference meter of accuracy class 0.05S	15	For field calibration of HT&EHT Energy Meters
	Total	128.10	

2.TMR, Pallom

Sl.No	Name of the Equipment	Approximate Cost Rs (Lakh)	Remarks
1	Fully Automatic Meter Testing Bench with high precision reference standard meter of 0.02S class of accuracy 1No	112	For testing of single phase and three phase whole current meters and LT and HT three phase CT meters, ABT Meters
	OUTDOOR unit (proposed)		
3	Digital multimeter	0.10	
4	Tong tester	0.50	
5	Tool kit	0.50	
6	Portable Standard reference meter of accuracy class 0.05S	15	For field calibration of HT&EHT Energy Meters
	Total	128.10	

3.TMR , Kannur

OUTDOOR unit (proposed)

Sl.No	Name of the Equipment	Approximate Cost Rs (Lakh)	Remarks
3	Digital multimeter	0.10	
4	Tong tester	0.50	
5	Tool kit	0.50	
6	Portable Standard reference meter of accuracy class 0.05S	15	For field calibration of HT&EHT Energy Meters
	Total	16.10	