

**Procedures and stages
for obtaining scheme approval
from
Department
of
Electrical Inspectorate**

All Electrical installations works at the premises of HT/ EHT consumers or such other installations specified in the CEA (MS&ES) Regulations 2010 and The Kerala Cinema (Regulation) Rules 1988 shall be carried out only after getting prior approval in writing from the Department of Electrical Inspectorate

The authority to issue formal approval for schemes of H.T. installation of capacity less than 500 kV A, MV generators of capacity upto and including 250 kVA, MV additions of all capacities, X- rays, Neon signs, Lifts and Temporary and Permanent Cinema installations is the Electrical Inspector, Department of Electrical Inspectorate. The competent authority to issue approval for schemes (above 500 kVA) not covered above and special installations furnace installations, generators operated in parallel, A/C cinema theatre etc. is the Chief Electrical Inspector, Department of Electrical Inspectorate. Approval of Schemes is issued from the Department of Electrical Inspectorate after detailed scrutiny of the scheme and all relevant drawings.

The scheme for approval shall be submitted only through a competent [Electrical Contractor](#) licensed by the Kerala State Electricity licensing Board, Department of Electrical Inspectorate

General requirements for submission of schemes

The following documents shall accompany the application for approval of scheme of an electrical installation.

Covering letter and court fee stamp

A covering letter, with court fee stamp worth Rs 1/- affixed, Authorisation Letter from the client authorising the Electrical contractor to carry out the work, giving brief particulars of the scheme, drawings, enclosures. and Copy of the Electrical contractors Licence

Drawings

One set of drawings in standard size comprising

a) Electrical schematic consisting of master scheme, down stream distribution and detailed working drawing upto the following levels

Power : Upto equipment level
Lighting : Upto Lighting Distribution Board level

- b) Physical Layout
- c) Earthing Layout
- d) Site Plan

Scrutiny Fee

The scrutiny fee is to be remitted into any Government Treasury in Kerala or Friends under the head of account " 0043-00-102" in the case of industrial installation, high rise building etc. and "0043-00- 103" in the case of Cinema installation or at the Electrical Inspector's office and the original chalan receipt enclosed along with the application for approval of the scheme. Calculation of scrutiny fee for the scheme shall be given as an appendix for the purpose of verification of the amount of scrutiny fee. Inspection Fee details are given in annexure

Certificate of soil resistivity

Value of soil resistivity as certified by the Electrical Inspector, Department of Electrical Inspectorate with a tolerance of 25% to 30% for seasonal change of earth resistivity.

Fault level calculation

Fault level calculation based on specified fault level at the supplier's sub-station has to be submitted. The fault current at various voltage levels in the plant shall be calculated giving +10 % tolerance. Calculation shall confirm to [IS 13234_ 1992](#)

Earthing calculation

This shall be done as per [IS : 3043 / 1987](#). The number of earth electrodes shall be determined corresponding to the actual fault level at the site derived on realistic assumptions. However, considering the fast growth of transmission net work and increasing number of new sub stations, the minimum fault level on the 11 kV side for the purpose of calculation of number of electrodes shall generally be taken as 150 MVA.

Bus Duct design

This shall consist of selection of suitable busbars for continuous current and short circuit current . Design shall confirm to [IS 13235](#)

Control Wiring Diagram.

Detailed relay and control wiring including the tripping circuit, annunciation system etc. shall also be included.

A/C Calculations

When Air Conditioning is a predominant load in an installation, heat load calculation and details of temperature, humidity and air change per hour shall be furnished to verify the capacity of the plant from the point of view of energy efficiency.

Calculation for A/C Cinemas

Calculation for checking comfort conditions such as humidity, temperature, air changes per hour etc. and heat load calculation to verify adequacy of capacity of the A/C plant for the proposed theatre.

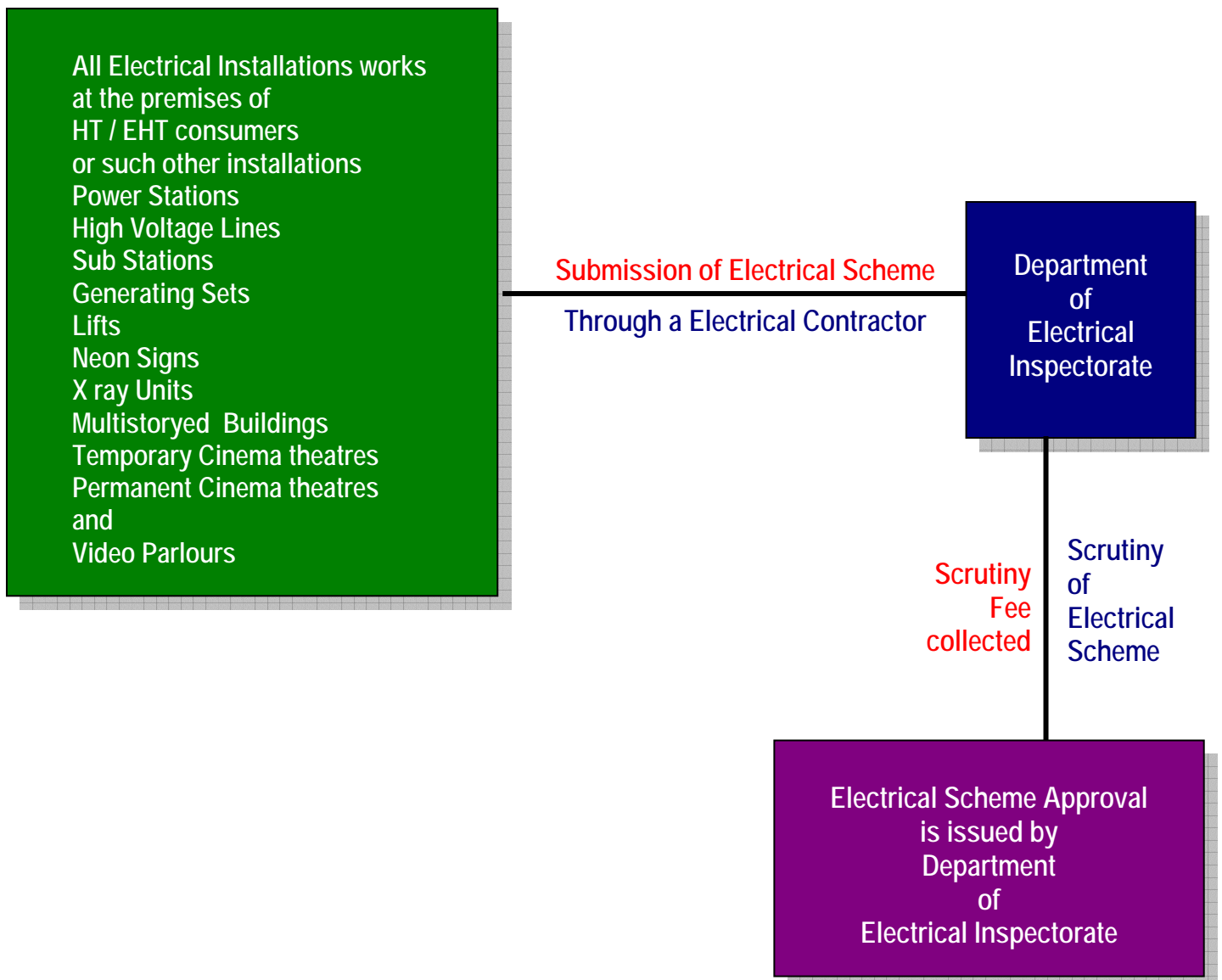
Proforma and Checklist

Proforma and checklist shall be furnished in the prescribed format given in the annexure

Flow Chart A

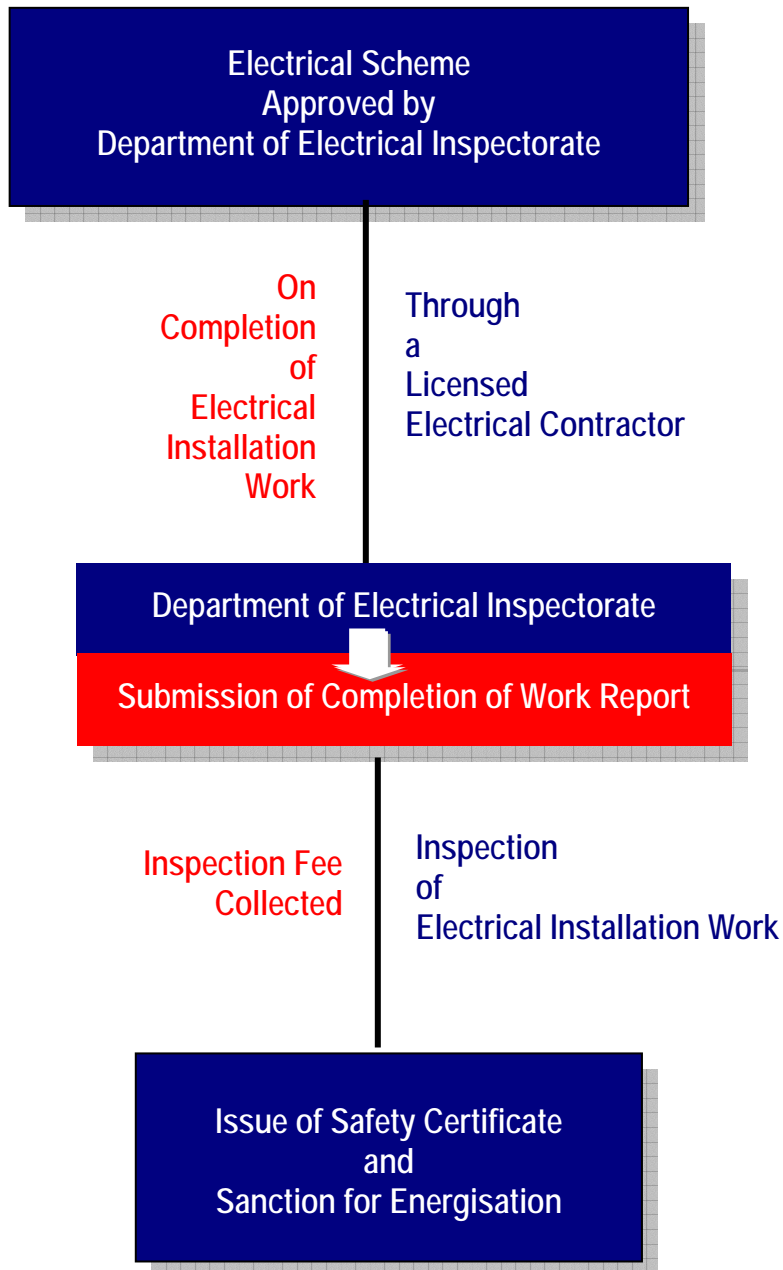
All Electrical installations works at the premises of HT/ EHT consumers or such other installations specified in the Central Electricity Authority (Measures relating to safety and Electric Supply) Regulations 2010 and The Kerala Cinema (Regulation) Rules 1988 shall be carried out only after getting prior approval in writing from the Electrical Inspector

Approval of Schemes is issued from the Electrical Inspectorate after detailed scrutiny of the scheme and all relevant drawings



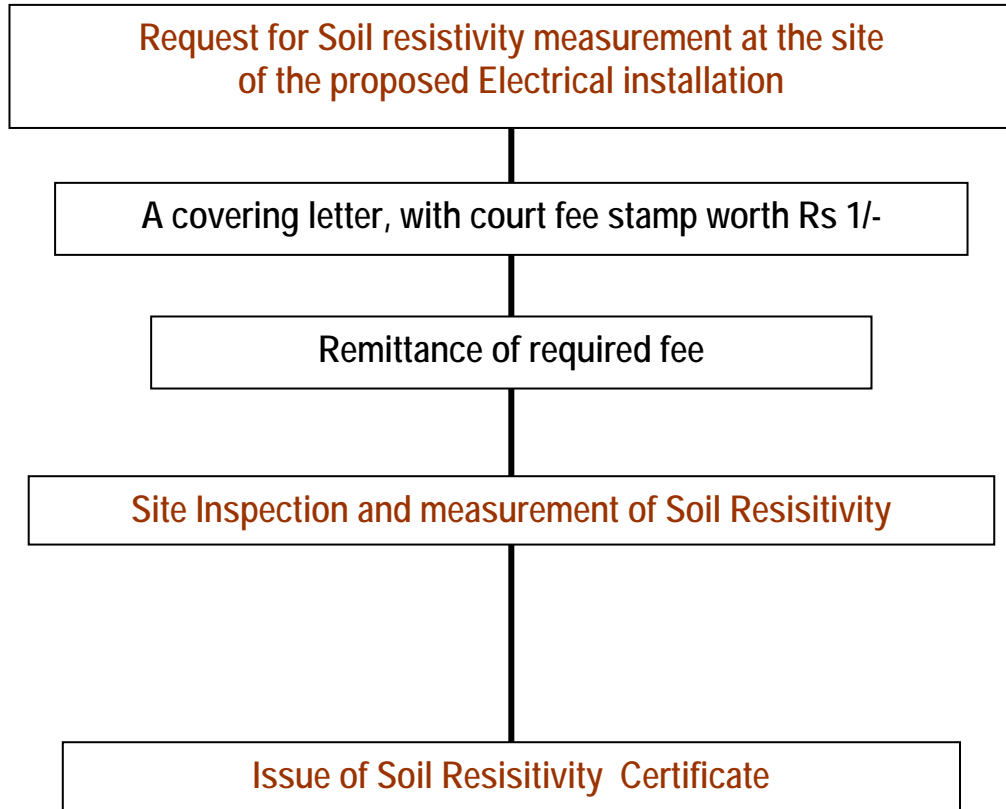
Flow Chart B

The Electrical contractor shall carryout the work in accordance with the approved scheme and submit Completion of work report to the Electrical Inspector, An inspection of work is conducted. Safety certificate and sanction for Energisation is issued

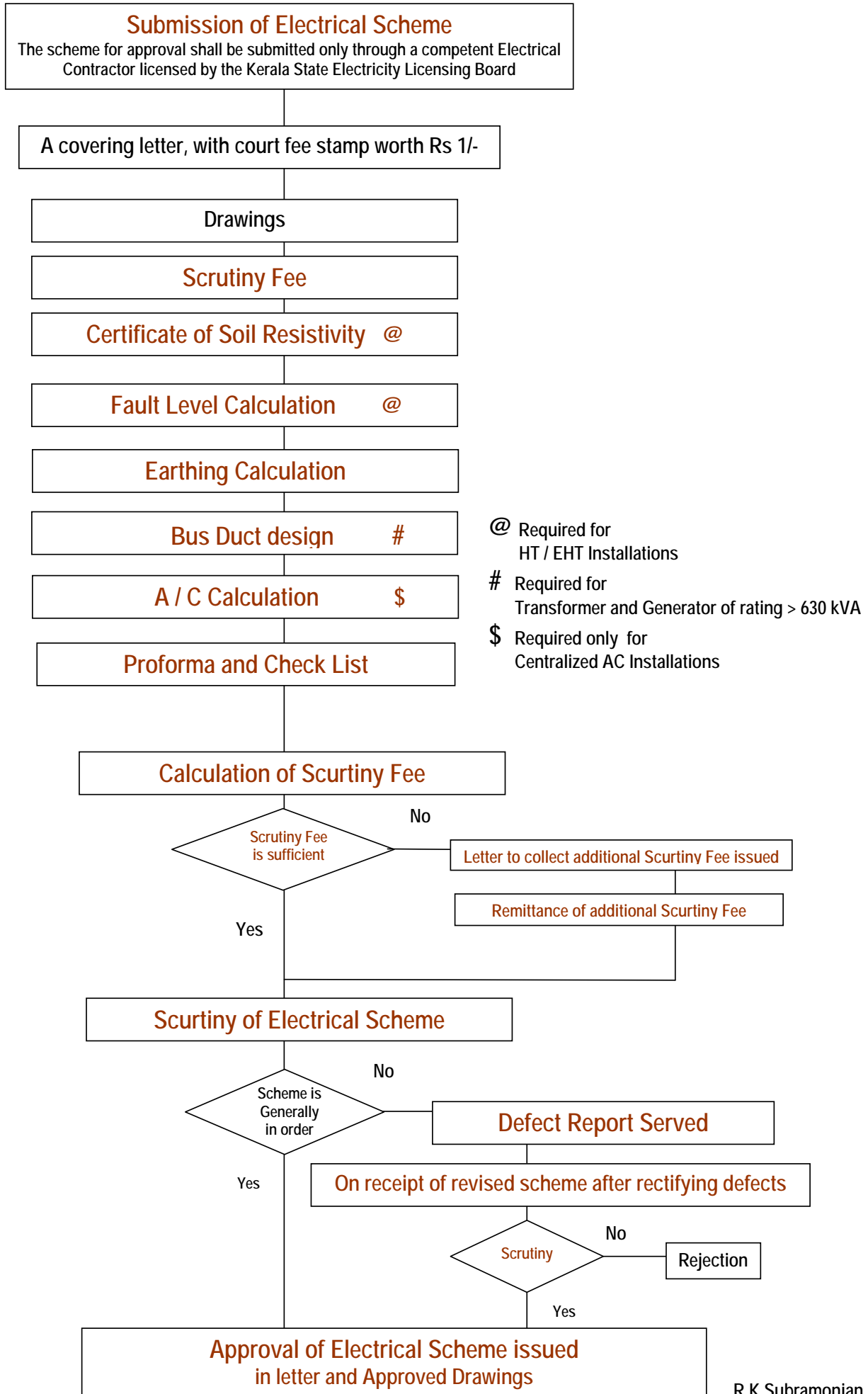


Flow Chart : 1

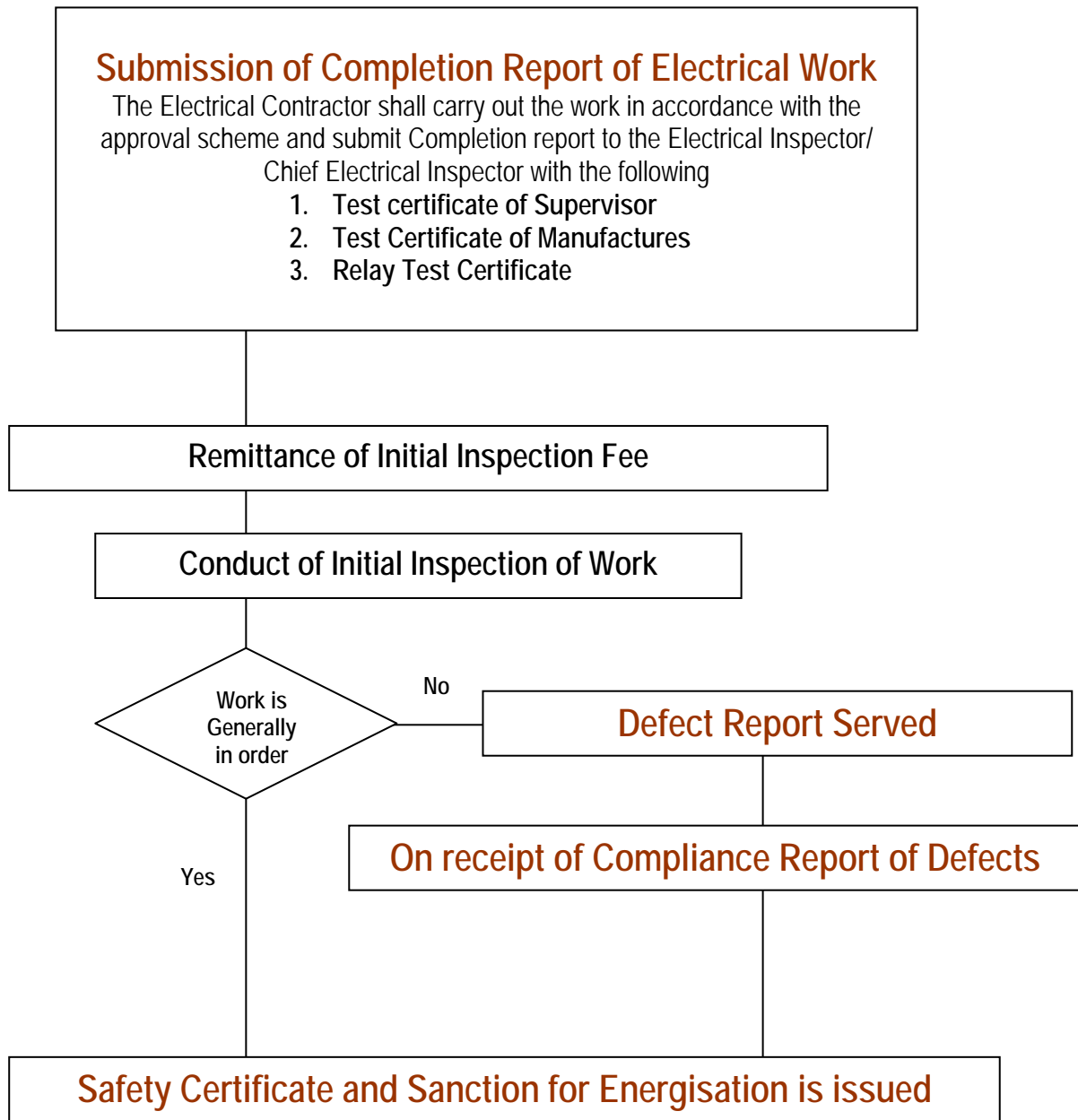
Soil Resistivity Measurement and Issue of Certificate of Soil Resistivity



Flow Chart : 2



Flow Chart : 3



Annexure : 1

Proforma for Electrical Installation

Particulars of Installation

Name of the consumer	
Address to which communications are to be sent	
Location of installation	
Name of Street	
Corporation / Town / Village	
District	
Pin	
Address of the KSEB Major section	
Power requirements	
Nature of load.	
Name of the Contractor Licence No.	
Name of the Supervisor Permit number	

Technical

Details of the EHT/ HT Installation (To be furnished only when there is addition alteration on the HT side.)	
Sub-station	
Transformer Capacity Voltage	
Indoor / Outdoor	
HV	
Terminals	
Tap changer Type of cooling	
LV	
HV On bushing / Cable end box	
LV On bushing / Cable end box On load / Off load	

Note: If more transformers are to be provided furnish the above information for all.

H.T. Switch gear	
Type	
Voltage	
Current	
Rupturing capacity.	
Protection details Releases relay	

Note: If more H.T. Switch gear are to be provided furnish the above information for all.

Details of MV installations:	
Main L.T. Switch gear Type	
Voltage	
Current.	
Rupturing capacity.	
Protection details Releases I relay	

Note: If more L.T. switch gear are to be provided furnish the above information for all.

Motor and other equipments	
Distribution mains	
Capacitors	

Details of Generator

Engine Capacity	
Generator Capacity	
Voltage	
RPM	
(Furnish all possible information in the drawing)	

Switch gear

Type	
Voltage	
Current	
Rupturing capacity.	
Protection details	Releases / relay

Equipments

Are all equipments constructed and erected in accordance with IS specifications and code of practice	
Do all equipments satisfy the condition of the supplier?	
Are the equipments to be erected entirely within the property of the consumer	

Drawings to be sent

Site plan showing point of commencement of supply for New installation	
Physical layout HT equipment Panel Boards Equipments	
(Plan and elevation of the above equipments with their clearances should be furnished in the drawing.)	
Trench Details	
Schematic layout of equipment	
Sectional elevation of switch gears with erection details	
Earthing arrangement	

Scrutiny Fee Details

Name of Treasury	
Chalan No.	
Date	
Amount	

General**Other accompaniments:**

Soil Resistivity as certified by Electrical Inspector (attach a copy) (Only for transformer' installations.)	
Bus duct design	
Earthing calculation	
Protection scheme.	
Any other details required for scrutiny	

Whether advance copy of scheme is submitted to Chief Electrical Inspector (For drawing submitted at Electrical Inspector's office)	
Whether the contractor is authorised to observe the required formalities and make modification in the schemes as recommended by Electrical Inspectorate.	

Signature Owner	
Consumer Contractor	

Annexure : 2

Checklist for EHT / HT / MV Electrical Installation

General

1.	Signing of the drawings by the Consumer & Contractor.	
2.	Conformity of the drawing to the standards prescribed. Size of the drawings A0, A1, A2, A3 or A4.	
3.	Furnishing of master schematic drawing.	
4.	Physical layout with earthing drawing.	
5.	Site Plan.	
6.	Outdoor structure drawing (end view and elevation) with all electric:.	
7.	Questionnaire of the installation.	
8.	Affixing Court fee stamp.	
9.	Remittance of Scrutiny Fee.	
10.	Approval No & date of the latest approval received.	

Master Schematic drawing

1.	HT metering unit.	
2.	Primary side protection details with device No:.	
3.	HT cable size, laying details and fault level calculation.	
4.	Details of transformer secondary protection.	
5.	Specification of HV & MV CTs for metering and protection.	
6.	Relay details, device No: and release details.	
7.	Details of breakers.	
8.	Total connected load and M.D on various switch boards.	
9.	Switch board rating and bus bar size of all switch boards.	
10.	Whether busduct / cable details of transformer secondary furnished (Bus duct design calculation, spacing sectional drawings etc)	
11.	Switch/ fuse rating of outgoing feeders.	
12.	Cable size of outgoing feeders.	
13.	Whether grading is observed between sections.	
14.	Whether Length of all cables furnished.	
15.	Whether Feeder-wise HIM is provided.	
16.	Whether Group correction or individual capacitors are provided.	
17.	Whether Generator protection details furnished.	
18.	Whether Detailed relay and control wiring diagram furnished.	
19.	Whether cable size of generator is furnished.	
20.	Whether down stream feeder rating is less than generator current rating.	
21.	Whether Generator room elevation drawing furnished.	
22.	Whether Motor rating, cable sizes and length are furnished.	
23.	Whether Type of starter , r.p.m of motors are furnished.	
24.	Whether size and length of cables of capacitors are furnished.	
25.	Whether D.Bs provided are as per standard.	
26.	With more than one earth source, whether standby E/F relay is suitable connected so as not to miss earth return.	

Physical layout and Earthing Drawing

1.	The structure, L.A., and fencing earthing details.	
2.	Transformer/Generator body and neutral earthing details.	
3.	Transformer/Generator room clearances.	
4.	Transformer oil drainage facilities and foundations set up.	
5.	Transformer/Generator room elevation drawing.	
6.	Position of fuel tank of the generator.	
7.	Inter connection of earth pits.	
8.	HT panel room clearances and earthing details.	
9.	MV Switch board room clearances and earthing details.	
10.	Physical location and earthing of all SSBs and DBs.	
11.	Earthing conductor size of all motors and capacitors.	
12.	Oil resistivity value certified by the Electrical Inspector.	
13.	Fault level calculation and earthing design.	
14.	Deviation, if any, from the cable sizes prescribed in the cable schedule published by the department.	
15.	All additions and alteration in red colour.	
16.	All earth bus, earthing conductor, interconnections In green colour.	
17.	Locations and Numbering of earth electrodes, distance between earth electrodes.	
18.	Forwarding date of Advance copy	

Annexure : 3

Form of Completion Certificate

I / We certify that the installation detailed below has been installed by me / us and tested and that to the best of my / our knowledge and belief, the installation complies with the provision of IER 1956 and also IS 3043, IS-732 and other relevant codes of practice for electrical installations.

1. Name of installation
2. Voltage and system of supply
3. Particulars of work and test results

(a) Transformers (Give details of each transformer)

- ◆ · Rating
- ◆ · Voltage
- ◆ · Make
- ◆ · Serial number
- ◆ · Year of manufacture
- ◆ · Results of Insulation Tests
- ◆ · Results of earth resistance and continuity tests
- ◆ · Results of other relevant tests depending on the voltage level and rating of the transformer

(b) Generators (Give details of each Generators)

- ◆ · Rating
- ◆ · Voltage
- ◆ · Make
- ◆ · Serial number
- ◆ · Year of manufacture
- ◆ · Results of Insulation Tests
- ◆ · Results of earth resistance and continuity tests
- ◆ · Results of other relevant tests depending on the voltage level and rating of the Generator

(c) H.V motors

- ◆ · Number of motors
- ◆ · Name plate details of each motor
- ◆ · Result of insulation tests
- ◆ · Result of earth resistance and continuity tests
- ◆ · Results of other relevant tests depending on the voltage level and rating of the Motors.

(d) M.V Motors

- ◆ · Number of motors
- ◆ · Name plate details of each motor
- ◆ · Results of insulation tests
- ◆ · Results of earth resistance and continuity tests

(e) EHV and HV cables (Give details of each cable)

- ◆ · Length of cable and number of terminations/joints
- ◆ · Results of Insulation Tests
- ◆ · Result of H.V withstand test result
- ◆ · Results of earth resistance and continuity tests
- ◆ · Results of other relevant tests

(f) M.V cables

- ◆ · Results of Insulation resistance tests
- ◆ · Results of Earth resistance and continuity tests

(g) Relays

- ◆ · Results of Relay and control wiring tests
- ◆ · Results of tests of protection and measurement CTs
- ◆ · Results of tests of PTs

(h) Protective earthing

- ◆ · Earth resistivity at the site
- ◆ · Earth resistance of individual earth electrodes
- ◆ · Result of earth continuity test
- ◆ · Combined earth resistance of the installation

(i) Special Equipments

- ◆ · Name plate details of each equipment
- ◆ · Results of insulation tests
- ◆ · Results of earth resistance and continuity tests
- ◆ · Results of other relevant tests depending on the voltage and rating of the equipment

Signature of the Electrical Supervisor

Signature of the owner

Signature of the Electrical Contractor

Name and address
with Permit number of the
Electrical Supervisor.

Name and address
of the owner

Name and address
with Contract Licence number
of the Contractor.

Validity of the Permit : .

Validity of the Contract Licence :

Annexure : : 4

Inspection Fee		
As per G.O (Ms) No: 25/ 2001 / PD Dated, Thiruvananthapuram, 7 th September 2001		
Fees for Technical Advice / Consultancy		
Sl.No.	Nature of Service	Rate of fees in Rupees
1.0	Detailed engineering, preparation of technical drawings and estimates and specification of the equipments and technical scrutiny of tenders.	3% of estimated cost of works
1.1	Supervision, inspection and control during execution	4% of total cost of works
1.2	Construction of new works including detailed engineering	15% of total cost of works plus actual cost of establishment employed and actual expenses
Note:	The above percentage includes pensionary benefits and tools and plants and plant charges	
1.3	Giving opinion on plans, estimates and specifications	75% of Initial Inspection fee
1.4	Scrutiny fee for initial /final approval	75% of initial inspection fee
1.5	Valuation of electrical undertakings.	Rs.1000/-+ 0.5% of the valuation amount
2.0	Rates of fees for settlement of disputes under the Indian Electricity Act (Central Act 9 of 1910) and the Rules made hereunder.	
2.1	Disputed apparatus or meters where the Inspectorate is called in to settle any dispute arising under section 21 or section 26 of the Indian Electricity Act, 1910 (Central Act 9 of 1910) or under clause VI of the Schedule to the said Act and the apparatus or meter is tested in the Laboratory, the following fees shall be charged, namely:-	
2.2	Settlement of disputes including testing of meter if necessary.	
	(a) L .T . Single phase domestic consumer	Rs.100/-
	(b) All other consumers	Rs.500/- + 1% of disputed amount rounded to the nearest ten rupees , subject to a maximum of Rs.10, 000 /-
3.0	Initial Inspection fee :	
3.1	EHV / HV Equipments	Rs.2 / kVA / kW / kVA subject to a maximum of Rs.15,000/-
3.2	LV / MV Equipments	Rs.5/ KVA / KW / kVA
3.3	Bus duct	Rs.1 /Ampere / 20 m length or part thereof
3.4	Switch board / switches / breakers	Rs.1 /Ampere / incomer and outgoing
3.5	Earth electrode	Rs.25 / Electrode
3.6	Lightning protection	Rs.1000 / Building
3.7	Overhead Lines	Rs.10 / k m
3.8	Special Equipments	
	(a) CT Scanner	Rs.5000
	(b) X-rays	Rs.5 / mA
	(c) Neon Sign	Rs.500/ kVA
	(d) Lifts	Rs.1000
	(e) Escalator	Rs 2500
3.9	High Rise Building	Rs.100 / LT / MV per consumer
3.10	Other Inspections	
	1. Certificate under sub rule (3) of Rule 82 of the Indian Electricity Rules	Rs500
	2. Soil Resistivity Measurement	Rs.250
	3. Temporary installations	Rs.100
	4.Circus/ Exhibition/ Fairs	Rs.1000
4.0	Rule 46 Inspection Fee (Periodical Inspection)	(a) 50% of initial inspection fee (b) 25% of Initial inspection fee for Licensees and KSEB installation
4.1	All the above fees are subject to a minimum of Rs.100 / day.	
Head of Account : 0043- 00 -102		

Services of Department of Electrical Inspectorate, Kerala

Service Quality Management System as per IS 15700: 2005

On submission of applications and requests in prescribed format, # duly filled with relevant documents and prescribed fee #, following category of services will be provided within the listed number of working days*

#	Category of Services	Office Code*	Working Days
A	• Scrutiny, Approval and Inspection of Electrical Installations		
A1	On Submission of Electrical Installation Scheme, after the scrutiny _For the issue of Defect report	B	15
		@	20
A2	On Submission of Compliance Report after rectifying defects, For the issue of Approval of Electrical Scheme	B	10
		@	15
A3	On Submission of Completion report of work, Conducting inspection and issue of defect report / issue of Safety Certificate and Sanction for Energistaion if installation is generally in order	B	10
A4	On submission of Compliance Report after rectifying defects, for the issue of Safety Certificate and Sanction for Energistaion	B	10
A5	For the issue Certificate under sub rule (3) of Rule 82 of the Indian Electricity Rules 1956	D	15
A6	Soil Resistivity Measurement and issue of Certificate	D	15
A7	Inspection and issue of Safety certificate for Cable TV Network	D	15
A8	Inspection and issue of Valuation Certificate for Electrical installations	B	30
B	• Electrical Wireman		
B1	For the issue permit under exempted category _Fresh Permit and Competency Certificates _Electrical Wireman	H	30
B2	For the issue permit of successful candidate in written and practical examination _ Fresh Permits & Competency Certificate_ Electrical Wireman	H	40
B3	For the issue of Permit after renewal_ Electrical Wireman	D	7
B4	For the issue of Permit in lieu of lapsed Permit _ Electrical Wireman	H	15
B5	For the issue of Duplicate Permit _ Electrical Wireman	H	15
C	• Electrical Supervisor _B Grade		
C1	For the issue permits under exempted category _ after the Interview _Fresh Permit and Competency Certificate_ Electrical Supervisor B Grade	H	20
C2	For issue permit of successful candidates in written and practical examination _Fresh Permits & Competency Certificate_ Electrical Supervisor B Grade	H	20
C3	For issue of Permit after renewal_ Electrical Supervisor B Grade	H	20
C4	For the issue of Permit in lieu of lapsed Permit _ Electrical Supervisor B Grade	H	20
C5	For the issue of Duplicate Permit - Electrical Supervisor B Grade	H	20
D	• Electrical Supervisor_ A Grade		
D1	For the issue permits under exempted category _ after the Interview _Fresh Permit and Competency Certificate_ Electrical Supervisor A Grade	H	30
D2	For the issue of Permit after renewal_ Electrical Supervisor A Grade	H	20
D3	For the issue of Permit in lieu of lapsed Permit _ Electrical Supervisor A Grade	H	30
D4	For the issue of Duplicate Permit - Electrical Supervisor A Grade	H	20

E	• Electrical Contractor_ Class 'A'		
E1	For the issue of Fresh Licence _ Electrical Contractor_ Class 'A'	H	30
E2	For the issue of Licence after Renewal _ Electrical Contractor_ Class 'A'	H	20
E3	For the issue of licence in lieu of lapsed Licence_ Electrical Contractor Class 'A'	H	20
E4	For the issue of duplicate Licence _ Electrical Contractor Class 'A'	H	30
F	• Electrical Contractor_ Class 'B'		
F1	For the issue of Fresh Licence_ Electrical Contractor_ Class 'B'	H	20
F2	For the issue of Licence after Renewal _ Electrical Contractor_ Class 'B'	H	25
F3	For the issue of licence in lieu of lapsed Licence_ Electrical Contractor Class 'B'	H	20
F4	For the issue of duplicate Licence _ Electrical Contractor Class 'B'	H	20
G	• Electrical Contractor_ Class 'C'		
G1	For the issue of Fresh Licence _ Electrical Contractor_ Class 'C'	H	20
G2	For the issue of Licence after renewal _ Electrical Contractor_ Class 'C'	D	15
G3	For the issue of licence in lieu of lapsed Licence_ Electrical Contractor Class 'C'	H	15
G4	For the issue of duplicate Licence _ Electrical Contractor Class 'C'	H	15
H	• Other services _ Kerala State Electricity Licensing Board		
H1	For the issue permit (under exempted category) after scope modification _ Electrical Supervisors Grade A and B	H	30
H2	For Additional Staff enrolment under Electrical contractor (Wireman/Supervisor)	H	10
H3	For the issue of recognition/renewal of Institute for Electrical Wireman and Electrical Supervisor	H	20
H4	For the issue of Competency Certificate and Permits for Cable jointing	H	20
H5	For Recommending the issue of C_ Class Electrical Contractor after conducting interview (to KSELB)	D	7
I	• Cinema Operators		
I1	For the issue of Fresh Licence _ Cinema Operator	H	20
I2	For the issue of Licence after renewal _ Cinema Operator	D	7
I3	For the issue of licence in lieu of lapsed Cinema Operator	H	20
I4	For the issue of duplicate Licence _ Cinema Operator	H	20

No	* Office Code	Description
1	H	Service available in the office of the Chief Electrical Inspector, Department of Electrical Inspectorate
2	D	Service available in District Office, Department of Electrical Inspectorate
3	B	Service available in the office of the Chief Electrical Inspector and District Office, Department of Electrical Inspectorate

@ Office of the Chief Electrical Inspector, Trivandrum and District Office of the Deputy Chief Electrical Inspector, Ernakulam

Application Forms and Fee details are available in Department Web site : www.ceikerala.gov.in

**Addresses and Telephone Numbers
of Department of Electrical Inspectorate Offices**

Electrical Inspectorate,

Bellmouth Buildings,
Round South, Kuruppam Road, Thrissur 680 001.
Phone: 0487 2423280, Email : eitcr@ceikerala.gov.in

Electrical Inspectorate,

Thoppil Estate, Janatha Junction,
Vytila, Ernakulam 682 019.
Phone: 0484 2307309, Email : dyceiek@ceikerala.gov.in

Electrical Inspectorate,

Star Junction, Kottayam South P.O., Kottayam 686 039.
Phone: 0481 2568878, Email : eiktm@ceikerala.gov.in

Electrical Inspectorate,

Palakkatt Kunnel buildings, Moolamattom, Idukki 685 589
Phone: 04862 2253465, Email : eiidk@ceikerala.gov.in

Electrical Inspectorate,

Thirumala Devaswam Buildings,
Near Iron Bridge, Alappuzha 688 001.
Phone: 0477 2252229, Email : eialp@ceikerala.gov.in

Electrical Inspectorate,

Panthottathil Buildings, College Road,
Pathanamthitta 689 645.
Phone: 0468 2223123, Email : eipta@ceikerala.gov.in

Electrical Inspectorate,

Municipal Buildings, Chinnakada, Kollam 691 001
Phone: 0474 2743619, Email : eiklm@ceikerala.gov.in

Electrical Inspectorate,

4th Floor, Corporation Buildings,
Vikas Bhavan P.O., Thiruvananthapuram 695 033.
Phone: 0471 2322934, Email : eitvm@ceikerala.gov.in

Meter Testing and Standards Laboratory

Department of Electrical Inspectorate
College of Engineering PO, Thiruvananthapuram 695 016.
Phone: 0471 2591080, Email : eimtsl@ceikerala.gov.in