KARNATAKA
ELECTRICITY BOARD

Work Load Norms
(Executive)

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READ:

Board Order Nos. MSEB/BPO/59/71–72, dated 21–7–1971 and 14–8–1971 constituting Committees to determine work loads for (1) Executive and (2) Ministerial Employees of the Board and examine other allied matters as enumerated therein.

2. The Report of the Work Load Committee (Executive) dated 9–9–1974 recommending, among other things, work load norms for meter readers in the executive cadres.

3. Board Order No. MSEB/BPO. 261/69-70, dated 17–10–1969 fixing work loads in respect of meter readers as detailed therein.

4. Bo. No. MSEB/A5 /1255/67–68 Dated 14–11–1967
and Bo. No. MSEB/A1–1604/69-70 Dated 11-5-1970

5. Board Resolution No. 11125, dated 25–2–1975 accepting the recommendations of the Work Load Committees.

ORDER NO. KEB/WLIC–11/74–75
BANGALORE, DATED THE 25TH AUGUST 1977

In supersession of the order Nos. read in Paras 3 and 4 of the preamble, the Board is pleased to accord approval for work load norms in respect of different categories of posts in the executive cadre in the Board as enumerated in Annexure to this order.

2. The work load norms prescribed hereunder shall take effect from the dates on which sanction is accorded for the complement of staff as per these norms for each Office.

3. Action should be taken immediately to report the necessary data and obtain sanction for the complement of staff admissible for different offices/units of work as per work load norms cited in para (1) *supra*.

By Order
(*Sd.*) A. R, CHANDRAHASA GUPTA
Secretary
Karnataka Electricity Board

To

All the Chief Engineers, Electricity, KEB.

The Chief Controller of Accounts, KEB.

The Controller of Accounts, South-North, KEB.

The Accountant-General, Karnataka, Bangalore.

All the Superintending Engineers, Electrical, KEB.

All the Executive Engineers, Electrical, KEB.

All the Dy. Controllers of Accounts, KEB.

All the Accounts Officers (Internal Audit), KEB.

All Asst. Engineers (Elel.), KEB.

All the Officers/Head of Sections of the Board Sectt.

CM's table/FM's table/Secretary's table/TM's table.

Norms for Generating Stations and Major Receiving Stations

The norms for providing staff complement in respect of the following are as sanctioned in the various Board Orders mentioned against each ;–

1. Shivasamudram Generating Station	B.O. No. KEB/WLIC. 62/75–76, Dt. 18th October 1975.
2. Shimshapura Generating Station	B.O. No. KEB/WLIC. 63/75–76, Dt. 8th October 1975.
3. Munirabad Generating Station	B.O. No. KEB/WLIC. 64/75–76, Dt. 11th July 1975.
4. 220 KV Receiving Station at Lingapur (Munirabad)	B.O. No. KEB/WLIC. 64/75–76, Dt. 11th July 1975.
5. MGHE Generating Station	B.O. No. KEB/WLIC. 66/75–76, Dt. 9th October 1975.

6. Peenya Receiving Station	..	B.O. No. KEB/WLIC. 40/75–76, Dt. 21st May 1975.
7. Bhadra Generating Station and MRS, Shimoga		B.O. No. KEB/WLIC. 65/75–76, Dt. 1st October 1975.
8. S.R.S., Hubli	..	B.O. No. KEB/WLIC. 85/75–76, Dt. 27th October 1975.
9. F.T.S., Mysore	..	B.O. No. KEB/WLIC. 73/75–76, Dt. 16th August 1975.
10. 220 KV Receiving Station, Hootagally (Mysore)		B.O. No. KEB/WLIC. 73/75–76, Dt. 16th August 1975.
11. K.G.F. Station	..	B.O. No. KEB/WLIC. 70/75–76, Dt. 16th August 1975.
12. 220 KV Receiving Station at Mercada (Mangalore)	..	B.O. No. KEB/WLIC. 80/75–76, Dt. 18th August 1975.
13. 220 KV Receiving Station, Belgaum		B.O. No. KEB/WLIC. 88/75–76, Dt. 23rd October 1975.
14. 'B' and 'C' Stations— Bangalore	..	B.O. No. KEB/WLIC. 37/75–76, Dt. 16th May 1975.
15. 'A' Station—Bangalore	..	B.O. No. KEB/WLIC. 38/75–76, Dt. 16th May 1975.

TABLE T

Norms for Providing Transport Vehicle

Sl. No.	Office to which the vehicle is to be provided	Category of vehicles				Remarks
		Tractor-Trailer	Lorry	Jeep	Van	
1.	O and M Divisional Transport Section	..	1	2	1	..
2.	O and M Sub-division	..	1	1	..	..
3.	(*a*) Central Service Stations (other than in Bangalore City)	..	..	..	1	..
	(*b*) Zonal Service Stations in Bangalore City	..	..	..	1	..
4.	Voltage Improvement Cell in Bangalore	..	..	1	..	..
5.	(*a*) Transmission Line Maintenance Sub-division	..	..	1*	..	Jeep or pick-up van
	(*b*) Transmission Line Maintenance Sections	..	1*	..	..	* only for the specified places (*see* Annexure)
6.	Peenya O and M Division	..	2	2	..	..

7.	F.T.S., Mysore	..	..	1	..
8.	Regional Stores	1	2	..	..
9.	Meter Testing Sub-divisions	..	..	..	1
10.	(*a*) R.T. Sub-divisions (Routine testing sub-division)	..	..	..	1
	(*b*) Special R.T. Sub-division, in-charge of Generating Station and Major Receiving Stations	..	..	..	1

Note.—Zonal Service Stations in all places other than Bangalore will make use of the vehicle provided for the sub-division during evening shift only.

ANNEXURE 'T'

TABLE 'T'

Transmission line maintenance sections at the following places shall be provided with Transport vehicle (Lorry) at a rate of one at each place:-

1. Bangalore
2. Mysore
3. Tiptur
4. Shimoga
5. Thirthalli
6. Mangalore
7. Jog
8. Hubli
9. Belgaum
10. Bagalkot
11. Bagewadi
12. Shahabad
13. Sindhanur
14. Raichur
15. Munirabad
16. Davangere.

TABLE 'C'

Norms for providing conveyance allowance

Sl. No.	Nature of allowance	Posts to which allowance is attached	Remarks
1.	Motar cycle allowance	All Junior Engineers and Supervisors working in :— 1. O and M Sections (excluding those on shift duties) 2. Works Units. 3. HT UG Cable Maintenance Works 4. Civil Engineering Sections in Bangalore, Mysore, Hubli and Dharwar excluding those attached to RCC Pole Manufacturing Centres. 5. Telecommunication Maintenance Sections (excluding those on shift duties). 6. Transmission Line Maintenance Sections where telephone lines exist and where Board vehicles are not provided. 7. Board Buildings Electrical Maintenance Section in Bangalore. 8. Street Light Maintenance Sections and Works Units of Street Light Division in Bangalore City.	

9. MT Sections on meter testing and rating of installations at consumer premises wherever Board's vehicles are not provided.

2. Bicycle allowance

(A) Meter Readers.

(B) Maintenance men working in:

(i) O and M Sections (excluding those on shift duties).
(ii) Service Stations.
(iii) Works Units.
(iv) Two posts in Headquarters of Transmission Line Maintenance Sections and one post in each of the camps *en route* of transmission line where telephone lines exist.
(v) Telecommunication Maintenance Sections personnel* engaged on maintenance of telephone lines and for attending to complaints regarding telephones.
(vi) HT UG Cables Maintenance.
(vii) Board Buildings Electrical Maintenance Section at Bangalore.
(viii) Street Light Maintenance Sections and Works Units of Street Light Division in Bangalore City.
(ix) Maintenance men in MT Divisions, engaged on meter testing and rating of installations at the consumer premises wherever not provided with Board's vehicles.

* Overseers engaged on meter reading work are eligible for conveyance allowance.

TABLE 1

Work Load Norms for the Staff Pattern of O and M Section (Distribution)

Sl. No.	Criteria for classification of the Section	Type of Section	Work load		Staff complement admissible					Remarks	
			Installation Nos.	Jurisdiction	Section Officer	Supervisor	Overseer	L. D. Mech. Gr. I	L. D. Mech. Gr. II	Other maintenance men	
1.	The number of installations in the Headquarters is less than 500	Rural	1000–1500	20–25 Kms	Supervisor–1	..	1	..	Minimum 1 I	No. to be determined by applying the formula vide Table II	The Division Officer shall initiate proposal for reorganising by redistribution of work load when installations reach 1350
2.	The number of installations in the Headquarters is not less than 500	Semi-urban	2000–2500	do.	Jr. Engr. 1	..	1	..	1	do.	do. 2250
3.	The number of installations in the Headquarters is not less than 2000	Urban	2500–3000	..	do.	..	1	1	1	do.	do. 2750
4.	Cities having more than 10,000 installations within Municipal Limits (other than Bangalore)	City	4500–6000	..	do.	1	1	1	1	do.	do. 5750
5.	Bangalore City	City	5500–7000	..	do.	2	1	1	1	do.	do. 6500

Note.— (i) In the under developed areas like Bijapur, Bidar, Dharwar and Gulbarga Districts so also in Malnad areas, Rural O and M sections may be formed even if the number of installations is less than 1,000 but not less than 500 in a jurisdiction of 20–25 Kms. radius.

(ii) In rural sections where the No. of installations are less than 1000 [*vide* Note (i) above] the post of an overseer is not admissible, however, the services of Meter Reader are to be utilised in that office for works which are expected of an overseer.

(iii) A semi-urban section may be formed in the Malnad, Coastal and underdeveloped areas where the No. of installations for a section shall not be not less than 1500.

(iv) In case the number of installations in the Hd. Quarters of a section is a little less than 500, say in the range of 450–500, but the total number of installations available within 20–25 kms. radius is more than 1500 a semi urban section may be approved by the Board on the recommendations of the Chief Engineer Electricity (General).

(v) In O and M sections, *viz.*, Urban, City and Bangalore City where the installations outside the Municipal limits are to be attached, one Rural installation shall be counted as two city installations for computing the total number of installations in the Section.

(vi) For a review of the work load of the section and to arrive at the additional staff admissible with reference to the increase in the number of installations street light, transformer centres, HT and LT. lines in the section, the section officer at the end of December in each year shall furnish the data to the Executive Engineer of the Division.

(vii) All the posts of Jr. Engrs. and Supervisors are attached with Motor Cycle Allowance and all the posts of maintenance men except those engaged on telephone duties are attached with Bicycle allowance.

(viii) Malnad area, is one, which is notified as "Malnad area" by the Government of Karnataka from time to time.

(ix) In case the number of Installations in the Hd. Quarters of a Section is a little less than 500. say in the range of 450–500, but the total number of installations available within 20–25 kms. radius is more than 1500 a semi urban section may be approved by the Board on the recommendations of the Chief Engr., Electy. (Genl.)

TABLE 2

Maintenance Establishment Employees Admissible for an O and M Section

I. The following are the standard time factors in minutes for different works in a section.:—

Sl. No.	Activity	Maidan area Standard time in minutes per month		Malnad and coastal area Stanard time in minutes per month	
		Urban	Rural	Urban	Rural
(i)	Maintenance of installations (Base 100 installations)	1800	5500	2600	6600
(ii)	Maintenance of street lights (Base 100 installations)	4900	3800	5100	4100
(iii)	Maintenance of HT lines (Base 100 Kms.)	13000	18300	18100	23800
(iv)	Maintenance of transformers (Base one T.C.)	300	500	300	520
(v)	Maintenance of HT lines (Base 100 Kms.)	16100	12100	16100	14700
(vi)	Maintenance of LT underground cable (Base 100 Kms.)	18600	..	18600	..

NOTE:—Malnad area is one which is notified as " Malnad Area " by the Govt. of Karnataka from time to time.

II. The following formulae shall be applied to determine the total standard time in minutes admissible for the activities as mentioned in Para I *supra* in a section, selecting the appropriate standard time applicable for different activities.

$a = \frac{\text{Standard time (Urban)}}{100}$ × No. of installations in the Headquarters = Standard time in minutes per month

$b = \frac{\text{Standard time (Rural)}}{100}$ × No. of installations in the Rural area = do.

$c = \frac{\text{Standard time (Urban)}}{100}$ × No. of street lights in the Headquarters = do.

$d = \frac{\text{Standard time (Rural)}}{100}$ × No. of street lights in the Rural areas = do.

$e = \frac{\text{Standard time (Urban)}}{100}$ × Length of H.T. lines in the Headquarters = do.

$f = \frac{\text{Standard time (Rural)}}{100}$ × Length of H.T. lines in the Rural areas = do.

$g = \frac{\text{Standard time (Urban)}}{100}$ × No. of transformer centres in the Headquarters = do.

$h = \frac{\text{Standard time (Rural)}}{100}$ × No. of transformer centres in the Rural areas = do.

$$i = \frac{\text{Standard time (Urban)}}{100} \times \text{Length of L.T. lines in Headquarters} = \text{Standard time in minutes per month}$$

$$j = \frac{\text{Standard time (Rural)}}{100} \times \text{Length of L.T. lines in Rural areas} = \text{do.}$$

$$k = \frac{\text{Standard time (Urban)}}{100} \times \text{Length of L.T. UG cable in RKMS} = \text{do.}$$

Note.— Installations, St. lights, HT/LT lines and Transformers centres in Hd. Qtrs. means: the installations, St. lights, etc., which are within the Village Panchayat/Municipality/Corporation limits of an O and M section located in that Village Panchayat/Municipality/ Corporation area.

$\frac{a + b + c + d + e + f + g + h + i + j + k}{11320}$ = Total No. of maintenance establishment employees required for the activities in section subject to a minimum of seven men.

(11320 is the total man minutes available for work per employee in a month).

After dividing the total Std. time by 11320, if the remainder of Std. time 5660 minutes or above, one more person is admissible for such fraction.

Leave reservists at the rate of 6% of the No. of men admissible for a section, subject to a minimum one man, shall be added and then the total men admissible for a section is arrived at.

III. After arriving at the total number of maintenance establishment employees admissible for a section as in Para II *supra* following table shall be used to determine the composition of different categories of maintenance establishment employees :

No. of men arrived at as per work load assessment and the prescribed calculation	Allocation of men into different categories			Entitlement of line mechanic Gr. II	TOTAL
	Wireman	Lineman	Assistant line man		
6	1	2	3	1	7
7	1	2	4	1	8
8	1	2	5	1	9
9	1	3	5	1	10
10	1	3	6	1	11
11	1	4	6	1	12
12	2	4	6	1	13
13	2	4	7	1	14
14	2	5	7	1	15
15	2	5	8	1	16
16	2	6	8	1	17
17	3	6	8	2	19
18	3	6	9	2	20
19	3	6	10	2	21
20	3	6	11	2	22
21	3	7	11	2	23
22	3	8	11	2	24
23	4	8	11	2	25
24	4	8	12	2	26

Note.— (i) Notwithstanding the actual number of maintenance men arrived at by work load assessment and calculations no section shall have less than six maintenance men plus one line mechanic Gr. II.

(ii) A minimum of 60% of the total men may be stationed at the Hd. Qtrs. of the section. In exceptional cases this ratio may be varied with the approval of the CE (GL). The balance of men may be located in Linemen Camps.

(iii) The work load for a single lineman camp is to be taken as 100 to 150 installations and 30 to 45 kms. of HT and LT lines. The headquarters of the lineman camp may be fixed at a suitable place to comply with the work load and the jurisdiction does not extend beyond 8 to 10 kms. radius. If it exceeds the work load and jurisdiction, more than one lineman may be located in the camp as decided by the Executive Engineer.

(iv) All the maintenance men except those engaged on telephone duty are eligible for bicycle allowance.

TABLE 3.

Work load norms for Service Stations

I. *For Bangalore City* :

(*a*) *Central Complaint Station* : The Central Complaint Station shall have 4 Supervisors (El.). One Supervisor (El.) for each of the three shifts of the day and one Supervisor (El.) as spare. This Complaint Station shall work under the administrative control of the Superintending Engineer, Bangalore Circle. The Central Complaint Station will receive complaints in respect of fuse-off calls and breakdowns from the public, etc., and transmit the same to the Zonal Service Station and O and M Section for compliance. After each shift a statement shall be prepared showing the total number of complaints received category-wise, total number complied with by the Zonal Service Station and O and M Units, etc.

(*b*) *Zonal Service Stations* : There shall be one Zonal Service Station for each of the O and M sub-divisions in Bangalore City. These Service Stations shall work for three shifts on every day. They shall attend to fuse off-calls and breakdowns. At the end of each shift, a statement shall be prepared showing the number of complaints received category-wise that attended and balance. Each Zonal Service Station shall be provided with a van. Following is the staff complement admissible for each Zonal Service Station. The Zonal Service Station will work under the administrative control of the respective Sub-divisional Officer in whose jurisdiction it is located.

Sl. No.	Nomenclature of the posts	Day Shift	Evening Shift	Night Shift	Spare	TOTAL
1.	Supervisor ..	1	1	1	1	4
2.	Overseer	..	1	..	..	1
3.	Lineman	..	6	4	2	12
4.	Driver Gr. II ...	1	1	1	1	4

Note.—For the time being, there shall be four Zonal Service Stations in Bangalore East Division and six in Bangalore West Division. The Chief Engineer, General, shall allocate the jurisdiction for each Zonal Service Station.

II. *Service Stations for Cities such as Mysore, Mangalore, Hubli, etc. and in places where the number of installations are more than* 20,000 *in Municipal limits.*

(*a*) *Central Service Station* : There shall be one Central Service Station in each of such places. It will work in three shifts, *viz.*, 7·00 Hrs. to 15·00 Hrs., 15·00 Hrs. to 23·00 Hrs., and 23 Hrs. to 7·00 Hrs. It will register complaints of fuse-off calls and breakdowns during all the three shifts. It will attend to fuse-off calls and breakdowns during evening and night shifts and those received during day shifts will be transmitted to Zonal Service Station for compliance. The Central Service Station shall be provided with one separate vehicle (Van) for being made use of in all the three shifts.

Following is the staff complement admissible for the Central Service Station :

Sl. No.	Nomenclature of the post	Day Shift	Evening Shift	Night Shift	Spare	TOTAL
1.	Supervisor ..	1	1	1	1	4
2.	Lineman		4	4	2	12
3.	Driver ..	1	1	1	1	4

(*b*) *Zonal Service Station* : Each sub-division shall have one Zonal Service Station. It will work in two shifts: Day Shift (7 Hrs. to 15 Hrs.) and Evening Shift (15 Hrs. to 23 Hrs.). During day shifts fuse–off calls and breakdowns shall be attended to and during evening shifts in addition to attending to fuse–off calls, assistance shall be provided to the Central Service Station for attending to breakdowns. The vehicle of the sub–division shall be made use of during evening shifts only.

Following is the staff complement admissible to each Zonal Service Station:

Sl. No.	Nomenclature of the post	Day Shift	Evening Shift	Night Shift	Spare	TOTAL
1.	Overseer ..	1	1	..	1	3
2.	Lineman ..	1	1	..	..	2
3.	Driver ..	..	1	..	..	1

(*c*) The Central Service Station shall be under the control of the Assistant Engineer of the O and M Sub-division in whose jurisdiction the Central Service Station is located. The Zonal Service Station shall be controlled by the respective Assistant Engineer of the sub-division.

(i) Each Zonal Service Station will transmit at the end of each shift, total number of complaints recorded and that attended, to the Central Service Station. Likewise each O and M section will also transmit to the Central Service Station, the total number of complaints attended to by them. At the end of each day the Supervisor in charge of the Central Service Station will prepare a statement category-wise showing the number of complaints received, number of complaints attended and balance for the day if any, remaining. This statement shall be forwarded to the Executive Engineer on the following day.

(ii) Attending to fuse-off call duties is also taken care of while fixing the work load of men admissible for a section. A reasonable number of men shall be drafted to fuse off calls. These men shall be pooled in the Zonal Service Station of the sub-division and their services utilized for attending to fuse-off calls, breakdowns, etc.

III. *Service Stations in District Headquarters and in places with* 5,000 *installations & above but not exceeding* 20,000 *installations*

Municipal limits :

One Service Station shall be provided in each of such places. It will work in two shifts: Day Shift (7 Hrs. to 15 Hrs.) and Evening Shift (15 Hrs. to 23 Hrs.). It will register and attend to fuse-off calls and breakdowns. The Service Station will be under the control of the Assistant Engineer, O and M Sub-division of the place or the Section Officer if it is not a sub-division headquarters and will also make use of the vehicle of the sub-division in case of sub-division headquarters. Provisions under para II (C) (ii) *supra* apply here also.

Following is the staff complement admissible for the Service Station:

Sl. No.	Nomenclature ot the post	Day Shitt	Evening Shift	Spare	TOTAL
1.	Overseer	1	1	1	3
2.	Lineman	1	1	..	2
3.	Driver	..	1	..	1

IV. *Applicable to all types of Service Stations* :

All Service stations shall be provided with P and T telephones in addition to Department Phone. Each Service Station should have the required number of tools and equipments required for attending to complaints and breakdowns. Standard tool kits in sufficient numbers consisting of cutting-pliers, screw-drivers, adjustable spanners, rubber gloves, torches, testers, safety belts and rope of length (say 10 Meters) should also be provided. Use of vehicles shall be restricted to attending to complaints which are beyond 2 Kms. distance from the Service Station and those within 2 Kms. distance should be attended to by the men by using their bicycles only. All the posts of Linemen in all the Service Stations are attached with Bicycle Allowance.

TABLE 4

Work Load Norms for Works Units:

I. *General*

(*a*) Each O and M sub-division is entitled for two works units. One works unit shall be permanent and the other being temporary. The head quarters of the works units will be at the headquarters of the sub-division Office but the Ex. Engineer can shift the headquarters of the works units depending upon the needs of the works. The temporary works unit shall not be operated without the permission of the Chief Engineer General. Each works unit may handle works expenditure about Rs. 6·00 lakhs per annum. In the event, the works expenditure involved during a year in any non-city O and M sub-division exceed Rs. 12 lakhs and in the city O and M sub division exceed Rs. 9·00 lakhs, additional temporary works units may be sanctioned and the works load amongst the work units in the sub-division redistributed.

(*b*) Following is the staff complement admissible for works units:

Sl. No.	Category of sub-division	No. of works units admissible	Nature of Works units		No. of posts admissible			
			Permanent	Tempo-rary	Junior Engineer	Super-visor	Line mechanic grade II	Line man
1.	City O and M sub-division	2	1	1	1	1	2	2
2.	Non-city O and M sub-division	2	1	1	1	1	4	4

Note.— (i) Out of the two works units, one shall be managed by a Jr. Engineer and other managed by a supervisor.

(ii) When additional temporary works units are sanctioned, maintenance men and TTR employees may be regulated at the rate of one batch for works costing Rs. 3 lakhs per annum. One such batch consist of one line mechanic Gr. II, one lineman and about 15 TTR men.

(iii) The posts of Jr. Engineer/Supervisor in the works unit carry motor cycle allowance and the posts of maintenance men carry bicycle allowance.

(iv) On completion of works the Jr. Engineer/Supervisor in-charge of the works units would prepare an inventory and hand-over the charge of completed works along with inventory to the section officer of the concerned section obtain his acknowledgement. Such acknowledged inventories shall be submitted to the Assistant Engineer and Executive Engineer within a month from the date of completion of the work. Nevertheless, completion reports should also be submitted as per standing rules and time schedule.

TABLE 5

Work Load Norms for Meter Readers

I. Following is the work load per month for a Meter Reader:

Sl. No.	Category of O and M Section	Work load per month for a Meter Reader (Computed number of installations in terms of lighting installations)	Remarks
1.	Rural	2,300 to 2,500	All types of installations are to be read and billed at spot monthly except HT installations and Street lighting installations where Meter Reading obtained monthly is furnished to Rev. Accounting Officer for billing, etc.
2.	Semi-Urban		
	Urban	3,100 to 3,400	
3.	City	3,500 to 3,900	

II. For computing of the number of installations, following factors shall be adopted :

(*a*) *Area Composition—Rural* :

(i) One L.T. Power Installation = 3 lighting installations

(ii) One Irrigation Pumping Installation = 4 lighting installations

(iii) One installation in all other categories of installations (except at (i) and (ii) above) = One lighting installation

(*b*) *Area Composition—Semi-Urban/Urban with Rural Areas* :

(i) One Rural Installation (except LT Power and I.P. Set installation)	=	1·4 Urban lighting installation
(ii) One Rural LT Power installation	=	4 Urban lighting installations
(iii) One Urban LT Power installation	=	3 Urban lighting installations
(iv) One I.P. Set installation	=	5 Urban lighting installations
(v) One installation in all other categories of installations except those at (i) to (iv) above	=	One Urban lighting installation

(*c*) *Area Composition—City with Sub-urban and Rural Areas* :

(i) One Rural installation except LT Power and I.P. Set installation	=	1·6 City lighting installation
(ii) One Rural LT Power installation	=	5 City lighting installations

TABLE 6

Work Load Norms for O & M Sub Divisions

1. *O and M Sub-divisions in other than City areas* :

There shall be one O and M Sub-division for three to five O and M Sections (sections may be Rural/Semi-urban/Urban) with an area jurisdiction of 40–45 Kms. radius. The headquarters of the Sub-division should normally be at the Taluk Headquarters. Works Units, Service Stations, Step down Stations, RCC Pole Mfg. Centres, Sub-division Stores shall be under the direct control of the Sub-divisional Officers. When the number of O and M Sections in a Sub-division

exceeds five, reorganisation of the Sub-divisions of the Division as a whole may be so made that no Sub-division will have more than five O and M Sections.

2. *O and M Sub-divisions in City areas* :

One O and M Sub-division in City limits may have normally three O and M Sections of City category. O and M Sections of other categories such as Urban, Semi-Urban and Rural may also be attached to the Sub-division and in that case number of Sections may be more than three. However, the total number of installations should be between 16,500 and 21,000. When the maximum limit of 21,000 installations exceeds by 10%, the Sub-division shall be reorganized in the Division as a whole so that the number of installations in a Sub-division will be within the limit prescribed. Works Units, Service Stations, Sub-divisional Stores, Sub Stations, Switching Stations, RCC Pole Mfg. Centres shall be attached to the Sub-divisional Office.

3. Each O and M Sub-divisional Officer shall be provided with one jeep or one pick-up van for inspection of works and attending to other duties specified thereof for which use of vehicle is permitted as per KEB Accounts Manuals.

4. Rural, Semi-Urban, Urban and City sections are those as are defined in Table I.

TABLE 7

Street Lighis Maintenance at Bangalore—Street Light Division, Bangalore

I. For maintenance of not more than 32,000 (thirty-two thousand street lights) in Bangalore City Corporation limits, six maintenance sections are admissible. Each maintenance section shall consist of the following composition of posts:

(i) Supervisor (Elecl.) (With MCA)	..	One post
(ii) Line Mechanic Gr. II (with CA)	..	One post
(iii) Wireman (with CA)	..	One post
(iv) Lineman (with CA)	..	One post
(v) Assistant Lineman (with CA)	..	Eight posts

II. When the number of street lights are increased in the Division, additional maintenance employees may be provided by applying the following formula :

(i) $a = \frac{3,200}{100} \times$ Number of street lights in the Division = Man minutes required for maintenance of street lights in the Division.

$\frac{a}{11,320}$ = Number of maintenance employe esrequired for maintenance of the Division.

(ii) Leave reservists at 6% of the maintenance employees admissible under para (i), subject to a minimum of one employee, shall be added and then total men required determined.

(iii) After arriving at the total number of employees admissible as in para (ii) *supra*, the chart shown in para III of Table 2 may be used to determine the posts in different cadres admissible for maintenance of street lights in the Division.

III. *Street Light Works Units* :–For carrying out new works such as installing additional street lights, modifications to the existing lights and such other new works shall be handled by *Two Street Lights Works Units*. Each Unit shall consist of the following Staff :

(i) Supervisor (Elecl.) (with MCA) .. 1

(ii) Line Mechanic Gr. II (with CA) .. 1

(iii) Lineman (with CA) .. 1

(iv) Temporary Time Roll Men.. Number of TTR Men being determined according to the quantum of works.

Note.—All the posts of supervisors under I and III *supra* are attached with motor cycle allowance and all the posts of maintenance men under I and III *supra* are attached with bicycle allowance.

TABLE 8

High Tension Underground Cable Maintenance System at Bangalore

I. In Bangalore City the Maintenance work, *viz.*, regular patrolling of cable routes, testing of cables and equipments, inspection of pot heads, ring main units, feeder pillar boxes, etc. at regular intervals from the point of view of preventive maintenance to minimise breakdowns and ensure proper upkeep of the system and also attend to breakdowns etc., pertaining to HTUG Cables be placed exclusively in charge of HTUG Cable Maintenance Section. One Section in each of the Divisions—Bangalore East Division and Bangalore West Division shall be formed with the following complement of staff :

Sl. No.	Nomenclature of the post	No. of posts admissible for Bangalore East Division	No. of postsadmissible for Bangalore West Division
(i)	Supervisor, Elecl.	1	1 (MCA attached)
(ii)	Cable Jointer	2	2 (CA attached)
(iii)	Assistant Cable Jointer	2	2 (CA attached)
(iv)	Linc Mechanic Gr. I	1	1 (CA attached)
(v)	Line Mechanic Gr. II *cum* painter	1	1 (CA attached)
(vi)	Lineman	3	5 (CA attached)
(vii)	Assistant Lineman	4	6 (CA attached)

Note.— (i) Except supervisors and Cable Jointers, total men admissible for east division is 11 and that for west division is 15 as above.

(ii) The posts of supervisors are attached with motor cycle allowance and all the posts of maintenance men are attached with bicycle allowance.

II. When the work load increases in East-West Divisions, additional number of maintenance men admissible may be calculated with the help of the following formula :

a = 435 × Length of HTUG Cable in RKMS = Standard minutes admissible

b = 266 × Number of Feeder Pillar Boxes = do.

c = 400 × Number of Ring Main Units = do.

d = 30 × Number of pot heads = do.

$$\frac{a + b + c + d}{11{,}320} = \text{Number of Maintenance Men admissible for Maintenance Works.}$$

For leave reservists, at 6% of the total number of men admissible as above, may be added. Total number of men thus admissible be allocated amongst different categories in the ratio as is obtaining for 11 and 15 in Bangalore East Division and West Division respectively (*vide* Para 1 *supra*).

TABLE 9

Maintenance Electrical Wiring and Installations in Board's Building in the Bangalore City

The maintenance of electrical installations in the Board's buildings except CBAB Complex be placed in charge of a Section; the Section shall be entrusted with the work of maintenance, repairs, replacements of electrical installations including minor additions, alterations and extensions. The Section shall be under the control of the Executive Engineer (Elecl.), West Division. The following is the staff complement admissible :

Sl. No.	Nomenclature of the post	No. of posts admissible
(i)	Supervisor, El.	1 (MCA attached)
(ii)	Line Mechanic Gr. II	2 (CA attached)
(iii)	Wireman	2 (CA attached)
(iv)	Lineman	2 (CA attached)
(v)	Assistant Lineman	2 (CA attached)

TABLE 10

Voltage Improvement Cell

I. In Bangalore City, a Voltage Improvement Cell shall be formed with the following complement of staff. The Voltage Improvement Cell shall be under the control of the Superintending Engineer, Bangalore Circle :

Sl. No.	Nomenclature of the posts	No. of posts admissible
1.	Assistant Engineer, Elecl.	1
2.	Junior Engineer, Elecl.	4
3.	Tracer/Blueprinter	2
4.	Lineman	5
5.	Driver Gr. II	1
6.	Typist	1
7.	Office Attendant Gr. II	1

II. In Mysore City a Voltage Improvement Cell shall be formed with the following complement of staff. The Voltage Improvement Cell shall be under the control of the Executive Engineer (O and M), Mysore City Division. The Junior Engineer of the Voltage Improvement Cell, in addition to his duties, shall also be in charge of maintenance of the Transport vehicles at the Headquarters of the Division :

Sl. No.	Nomenclature of the posts	No. of posts admissible
1.	Junior Engineer, Elecl.	1
2.	Tracer	1
3.	Lineman	1
4.	Assistant Lineman	1

III. In every O and M distribution division a Voltage Improvement Cell shall be formed in the divisional headquarters with the following complement of staff. The Voltage Improvement Cell shall be under the control of the Executive Engineer of the Division. The Junior Engineer of the Voltage Improvement Cell in addition to duties pertaining to Voltage Improvement Cell shall also be in charge of maintenance of Transport vehicles at the Headquarters of the division;

Sl. No.	Nomenclature of the posts	No. of posts admissible
1.	Junior Engineer, Elecl.	1
2.	Lineman	2

IV. The Voltage Improvement Cells mentioned in Paras I to III *supra* shall attend to the following types of works, *viz.*, study the voltage and load conditions of various feeders and transformers centres and suggest remedial measures for improvement of the voltage conditions of the distribution system.

TABLE 11

Transmission Line Maintenance

I. The network of Transmission lines system and connected Telephone lines shall be placed under the exclusive charge of Transmission Line Maintenance Sub-divisions for operation and maintenance with the assistance of transmission lines sections formed as per work load norms.

The overall control of these Sub-divisions shall vest with the Superintending Engineers of the respective O and M Circles in whose jurisdiction the Sub-divisions are located. Each Sub-division shall be provided with one jeep/pick-up van for inspection and maintenance works.

The following are the Transmission Line Maintenance Sub-divisions with staff complement as mentioned against each:

Sl. No.	Headquarters of the T.L.M. Sub-divisions	Nomenclature of the posts admissible: Asst. Engr.	Typist	Office Atten-dant Gr. II	Driver Gr. II for Jeep/ Pick-up Van
1.	Bangalore	1	1	1	1
2.	Mysore	1	1	1	1
3.	Tumkur	1	1	1	1
4.	Shimoga	1	1	1	1
5.	Mangalore	1	1	1	1
6.	Jog	1	1	1	1
7.	Hubli	1	1	1	1
8.	Munirabad	1	1	1	1
9.	Davangere	1	1	1	1
10.	Shahabad	1	1	1	1
	TOTAL	10	10	10	10

II. *Transmission Lines Maintenance Sections.*—The routine maintenance works, attending to breakdowns, rectification of faults and other maintenance works shall be carried out by the transmission line maintenance sections. These sections shall be under the control and supervision of the respective Transmission Line Maintenance Sub-divisions. These sections shall be formed with a work load of 150–250 route KMS of EHT Lines (33 kV and above) in a jurisdictional area of not more than 65 Kms. radius. However, having regard to field conditioning, forming sections with work load less than these limits shall be decided

by the Chief Engineer of the concerned Zone. Following is the staff complement admissible for each section :

Sl. No.	Nomenclature of the post	No of posts admissible
1.	Supervisor (Elec.)	1
2.	Line Mechanic Gr. I	*vide* Para III *infra*
3.	Line Mechanic Gr. II	*vide* Para IV *infra*
4.	Lineman	
5.	Assistant Lineman	

III. Transmission line section at the following places shall have the post/posts as indicated against each.

Sl. No.	T.L. Section	No. of posts of Line Mechanic Grade I admissible	Remarks
1	2	3	4
1.	Bangalore	1*	*In addition to one post of Senior Mechanic
2.	Sivasamudram	1	
3.	Kanakapura	1	
4.	Mysore	1	
5.	Hassan	1	
6.	Tumkur	1	
7.	Gowribidanur	1	
8.	Shimoga	2	
9.	Jog	1	
10.	Mangalore	1	
11.	Hubli	1*	do.
12.	Belgaum	1	
13.	Ghataprabha	1	
14.	Munirabad	1	
15.	Davangere	1	
16.	Gulbarga	1	
17.	Shahabad	1	
18.	Sindhanur	1	
19.	Bagalkot	1	
	TOTAL ..	20	

IV. Admissibility of Maintenance staff referred to in Para II *supra* for a Transmission Line Section is to be determined as follows :

(i) Standard minutes admissible per month for maintenance activities of the maintenance staff in respect of different categories of Transmission lines :

Sl. No.	Description of the Transmission lines	Maidan area Standard minutes per month for		Malnad and Coastal area Standard minutes per month for	
		SC	DC	SC	DC
(*a*)	Maintenance of 220 kV Transmission lines (Base 100 RKMS)	52,100	70,400	79,100	97,400
(*b*)	Maintenance of 100 kV Transmission lines (Base 100 RKMS)	92,300	1,32,800	1,19,300	1,59,800
(*c*)	Maintenance of 66 kV Transmission lines (Base 100 RKMS)	78,800	1,15,700	1,04,900	1,41,800
(*d*)	Maintenance of 33 kV Transmission line (Base 100 RKMS)	61,000	88,700	85,400	1,13,100
(*e*)	Maintenance of Telephone lines (Base 100 RKMS) SC/DC	..	30,200	..	30,200

Length of respective Trans lines in RKMS

$$\times \frac{a/+b/+c/+d/e \text{ + as the case may be}}{100}$$

= Total Standard time admissible.

$$\frac{\text{Total Standard time admissible for all voltage classes}}{11320}$$

= No. of Maintenance men admissible.

(ii) After arriving at the No. of men admissible, if the remainder of Standard time is 5,660 minutes or more, one more man is admissible for the section.

(iii) Further leave reserve at 6% of the men subject to minimum of one man per section shall be provided and then the total men admissible for the section is determined.

(iv) Category-wise composition of total men admissible for section shall be ascertained with reference to the following chart :

Total men admissible for a Section	Category wise composition		
	Line Mechanic Gr. II	Lineman	Assistant Lineman
9	1	6	2
10	1	7	2
11	1	7	2
12	1	8	3
13	1	9	3
14	2	9	3
15	2	10	3
16	2	11	3
17	2	11	4
18	2	12	4
19	2	13	4
20	2	14	4
21	2	14	5
22	2	15	5
23	3	15	5
24	3	16	5
25	3	16	6
26	3	17	6
27	3	18	6

(v) One additional Lineman shall be provided to each of the *en route* camps over and above the strength arrived at for attending to telephone calls in addition to other duties.

(vi) Where telephone boards have to be kept in operation at least in two shifts, to maintain communication between the several offices/stations, etc., one more additional Lineman shall be provided in addition to the Lineman admissible as per Para (v) *supra*.

(vii) Lineman camps may be provided *en route* the transmission line where telephone line exists, with a minimum strength of three maintenance men. However, such camps may be located at a distance of not less than 15 to 20 Kms. apart in Malnad area and 20 to 30 Kms. apart in Maidan area. Where telephone lines do not exist, camps may be provided at the terminal power stations of the connected transmission lines and the strength of staff in the camp be determined by the Superintending Engineer.

(viii) Malnad area is one, which is notified as ' Malnad area ' by the Government of Karnataka from time to time.

TABLE 12

Generating Stations

I. Following are the work load norms in Shivasamudram Generating Station:

(*a*) *Electrical and Hydraulic Stations* :

Sl. No.	Nomenclature of the post	No. of posts admissible for				Total posts
		Shift		Gen. Maintenance		
		Elecl.	Hydrlc.	Elecl.	Hydrlc.	
1.	Assistant Engineer	4	..	1	1	6
2.	Junior Engineer	..	4	..	..	4
3.	Supervisor	..	4	..	..	4
4.	Senior Mechanic	..	..	1	1	2
5.	Station Mechanic Gr. I	..	..	2	2	4
6.	Station Mechanic Gr. II	..	16*	6	4	26
7.	Attendant Gr. I	8	8	10	14	40
8.	Attendant Gr. II	4	12	3	8	27

* Includes 4 posts for Shift duties at Regulator gate.

(*b*) *Civil Engineering and Health Section* (Buildings, Road, Circuit Houses and Generating Station)

(i) *Civil Engineering* :

Sl. No.	Nomenclature of the post	No. of posts admissible for		TOTAL
		Shift	General Maintenance	
1	2	3	4	5
1.	Assistant Engineer (Civil)	..	1	1
2.	Supervisor (Civil)	..	1	1
3.	Maistry (Civil)	..	1	1
4.	Mechanic Gr. II (Water Supply)	..	1	1
5.	Carpenter Gr. II	..	1	1
6.	Mason Gr. II	..	2	2
7.	Painter Gr. I	..	1	1
8.	Civil Mate	14	12	26
9.	Helper (Civil)	8	14	22
10.	Butler	..	1	1
11.	Cook	..	2	2
12.	Maity	..	1	1
13.	Caretaker	..	1	1
14.	Mali Gr. I	..	1	1
15.	Mali Gr. II	..	1	1
16.	Dhobi	..	1	1
	(ii) *Health Section* :			
1.	Senior Health Inspector	..	1	1
2.	Fieldman Gr. I	..	4	4
3.	Fieldman Gr. II	..	2	2
4.	Sweeper/Scavenger	..	34	34

(*c*) *Distribution lines* (O & M and Colony)

Sl. No.	Nomenclature of posts	No. of posts admissible
1.	Supervisor (Electrical)	1 (MCA attached)
2.	Line Mechanic Gr. II	1 (CA attached)
3.	Attendant Gr. I (Lines)	6 (CA attached)
4.	Attendant Gr. II (Lines)	3 (CA attached)

(*d*) *Workshop and Transport* :

1.	Supervisor (Elecl.)	1
2.	Mechanic Gr. I	1
3.	Blacksmith Gr. I	1
4.	Carpenter Gr. II	1
5.	Mechanic-*cum*-Turner Gr. II	1
6.	Mechanic-*cum*-Welder Gr. II	1
7.	Hammerman/Blacksmith Gr. II	1
8.	Fitter Gr. III	3
9.	Helper	9
10.	Driver Gr. II	4
11.	Cleaner	2

(*e*) *Office* :

1.	Junior Engineer, (Elecl.) (Graduate)	1
2.	Watchman	2

II. Following are the work load norms for Shimshapura Generating Station.

(*a*) *Electrical and Hydraulic Sections* :

Sl. No.	Nomenclature of posts	No. of posts admissible for				
		Shift		Gen. Maintenance		TOTAL
		Elecl.	Hydr.	Elecl.	Hydr.	
1.	Assistant Engineer	4	..	1	1	6
2.	Junior Engineer	..	4	..	..	4
3.	Supervisor	4	..	..	..	4
4.	Station Mechanic Gr. I	..	..	1	2	3
5.	Station Mechanic Gr. II	..	12*	1	2	15
6.	Station Attendant Gr. I	4	20	4	8	36
7.	Station Attendant Gr. II	4	4	2	2	12

* Includes Shift duties at Forebay & Head gate.

(*b*) *Civil Engineering* :

Sl. No.	Nomenclature of posts	No. of posts admissible		
		Buildings Maintenance	Roads, Channel and Water Supply Maintenance	Circuit House
1	2	3	4	5
1.	Supervisor (Civil)	.. 1	1	..
2.	Maistry Gr. II	.. 1	2	..
3.	Mechanic Gr. II	.. ..	1	..
4.	Mason Gr. III	.. 2	..	..
5.	Painter Gr. II	.. 1	..	..
6.	Plumber Gr. III	.. 1	..	..
7.	Carpenter Gr. III	.. 1	..	..
8.	Civil Mate	.. 5	7	..
9.	Butler	.. ..	..	1
10.	Helper (Civil)	.. 4	4	..
11.	Cook	.. ..	..	1
12.	Maity	.. ..	..	1
13.	Mali Gr. I	.. ..	..	1
14.	Mali Gr. II	.. ..	..	1
15.	Dhobi	.. ..	..	1

(*c*)

Sl. No.	Health Section	No. of posts admissible
1.	Jr. Health Inspector	1
2.	Fieldman Gr. I	3
3.	Sweeper/Scavenger	19

(*d*) *Distribution of Lines* (O & M and Colony)

Sl. No:	Nomenclature	No. of posts admissible
1.	Supervisor (Elecl.)	1 (Attached with MCA)
2.	Mechanic Gr. II	1 (Attached with CA)
3.	Attendant Gr. I	3 (Attached with CA)
4.	Attendant Gr. Il	2 (Attached with CA)

(*e*) *Workshop and Transport* :

Sl. No.	Nomenclature		No. of posts admissible
1.	Supervisor	..	1
2.	Mechanic-*cum*-Turner Gr. II	..	1
3.	Fitter Gr. III	..	1
4.	Helper	..	1
5.	Driver Gr. II	..	2
6.	Cleaner	..	1

(*f*) *For Office* :

1.	Senior Draftsman	..	1

III. Following are the work load norms for Munirabad Generating Station :

(*a*) *Electrical and Hydraulic Sections* :

Sl. No.	Nomenclature	No. of posts admissible				TOTAL
		Shift		General Maintenance		
		Elecl.	Hydraulic	Elecl.	Hydraulic	
1	2	3	4	5	6	7
1.	Assistant Engineer ..	4	..	1	1	6
2.	Junior Engineer ..	4	4	1	1	10
3.	Supervisor ..	..	..	1	..	1
4.	Merit Grade Mechanic ..	..	..	1	..	1
5.	Assistant Cable Jointer ..	..	..	1	..	1
6.	Station Mechanic Gr. I ..	..	..	1	1	2
7.	Station Mechanic Gr. II ..	8	4	4	3	19
8.	Station Attendant Gr. I ..	4	4	5	6	19
9.	Station Attendant Gr. II ..	4	4	..	6	14

(*b*) *Civil Engineering Section* :

Sl. No.	Nomenclature of the posts		No. of posts admissible
1.	Junior Engineer (Civil)	..	1
2.	Supervisor (Civil)	..	1
3.	Maistry Gr. II	..	2
4.	Carpenter Gr. II	..	1
5.	Mason Gr. II	..	1
6.	Plumber Gr. III	..	1
7.	Painter Gr. II	..	1
8.	Helper (Civil)	..	2
9.	Mali Gr. I	..	2
10.	Cook-*cum*-Butler	..	1
	(*c*) *Health Section* :		
1.	Senior Health Inspector	..	1
2.	Junior Health Inspector	..	1
3.	Maistry Gr. II	..	1
4.	Fieldman Gr. II	..	2
5.	Fieldman Gr. III	..	2
6.	Sweeper/Scavenger	..	12
	(*d*) *Workshops and Transport* :		
1.	Supervisor (Electrical)	..	1
2.	Mechanic Gr. I/Machinist Gr. I		2
3.	Turner-*cum*-Mechanic Gr. II	..	1
4.	Welder-*cum*-Mechanic Gr. II	..	1
5.	Blacksmith	..	1
6.	Carpenter Gr. II	..	1
7.	Painter Gr. I	..	1
8.	Hammerman	..	1
9.	Fitter Gr. III	..	2
10.	Puncher-cum-Cutter	..	1
11.	Helper	..	4
12.	Driver Gr. I	..	1
13.	Driver Gr. II	..	4
14.	Cleaner	..	4

TABLE 13

Major Receiving Stations
Work Load Norms

I. *Peenya Receiving Station* :

(*a*)

Sl. No.	Nomenclature	No. of posts admissible for		TOTAL
		Shift	General Maintenance	
1.	Asst. Engineer ..	4	2	6
2.	Junior Engineer ..	4	2	6
3.	Supervisor ..	4	2	6
4.	Merit Grade Mechanic		1	1
5.	Cable Jointer		1	1
6.	Station Mechanic Gr. I ..		3	3
7.	Station Mechanic Gr. II	12	3	15
8.	Crane Operator Gr. II		1	1
9.	Station Attendant Gr. I	4	12	16
10.	Station Attendant Gr. I (Lines)		2	2
11.	Station Attendant Gr. I (Tool keeping)		1	1
12.	Station Attendant Gr. II	8	11	19
13.	Mali Gr. II		2	2
14.	Sweeper/Scavenger		5	5

Note: Allocation for shift staff in station

Sl. No.	Nomen-clature	Asst. Engr.	Jr. Engr.	Supr.	Stn. Mech. Gr. II	Stn. Atten-dant Gr. I	Stn. Atten-dant Gr. II
1.	Control Room	4	..	4	..	..	4
2.	L.T. Switch Gear Panel (Ground Floor)	..	4	..	4	..	..
3.	O.D.S.	..	..	..	4	..	4
4.	Pump House	..	..	..	..	4	..
5.	Bore Well and Water Supply	..	..	..	4	..	..

(*b*) *Workshop* :

Sl. No.	Nomenclature	No. of posts admissible
1.	Mechanic Gr. I —	.. 1
2.	Mechanic-*cum*-Fitter Gr. II	.. 3
3.	Helper (Workshop)	.. 1
4.	Driver Gr. II	.. 4
5.	Cleaner	.. 2
		..

(*c*) *Peenya Division Office* :

1.	Assistant Engineer, Electrical	..	1
2.	Junior Engineer, Electrical	..	2
3.	Tracer/Blueprinter	..	1

(*d*) *N.R.S. Bangalore* (*including* 11 *kV MUSS*)

(i) *N.R.S. and* 11 *kV MUSS* :

Sl. No.	Nomenclature	No. of posts admissible		
		Shift	General Maintenance	TOTAL
1.	Assistant Engineer ..	4	1	5
2.	Junior Engineer ..	4	1	5
3.	Supervisor ..	8	1	9
4.	Station Mechanic Gr. I ..	..	1	1
5.	Station Mechanic Gr. II ..	4	2*	6
6.	Station Attendant Gr. I ..	8	14	22
7.	Station Attendant Gr. I (Colony Distribution) ..	..	1	1
8.	Station Attendant Gr. I (Tool-keeping) ..	..	1	1
9.	Station Attendant Gr. II ..	8	..	8
10.	Sweeper/Scavenger ..	..	2	2

* Inclusive of one Grade Operator

(*ii*) *Telephone Exchange* (*NRS*) :

Sl. No.	Nomenclature	No. of post admissible
1.	Operator ..	4

Note : *Allocation of Staff for Shift Duties* :

Sl. No.	Nature of work	Asst. Engr.	Jr. Engr.	Supr.	opera-tor	Mecha-nic Gr. II	Stn. Attendant Gr. I	Stn. Attendant Gr. II
1.	Control Room	4	..	..	..	..	..	4
2.	L.T. Switch Gear Pannel and O.D.S.	..	..	4	..	4	..	..
3.	Pump House	..	..	..	..	..	4	..
4.	F.C. Set	..	4	..	..	..	4	..
5.	11 kV M.U.S.S.	..	..	4	..	..	..	4
6.	Telephone Exchange	..	..	..	4	..	..	..

II. *M.R.S. Shimoga :*

Sl. No.	Nomenclature	No. of posts admissible		TOTAL
		Shift	Gen. Maintenance	
1.	Assistant Engineer ..	4	2	6
2.	Jr. Engineer ..	4	2	6
3.	Supervisor (El.) ..	4	2	6
4.	Supervisor (Civil) ..	..	1	1
5.	Operator ..	4	..	4 (11 KV MUSS)
6.	Merit Grade Mechanic ..	..	1	1
7.	Cable Jointer ..	..	1	1
8.	Stn. Mechanic Gr. I ..	..	4	4
9.	Stn. Mechanic Gr. II ..	12	5	17
10.	Crane Operator Gr. II ..	..	1	1
11.	Painter Gr. I ..	..	2	2 (one for Colony and the other for Station)
12.	Mason Gr. I ..	..	1	1
13.	Mechanic Gr. II ..	..	1	1
14.	Stn. Attendant Gr. I ..	4	10	14
15.	Stn. Attendant Gr. I (for Colony distribution) ..	..	2	2
16.	Stn. Attendant Gr. I (for Toolkeeping) ..	..	1	1
17.	Stn. Attendant Gr. II ..	12	16	28
18.	Helper (Civil) ..	..	2	2
19.	Mali Gr. II ..	..	3	3
20.	Sweeper/Scavenger ..	..	10	10 (6 posts for Colony maintenance)

Note : *Allocation of Staff for Shift Duties* :

Sl. No.	Nomenclature	Asst. Engr.	Jr. Engr.	Supr.	Operator	Stn. Mechanic	Station Attendant Gr. I	Station Attendant Gr. II
1.	Control Room	4	..	4	..	..	..	4
2.	L.T. Switch Gear Pannel and Compressor (Ground Floor)	..	4	..	..	4	..	..
3.	O.D.S. 66 kV/110 kV	..	..	..	..	4	..	4
4.	O.D.S. 220 kV	..	..	..	..	4	4	..
5.	M.U.S.S. 110 kV	..	..	..	4	..	..	4

III. *S.R.S. Hubli :*

Sl. No.	Nomenclature of the post	No. of posts admissible		TOTAL
		Shift	General Maintenance	
1.	Assistant Engineer ..	4	1	5
2.	Jr. Engineer ..	4	1	5
3.	Supervisor ..	4	1	5
4.	Merit Grade Mechanic ..	..	1	1
5.	Cable Jointer ..	..	1	1
6.	Stn. Mechanic Gr. I ..	..	2	2
7.	Stn. Mechanic Gr. II ..	4	4	8
8.	Crane Operater Gr. II ..	..	1	1
9.	Stn. Attendant Gr. I ..	4	3	7
10.	Stn. Attendant Gr. I (Tool keeping) ..	..	1	1
11.	Stn. Attendat Gr. II ..	8	6	14
12.	Mali Gr. II ..	..	1	1
13.	Sweeper/Scavenger ..	..	3	3

Note : *Allocation of Staff for Shift Duties* :

Sl. No.	Nomenclature	Asst. Engr.	Jr. Engr.	Supr.	Stn. Mech. Gr. II	Station Attendant Gr. I	Station Attendant Gr. II
1.	Control Room	4	..	4	..	..	4
2.	L.T.S. Panel	..	4	..	..	4	..
3.	O.D.S.	..	..	..	4	..	4

IV. *F.T.S., Mysore* :

Sl. No.	Nomenclature	No. of posts admissible: Shift Maintenance	No. of posts admissible: Gen.	Total	Remarks
1.	Assistant Engineer	..	1*	1	* He will be in charge of Mysore South Sub-Station and M.C.F. Belagola Station. A vehicle shall be provided to the Asst. Engr. for his duties in all these three Stations
2.	Junior Engineer	4	1	5	
3.	Supervisor	8	..	8	
4.	Cable Jointer	..	1	1	
5.	Stn. Mechanic Gr. I	..	3	3	
6.	Stn. Mechanic Gr. II	4	2	6	
7.	Stn. Attendant Gr. I	8	12	20	
8.	Stn. Attendant Gr. II	4	4	8	
9.	Sweeper/ Scavenger	..	1	1	

Note : *Allocation of Staff for Shift Duties* :

Sl. No.	Nature of Duties	Jr. Engr.	Supr.	Stn. Mech.	Station Attendant	
					Gr. I	Gr. II
1.	Control Room ..	4	4	..	..	4
2.	L.T. Switchgear ..	..	..	..	4	..
3.	F.C. Set groundfloor ..		4	..	4	..
4.	L.D.S. and Transformer ..	..	..	4	..	..

V. *K.G.F. Station* :

Sl. No.	Nomenclature	No. of posts admissible		TOTAL
		Shift	General Maintenance	
1.	Assistant Engineer ..	..	1	1
2.	Junior Engineer ..	4	1	5
3.	Supervisor ..	4	..	4
4.	Stn. Mechanic Gr. I ..	..	1	1
5.	Stn. Mechanic Gr. II ..	4	2	6
6.	Stn. Attendant Gr. I ..	4	2	6
7.	Stn. Attendant Gr. II ..	4	.	4
8.	Mali Gr. II ..	..	1	1
9.	Sweeper/Scavenger ..	..	4	4

Note : *Allocation of Staff for Shift Duties* :

Sl. No.	Nature of Work	Jr. Engr.	Supr.	Stn. Mech.	Station Attendant	
					Gr. I	Gr. II
1.	Control Room	4	..	..	..	4
2.	L.T. Switchgear Groundfloor	..	4	..	4	..
3.	Pump House	..	..	4	..	..

VI. 220 *kV Station at Hootagally, Mysore*:

Sl. No.	Nomenclature	No. of posts admissible		TOTAL
		Shift	General Maintenance	
1.	Assistant Engineer	..	1	1
2.	Junior Engineer	4	1	5
3.	Supervisor	4	1	5
4.	Assistant Cable Jointer	..	1	1
5.	Stn. Mechanic Gr. I	..	1	1
6.	Stn. Mechanic Gr. II	4	3	7
7.	Stn. Attendant Gr. I	4	..	4
8.	Stn. Attendant Gr. II	4	3	7
9.	Mali Gr. II	..	2	2
10.	Sweeper/Scavenger	..	4	4

Note : *Allocation of Staff for Shift Duties* :

Sl. No.	Nature of Work	Jr. Engr.	Supr.	Stn. Mech.	Station Attendant	
					Gr. I	Gr. II
1.	Control Room	4	..	..	..	4
2.	L.T. Switchgear	..	4	4	..	..
3.	O.D.S.	..	..	..	4	..

VII. 220 *kV Receiving Station at Mercara—Mangalore*:

Sl. No.	Nomenclature	No. of posts admissible		TOTAL
		Shift	General Maintenance	
1.	Assistant Engineer	..	1	1
2.	Junior Engineer	4	1	5
3.	Supervisor	4	1	5
4.	Stn. Mechanic Gr. I	..	1	5
5.	Stn. Mechanic Gr. II	4	3	7
6.	Stn. Attendant Gr. I	4	..	4
7.	Stn. Attendant Gr. II	4	3	7
8.	Mali Gr. II	..	2	2
9.	Sweeper/Scavenger	..	4	4

Note : *Allocation of Staff for Shift Duties* :-

Sl. No.	Nomenclature of Duties	Jr. Engr.	Supr.	Stn. Mech.	Station Mechanic	
					Gr. I	Gr. II
1.	Control Room	4	..	..	..	4
2.	L.T. Switch Gear	..	4	4		..
3.	L.D.S.	..	..	..	4	..

VIII. 220 *kV Station at Lingapur—Munirabad* :

Sl. No.	Nomenclature	No. of posts admissible		TOTAL
		Shift	General Maintenance	
1.	Assistant Engineer	..	1	1
2.	Junior Engineer	4	1	5
3.	Supervisor	4	..	4
4.	Stn. Mechanic Gr. I	..	1	1
5.	Stn. Mechanic Gr. II	..	2	2
6.	Stn. Attendant Gr. I	..	3	3
7.	Stn. Attendant Gr. II	4	..	4
8.	Mali Gr. II	..	1	1
9.	Sweeper/Scavenger	..	2	2

IX. 220 *kV Station at Belgaum* :

Sl. No.	Nomenclature	No. of posts admissible		TOTAL
		Shift	General Maintenance	
1.	Assistant Engineer	..	1	1
2.	Junior Engineer	4	1	5
3.	Supervisor	4	..	4
4.	Station Mechanic Gr. I	..	1	1
5.	Station Mechanic Gr. II	..	1	1
6.	Station Attendant Gr. I	..	2	2
7.	Station Attendant Gr. II	4	..	4
8.	Mali Gr. II	..	1	1
9.	Sweeper/Scavenger	..	1	1

TABLE 14

Work Load Norms for Stepdown Stations of Voltage Class 66 *kV and above except those Mentioned in Table* 13

I. Following are the minimum No. of posts admissible for each station:

(*a*) Shift staff (operation):

(i) Supervisor 4 posts

(ii) Stn. Attendant Gr. II 4 posts

(*b*) General maintenance staff:

(i) Jr. Engineer 1 post

(ii) Stn. Mechanic Gr. II 1 post

(iii) Stn. Attendant Gr. I 1 post

II. For determining the additional No. of maintenance men required for general maintenance work in the Station, following chart may be made use of:

Sl. No.	Particulars of the equipments	Standard time allowed in minutes per unit per month	×	No. of equipments in the station	=	Total standard time admissible
1	2	3		4		5
1.	Maintenance of O.D.S. yard	3,570		..		..
2.	do.	of Earths (20 earth pits)	3,830*	..		..
3.	do.	of Disconnects 66 kV/110 kV	90	..		..
3. (*a*)	do.	of Disconnects 33 kV/11 kV	43	..		..
4.	do.	of minimum oil circuit breaker	720	..		..
5.	do.	of bulk oil OCB	1,250	..		..
6.	do.	of transformer upto 10 MVA	760	..		..
7.	do.	of O.L.T.C.	160	..		..
7. (*a*)	do.	of Station Auxillary Transformer	200	..		..
8.	do.	of Lightning Arrester	70	..		..

9.	do.	of P.T. and C.T.	250	..	..
10.	do.	of 11 kV switchgear pannel (8 cubicals per unit)	3,560	..	..
11.	do.	of Station Battery	510	..	..
12.	do.	of Fire protection equipments—			
		(*a*) CO_2 type	20×2	..	..
		(*b*) Foam type	60×1	..	..
		(*c*) CTC type	5	..	..
13.	do.	of control pannels for 8–10 pannels	3,980	..	..†
14.	Breakdown and Shutdown works		2,430	..	..
				Total time admissible for the Stn.	

* per 20 earths. † For major stations only.

$$\frac{\text{Total time admissible for the station}}{11320} = \text{No. of maintenance men admissible.}$$

Subject to minimum limit mentioned *vide* Para–I *supra*.

When total time admissible, is divided by 11,320, if the remainder of total time is 5,660 minutes or above, one more man is admissible, and if it is less than 5,660 minutes the work representing this time shall be attended to by the existing men only.

(*a*) After determining the total number of men admissible for the Station, following chart shall made use of for arriving at the cadre composition of men.

Total No. of men arrived at as per calculations	Station Mechanic Gr. II	Station Attendant	
		Gr. I	Gr. II
2	1	1	..
3	1	1	1
4	1	1	2
5	1	2	2
6	2	2	2

Note.—One post of Stn. Mechanic Gr. II shall be converted to the post of Stn. Mechanic Gr. I in the Stations at (1) Davangere, (2) Doddaballapur , (3) Bagalkot, (4) Shahabad, (5) Hiriadka, (6) Bhadravati, (7) Chikkamagalur, (8) Belgaum.

III. (i) One post of Assistant Engineer for supervision and control is admissible for the Stations at Belgaum and Bagalkot, and similarly one post of Assistant Engineer for the Ring Main Stations at Bangalore.

(ii) In the Stations at Davangere, Shahabad and likewise depending upon the operational requirements of the Station, if it is found that the No. of Station Attendants Gr. II provided under the norms are not sufficient, the Ex. Engineer may send proposals for such additional No. of Station Attendant Gr. II that are absolutely necessary in the exigencies of the work in the Station.

TABLE 15

Work Lord Norms for 33 kV Stations

I. Following posts are admissible for each 33 kV Station :

(*a*) Shift Staff (Operation) :

(i) Operater	4 posts
(ii) Station Attendant Gr. II	3 posts.

(*b*) General Maintenance :

(i) Supervisor	1 post
(ii) Station Mechanic Gr. II	1 post
(iii) Station Attendant Gr. I	1 post.

II. (i) In case of Sub-stations which are in the nature of terminus (Deadend) stations, the services of the Supervisor in charge of the Sub-station may be utilized for any one of the following works :

(*a*) R.C.C. Pole Manufacturing Centre,

(*b*) Distribution O and M Section.

(ii) In case distribution O and M Section is attached to the Supervisor, the work load may be limited to 75% of the work load as per work norms *vide* Table I.

III. Following Posts are admissible for each 11 kV Switching Station in Bangalore.

(i) Operator	4 posts
(ii) Station Attendant Gr. II	4 posts.

Note.—General maintenance of the switching station shall be attended to by the Junior Engineer of the O and M section in whose jurisdiction the station is located.

TABLE 16—(Deleted)

TABLE 17

Work Load Norms for Technical Sections

I. *O and M Sub-divisions* : There shall be one post of Jr. Engineer (Graduate/Non-graduate) for each O and M Sub-division Office. The incumbent thereof shall work as Junior Technical Assistant.

II. *O and M Divisions* ; The Technical Section in every O and M Division Office shall consist of one post of Assistant Engineer and other posts based on the number of installations in the division as per the following chart :

Sl. No.	No. of Installations	No. of posts admissible		
		Jr. Engr.	Supr.	Tracer
1.	Installations upto 20,000	.. 1	..	1
2.	do. above 20,000 and upto 45,000	.. 2	..	1
3.	do. above 45,000 and upto 75,000	.. 2	1	1
4.	do. above 75,000 and upto 1,10,000	.. 2	2	1
5.	do. above 1,10,000 and upto 1,50,000	.. 2	3	1

III. *Circle Offices (O and M)* :

(i) *Bangalore Circle Office* : The Technical Section shall consist of following posts :

(*a*) Assistant Engineer	1 post
(*b*) Junior Engineer	1 post for each O and M attached to the circle + 1 additional post for all other Divisions attached to the Circle
(*c*) Supervisor	2 posts
(*d*) Assistant Draughtsman	1 post.

(ii) *All Other Circles Except Bangalore Circle* :

(a) Assistant Engineer	1 post
(*b*) Junior Engineer	1 post for each O and M Divisions attached to the Circle
(*c*) Supervisor	1 post
(*d*) Assistant Draughtsman	1 post.

IV. *Office of the CEE (Gen.), CEE (North) and CEE (South)* : The No. of posts of Assistant Engineer, Jr. Engineer, Supervisor, Sr. Draughts man, Draughtsman, Assistant Draughtsman and Tracer/Blueprinter required for the offices may be regulated to meet the work load requirements of the Plan Programmes. However, the minimum No. of posts shall be as follows in respect of the posts specified hereunder :

(i) *Office of the Chief Engineer, Electricity (General), Bangalore (Technical Section)* :

Sl. No.	Nomenclature of the posts	No. of posts
1.	Supervisor	4
2.	Senior Draughtsman	1
3.	Draughtsman	2
4.	Assistant Draughtsman	2
5.	Tracer/Blue Printer	1

(ii) *Offices of the Chief Engineer, Electricty (North), Hubli (Technical Section)* :

1.	Senior Draughtsman	1
2.	Draughtsman	1

(iii) *Offices of the Chief Engineer, Electricity (South), Bangalore (Technical Section)* :

1.	Supervisor	1
2.	Senior Draughtsman	1

TABLE 18

Work Load Norms for Stores

1. *O and M Sub-divisional Stores* .

Each O and M Sub-division shall have a sub-divisional stores except where the divisional stores/regional stores is situated within a distance of 3 Kms. from the Sub-divisional headquarters. The number of posts admissible for the Sub-divisional stores shall be determined as follows : The Sub-divisional Officer shall be the Store Officer of the Sub-divisional Stores.

Sl. No.	Work load	No. of posts admissible					
		Store-keeper grade II	Assistant store keeper	Maistry Gr. II	Store attendant grade I	Helper stores	Watch-man
1.	Transactions upto 3,000 invoices per year	..	1	..	1	3	2
2.	Above 3,000 upto 4,000 per year (invoices)	..	1	..	1	4	2
3.	Above 4,000 upto 6,000 per year (invoices)	1	1	..	2	5	2
4.	Above 6,000 per year (invoices)	1	1	1	2	6	2

Note.—A sub-divisional stores shall be provided for the Shimshapura Generating Station.

II. *O and M Divisional Stores* :

Each O and M Division shall have Divisional Stores. The Assistant Engineer in charge of the Technical Section in the Divisional Office shall be the Store Officer.

The number of posts admissible for the Divisional stores shall be determined as follows :

Sl. No.	Work load	Storekeeper grade II	Asst. store keeper	Maistry grade II	Store attendant grade I	Helper stores	Watchmen	Sweeper/ scavenger	Remarks
	Transactions per year:								
1.	Upto 6,000 invoices per year	1	1	1	2	6	3	1	
2.	Above 6,000 and upto 9,000 invoices per year	1	2	1	3	7	3	1	
3.	Above 9,000 invoices per year	1	2	1	4	8	3	1	

Note.— (i) Sivasumadram Generating Station Division, Jog, S.R.S. Peenya Division, M.T. Division Bangalore, T.C. Division Bangalore Central Workshsop Division, Bangalore, may also have divisional stores but the No. of store helpers admissible shall be four only, as against six in respect of these stores except stores at Sivasamudram and Jog. The Executive Engineer of these divisions may place the stores under the supervision of one of the Assistant Engineers of the divisions in the Divisional Headquarters.

(ii) In the divisional headquarters where there is regional stores, no separate divisional stores shall be admissible for those divisions and materials can be obtained directly from the Regional Stores.

III. *Regional Stores* :

There shall be one Regional Stores at each of the following Circle Headquarters. Mysore, Shimoga, Hubli, Munirabad and Gulbarga for purpose of procurement and distribution of materials to the Sub-divisional and Divisional Stores in their respective Circles. These Regional stores shall be controlled by the Superintending Engineers of the Circle in so for as the procurement and distribution of materials are concerned. However, all other items of work connected with Stores accounts, passing of bills, pay and allowances of stores staff shall be attached to the O and M Division at the Circle Headquarters. Each Regional Stores shall be entitled for one Assistant Engineer and Typist. Other Staff shall be based on the following charts :

(a) Store Room and Out Door Yard Staff

Sl. No.	Reference to Stores transactions per year	No. of posts admissible						Remarks
		Store-keeper Gr. II	Asst. Store-keeper	Store attendant Gr. I	Helper stores	Watch-man	Sweeper/ scavenger	
1.	Upto 10,000 invoices	2	2*	4	4	6	1	
2.	Above 10,000 and upto 15,000 invoices	2	3*	5	6	6	1	

* If construction division or sub-division in the circle are also obtaining materials directly from the regional stores and they have no independent stores, then one additional Assistant Storekeeper is admissible for Regional Stores.

(*b*) *Forwarding and Clearance Staff*

Sl. No.	Reference to stores transactions in a year	No. of posts admissible					
		Supr.	Maistry		Store attendant Gr. I	Helper stores	
			Gr. I	Gr. II			
1.	Upto 10,000 invoices	2	1	1	2	8	
2.	Above 10,000 and upto 15,000 invoices	2	1	1	3	10	

(*c*) *Transport Staff*:

1.	Tractor driver Gr. I	1 post
2.	Driver Gr. II	2 posts
3.	Cleaner	3 posts

IV. 1. *CENTRAL STORES* : The Central Stores at Bangalore, placed under the control of an Executive Engineer (Elec.) shall be responsible to receive and distribute all such materials which by circumstances cannot be directly consigned to the Regional or Divisional Stores.

2. The Executive Engineer shall be assisted by the Assistant Engineers (Elec.) for supervision and administration of the Stores transactions and transport work.

3. In order to meet the requirements of work load, the housing and handling of materials of the Central Stores shall be allocated among six Store houses as hereunder :

Store Houses	Nature of materials for storing and handling
1. Store House No. 1 ..	Hardware materials, U.G. Cable Reels, Released Transformers, Line Supporters, etc.
2. Store House No. 2 ..	Meters, Metering equipments, Street light fittings—furniture, spares for switches, Tele-communication equipments, etc.
3. Store House No. 3 ..	Line Materials, Cable accessories, LT Distribution boxes, control cable, LT Cable, transformer, vehicle accessories, etc.
4. Store House No. 4 ..	Transformers, LT Feeder Pillar boxes, H.T.-Feeder Pillars guy wires, Insulators, Switchgear Pannels, vehicles, GOS (33 kV) and above) Petrol, HSD. Oil, Transil Oil and mobile Oil, etc.
5. Store House No. 5 ..	Released materials for disposal, scrap and obsolete materials, etc.
6. Store House No. 6 ..	Stationery articles.

Based on the work load in terms of transactions of materials in each of the Store houses, and to fulfil the requirements of Transport, loading and unloading, stocking of materials, etc., the complement of staff shall be as follows :

Abstract of Staff Complement for Central Stores, Bangalore :

Sl. No.	Nomenclature	No. of posts
1.	Assistant Engineer (Electrical)	.. 2
2.	Supervisor, Electrical	.. 3
3.	Store-keeper Gr. I	.. 4
4.	Store-keeper Gr. II	.. 2
5.	Assistant Store-keeper	.. 7
6.	Maistry Gr. I	.. 3
7.	Maistry Gr. II	.. 8
8.	Helpers (Stores)	.. 84
9.	Store Attendant Gr. I	.. 48
10.	Jamedar (Watch and Ward)	.. 4
11.	Watchman	.. 19
12.	Sweeper/Scavenger	.. 2

The allocation of staff for various Store houses and Forwarding and Clearing Sections shall be as hereunder :

1. *Receipis and Issue of Materials* :

Sl. No.	Store house particulars	No. of posts in each category					
		Store-keeper Gr. I	Store-keeper Gr. II	Assis-tant Store-keeper	Mais-try Gr. II	Store Atten-dant Gr. I	Helper (Stores)
1.	Store house No. 1	1	..	1	1	8	10
2.	Store house No. 2	1	..	1	1	4	6
3.	Store house No. 3	1	..	1	1	4	6
4.	Store house No. 4	1	..	2	1	4	6
5.	Store house No. 5 (Scrap disposal)	..	1	1	2	6	14
6.	Store house No. 6 (Stationery)	..	1	1	..	1	2

II. *Forwarding and Clearing Sections :*

Sl. No.	Nomenclature	Section I	Section II	Section III	TOTAL
1	2	3	4	5	6
1.	Supervisor (Elecl.)	1	1	1	3
2.	Maistry Gr. I	1	1	1	3
3.	Maistry Gr. II	1	..	1	2
4.	Store Attendant Gr. I	6	6	9	21
5.	Helper (Stores)	10	8	22	40
6.	Jamedar (Watch and Ward)	..	4	..	4
7.	Watchman	7	12	..	19
8.	Sweeper/Scavenger	1	1	..	2

Note

1. Employment of temporary time roll men shall strictly be avoided.

2. The staff complement attached to each of the store houses shall be placed under the control of the store-keeper in-charge of the concerned store house.

3. The accounts of the stationary articles shall be maintained in the prescribed registers and transactions recorded therein as in the case of other transactions in the stores.

4. In order to ensure qualitative and quantitative checks for compliance with specifications contained in the orders for supply of materials that are consigned to the Central Stores by suppliers an inspection wing with the following staff complement shall be attached to purchase section under the chief Engineer, Electricity (Gen.)

(1) Assistant Engineer, Electrical	1 post
(2) Jr. Engineer, Electrical (Graduate)	2 posts

This Inspection Wing shall be directly responsible to the Superintending Engineer, Electrical (Purchase).

Transport Sub-Division (for Central Stores Division), Bangalore :

The fleet of transport vehicles attached to Central Stores Division shall be placed in-charge of an Assistant Engineer, under Central Stores Division for supervision, maintenance, repairs, new registrations, etc. of the transport vehicles. The sub-division shall have two sections, one for operation and maintenance of vehicles and the other one being workshop, for repairs and maintenance of the vehicles. The staff complement for each section shall be as follows :—

		No. of posts
A. *General Staff* :		
1. Assistant Engineer, Electrical	..	1
2. Typist	..	1
3. Office Attendant Gr. II	..	1
B. *Section I* :		
1. Supervisor	..	1
2. Assistant Foreman	..	1
3. Driver Special Grade *	..	2
4. Driver Gr. I	..	12
5. Driver Gr. II	..	33
6. Cleaners	..	19
7. Typist	..	1
8. Office Attendant Gr. II	..	1

* for Tractor and Trailor of 35 tonnes and above

Note

1. The post of Assistant Foreman is provided for supervising the repair works of all kinds that will be undertaken in the workshop as also to attend to the problems connected with the registration of vehicles at the RTO's office involving renewal of Fitness Certificate, Private carrier permits, insurance etc.

2. Each Tractor-Trailor of capacity 35 tonnes and above shall be provided with one driver special grade.

3. The provision of drivers and cleaners be regulated from time to time at the rate of one driver Gr. I and one cleaner per Tractor and Trailor of less than 35 tonnes capacity, one driver Gr. II and one cleaner per truck (lorry), one driver Gr. II only for each of the other vehicles like jeeps, cars, etc. In case vehicles are to be used for more than one shift, each shift shall be provided with one driver of the appropriate grade.

4. Provision of leave revervists at 6% be made in respect of drivers Gr. I and II and cleaners.

C. *Section II— Workshop (Repairs and Maintenance)*:

Sl. No.	Nomenclature of the posts		No of posts
1.	Supervisor, Electrical	..	1
2.	Auto Mechanic Gr. I	..	3
3.	Auto Mechanic Gr. II	..	3
4.	Attendant Gr. I	..	1
5.	Auto Helpers/Cleaners	..	10

TABLE 19

Wrok Load Norms for Meter and Transformer Testing Units

I. *Meter and Transformer Testing Divisions* : Testing, repair and calibration of energy meters, rating of L.T. Power installations, testing and repairing of power and distribution transformers, rectification of faults in OCBs. Generators, meters and other switchgear equipments and their repairs etc., shall be placed under the charge of the two M.T. Divisions, one at Bangalore and another at Hubli for South and North Zones respectively. These divisions shall carry out the works through sub-divisions. The activities in these divisions can be broadly brought under two classifications as hereunder. The activities connected with meters shall be placed under the charge of sub-divisions located in each of the O and M Circle Headquarters. The activities connected with transformer testing/repairs and testing of switchgear, commissioning of new equipments in Receiving/sub-stations etc., shall be under the charge of one sub-division in each of the two M.T. Divisions, one at Bangalore and another at Hubli as at present.

A. *Activities pertaining to Meters* :

(*a*) Testing and calibration of meters of L.T. Installations.
(*b*) Rating of L.T. Power installations and Street lights.
(*c*) Repairs and reconditioning, testing and calibrating faulty Meters.

B. *Activities pertaining to transformer and equipments* :

(*a*) Transformer repairs, reclamation and testing.
(*b*) Rewinding of Motors and Generators etc.
(*c*) Attending to breakdowns and repairs to equipments.

II. *Meter Testing Sub-divisions* : Each O and M Circle shall have a M.T. Sub-division located at the Headquarters of the Circle under the administrative control of the Superintending Engineer, Electrical and Technical control of the respective M.T. Divisions for supervising, checking and controlling the activities of .M.T. Sections in each O and M Divisions.

The Assistant Engineer of each M.T. Sub-division is responsible to plan and organise the activities of the M.T. Sections in his jurisdiction, conduct inspection of works, test check certain items of works to ensure desired accuracy in the works carried out by the sections and to render technical guidance necessary for them. The other duties and functions of the Assistant Engineer are, scrutinising the rating reports of the L.T. Power installations in his jurisdictions, pursue progress of Meter Testing and calibration, to keep up the schedule and attend to the connected correspondence and administrative matters. Detailed job descriptions are enumerated in the Board Order No. KEB/WLIC. 9/74–75, dated 15th April 1975:

The duties of the Assistnt Engineer shall include the following besides those enumerated in the Board Order dated 15th April 1975.

I. *GENERAL* :

1. Plan and organise the programme of works of the sections.

2. Overall supervision of work of sections.

3. Scrutiny of rating reports and forwardal of the same to the concerned O and M divisions.

4. All other connected office works incidental to the above.

II. *TEST CHECKS* :

1. *Meter in Single phase installations* : The Assistant Engineer shall pick-up installations at random where the routine testing and calibration will have been carried out by the testing batches and carry out a fresh test and calibration by making the concerned batch re-inert the very same testing equipment in the presence of the Assistant Engineer at the rate of 1% per month of the number of meters tested and calibrated by each batch.

2. *L.T. Power installations* : The Assistant Engineer shall pick-up installations at random out of those already rated by the rating batches and carry out test check using the vey same testing equipment at the rate of one installation per batch per month.

3. *Test Check—Readings of Meters* : The Assistant Engineer shall take test readings of 10 installations per batch per month in respect of Single phase meters and two installations per month per batch in the case of L.T. 3 phase power installations. A report of the readings so taken may be made to the concerned officers where the relative Revenue ledgers are maintained under a copy to the concerned O and M Divisions.

Note.—In Bangalore, a certain proportion of the work mentioned above may be shared by the Executive Engineer also.

Each M.T. Sub-division shall have the following staff complement :

1.	Assistant Engineer	.. One post
2.	Typist	.. One post
3.	Driver Gr. II	.. One post
4.	Office Attendant Gr. II	.. One post

Each Sub-division shall be provided with one suitable vehicle for inspection works of the Assistant Engineer.

III. *H.T. INSTALLATIONS—TESTING AND CALIBRATION OF METERS* :

(*a*) *In all Circles other than Bangalore Circle* ; testing and Calibration of meters in H.T. Installations as at present, shall be carried out by the R.T. Sub-divisions in all the places other than Bangalore.

(*b*) *In Bangalore Circle*, testing and Calibration of meters of H.T. Installations in Bangalore Circle shall be carried out by the M.T. Division, Bangalore, under the supervision and control of an Assistant Engineer. A Sub-division comprising of the following staff complement shall be in charge of H.T. Installations testing and calibration of meters in H.T. Installations for Bangalore Circle,

Sl. No.	Nomenclature of posts		No. of posts
1.	Assistant Engineer, Electrical	..	1
2.	Junior Engineer, Electrical	..	1
3.	Mechanic Gr. I (M.T.)	..	1
4.	Attendant Gr. I (M.T.)	..	2
5.	Typist	..	1
6.	Office Attendant Gr. II	..	1
7.	Driver Gr. II	..	1

A suitable vehicle shall be provided for the Sub-division for conveying the testing equipment and the testing batches.

IV. *M.T. Sections* :

(*a*) All O and M Divisions shall have one M.T. Section each located at the headquarters for carrying out Testing and Calibration of Meters and Rating of L.T. Power installations. The section shall be under the technical control and supervision of the Assistant Engineer of the M.T. Sub-division located at headquarters of each O and M Circle. However, the section shall be under the administrative control of the Executive Engineers of the concerned O and M Divisions.

(*b*) The Section shall be under the control of a Junior Engineer out of the total staff complement admissible for the section. The staff complement for each section shall be based on the work load of the section with reference to the number of installations in the Division as enumerated under norms for Meter Testing and Calibrating and Rating of L.T. 3 Phase Power Installations. Norms for providing testing batches, supervisory personnel shall be as detailed hereinunder

(*c*) *Norms for Meter Testing and Calibrating* : The testing and calibration of Single Phase Meters shall be carried out at the premises of the installations, that means meters need not be released and brought to laboratories for routine testing and calibration. Testing and Cali-

bration of each of the Single Phase Meters shall be carried out once in three years. The job descriptions of the posts attached to these sections are enumerated in the B.O. No. KEB/WLIC. 9/74–75, dated 15th April 1975.

A batch consisting of one Mechanic Gr. II (M.T.) and one Attendant Gr. II (M.T.) under the supervision of a Supervisor (Electrical) shall carry out the testing and calibrating at the premises of the installations and the work load of each such batch shall be as follows :—

Sl. No.	Classification for work load	Monthly work load for Testing and Calibrating Single Phase Meters
1.	For all areas in O and M Divisions except Bangalore, Mysore and Hubli Cities ..	380 Nos.
2.	For Bangalore, Mysore and Hubli Cities where Transport vehicles shall be provided ..	600 Nos.

(*d*) Having regard to the work load (in terms of Single phase installations) in each of O and M Divisions the testing and calibrating batches and number of Supervisors of testing and calibrating, shall be regulated as shown in the Table below :

TABLE SHOWING THE NORM FOR DETERMINING THE NUMBER OF SINGLE PHASE METER TESTING AND CALIBRATION BATCHES FOR M.T. SECTIONS

(1) *For all O and M Divisions except Bangalore, Mysore and Hubli Cities* :

Total No. of Single phase Installations in the O and M Divisions	Supervisor	Mechanic Gr. II (M.T.)	Attendant Gr. II (M.T.)
Upto 15,000	1	1	1
15,001–30,000	1	2	2
30,001–45,000	1	3	3
45,001–60,000	2	4	4
60,001–75,000	2	5	5

(2) *For City O and M Divisions of Bangalore, Hubli and Mysore* :

Upto 24,000	1	1	1
24,001– 47,000	1	2	2
47,001– 72,000	1	3	3
72,001– 97,000	2	4	4
97,001–1,20,000	2	5	5
1,20,001–1,45,000	2	6	6
1,45,001–1,70,000	3	7	7

(*e*) *Norms for rating of L.T. 3 Phase Power Installations and Calibration of 3 Ph. Meters* : The rating of each of the 3 Ph. Power Installations and Calibration of each of the 3 Ph. Meters shall be carried out once in two years. The job descriptions of the posts attached to these sections are enumerated in B.O.No. KEB/WLIC. 9/74–75, dated 15th April 1975. A Junior Engineer or a Supervisor shall carry out the rating and calibration with the assistance of a batch consisting of, One Mechanic Gr. II (M.T.) and One Attendant Gr. I (MT).

The Work load of each such batch shall be as follows :

Sl. No.	Classification for work load	Monthly work load for Rating of L.T. 3 Ph. Power installations and Calibrating Meters
1.	For all Areas in O and M Divisions except Bangaolre, Mysore and Hubli Cities ..	75 Nos.
2.	For Bangalore, Mysore and Hubli Cities where transport vehicles shall be provided ..	100 Nos.

Having regard to the work load in terms of the number of 3 Ph. L.T. Power installations in each of the O and M Divisions, the Rating Batches and the Supervisory staff shall be regulated as shown in the Table below :

(1) For all Q & M Divisions except Bangalore, Mysore & Hubli cities;

Total number of L.T. 3 Ph. Power installations in O & M Division	Batch complement			
	Jr. Engr.	Supervisor	Mechanic Gr. II	Attendant Gr. I
1	2	3	4	5
Upto 900	1	..	1	1
901– 2,400	1	1	2	2
2,401– 4,000	1	2	3	3

(2) For City O and M Divisions of Bangalore, Mysore and Hubli :

1	2	3	4	5
Upto 2,700	1	..	1	1
2,701– 5,400	1	1	2	2
5,401– 8,100	1	2	3	3
8,101–10,800	2	2	4	4
10,801–13,500	2	3	5	5
13,501–16,200	3	3	6	6
16,201–18,900	3	4	7	7
18,901–21,600	4	4	8	8

Supervision of the works of the testing batches shall be vested with the Supervisor. Each supervisor shall supervise 2-3 batches of testing and calibration. As regards the duties of the supervisor it would be necessary that he shall be present in the area where all the batches under his control will be working and he shall carry out random test check of at teast one meter on which the work of testing, calibration and sealing would have been already completed for the day by the batch and make a report of the same. For this purpose, the Supervisor may employ the very same testing equipment which would have been used by the batch. In addition, it shall be his duty to seal all the meters tested for the day and obtain party's acknowledgements thereof.

Regarding, taking meter readings at the time of testing and furnishing reports, etc., to the concerned Supervisor, the batch Mechanics shall take the readings, record the percentage errors both, before and after calibration of meters, record the defects noticed and furnish the same to the Supervisor. The Junior Engineer in-charge of the Section with the assistance of the concerned Supervisor shall send the consolidated report to the concerned O and M Division/Sub-division/ O and M Section where the Revenue Accounts are maintained.

As regards meters in such of the installations which would be found under door-lock at the time of testing rounds the batch mechanic would make a record of the same and furnish to the Supervisor. A report in this regard shall be sent to the concerned O and M Section for arranging replacement of the Meters by tested and calibrated meters as early as possible.

The Junior Engineer or the Supervisor as the case may be in-charge of Rating batches, shall be responsible for carrying out the works as per prescribed work norm and attending to other works connected with office such as preparing reports, statements etc., and their submission to the concerned authorities. The detailed job descriptions of all the posts are enumerated under Board Order No. KEB/WLIC. 9/74–75, dated 15th April 1975.

V. *Repair Section* :

Separate sections for carrying out repairs, re-conditioning and testing of faulty meters, acceptance test of new meters, testing and calibration of meters at party's request shall be set up in the Two M.T. Divisions at Bangalore and Hubli. The works that have to be carried out by these sections shall be as follows :

1. Repairing and re-conditioning of faulty meters, necessary testing and calibration thereof.

2. Calibration of sub-standard meters used by the field batches.

3. Carrying out acceptance test of meters supplied by manufacturers.

4. Sealing of all the meters supplied by suppliers.

5. Testing and calibration of meters at party's request.

6. Manufacture of sealing leads and any other works of miscellaneous nature.

For carrying out the repair works mentioned above and other allied works, these repair sections shall have the following staff complements and shall be placed under the control and supervision of the Assistant Engineer of M.T. Sub-division at the headquarters of the respective places.

Sl. No.	Designation	Posts for Bangalore Section	Posts for Hubli Section
1.	Junior Engineer (Electrical) ..	1	1
2.	Mechanic Gr. I (MT) ..	5	2
3.	Mechanic Gr. II (MT) ..	2	2
4.	Attendant Gr. I (MT) ..	2	1
5.	Attendant Gr. II (MT) ..	2	1

VI. *Transformer Testing Sub-Division*:

The M.T. Divisions at Bangalore and Hubli shall be attached with one sub-division each to attend to the following items of work as at present :

1. Testing of distribution transformers at the request of the Field Officers of the O and M Divisions.

2. Repairs, reconditioning and testing of faulty transformers.

3. Rewinding of faulty motors and Generators of the Board or re-commissioning the machines where necessary and testing of motors on request by other parties.

4. Repairs and re-conditioning of switchgear and other equipments either at site or in the laboratory as the case may be.

5. Attending to breakdowns of any item of plant and equipment in power stations and other allied works.

These sub-divisions shall have the following staff complement :

Sl. No.	Designation	Posts for Bangalore Sub-division	Posts for Hubli Sub-division
1.	Assistant Engineer, Electrical ..	1	1
2.	Junior Engineer, Electrical ..	4	3
3.	Supervisor, Electrical ..	1	1
4.	Senior Mechanic (MT) ..	1	1
5.	Mechanic Gr. I (MT) ..	1	1
6.	Mechanic Gr. II (MT) ..	6	6
7.	Attendant Gr. I (MT) ..	4	4
8.	Attendant Gr. II (MT) ..	4	4
9.	Typist ..	1	1
10.	Office Attendant Gr. II ..	1	1

VII. *Transformer Reclamation Section:*

For repairing, reconditioning and testing of distribution transformers separate transformer reclamation sections one at Bangalore and another at Gulbarga shall be formed for a period of two years in the first instance with the following staff complement for each of the two sections :

1. Junior Engineer, Electrical	.. One post
2. Mechanic Gr. I (MT)	.. One post
3. Mechanic Gr. II (MT)	.. Two posts
4. Attendant Gr. I (MT)	.. Two posts
5. Attendant Gr. II (MT)	.. Two posts

The Section at Bangalore shall work under the supervision and control of the Transformer Testing Sub-division, Bangalore and the Section at Gulbarga shall work under the control of the M.T. Sub-division, Gulbarga.

The utility of these two sections may be watched for a period of two years. In the event total output of about 300–350 reclaimed transformers in the aggregate is maintained annually, by the repair units at Bangalore, Hubli and Gulbarga inclusive of the two reclamation sections at Bangalore and Gulbagra, their further continuation may be considered for a suitable period until all the accumulated transformers at MRT Bangalore and at Hubli are disposed off by the process of reclamation or scrapping. The abolition of the Section at Bangalore may be considered thereafter if necessary.

TABLE 20

Workload Norms for Relay Testing Unit

I. *Relay Testing Division* : Testing of Relays, Testing and Calibration of Meters of the Generating Stations, Main Receiving Stations, attending to repairs and breakdown of equipment in Generating Station and Receiving Stations, works connected with Relay Coordination and protection analysis, etc., shall be placed under the control of R.T. Division and it shall carryout its works through Sub-divisions.

II. *Relay Testing Sub-division* :

(*a*) *Routine Testing Sub-division*: (i) Each O and M Circle except Tumkur Circle shall have a R.T. Sub-division at the headquarters of the circle for carrying out routine testing of Relays and Meters in Generating Stations and Power Stations once in a year as stipulated, in the respective area of the Circle. The works pertaining to the Power Station in the area of Tumkur Circle shall be carried out by the R.T. Sub-division at Bangalore in-charge of routine testing of Relays and Meters.

(ii) The routine testing sub-divisions in each of the O and M Circles except in Bangalore Circle shall also be in-charge of testing and calibration of meters of H.T. installations in the respective areas of the sub-divisions.

(iii) The staff complement for each of the routine testing, sub-divisions shall be as detailed in the statement endorsed. A suitable vehicle shall be provided to each of these sub-divisions for carrying out the works of the sub-division.

(iv) The detailed job descriptions and activities that are to be carried out by these sub-divisions are enumerated in the B.O.No. KEB/WLIC. 9/74–75, dated 15th April 1975.

(*b*) (i) The special nature of works pertaining to relays and meters of power stations such as attending to break-downs of equipments in Generating Stations and Receiving Station, Testing and Commissioning of new equipments in Power Stations, works connected with Relay coordination and protection analysis, repairs to relays, meters and other accessories and equipments, testing of CTS and PTS, Testing and calibrating of H.T. Metering equipment supplied by firms before they are installed and such other incidental works shall be carried out by 4 Special Sub-divisions, located three at Bangalore and one at Jog.

(ii) The staff complement for each of the Special Sub-divisions shall be as detailed in the statement enclosed. Suitable vehicles shall be provided to the sub-divisions in-charge of the works of Generating Station and Major Receiving Stations at Bangalore.

(iii) The detailed Job description and activities that are to be carried out are enumerated in the B.O. No. KEB/WLIC.9/74–75, dated 15th April 1975.

III. All the H.T. Metering Equipments supplied by the manufacturers shall be tested for its accuracy and soundness by one of the Special Sub-division namley, Standard sub-division and duly certified to be in satisfactory condition for use.

IV. Staff admissible as sanctioned in B.O. No. KEB/WLIC. 45/75–76, dated 28–5–1975.

TABLE · 21

Norms for Telecommunication System

I. *Telecommunication Division* :

The activities of operation, maintenance and construction of the network of Telecommunication system in the Board, under the control of a division broadly indicated hereunder shall be carried out through the sub-divisions :

1. Erection and maintenance of PLC Communication equipments in power stations.
2. Erection and maintenance of Auto Telephone Exchanges, Magneto Exchanges, Carrier equipments, etc.
3. Attending to faults on PLC equipments, faults in Telephone Exchanges and equipments.
4. Repairs and reconditioning of faulty Telephone instruments, accessories and equipments connected with communication system.
5. Maintenance of subscriber lines and underground telephone cable system in Bangalore including new extensions.
6. Any other works connected with the communication system development and maintenance.

II. *Telecommunication Sub-divisions* :

(*a*) The routine maintenance works of the Telecommunication System shall be placed in-charge of six sub-divisions at the following places with their jurisdictional area as decided by the CEE (General) to cover all the Circles :

1. Bangalore
2. Shimoga
3. Hubli
4. Jog
5. Munirabad
6. Shahabad.

These 6 Sub-divisions shall attend to periodical testing of Telecommunication equipments, telephone exchanges, etc., and shall rectify the faults in the equipment and system in the areas allotted to each sub-division. The activities pertaining to PLC Maintenance in Generating Stations, at M.G.H.E. and Sharavathi shall exclusively be carried out by the Sub-division at Jog. The Sub-divisions at other places mentioned above shall have the control and supervision over the activities of Telephone maintenance sections located in each of the O and M Divisions for carrying out the routine maintenance works of the system.

(*b*) The Assistant Engineer in-charge of the Sub-division shall conduct supervisory tests and checks as per prescribed schedules enumerated in the B.O. No. KEB/WLIC. 9/74–75 dated 15th April 1975.

III. *Special T.C. Sub-divisions* :

For attending to erection, repairs and development works, maintenance of Telecommunication system and carrier laboratory at Bangalore, there shall be two special sub-divisions located at Bangalore.

IV. The staff complement at the sub-divisional level for each of the sub-division mentioned in items II and III shall be as detailed in the statement hereinunder.

V. The detailed Job description of the various posts attached to these Sub-divisions are enumerated in the B.O. No. KEB/ WLIC. 9/ 74–75, dated 15th April 1975.

Statement Showing Staff Complement for Shift Work in the Telephone Exchanges and General Maintenance of the Exchanges and Subscriber Lines on the Telephone System

Sl. No.	Category of posts	Mysore		Bhadravathi		Bhadra		Jog		Hubli		Munirabad		Siva-samudram		Shimshapura		Bangalore	
		Shift Staff	General Maintenance	Shift Staff	General Maintenance	Shift Staff	General Maintenance	Shift Staff	General Maintenance	Shift Staff	General Maintenance	Shift Staff	General Maintenance	Shift Staff	General Maintenance	Shift Staff	General Maintenance	Shift Staff	General Maintenance
1.	Junior Engineer (Electrical)	..	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..
2.	Supervisor (Electrical)	..	1	..	..	..	..	..	1	..	..	..	1	..	1*	..	..	8	..
3.	Operators	4	..	4	..	4	..	4	..	4	..	4	..	4	..	4	..	..	..
4.	Mechanic Gr. I (T.C.)	..	3	..	1	..	..	..	..	..	1	..	..	..	1*	..	..	..	..
5.	Mechanic Gr. II (T.C.)	..	2	..	2	..	..	..	2	..	1	..	1	..	1*	..	..	..	..
6.	Attendant Gr. I (T.C.)	..	6	..	6	2	..	2	..	4	..	3	..	2*	..	..	..	..	..
7.	Attendant Gr. II (T.C.)	4	..	4	..	..	..	4	..	4	..	4	..	4	..	4	..	4	..

* Combined Staff for both Sivasamudram and Shimshapura Telephone Exchanges.

Note: (1) The General Maintenance Staff provided for Sivasamudram Exchange shall also be in-charge of general maintenance of Shimshapura Telephone Exchange.

(2) Provision for General Maintenance Staff for Bangalore Exchange is made under General Maintenance Section attached to Carrier Laboratory Sub-division. Hence the same is not included in this statement.

VI. *Telephone Maintenance Sections* :

(*a*) (i) Each O and M Division shall have a Telephone Maintenance Section located at the headquarters of the O and M Division for routine maintenance of telephone installations, protective equipments, telephone exchanges and associated equipments, etc., attending to repairs to Telephone instruments, equipments, etc., and attending to breakdowns and rectification of faults in the Tele-communication System.

(ii) There shall be three Telephone Line Maintenance Sections and one General Maintenance Section under the control of the Carrier Laboratory Sub-division, Bangalore and they shall carry out the following activities among other things :

(1) General Maintenance of the Exchange inclusive of attending to defects in the equipments and Telephone installations and repairs thereof.

(2) Installation and maintenance of Subscribers lines (overhead or U.G. Cable) and connected terminal equipments in Bangalore.

Telephone Maintenance Sections shall be placed under the overall control of the Telecommunication Sub-divisions in-charge of the respective areas as detailed hereunder :

1.	Telephone Maintenance Sections of O and M Divisions in Mysore and Tumkur Circles.	T.C. Sub-division, Bangalore.
2.	Telephone Maintenance Sections of O and M Divisions in Shimoga Circle.	T.C. Sub-division, Shimoga
3.	Telephone Maintenance Sections of O and M Divisions in Hubli Circle.	T.C. Sub-division, Hubli.
4.	Telephone Maintenance Sections of O and M Divisions in Gulbarga Circle.	T.C. Sub-division, Shahabad.

5. Telephone Maintenance Section of O and M Divisions, in Munirabad Circle — T.C. Sub-division, Munirabad.

6. Telephone Line Sections and General Maintenance Section of Bangalore Circle. — Carrier Laboratory Sub-division, Banga

The detailed job descriptions of various posts in these Sections are enumerated in the B.O. No. KEB/WLIC/ 9/74–75, dated 15th April 1975.

(i) In accordance with the work load of each of these Sections, the complement of staff for each of the Sections, except for those Sections attached to Carrier Laboratory, Bangalore will be as follows :

1. Supervisor, Electrical	One post
2. Mechanic Gr. II (TC)	Two posts.

(ii) The Sections attached to the Carrier Laboratory Sub-division, Bangalore shall have the following staff complement :

Sl. No	Category of posts	Staff for One General Maintenance Section for exchange maintenance, & attending to complaints and repairs	Staff for all the 3 Nos. Telephone Line Maintenance Section
1.	Junior Engineer, Electrical	1	..
2.	Supervisor, Electrical	1	3
3.	Senior Mechanic	1	..
4.	Mechanic Gr. I (TC)	3	..
5.	Mechanic Gr. II (TC)	4	3
6.	Attendant Gr. I (TC)	2	15
7.	Attendant Gr. II (TC)	2	10

Statement Showing the Staff Complement of Tele-communication Sub-divisions.

Sl. No.	Nomenclature of the posts	Repairs and Development Sub-division, Bangalore	Carrier Laboratory Sub-division, Bangalore	T.C. Sub-division, Bangalore	T.C. Sub-division, Shimoga	T.C. Sub-division, Jog	T.C. Sub-division, Hubli	T.C. Sub-division, Shahabad	T.C. Sub-division, Munirabad	REMARKS
1.	Assistant Engineer, Electrical	1	1	1	1	1	1	1	1	
2.	Junior Engineer, Electrical	1	1	2	2*	1	1	1	1	
3.	Supervisor, Electrical	..	12	..	..	..	..	..	..	
4.	Senior Mechanic	1	1	..	..	..	..	..	..	
5.	Mechanic Gr. I (TC)	2	3	2	4**	1	2	3**	3**	
6.	Mechanic Gr. II (T.C.)	2	7	..	..	1	..	..	..	
7.	Carpenter Gr. II	1	..	..	..	..	..	..	..	
8.	Attendant Gr. I (T.C.)	..	17	2	2	1	2	2	2	
9.	Attendant Gr. II (T.C.)	2	16	..	..	..	..	..	..	
10.	Driver Gr. II	1	..	1	1	..	1	1	1	
11.	Typist	..	1	1	1	..	1	1	1	
12.	Office Attendant Gr. II	..	1	1	1	..	1	1	1	

Note : (1) The posts enumerated under Col. 4 pertaining to Carrier Laboratory Sub-division are inclusive of the posts for all the Sections under this Sub-division and the Telephone Exchange in Bangalore.

(2) The posts shown under Column 5, 6, 7, 8, 9 and 10 for T.C. Sub-divisions, do not include the posts in Telephone Maintenance Sections in O and M Divisions.

* One post of Junior Engineer shall be located at Mercara Station, Mangalore for PLCC Maintenance.

** One post each of Mechanic Grade I shall be located at Power Station, Hiriyadka, Bagewadi and Davangere for PLCC Maintenance.

VII. *Operation and Maintenance of Telephone Exchanges* :

The Telephone Exchanges connected with the physical Carrier System and also with the PLCC System at the places shown in the statement enclosed shall be under the control and supervision of T.C. Sub-division of the respective circles. The Telephone Exchanges in Bangalore Circle shall be under the control of the Carrier Laboratory Sub-division, Bangalore. The staff complement for shift duties and general maintenance works of the Exchanges, shall be as shown in the statement enclosed.

The job description of the posts attached to these exchanges shall be as enumerated in the B.O. No. KEB/WLIC. 9/74–75, dated 15th April 1975.

VIII. *Maintenance of PLCC Equipments in Power Stations* :

The routine maintenance for PLCC equipments in Power Stations where no Tele-communication staff is stationed, shall be carried out as per prescribed schedule, by the concerned Power Station Electrical Maintenance Staff under the direction of the T.C. Sub-division of the Circle. The Station staff required to attend to this work shall be given necessary training to handle the maintenance works of the PLCC equipment and system. The details of the maintenance schedule are as enumerated in the B.O. No. KEB/WLIC. 9/74–75, dated 15th April 1975.

NORMS FOR WORKSHOP

I. *Workshops for Generating Stations and Receiving Stations* :

The working of the existing Workshops attached to the Generating Stations and Main Receiving Stations shall continue in its present pattern except for the slight modifications in the staff complement shown under "Norms for Generating Stations and Main Receiving Stations".

II. *Regional Workshops* :

Regional Workshops with the minimum standard equipment and staff complement shall be established and attached to each of the Regional Stores and called "REGIONAL WORKSHOPS".

(a) Minimum Standard Equipments and Staff Complement for Regional Workshops shall be as follows :

A. Equipments :

Sl. No.	Equipments	Total No. of quantity
1	Lathe 6"	.. 1
2.	Welding Transformer15 kVA	.. 1
3.	Drilling Machine 1¼" size	.. 1
4.	Shearing/Punching and Cutting machine 13 mm size	.. 1
5.	Hacksaw Machine 9" size	.. 1
6.	Bench Grinder 12" × 2 Wheel	.. 1
7.	Blower with forge 1 HP	.. 1
8.	Bench Vices	.. 4

B. Staff Complement :

Sl. No.	Nomenclature	No. of posts
1.	Supervisor (Foreman)	.. 1
2.	Assistant Foreman	.. 1
3.	Mechanic Gr. I/Machinist Gr. I	.. 1
4.	Turner Gr. II	.. 1
5.	Welder Gr. II	.. 1
6.	Blacksmith	.. 1
7.	Fitter Gr. II	.. 1
8.	Painter Gr. II	.. 1
9.	Driller	.. 1
10.	Puncher/Cutter	.. 1
11.	Hammerman	.. 1
12.	Machine Operator	.. 1
13.	Fitter Gr. III	.. 2
14.	Helper (Workshop)	.. 6

(*b*) In Organising the Regional Workshops, action shall be taken as follows :

(1) The Workshops at Mysore and Hubli shall be re-organised on the minimum standards described above except that any equipment in excess of the standard provision shall continue.

(2) A Regional Workshop attached to the Regional Stores at Shimoga shall be established by shifting the available equipments and the staff from Chikmagalur to Shimoga and re-organised on the standards enumerated above.

(3) A Regional Workshop shall be established in Gulbarga, with the minimum standard equipment and staff, and shall be attached to the Regional Stores at Gulbarga.

(4) The Existing Workshop at Mangalore shall be continued there only. The equipments and staff at the Workshop at Udupi shall be shifted to Mangalore and brought upto the standards of a Regional Workshop. Any excess equipments, if found, after re-organisation of the workshop, shall also be continued at Mangalore.

(5) Consequent to the application of the above norms, if the existing staff inclusive of the Temporary Time Roll Men in Mysore and Mangalore Workshops, are found to be in excess of the proposed standard provisions the excess hands shall be absorbed in any other vacancies in suitable grades occurring in the concerned divisions in due course. Until such time all the excess permanent posts will have to be treated as supernumerary in the said workshop and the Temporary Time Roll Men disposed off as per the present practice in this regard.

(6) Workshops which are also in existence in Raichur and Bagalkot shall be abolished and the respective equipments shall be shifted to the Regional Workshops of the respective Circles. *i.e.*, Munirabad and Gulbarga. The availability of equipments and staff thereof shall duly be taken note of, in bringing up the respective Regional Workshops to the standards set in this regard.

(7) After creating all the posts according to norms, the available hands shall be suitably allocated in the posts of the various categories depending on their present scales and emoluments. The personnel employed in various workshops, (mostly in the work-charged and TTR categories) that would become surplus shall be absorbed in other vacancies of the Circles following the respective prevailing rules in regard to employees of the said two categories.

III. *Central Workshop—Bangalore* :

(*a*) The Workshop at NRS, Bangalore, shall continue on a permanent basis in its present set up of organisation and equipment and engage itself in the manufacture of the several items as at present. The workshop may be re-named as "CENTRAL WORKSHOP"

The Workshop shall have three sections namely

(1) Line Material Section

(2) Switch and Fuse Section and

(3) Tower Fabrication Section.

While Section 3 shall work in three shifts, the sections 1 and 2 shall work in two shifts for an average output of 3000 tonnes per year.

(*b*) The equipments for each of the three branches of the workshop and the staff complement in each category with their functional designations required for operation and manufacturing process in each section are shown in Statement hereinunder.

(*c*) The personnel now working under the work-charged category shall be allocated to permanent posts of corresponding scales that would be created as per proposals *vide* item 2 above.

(*d*) Temporary Time Roll Men working shall be absorbed in the permanent posts. This may be done following the prevailing rules and further, no TTR men shall be employed.

(*e*) The organisation pertaining to administration and supervisory controls in the Central Workshop shall be as follows :

Sl. No.	Nomenclature	No. of posts	REMARKS
1.	Executive Engineer	.. 1	
2.	Assistant Engineer	.. 1	
3.	Junior Engineer (Graduate)	.. 2*	
4.	Supervisor	.. 3	
5.	Tracer	.. 1	
6.	Driver Gr. I	.. 1	
7.	Driver Gr. II	.. 2	
8.	Cleaner	.. 2	
9.	Watchman	.. 8	
10.	Sweeper/Scavenger	.. 2	

* This does not include posts for various sections.

Statement Showing the Equipment and the Complement of Staff for Each Section in the Central Workshop, Bangalore

1. *Line Materials Section* :

A. Standard Equipments :

Sl. No.	Equipments	Quantity
1.	Shearing Machine	3
2.	Drilling Machine	2
3.	Hacksaw Machine	2
4.	Welding Set	3
5.	Sheet Metal Pr ss	1
6.	Smithy	1

B. *Staff Complement* :

Sl. No.	Nomenclature of the posts	No. of posts
1.	Junior Engineer (Graduate)	.. 1
2.	Supervisor	.. 2
3.	Assistant Foreman/Senior Mechanic	.. 1
4.	Mechanic Gr. I/Mechinist Gr. I	.. 2
5.	Mechanic Gr. II	.. 1
6.	Turner Gr. II	.. 1
7.	Welder Gr. II	.. 5
8.	Tinker Gr. I	.. 2
9.	Blacksmith Gr. I	.. 2
10.	Puncher	.. 2
11.	Driller	.. 3
12.	Sheet Metal Worker/Tinker Gr. II	.. 4
13.	Machine Operator	.. 2
14.	Hammerman/Blacksmith Gr. II	.. 6
15.	Painter Gr. II	.. 2
16.	Fitter Gr. III	.. 2
17.	Attendant Gr. I (Tool Keeping)	.. 1
18.	Helper (WS)	.. 33

2. *Switches and Fuses Section* :

A. *Standard Equipment* :

Sl. No.	Equipment	Quantity
1.	Lathe	.. 3
2.	Drilling Machine	.. 3
3.	Hacksaw Machine	.. 1
4.	Bandsaw Machine	.. 1
5.	All Cut Machine	.. 1
6.	Grinders	.. 2
7.	Welding Set	.. 1

B. *Staff Complement* :

Sl. No.	Nomenclature		No. of posts
1.	Junior Engineer (Graduate)	..	1
2.	Supervisor	..	2
3.	Assistant Foreman/Senior Mechanic	..	1
4.	Mechanic Gr. I/Machinist Gr. I	..	2
5.	Turner Gr. II	..	5
6.	Welder Gr. II	..	2
7.	Fitter Gr. II	..	2
8.	Blacksmith Gr. I	..	3
9.	Carpenter Gr. II	..	1
10.	Driller	..	5
11.	Machine Operator	..	4
12.	Grinder	..	2
13.	Fitter Gr. III	..	10
14.	Hammerman/Blacksmith Gr. II	..	2
15.	Painter Gr. II	..	2
16.	Attendant Gr. I (Toolkeeping)	..	1
17.	Helper (For all Trades)	..	21

3. *Tower Fabrication* :

A. *Standard Equipment* :

Sl. No.	Equipment		Quantity
1.	Shearing Machine	..	3
2.	Drilling Machine	..	2
3.	Hacksaw Machine	..	2
4.	Grinder	..	2
5.	Smithy	..	2

B. *Staff Complement* :

Sl. No.	Nomenclature		No. of posts
1.	Junior Engincer (Graduate)	..	1
2.	Supervisor	..	2
3.	Assistant Foreman/Senior Mechanic	..	1
4.	Mechanic Gr. I/Mechinist Gr. I	..	3
6.	Welder Gr. II	..	2
6.	Blacksmith Gr. I	..	2
7.	Fitter Gr. II	..	2
8.	Painter Gr. I	..	1
9.	Mechanic Gr. II/Mechinist Gr. II	..	3
10.	Puncher	..	3
11.	Driller	..	3
12.	Machine Operator	..	2
13.	Fitter Gr. III	..	6
14.	Grinder	..	2
15.	Hammerman/Blacksmith Gr. II	..	4
16.	Painter Gr. II	..	4
17.	Attendant Gr. I (Took-keeping)	..	1
18.	Helper (WS)	..	30

TABLE 23

I. *Norms for the Maintenance of Transport Vehicles* :

The activities (listed below and the works incidental thereon) pertaining to the maintenance of transport vehicles shall be placed at various levels as detailed hereinunder :

1. Daily allocation of vehicles and maintenance ot Logbooks.
2. Preparation ot progress reports and monthly accounts.
3. Preparation of indents for Petrol/Diesel/Oils/Lubrication, etc.
4. Preparation of T.A. Bills of the Driver and Cleaners.
5. Preparation of estimates for repairs.

6. Correspondence in connection with the above activities.

7. Maintenance of History books of the vehicles.

8. Works connected with payment of vehicles tax, renewal of fitness certificate, obtaining permits for carrying men, etc.

9. Arranging for periodical maintenance services and repair, through tender by outside agencies—preparation of bills for repairs done and attending to minor repairs and replacements.

1. *Maintenance of Vehicles at Sub-divisional Level* :

(*a*) Maintenance of all vehicles in a Sub-division shall be entrusted to the JTA in the Technical Section of the Sub-division or to the Junior Engineer/Supervisor in-charge of a Power Station/Sub-Station in the headquarters of the Sub-division.

(*b*) Maintenance of vehicles in Transmission line Sub-divisions or transmission line sections shall be entrusted to the Transmission Line Supervisor at the headquarters of the Sub-division or the Supervisor in-charge of Transmission Line Section where the vehicle is stationed.

2. *Maintenance of Vehicles at Divisional Level* :

(*a*) Maintenance of all vehicles in the headquarters of O and M Divisions shall be entrusted to the Junior Engineer, Voltage Improvement Cell attached to the Division except in the O and M Divisions Bangalore.*

(*b*) Maintenance of vehicles in other divisions shall be entrusted to one of the Sub-divisions at the headquarters of the divisions and connected correspondence and office works shall be entrusted to one of the Junior Engineers/Supervisors in the office.

Maintenance of vehicles of O and M divisions in Bangalore shall be entrusted to a Junior Engineer in the technical section of the concerned O and M division.

3. *Maintenance of Vehicles at Circle Level :*

Maintenance of all vehicles in the headquarters of O and M Circle inclusive of those in the Regional Stores shall be entrusted to one of the Supervisors in-charge of Forwarding and Clearing Section in the Regional Stores under the control of the Assistant Engineer, Electrical Regional Stores.

4. *Maintenance of Vehicles in Generating Stations and Power Stations :*

Maintenance of Vehicles in the Generating Stations and Power tations shall be entrusted to the Supervisor in-charge of the Workshop Snd Transport Sections of the respective stations.

The complement of staff shall be provided as per the norms of the respective Workshops and Transport Sections.

5. *Maintenance of Vehicles in the Transport Section—Central Stores at Bangalore :*

A Sub-division attached to Central Stores Division in Bangalore shall be in-charge of the fleet of Transport vehicles required for Central Stores, Board Secretariat, Office of the Chief Engineer, Electricity (General) and Chief Engineer, Electricity (South), etc., in Bangalore. The complement of staff shall be provided as per the norms of the Transport Sub-division, Central Stores Division, Bangalore.

NORMS FOR VEHICLE DRIVING CREW

(*a*) Each vehicle shall be provided with the following driving crew for normal working period of 8 hours :

Sl. No.	Types of Vehicles	Crew Strength
1.	Tractor and Trailor of 35 tonnes and higher capacity	One Special Grade Driver and a Cleaner
2.	Tractor and Trailor of 35 tonnes capacity	One Driver Gr. I and a Cleaner
3.	Transport vehicles other than those specified under 1 and 2 above	One Driver Gr. II and a Cleaner

Note.—Post of cleaner is not admissible for jeep van and cars.

(*b*) Vehicles used for more than one shift shall be provided with additional crew admissible for the type of the vehicle.

TABLE 24

Norms for Civil Engineering Works

The Civil Engineering Works in the Board of routine nature placed under the supervision and control of the Two Civil Engineering Divisions (one in South Zone and the other in North Zone) shall be carried out through Civil Engineering Sub-divisions.

1. *Civil Engineering Sub-division for Works in O and M Circles* :

O and M Circles shall have one Civil Engineering Sub-division each, located at the headquarters of the O and M Circle for supervision of Civil Engineering Works in the respective circles. The sub-division shall work under the administrative control of the respective Superintending Engineers of the circle, but however, the technical control shall be exercised by the respective Executive Engineers of the Civil Engineering Divisions. The Assistant Engineer (Civil) incharge of a sub-division shall exercise control and supervision over the Civil Engineering works like construction of Buildings for stations, offices and residential quarters; development of layouts for colonies in-clusive of water supply and sewerage system; maintenance, improvements and repairs to buildings and structures; preparation of estimates, etc. In each of the O and M Divisions the Civil Engineering works shall be carried out by the Civil Engineering staff under the control and supervision of the Assistant Engineer (Civil) of the respective circles.

The detailed job descriptions of each post are enumerated in the Board Order No. KEB/WLIC. 9/74-75, dated 15th April 1975.

The staff complement for the Civil Engineering Sub-division shall be as follows :

A. *Staff Complement at Each O and M Circle* :

(1) Assistant Engineer (Civil)	..	1 post
(2) Junior Engineer (Civil)	..	1 post
(3) Typist	..	1 post
(4) Office Attendant Gr. II	..	1 post
(5) Driver Gr. II	..	1 post

Note.—Each Sub-division shall be provided with a Jeep for inspection and supervision of works.

B. *Staff Complement at Each O and M Division* :

(1) Junior Engineer (Civil)	..	1 post*
(2) Supervisor (Civil)	..	1 post*

Note.—* Additional number of posts of Junior Engineer (Civil), Supervisors (Civil) may be sanctioned depending on the works in the concerned O and M division. This shall be determined by the Cheif Engineer, electricity (General) and recommended to the Board when necessary.

C. For meeting the day to day problems of maintenance and repairs of the buildings in the colonies of KEB (other than the colonies in Generating Stations) the complement of staff shall be as follows :

(i) *For colonies having* 100 *tenaments and above* :

(1) Maistry (Civil) Gr. II/Mason Gr. II	..	One post
(2) Civil Mate	..	Two posts
(3) Swecper/Scavenger	..	*Two posts (upto 100) tenaments

Note.—* Above 100 tenaments, one additional sweeper/scanvenger for every additional 50 tenaments shall be sanctioned.

(ii) *For colonies having less than* 100 *tenaments* :

(*a*) Ten tenaments and above but less than 50 tenaments: Sweeper/Scavenger	..	One post
(*b*) 50 to 100 tenaments : Sweeper/Scavenger	..	Two posts

Note.—For less than 10 tenaments part time sweeper/scavenger shall be provided.

2. Civil Engineering works under the supervision and control of Civil Engineering Sub-division/sections in Generating Stations shall be carried out in accordance with the norms of the respective Generating Stations.

TABLE 25

Norms for R.C.C. Manufacturing Centre

R.C.C. Pole Manufacturing Centres shall be under the following categories based on the (production targets) work load in terms of manufacturing of number of poles per month.

		Work Load
(*a*) Single Unit Centre	..	190–200 poles per month
(*b*) Double Unit Centre	..	380–400 poles per month
(*c*) Centres for producing more than 400 poles per month		

The Junior Engineer/Supervisor in-charge of a Sub-station/Receiving Station at the place where the RCC Centre is located or a Supervisor (Civil) where available, shall be placed in-charge of the supervision of works of RCC Centres in the category (*a*) and (*b*).

The labour force in respect of each of the categories of centres shall be as follows :

A. *Single Unit Centre* :

(1) Maistry-*cum*-Mason Gr. II	..	1 post
(2) Barbender-*cum*-Vibrator Attendant Gr. I	..	5 posts
(3) Helpers	..	9 posts
(4) Watchman	..	*2 posts

B. *Double Unit Centres*

(1) Maistry-*cum*-Mason Gr. II	..	1 post
(2) Welder Gr. II	..	1 post.
(3) Barbender-*cum*-Vibrator Attendant Gr. I	..	7 posts
(4) Helpers	..	14 posts
(5) Watchman	..	*2 posts

Note.—*Watchmen shall be provided only for centres which cannot be covered by watch and ward arrangement that would already be available when the centre are located within the premises of MUSS or stores, etc.

C. *Centres for Producing More Than* 400 *Poles Per Month* :

A Supervisor (Civil) exclusively in-charge of the centre shall supervise the works of this category of RCC Centre. The labour force shall be regulated as follows :

The labour force shall be provided at the rate of 16 persons for manufacturing 250 poles a month and the allocation among different categories of posts shall be made in the same proportion as is obtaining in the case of double unit centre. The detailed job description of the posts are enumerated in the Board Order No. KEB/WLIC. 9/74-75 dated 15th April 1975.

Secretary
K.E.B.

I. NORMS—DISTRIBUTION

ANNEXURE TO B.O. NO. KEB/WLIC—11/74–75, *DATED* 15*th JULY* 1975

Norms for Work Load, Staffing Pattern etc. for Distribution System Maintenance

1. Norms for O & M Sections :

1. With reference to the nature and density of consumers, the O & M Sections shall be classified into several categories as follows :

1.	O & M Section	..	Rural
2.	O & M Section	..	Semi-Urban
3.	O & M Section	..	Urban
4.	O & M Section	..	City

2. Minimum and Maximum Work Load, Staffing Pattern , etc., of O & M Sections of the various categories :

The minimum and maximum work load that can be attached to a Section, the staffing pattern and the stages at which the Work Load has to be re-distributed among other sections of the Division or the level of work load at which the section is to be bifurcated, etc., are detailed in the following paras.

2.1 *O & M Section—Rural :*

A Rural O & M Section is one which is located in a town or village where the number of installations at the Headquarters of the Section is less than 500, while the total number of installations in the with an area jurisdiction of (Approximate) 20–25 kms radius. When the Section as a whole is not less than 1,000 and not more than 1,500 number of installations in the Section reaches 1,500, the section may be suitably re-organised. The proposal for re-organisation either by re-distributing the installations or forming additional sections, may be initiated when the number of installations is about 1,350 with reference to the installation density in the neighbouring sections of the Division.

The section may have the following Executive Staff complement:

1.	Supervisor/Section Officer (O and M) with MCA)	..	One
2.	Overseer	..	One

3. Line Mechanic Gr. II (with CA)	Number to be determined as per Table *vide* Appendix-D/O and M/T2 subject to minimum of one per section.
4. Wireman (with CA) 5. Lineman (with CA) 6. Assistant Lineman*	Number in each category to be determined as per Table *vide* Appendix-D/O and M/T2 by applying the calculations described in para 5 below.

* Assistant lineman engaged on telephone duty is not eligible for CA.

However in the underdeveloped areas in Bijapur, Bidar, Dharwar and Gulbarga Districts as also in Malnad areas, Rural O & M Section may be formed even if the number of installations is less than 1,000 but not less than 500 in a jurisdiction of 20–25 kms radius. In such cases the Section may also handle minor extension works within its jurisdiction and have the following Staff complement :

1. Supervior/Section Officer (O and M) (with MCA)	.. 1
2. Line Mechanic Gr. II (with CA)	.. Number to be determined as per Table *vide* Appendix/D/O and M/T2, minimum one per section.
3. Wireman (with CA) 4. Lineman (with CA) 5. Assistant Lineman (with CA)*	Number in each category to be determined as per Table *vide* Appendix-D/O and M/T2 by applying the calculations described in para 5 below.

* Assistant lineman engaged on telephone duty is not eligible for C.A.

Note.—(*a*) As regards the minor extension works, the section officer shall be allowed to engage TTR men to the extent absolutely necessary after obtaining competent sanction.

(*b*) When the number of installations in the section reaches 1000, extension works may be transferred to the works unit.

(*c*) The section is not entitled for provision of an overseer till such time the number of installations in the section reaches 1000. However, the section will have a minimum of one meter reader who may be utilised for the office work also.

2·2. *O & M Section—Semi-Urban* :

A Semi-urban O & M Section is one which is located in a place where the number of installations at the Headquarters of the Sections is not less than 500.

The total installations in the Section as a whole should not be less than 2,000 and not more than 2,500 with an area jurisdiction of (Approximate) 20–25 kms radius. A Semi-urban section may however be formed even if, in the Malnad, Coastal and Underdeveloped areas, the number of installations therein be not less than 1,500.

When the number of installations in the Section reaches 2,500 the Section may be suitably re-organised. The proposals for re-organisation either for re-distributing the installations with reference to the installation density to the neighbouring sections of the Division or forming additional sections, may be initiated when the number of installation reaches about 2,250.

The Section shall have the following Executive Staff Complement :

1.	Junior Engineer/Section Officer (O and M) (with MCA)	.. 1
2.	Overseer	.. 1
3.	Line Mechanic Gr· II (with CA)	.. Number to be determined as per Table *vide* Appendix–D/O and M/T2 subject to a minimum one per section.
4.	Wireman (with CA)	Number of each category to be determined as per Table *vide* Appendix–D/O and M/T2 by applying the calculations described in para 5 below.
5.	Lineman (with CA)	
6.	Assistant Lineman (with CA*)	

* The Assistant lineman engaged on telephone duty is not eligible for CA.

2.3 *O & M Section—'Urban'* :

An Urban O & M Section is to be one which is located in a Town where the number of installations within the Municipal limits is not less than 2,000.

The total installations in the Section should not be less than 2,500 and not more than 3,000.

When the number of installations in the Section reach 3,000, the section may be suitably re-organised either by re-distributing the installations with reference to the installation density in the neighbouring Sections of the division or forming additional sections. The proposal for re-organisation may be initiated when the number of installations reaches about 2,750.

The section shall have the following Executive Staff complicment :

1.	Junior Engineer/Section Officer (O and M) (with MCA)	..	1
2.	Overseer	..	1
3.	Line Mechanic Gr. I (with CA)	..	1
4.	Line Mechanic Gr. II (with CA)	..	Number to be determined as per Table *vide* Appendix-D/O and M/T2 subject to minimum of one per section.
5.	Wireman (with CA)	..	Number in each category to be determined as per Table *vide* Appendix-D/O and M/T2 by applying the calculations described in para 5 below.
6.	Lineman (with CA)		
7.	Assistant Lineman (with CA)*		

* The assistant lineman engaged in telephone duty is not eligible for CA.

In case Rural installations i.e., installations outside the Municipal limits are to be attached to this Section, one Rural installation shall be counted as Two Urban installations for purposes of computing the total number in the Section, in order to arrive at the minimum and maximum number of installations to be attached to a Section at any time.

2.4 *O & M Section — City (Except Bangalore City)* :

O & M Sections are to be formed in cities other than Bangalore City, the number of installation within the Municipal Corporation limits exceeds 10,000.

Each such section should have a minimum of 4,500 installations and a maximum of 6,000 installations.

When the number of installations in the section reach 6,000 the section may be suitably re-organised either by re-distributing the installation with reference to the installation density in the neighbouring sections of the division and/or forming an additional O & M Section. The proposals for re-organisation may be initiated when the number of installations reach about 5,750.

The section shall have the following Executive Staff complement :

1.	Junior Engineer/Section Officer (O and M) (with MCA) ..	1
2.	Supervisor (with MCA) ..	1
3.	Overseer ..	1
4.	Line Mechanic Gr. I (with CA) ..	1
5.	Line Mechanic Gr. II (with CA)	Number to be determined as per Table *vide* Appendix–D/O and M/ T2 subject to one per section.
6.	Wireman with CA)	Number in each category to be determined as per Table *vide* Appendix-D/O and M/T2 by applying the calculations described in para 5 below.
7.	Lineman (with CA)	
8.	Assistant Lineman (with CA)*	

* The assistant lineman engaged in telephone duty is not eligible for CA.

In case where installations outside the Municipal limits are to be attached to such a Section, one Rural installation shall be counted as Two City installations for computing the total number in the section in order to arrive at the minimum and maximum number of installations to be attached to a section at any time.

2.5 *O & M Section — City (Bangalore City)* :

A City O & M Section in Bangalore is to be one located in the Corporation limits of Bangalore City. Each such section should have

a minimum of 5,500 installations and a maximum of 7,000 installations.

When the installations in the section reaches 7,000, the section may be suitably re-organised either by re-distributing sections of the Division and/or forming additional sections.

The proposals for re-organisation may be initiated when the number of installations reaches about 6,500. The Section shall have the following Executive Staff complement :

1.	Junior Engineer/Section Officer (O and M) (with MCA) ..	1
2.	Supervisors (with MCA) ..	2
3.	Overseer ..	1
4.	Line Mechanic Gr. I (with CA) ..	1
5.	Line Mechanic Gr. II (with CA)	Number to be determined as per Table *vide* Appendix D/O and M/T2. subject to a minimum of one per section.
6.	Wireman (with CA)	Number in each category to be determined as per Table *vide* Appendix-D/O and M/T2 by applying the calculations described in para 5 below.
7.	Lineman (with CA)	
8.	Assistant Lineman (with CA)*	

* The assistant lineman engaged in telephone duty will not be eligible for CA.

In case where installations outside the Municipal limit are to be attached to such a section, one Rural installation shall be counted as Two City Installations for computing the total number of installations in order to arrive at the Minimum and Maximum number of installations to be attached to a Section at any time.

2.6 *Staffing Pattern* :

(i) The post of the Section Officer as Head of O & M Section of Rural Category shall be manned by a Supervisor and that of other

categories of O & M Sections shall be manned by the Junior Engineer (Graduate) or Junior Engineer (Non-Graduate) following the procedure detailed below. The Semi-urban, Urban, and City O & M Sections shall be headed by either a Junior Engineer (Graduate) or a Supervisor possessing the prescribed qualifications and promoted as Junior Engineer (Non-Graduate). The ratio of Graduate to Non-Graduate in these posts is fixed as 50:50 for all places except Bangalore where the ratio is fixed as 75:25.

(*ii*) Commensurate with the work load, the Junior Engineer will be assisted by additional Supervisory Staff comprising a Line Supervisor, a Meter Supervisor as the case may be and an office-*cum*-field assistant called OVERSEER in appropriate combination or individually, depending upon the Category of Section.

(*iii*) The actual number of Maintenance men required would be calculated on the work load assessment as detailed in para 5 below.

(*iv*) The necessary number of Line Mechanic Gr. I & Gr, II for each class of O & M Sections have to be excluded from the calculations referred to in para 5 below in arriving at the total number of maintenance men required for the Section. They will have to function like Maistry in the field and they not only allocate the men for different points of the work spot, but also join hands with them when necessary, actually in carrying out the works.

3. All the works of O & M Section shall be placed under the charge of a Section Officer who may be a Supervisor or a Junior Engineer as the case may be and who shall have some field experience. The Section Officer forms the first line of supervision in the organisation of the Board. He is responsible for the functions of operation and Maintenance of installations, equipment and lines in his jurisdiction, servicing of new installations and the connected works. He would also be responsible for the General Administration of the office including Revenue and Cash.

4. The duties that Section Officers of the various categories have to carryout are as enumerated *vide* Board Order No. KEB/ WLIC-9/74–75 dated 15–4–1975.

5. *Calculation of Maintenance men for the O & M Sections* :

5·1 The method of determining the number of maintenance men for each of the O & M Sections, *i.e.*, Rural, Urban in the Maidan areas

and Rural, Urban in the Malnad and Coastal areas, shall be as detailed hereunder.

5.2 The functions that are to be performed by the maintenance men are grouped under 5 parts and are shown below with reference to man mts of the activities concerned to determine the quantum of maintenance men required in each case.

I. Maintenance of installations
(base 100 installations)

II. Maintenance of Street Lights
(base 100 Street Lights)

III. Maintenance of H.T. Lines
(base 100 Kms)

IV. Maintenance of Transformer Centre
(base One TC)

V. Maintenance of L.T. Lines
(base 100 Kms)

5.3 With reference to the various duties listed under each of the above parts the total man mts per month involved in the performance of all the concerned functions are shown in Table *vide* Appendix-D/O & M/T–1.

5.4 The field data of an O & M Section should be tabulated as under, for calculation of maintenance men for the section.

	At Headqts. of the Secn. (as Urban)	In the area outside the Headqts. of the Section (as Rural)
I. Number of Installations	..	..
II. Number of Street Lights	..	..
III. Length of H.T. Lines in Kms	..	..
IV. Number of Transformer Centres	..	..
V. Length of L.T. Lines in KMs	..	..

NOTE : The installations, distribution lines. etc., within the limits of the Village Panchayat/Municipality/Corporation, of the Headquarters of the Section Office may be taken as Urban and the installations, distribution lines, etc., outside the limits of the Village Panchayat-Municipality Corporation as Rural.

5.5 The total man mts required for all the activities of any O & M Section can be calculated applying the formula noted below, and selecting the concerned man mts from the Table *vide* Appendix-D/O & M/T–1 wherein the man mts for each of the Urban and Rural categories have been separately given for 'Maidan' and 'Malnad and Coastal' areas.

5.6 *Formula to be used for Calculation of Maintenance men*

I Man minutes required for maintenance of installations:

(i) Number of installations in head-quarters × Man minutes as per Table T1 (Urban) / 100

plus

(ii) Number of installations in Rural area (other than headquarters) × Man minutes as per Table T1 (Rural) / 100

II. Man minutes required for maintenance of street lights:

(i) Number of Street lights in head-quarers × Man minutes as per Table T1 (Urban) / 100

plus

(ii) Number of street lights in Rural area (other than headquarters) × Man minutes as per Table T1 (Rural) / 100

III. Man minutes required for maintenance of H.T. lines:

(i) Length of H.T. lines in head quarters of the section × Man minutes as per Table T1 (Urban) / 100

plus

(ii) Length of H.T. lines in rural area (other than headquarters) × Man minutes as per Table T1 (Rural) / 100

IV. Man minutes required for maintenance of Transformer Centres:

(i) Number of transformer centres in headquarters × Man minutes as per Table T1 (Urban) / 100

plus

(ii) Number of transformer centres in Rural (other than headquarters) × Man minutes as per Table T1 (Rural) / 100

V. Man minutes required for maintenance of L.T. lines:

(i) Length of L.T. lines in head-quarters in kms $\times \frac{\text{Man minutes as per Table T1 (Urban)}}{100}$

plus

(ii) Length of L.T. lines in Rural area in kms (other than headquarters) $\times \frac{\text{Man minutes as per Table T1 (Rural)}}{100}$

Let the total Man Mts required for a section be X and total number of Men Y.

Then $X = I + II + III + IV + V$ Man Mts.

and $Y = \frac{X}{11320}$ Men

Where 11,320 is the total Man mts available for work per person in a month.

(*i*) It is possible that when X is divided by 11,320 some man mts are left as the remainder. If the remainder is 5,660 = $\frac{(11,320)}{2}$ or more, the total men entitled to be taken as Y+1.

(*ii*) Leave reservists at a rate of 6% with a minimum of one per section, shall be added to the figure (Y+1) arrived at.

5·7 Specimen calculations for determining the maintenance men for a Rural, Semi-urban, Urban and City O & M Sections—Mysore and Bangalore—are given in Appendix-D/O & M/L1, L2, L3, L4, L5 & L6.

5.8 Proposal for any increase in the number of the maintenance men eligible with reference to the increased work load of the O & M Section may be worked up by the Section Officer at the end of December every year and reported to the Higher Authorities for necessary action.

5.9 A minimum of 60% of the total men may be stationed at Headquarters, provided, however, the ratio may be varied in exceptional cases with the approval of the Chief Engineer, Electricity (Gen.). Out of the total number of men that any O & M Section is entitled to, in accordance with the norms, only the barest minimum number of men required to perform the daily routine duties like fuse off calls,

renewal of Street Lights, lamps, disconnections and reconnections, etc., need be located in the camps, retaining others at the Headquarters.

5.10 In the matter of fixation of Lineman camps, reasonable work load, that is to be entrusted to a Single Lineman, may be taken as 100 to 150 installations, and 30 to 45 Km of H.T. and L.T. Lines. His Headquarters can be fixed at some suitable place, such that the above composition of installation is obtained and the jurisdiction of lines does not extend beyond 8 to 10 Kms radius. Where the installations and distribution lines and the installation density exceeds the above figures, more than one Lineman may be posted in the same camp; in such case the concerned Executive Engineer may take necessary action.

APPENDIX—D/O AND M/T-1

Table showing the standard man minutes for O and M activities of the maintenance men for different areas

	Maidan area		Malnad and coastal area	
	Urban	Rural	Urban	Rural
	Man mts. per month	Man mts. per month	Man mts. per month	Man mts. per month
I. Maintenance of installations (base 100 installations)	1800	5,500	2,600	6,600
II. Maintenance of street lights (base 100 lights)	4,900	3,800	5,100	4,100
III. Maintenance of HT lines (Base 100 Kms)	13,000	18,300	18,100	23,800
IV. Maintenance of transformers (Base one T.C.)	300	500	300	520
V. (*a*) Maintenance of LT lines (Base 100 Kms)	16,100	12,100	16,100	14,700
(*b*) Maintenance of LT U.G. cable (base 100 Kms)	18,600	..	18,600	

APPENDIX–D/O and M/T–2

Table for the composition of maintenance staff for O and M sections

Number of men arrived at as per work load assessment and the prescribed calculation	Allocation of men into different categories			Entitlement of Line Mechanic Gr. II	Total
	Wire-men	Line-men	Asst. Linemen		
1	2	3	4	5	6
6	1	2	3	1	7
7	1	2	4	1	8
8	1	2	5	1	9
9	1	3	5	1	10
10	1	3	6	1	11
11	1	4	6	1	12
12	2	4	6	1	13
13	2	4	7	1	14
14	2	5	7	1	15
15	2	5	8	1	16
16	2	6	8	1	17
17	3	6	8	2	19
18	3	6	9	2	20
19	3	6	10	2	21
20	3	6	11	2	22
21	3	7	11	2	23
22	3	8	11	2	24
23	4	8	11	2	25
24	4	8	12	2	26

Note.—Notwithstanding the actual number of maintenance men arrived at by work load assessment and calculations, no section shall have less than six maintenance men *plus* one Line Mechanic Grade II.

APPENDIX–D/O and M/L-1

Specimen Calculations for determining the maintenance staff for Rural O and M Section Maidan Area

Work load data	At head-quarters (Urban)	Outside head-quarters (Rural)	Total
No. of installations	404	791	1195
No. of street lights	203	230	433
Length of HT lines in Kms	27	50	77
No. of Transformer centres	19	18	37
Length of LT lines in Kms	65	95	160

Calculations.

Applying the formula given under para 5, the results would be as shown hereunder :

	Man minutes required at headquarters (As Urban)	Man minutes required outside headquarters (As Rural)
I. Maintenance of installations	$404 \times \frac{1800}{100} = 7,272$	$791 \times \frac{5500}{100} = 44,505$
II. Maintenance of street lights	$203 \times \frac{4900}{100} = 9,947$	$230 \times \frac{3800}{100} = 8,740$
III. Maintenance of HT lines	$27 \times \frac{13000}{100} = 3,510$	$50 \times \frac{18300}{100} = 9,150$
IV. Maintenance of Tr. Centres	$19 \times 300 = 5,700$	$18 \times 500 = 9,000$
V. Maintenance of LT lines	$65 \times \frac{16100}{100} = 10,465$	$95 \times \frac{12100}{100} = 11,495$
TOTAL	36,894	82,890

Total Man Mts required for the Section :-

$$36894 + 82890 = 1,19,784$$

$$\text{Number of Men} = \frac{1,19,784}{11,320} = 10\ \frac{6,788}{11,320}$$

Remainder Man Mts 6,788 is in excess of 5,660 Man Mts.

Therefore total men entitled to = 10 + 1 = 11

Add Leave Reserve at 6%	1 minimum
Total	12

The above 12 men are to be allocated *vide* items 4, 5, 6 as shown below and pertaining to the different categories in accordance with Table in Appendix–D/O & M/T–2.

Complement of Staff :

1.	Section Officer/Supervisor (O & M)	.. 1	
2.	Overseer	.. 1	
3.	Line Mechanic Gr. II	.. 1	As per Table in Appendix-D/O.& M/T2.
4.	Wireman	.. 2	
5.	Lineman	.. 4	
6.	Assistant Lineman	.. 6	

APPENDIX–D/O AND M/L–2

Specimen Calculations for Determining the Maintenance Staff for 'Semi-Urban' O and M Section—Maidan Area

	At head-quarters (Urban)	Outside head-quarters (Rural)	Total
No. of installations	1301	623	1924
No. of street lights	359	151	510
Length of HT lines in Kms	20	30	50
No. of Transformer Centres	10	25	35
Length of LT lines in Kms	40	64	104

Calculations

Applying the formula given under para 5—the results would be as shown hereunder :

	Man mts required at headquarters (As Urban)	Man mts required outside head-quarters (As Rural)
I. Maintenance of installations	$1301 \times \frac{1800}{100} = 23,413$	$623 \times \frac{5500}{100} = 34,265$
II. Maintenance of street lights	$359 \times \frac{4900}{100} = 17,591$	$151 \times \frac{3800}{100} = 5,738$
III. Maintenance of H.T. lines	$20 \times \frac{13000}{100} = 2,600$	$30 \times \frac{18300}{100} = 5,490$
IV. Maintenance of Tr. centres	$10 \times 300 = 3,000$	$25 \times 500 = 12,500$
V. Maintenance of LT lines	$40 \times \frac{16100}{100} = 6,440$	$64 \times 12100 = 7,744$
TOTAL	53,049	65,737

Total Man Mts required for the Section: $53049 + 65737 = 1,18,786$

Number of Men $= \frac{1,18,786}{11,320} = 10 \frac{5,568}{11,320}$

Remainder Man Mts 5,586 is less than 5,660 Man Mts

Therefore total men entitled	=	10
Add Leave Reserve at 6%	=	1 minimum
Total		11

The above 11 men are to be allocated *vide* items 4, 5, 6 as shown below and pertaining to the different categories in accordance with Table in Appendix–D/O and M/T–2.

Complement of Staff :

1.	Junior Engineer/Section Officer (O & M) ..	1	
2.	Overseer ..	1	
3.	Line Mechanic Gr. II	1	As per Table in Appendix D/O & M/T-2
4.	Wireman	1	
5.	Lineman	4	
6.	Assistant Lineman	6	

APPENDIX—D/O AND M/L–3

Specimen Calculations for Determining Maintenance Staff for Urban O and M Section,—Maidan Area

Work load data	At head-quarters (Urban)	Outside headquarters (Rural)	Total
No. of installations	2310	135	2445
No. of street lights	560	10	570
Length of HT lines in Kms	27	12	39
No. of Transformer Centres	20	4	24
Length of LT lines in Kms	75	25	100

Calculations

Applying the formula given under para 5, the results would be as shown hereunder :

	Man mts required at headquarters (As Urban)	Man mts required outside the head-quarters (As Rural)
I. Maintenance of installations	$2310 \times \frac{1800}{100} = 41580$	$135 \times \frac{5500}{100} = 7425$
II. Maintenance of street lights	$560 \times \frac{4900}{100} = 27440$	$10 \times \frac{3800}{100} = 380$
III. Maintenance of HT lines	$27 \times \frac{13000}{100} = 3510$	$12 \times \frac{18300}{100} = 2196$
IV. Maintenance of Tr. centres	$20 \times 300 = 6000$	$4 \times 500 = 2000$
V. Maintenance of LT lines	$75 \times \frac{16100}{100} = 12075$	$25 \times 121 = 3025$
TOTAL	90,605	15,026

Total man Mts. required for the section = 90,605 + 15,206 = 1,05,631

No. of Persons $\frac{1,05,631}{11,320} = 9 \frac{3,751}{11,320}$

Remainder Man Mts = 3,751 is less than 5,660 Man Mts.

Therefore Total Men entitled to	=	9
Add Leave Reserve at 6%	=	1
Total		10

The above 10 men are to be allocated *vide* items 5, 6, 7 as shown below pertaining to the different categories in accordance with Table in Appendix–D/O and M/T-2.

Complement of Staff:

1.	Junior Engineer/Section Officer, (O and M)	.. 1	
2.	Overseer	.. 1	
3.	Line Mechanic Gr. I	.. 1	
4.	Line Mechanic Gr. II	1	As per Table in Appendix–D/O and M/T–2
5.	Wireman	1	
6.	Lineman	3	
7.	Assistant Lineman	6	

APPENDIX–D/O AND M/L–4

Specimen Calculation for Determining the Maintenance Staff for City O and M Section

	At head-quarters (Urban)	Outside headquarters (Rural)	Total
No. of installations	3850	350	4200
No. of street lights	1300	..	1300
Length of HT lines in Kms	47	44	91
No. of Transformer centres	38	21	59
Length of LT lines in Kms	60	78	138

Calculations

Applying the formula given under para 5; the results would be as shown hereunder :

	Man mts required at headquarters (As Urban)	Man mts required out side headquarters (As Rural)
I. Maintenance of installations	$3850 \times \frac{1800}{100} = 69300$	$350 \times \frac{5500}{100} = 19250$
II. Maintenance of street lights	$1300 \times \frac{4900}{100} = 63700$	— — —
III. Maintenance of H.T. lines	$47 \times \frac{13000}{100} = 6110$	$44 \times \frac{18300}{100} = 8052$
IV. Maintenance of Tr. centres	$38 \times 300 = 11400$	$21 \times 500 = 10500$
V. Maintenance of L.T. lines	$60 \times \frac{16100}{100} = 9660$	$78 \times \frac{12100}{100} = 9438$
TOTAL	1,60,170	47,240

Total Man Mts. required for the Section : 1,60,170 + 47,240 = 2,07,410

$$\text{Number of Persons} = \frac{207410}{11320} = 18\frac{3651}{11320}$$

Remainder Man Mts. = 3,651 is less than 5,660 Man Mts.

Therefore Total Men Entitled to = 18

Add Leave Reservists at6% = 1[illegible]

Total 19 Men.

These 19 men are to be allocated *vide* items 6, 7, 8 as shown below and pertaining to the different categories in accordance with Table in Appendix–D/O and M/T-2.

Complement of Staff :

1. Junior Engineer	..	1	As per Table in Appendix D/ O and M/ T–2
2. Supervisor	..	1	
3. Overseer	..	1	
4. Line Mechanic Gr. I	..	1	
5. Line Mechanic Gr. II	..	2	
6. Wireman	..	3	
7. Lineman	..	6	
8. Assistant Lineman	..	10	
	..		

APPENDIX–D/O AND M/L–5

Specimen Calculation for Determining the Maintenance Staff for City O and M Section—Bangalore City

Work load data	At head-quarters (Urban)	Outside head-quarters (Rural)	Total
No. of installations	5860	..	5860
No. of street lights	(Attached to street light division)		
Length of H.T. lines in Kms	10	..	10
No. of Transformers	14	..	14
Length of L.T. lines in Kms	32	..	32

Calculations

Applying the formula given under para 5, the results would be as shown hereunder :

		Man Mts required at head-quarters (as Urban)
I. Maintenance of installations	$5860 \times \frac{1800}{100}$ =	1,05,480
II. Maintenance of H.T. lines	$10 \times \frac{13000}{100}$ =	1,300
III. Maintenance of Transformers	14×300 =	4,200
IV. Maintenance of L.T. lines	$32 \times \frac{16100}{100}$ =	5,152
	TOTAL	1,16,132

Total Man Mts. required for Section .. 1,16,132

Number of Persons .. $\frac{1,16,132}{11,320} = 10\frac{2932}{11320}$

Remainder Man Mts = 2,932 is less than 5,660 Man Mts.

Therefore total men entitled .. 10

Add leave reservists at 6% .. 1 minimum

Total .. 11 Men

These 11 men are to be allocated *vide* items 6, 7, 8 as shown below and pertaining to the different categories in accordance with Table in Appendix–D/O and M/T–2.

Complement of Staff :

1.	Junior Engineer	.. 1	
2.	Supervisors	.. 2	
3.	Overseer	.. 1	
4.	Line mechanic Gr. I	.. 1	
5.	Line Mechanic Gr. II	.. 1	As per Table in Appendix–D/O and M T–2
6.	Wireman	.. 1	
7.	Lineman	.. 4	
8.	Assistant Lineman	.. 6	

While computing Man Mts. required for maintenance of L.T. Lines where L.T. U.G. Cable is involved in addition to the overhead L.T. Distribution lines or only L.T. U.G. Cable is existing the Man Mts. required for L.T. cable maintenance as indicated in Appendix–D/O and M/T–1.

APPENDIX–D/O and M/L–6

Specimen Calculations for Determining the Maintenance Staff for Rural O and M Section—Malnad Area

Work load data	At head-quarters (Urban)	Outside head-quarters (Rural)	Total
No. of installations	128	916	1044
No. of street lights	28	167	195
Length of H.T. lines in Kms	2	200	202
No. of Transformer Centres	3	46	49
Length of L.T. lines in Kms	8	108	116

Calculations

Applying the formula given under para 5, the results would be as shown hereunder :

	Man mts required at headquarters (As Urban)	Man mts required outside headqaurters (As Rural)
I. Maintenance of installations	$128 \times \frac{2600}{100} = 3328$	$916 \times \frac{6600}{100} = 60,456$
II. Maintenance of street lights	$28 \times \frac{5100}{100} = 1428$	$167 \times \frac{4100}{100} = 6,847$
III. Maintenance of H.T. lines	$2 \times \frac{18100}{100} = 362$	$200 \times \frac{23800}{100} = 47,600$
IV. Maintenance of Tr. centres	$3 \times 300 = 900$	$46 \times 520 = 23,920$
V. Maintenance of L.T. lines	$8 \times \frac{16100}{100} = 1288$	$108 \times \frac{14700}{100} = 15876$
TOTAL	7,306	1,54,699

Total Man mts required for the section: 7306 + 154699 = 1,62,005

Number of men $= \frac{162005}{11320} = 14 \frac{3525}{11320}$

Therefore total men entitled to 14	=	14
Add leave reservists at 6%	=	1
Total		15

The 15 men are to be allocated vide items 4, 5, 6 as shown below pertaining to the different categories in accordance with Table in Appendix/O and M/2.

Complement of Staff :

1.	Supervisor (Section Officer, O and M) ..	1	
2.	Overseer ..	1	
3.	Line Mechanic Gr. II ..	1	As per Table in Appendix-D/O and M/T-2
4.	Wireman ..	2	
5.	Lineman ..	5	
6.	Assistant Lineman ..	8	

II. Norms for Service Stations :

In cities, District Headquarters and Major Towns, where there are considerable concentration of large and small scale Industries, Hospitals, Cinema Houses and other Commercial and All Electric Home Consumers, greatest importance has to be attached to continuity of Power Supply and the supply be resumed most expeditiously in the event of failure. Keeping this in view, service stations shall be organised with reference to the importance and density of Installations in the area as detailed below.

1. (*a*) *Service Stations for Bangalore City* : A Central complaint station as at present will continue with a slight modification in the staff complement and it will work in three shifts. Only one Supervisor per shift shall be provided to attend to the work of receiving complaints from the public and transmit to the respective Zonal Service Stations or O & M Sections for compliance. The work of compilation of particulars regarding complaints attended by the O & M sections and the Zonal Service Stations pertaining to each of the Shifts shall be attended to by the Supervisor on shift after recording all the complaints received and transmitted to Zonal Service Stations as at present.

(*b*) *Zonal Service Station* : For attending to breakdown complaints and fuse off calls, Zonal Service Stations shall be located at important points in the city and number of such Zonal Service Stations

shall be limited to six in the West Division area and four in the East Division area for the present. These Zonal Service Stations shall work in three shifts.

Each Zonal Service Station shall have the following staff complement :

Staff Complement for Zonal Service Station :

		Day Shift	Evening Shift	Night Shift	Spare	Total
1.	Supervisor	1	1	1	1	4
2.	Overseer	–	1	–	–	1
3.	Lineman (with C.A.)	–	6	4	2	12
4.	Driver Gr. II	1	1	1	1	4

2. Service Stations for Cities such as Mysore, Mangalore, Hubli, etc., and in places where the installations are more than 20,000 in Municipal limits shall be organised as detailed below :

(*a*) *Central Service Stations* : The Central Service Station will work in three shifts *i.e.*, 7·00 Hrs. to 15·00 Hrs., 15·00 Hrs. to 23·00 Hrs. and 23·00 Hrs. to 7·00 Hrs. It will register complaints of fuse off calls and break-downs during all the three shifts. Fuse off calls and break-downs would also be attended to by this Service Station during the evening and night shifts, whereas complaints with regard to fuse off calls and break-downs received during the day shift will be transmitted to the concerned Zonal Service Stations for compliance. The Supervisor on Shift will compile the complaints recorded and attended to by Zonal Service Stations and O & M Sections and prepare an overall statement showing the complaints received, category-wise those attended to, and the balance if any remaining for the day, at the end of each day and forward a copy of the statement to the Controlling Officer on the following day.

The Central Service Stations shall be provided with one separate vehicle (Van) and this vehicle shall be available in all the three shifts.

The Zonal Service Station shall make use of the vehicles of the Sub-Division for evening shift only.

Staff Complement of Central Service Station :

	Day Shift	Evening Shift	Night Shift	Spare	Total
1. Supervisor	1	1	1	1	4
2. Lineman (with C.A.)	–	6	4	2	12
3. Driver Gr. II	1	1	1	1	4

Note : As a reasonable provision of man mts. for fuse off call duties is available in Work Load Assessment of lineman for purpose of calculation of the total number of maintenance men required for a O & M Section, a reasonable number of men would be entitled to for being drafted by shifts to fuse off call duties. The Zonal Service Stations therefore could pool up required number of men from the O & M Sections to attend to break-downs, etc.

69. The Zonal Service Stations, shall, towards the end of each shift, transmit (to the Central Service Station) all the complaints recorded and attended.

70. Each of the Zonal Service Stations shall be controlled by the Assistant Engineer of the Sub-Division, and the Central Service Station shall be under the control of the Assistant Engineer (Elecl.) of the Sub-Division in whose area it is located.

3. *Service Stations in District Headquarters and Places with* 5,000 *Installations and above within Municipal Limits* : In each of the places of the above category a service station shall be provided. The service will work in two shifts only, i.e., the day shift (7·00 to 15·00 Hrs.) and the evening shift (15·00 Hrs. to 23·00 Hrs.). The Service Stations will register the complaints of fuse off calls and break-downs and attend to the same during both the shifts.

The Staff complement for these stations shall be as follows :—

		Day Shift	Evening Shift	Spare	Total
1.	Overseer	1	1	1	3
2.	Lineman (with C.A.)	1	1	–	2
3.	Driver Gr. II	–	1	–	1

The Service Station will make use of the vehicle in the Sub-Division for evening shift only.

The Service Station will work under the administrative control of the Assistant Engineer of the Hd. Qts. O & M. Sub-Division.

4. *General Conditions Applicable to all Service Stations* :

(*i*) All the Service Stations shall be provided with P & T Telephones and the required tools and equipment for attending to complaints and break-downs. Standard tool kits should also be provided in sufficient number consisting of cutting-pliers, screw driver, adjustable spanner, Rubber Gloves, Torch, Tester, Saftey-belts; and rope of a length (say 10 Mts.)

(*ii*) The use of vehicle shall be restricted only to complaints involving distance beyond two kilometres and emergency break-downs.

III. Norms for Works Units :

(Two works units—one on permanent basis and the other on temporary basis for each O & M Sub-Division).

These units shall carry out Extention and Improvement works, Service Connection Works, I.P. Sets, Rural Electrification Works and similar other construction works.

2. Each Unit may handle the works costing about Rs. 6·00 lakhs per annum. In the event the works involved during a year in any non-City O & M. Sub-division exceed Rs. 12·00 lakhs and in City O & M. Sub-divisions exceed Rs. 9·00 lakhs additional temporary works units may be sanctioned and such additional temporary works units may be

regulated at the rate of one unit for works costing about Rs. 3 to 5 lakhs.

3. The Head Quarters of all these works units shall be the Head Quarters of the Sub-Division or any O & M. Section in the Sub-Division. The Executive Engineer of the Division may change the Head Quarters of any works units depending on the needs of the works.

4. *Staff Complement for Works Units* :

(*i*) Out of the two works units in each Sub-division, one shall be manned by a Junior Engineer and the other by a Supervisor.

(*ii*) Each of the works units other than those in City O & M. Sub-divisions shall have two field batches and *each batch shall* have the following staff complement :

1.	Line Mechanic Gr. II (with Cycle Allowance)	1
2.	Linemen (with C.A.)	1
3.	Daily rated Temporary Time Rollmen	Actual Number of Temporary Time Rollmen may be determined depending on the works to be handled. However, for normal works, a batch may consist of 15 persons.

(*iii*) Works units in City O & M. Sub-divisions shall have only one batch of the composition as in (*ii*) above except the number of Temporary Time Roll men may be 20 as against 15 in non-city units.

(*iv*) Additional Temporary works unit shall have only one batch of the composition defined in para (*ii*) above.

5. The works handled and completed shall be handed over to the concerned O & M. Section Officer with the field inventory within a period of one month after completing and commissioning the work.

IV. Norms for Meter Reading and Spot Billing :

1. The energy meters in all the installations except the H.T. Installations and street light installations shall be read and billed at

the spot once in a month by the Meter Readers. However, the street light installations shall also be read once in a month by the Meter Readers and readings reported to the concerned Revenue Sections.

2. The work load for a Meter Reader in terms of lighting installations shall be fixed as follows :

(*a*) Rural Area Installations per month		2300–2500
(*b*) Urban Area Installations	–do–	3100–3400
(c) City Area Installations	–do–	3500–3900

3. For determining the Work Load as above, all the categories of installations such as Power Installations, I.P. installations, etc., are to be expressed in terms of lighting installations as detailed in the table below.

Table Showing the Ratio of Installations for Purposes of Computation and Fixation of the Work Load of Meter Readers :

I. Area Composition : *Urban with Rural Area*

Actual No.		*Computed No.*
One Urban Lighting Domestic/ Comml/AEH/1 domestic Lighting	=	1 Urban Lighting Installatiou
One Rural Lighting installation	=	1.4 Urban Lighting –do–
One Rural L.T. Power	=	4 Urban Lighting –do–
One Urban L.T. Power	=	3 Urban –do–

II. Area Composition : City with Sub-Urban and Rural Area :

One City Lighting Domestic/ Comml/AEH/Domestic Heating	=	1 City Lighting Installation
One Rural Lighting installation	=	1.6 City Lighting –do–
One Rural L.T. Power	=	5 City Lighting –do–
One Sub-Urban Lighting (Urban)	=	1.15 City Lighting –do–
One City/Sub-Urban L.T. power	=	3 City Lighting installations –do–
One I:P. Set	=	6 City Lighting –do–

Note: (i) Rural lighting installation is one which is situated beyond the head-quarters of any O and M Section or beyond the sub-urban area in respect of city O and M sections.

(ii) An urban lighting installation is one which is situated within the head-quarters of any O and M. Section except a O and M Section in a city.

(iii) A city lighting installation is one which is situated within the limits of concerned municipality or corporation having not less than 10,000 installations.

Note.—Specimen calculations for determining the number of meter readers for a given work load data is given in Appendix D/O and M/R 1 and 2.

4. Number of Meter Readers shall be determined based on the work load sublect to a minimum of one for each O & M. Section. Where the size of the O & M Section is very small and not entitled for an overseer for the office the Meter Reader admissible as above will look after the duties of overseer also in addition to the duties of Meter Reader. This position may be reviewed periodically with reference to growth in the quantum of work of Meter Reader, so as to provide an overseer when the work load of the Meter Reader reaches the prescribed level.

If the work load of a meter reader in any O & M Section exceeds the permissible maximum, such excess to the extent of 20% of such maximum shall be attached to the overseer of the O & M Section. Thereafter one more Meter Reader shall be provided till such time the O & M Section itself is bifurcated or re-organised.

6. The job descriptions and duties of Meter Readers are enumerated in the Board Order No. KEB/WLIC—9/74–75 dated 15th April 1975.

APPENDIX D/O and M/MR1

Specimen Working Sheet for Determining the Work Load of Meter Readers for a Given Work Load Data of an O and M Section

Work load data	Lighting	L.T. power	I.P. sets	Remarks
I. Installations at head-quarters	1284 (Urban)	76	..	Lighting includes AEH and domestic heating installations
II. Installations outside head-quarters	503 (Rural)	20	605	

As the permissible daily work load varies between urban and rural installations, the total work load composing of installations of all classes can be computed and an equivalent arrived at in terms of urban installations as follows :—

Sl. No.	Description of installations	Actual No. of installations	Multiplying factor for computation	No. of installation by computation	Remarks
Headquarters					
1.	Lighting	1284	1	1284	
2.	L.T. Power	76	3	228	
Rural					
3.	Lighting	503	1·4	704	
4.	L.T. power	20	4	80	
5.	I.P. sets	605	5	3025	
				5321	

The total equivalent number of installations = 5321.
Permissible work load in terms of urban installations = 3100–3400
Number of meter readers admissible = Two.

Note.—The number of installations over the maximum limit exceeds 20% of the maximum permissible work load and hence the number of meter readers admissible is two.

APPENDIX—D/O and M/MR2

Specimen Working Sheet for Determining the Number of Meter Readers for a Given Data of a City O and M Section

Work load data	Lighting	L.T. power	I.P. sets	Remarks
I. Installations at headquarters	3570 (City)	187	..	Lighting includes AEH installations and
II. Installations outside headquarters	276 (Rural)	3	158	domestic heating installations

As the permissible daily work load varies between city and rural installations, the total work load comprising of the installations of all classes can be computed and an equivalent arrived at in terms of city installations as follows :—

Sl. No.	Description	Actual number of installations	Multiplying factor for computation	Number of installations by computation	Remarks
	Headquarters				
1.	Lighting	3570	1	3570	
2.	L.T. power	187	3	561	
	Rural				
3.	Lighting	276	1-6	442	
4.	L.T. power	3	5	15	
5.	I.P. sets	158	6	948	
				5536	

The total equivalent number of installations	..	5536
Permissible work load is	..	3500–3900
Number of meter readers admissible	..	Two

Note.—The number of installations over the maximum limit exceeds 20% of the maximum permissible work load; hence the number of meter readers admissible is two.

V. Norms for Forming O and M Sub-divisions:

1. *O and M sub-divisions (Other than City)*

(*a*) An O and M sub-division may be formed with a minimum of three O and M sections which may be in the category of Rural, semi-urban, or urban sections with an area jurisdiction of 40–45 kms radius. The headquarters of the sub-division should normally be at the Taluk headquarters. The sub-division may continue to have two works units to take care of all works of construction nature as at present.

Depending upon the density of new works the sub-division may have additional temporary works units as per norms laid down for formation of works units. Sub-stations, R.C.C. pole manufacturing centres and sub-divisional stores shall be attached to the sub-divisions as at present.

(*b*) Additional O and M sections, not exceeding two in number, may be attached to any one sub-division as and when additional sections are formed within the jurisdiction of a sub-division. When the number of O and M sections in a sub-division exceed five, re-organisation/re-distribution of the sub-divisions in the divisions may be so effected so that no sub-division has more than five O and M sections.

2. *O and M sub-divisions in city areas*

(*a*) A city O and M sub-division shall be formed with a minimum of three city O and M sections. However, in the event sub-division in cities is formed with a combination (O and M sections of other categoreies with O and M sections of city category), the sub-division may have more than three O and M sections, provided the aggregate number of installations ranges between 16,500 and 31,000.

Note.— While computing the total number of installations for sub-division one installation outside the municipal/corporation limits should be taken as equivalent to 2 installations within corporation/municipal limits.

(*b*) Whenever the number of installations in a city sub-division exceed 21,000 by 10% the Executive Engineer should take action either to redistribtue the work load suitably among all city sub-divisions

or re-organise the O and M sections or the sub-divisions as the case may be.

(*c*) Sub-divisional stores, transport vehicle maintenance, works units, sub-stations, switching stations, RCC Centres, Billing, collection and accounting of revenue within the jurisdictional area of the sub-divisions shall be under the supervision, control and administration of the Assistant Engineer of the sub-division.

(*d*) The duties and job descriptions of the Assistant Engineer and other personnel in a sub-division are enumerated in the Board Order No. KEB/WLIC-9/74-75 dated 15th April 1975.

VI. Norms for Street Light Maintenance at Bangalore

1. *Street Light Maintenance Sections*

Maintenance works of the street lights in the Corporation and Trust Board areas of Bangalore City shall be placed in-charge of six maintenance sections under street light divisions, Bangaloie, as long as the number of street lights maintained does not exceed 32,000.

Each section shall have the following staff complement:

1.	Supervisor (Electrical) (with MCA)	.. One
2.	Line mechanic Gr. II (with CA)	.. One
3.	Wireman (with CA)	.. Three
4.	Lineman (with C.A.)	.. Four
5.	Assistant Lineman (with C.A)	.. Eight

Additional maintenance men shall be provided by applying the formula enumerated below.

Total man minutes for 'X' number of street lights $= \frac{3200}{100} \times X = 32\,X$

where 'X' is the total number of street lights in the division;
Available man minutes/per person/per month = 11320

Therefore the total number of men required $= \frac{32\,X}{11320} = Y$

Add leave reservists at 6% to the figure Y and arrive at the total number of men for the division.

The total number of men so arrived at shall be allocated into different categories as indicated in the table, *vide* Appendix–D/O and M/T–2, and distributed among the sections.

2. *Street Light Works Units*:

Carrying out new works like installing additional street lights, modifications to the existing lights and such other new works shall be placed in charge of two street light works units under the street light division, Bangalore. Each street light works unit shall have the following staff complement:

1.	Supervisor (Electrical) (with MCA)	.. One
2.	Line Mechanic Gr. II (with CA)	.. One
3.	Lineman (with CA)	.. One
4.	Temporary time roll men	.. Number to be determined depending on the quantum of works.

The duties and job descriptions of the supervisor and the maintenance men are enumerated in the Board Order No. KEB/WLIC–9/74–75 dated 15th April 1975.

Norms for HTUG Cable Maintenance System at Bangalore

The maintenance activities such as regular patroling of cable routes, testing of cables and equipments, inspection of pot-heads, ring main units, feeder pillar boxes, etc., at regular intervals from the point of view of preventive maintenance to minimise break-downs and ensure proper upkeep of the system and as also attend to break-downs, etc., pertaining to HTUG cable shall be placed exclusively in-charge of HTUG cable maintenance sections in Bangalore City.

The H.T. Underground Cable Maintenance Sections shall be formed one in each of the West and East Divisions, Bangalore, with the following complement of staff. The sections shall be under the control and supervision of the Executive Engineers of the concerned divisions.

		HTUG maintenance sections	
		West division	East division
1.	Supervisor (Elecl.) (with MCA)	1	1
2.	Cable Jointer (with CA)	2	2
3.	Asst. Cable Jointer (with CA)	2	2
4.	Line mechanic Gr. I (with CA)	1	1
5.	Line Mechanic Gr. II cum–Painter (with CA)	1	1
6.	Lineman (with CA)	5	3
7.	Assistant lineman (with CA)	6	4

Note.—Except for the supervisor and cable jointers, the total strength of the maintenance men shall be 15 and 11 for the west and east division, respectively.

When the work load increases, additional number of maintenance men over and above 15 and 11 shall be determined by the following ormula for each section.

(i) *Work Load Data*

1. Total length of HTUG cable in RKMS × 435 man minutes = A
2. Number of Feeder Pillar Boxes × 266 man minutes = B
3. Number of Ring Main Units × 400 man minutes = C
4. Number of pot-heads × 30 man minutes = D

Total man minutes = A + B + C + D.

$$\text{Total number of men required} = \frac{A + B + C + D}{11320} = Y$$

Add leave reservists at 6% to the figure Y and the number of men in each category be allocated in the ratio as is obtaining for 15 and 11 above.

Norms for Electrical Maintenance of Board Buildings in Bangalore

The Maintenance of Electrical installations in the Board Buildings except CBAB: Complex Buildings of the Board shall be placed in-charge of a section. The section shall be under the control of the Executive Engineer (Electrical), West Division. The Section shall be entrusted with the work of maintenance, repairs, replacements of electrical installations, minor additions, alterations and extension of the Electrical Installations in the Buildings of the Board.

The section shall have the following staff complement:

1.	Supervisor (with MCA)	.. One
2.	Line Mechanic Gr. II (with CA)	Two
3.	Wireman (with CA)	.. Two
4.	Lineman (with CA)	.. Two
5.	Assistant Lineman (with CA)	.. Two

Norms for Voltage Improvement Cell

The existing Voltage Improvement Cell shall be continued and they shall study the voltage and load conditions of various feeders and transformer centres and to suggest remedial measures for improvement of the voltage conditions of the distribution system as follows:

1. *Bangalore City.*—The Voltage Improvement Cell headed by an Assistant Engineer and the other staff complement under the control and supervision of the Superintending Engineer, Bangalore Circle, shall be continued as such.

The staff complement shall be as follows:

1.	Assistant Engineer (Electrical)	One
2.	Junior Engineer (Electrical)	Four
3.	Tracers/Blueprinters	Two

4.	Lineman	.. Five
5.	Driver Gr. II	.. One
6.	Typist	.. One
7.	Office attendant Gr. II	.. One

2. *Mysore City.*—The Voltage Improvement Cell in charge of a Junior Engineer (Electrical) shall be continued as at present and the staff complement shall be as follows:

1.	Junior Engineer (Electrical)	.. One
2.	Tracer	.. One
3.	Lineman	.. One
4.	Assistant Lineman	.. One

3. *All O and M divisional headquarters.*—A Voltage Improvement Cell shall be formed at each of the O and M Divisional Headquarters under the control and supervision of the Executive Engineer with the following staff complement.

1.	Junior Engineer (Electrical)	.. One
2.	Lineman	.. Two

Note.—In addition to the duties of the voltage improvement works, the Junior Engineer (Elecl.) shall also be in-charge of maintenance of transport vehicles at the headquarters of the division.

II. NORMS—TRANSMISSION LINE MAINTENANCE

Norms for Maintenance of Transmission Lines

The network of Transmission line system and connected telephone lines shall be placed under exclusive charge of Transmission Line Sub-divisions for operation and maintenance. The routine maintenance works and attention to break-downs, rectification of faults and such other maintenance works shall be carried out by the transmission line maintenance sections under the control and supervision of the sub-divisions. The overall control of these sub-divisions shall rest with Superintending Engineers of the respective circle in whose jurisdiction the sub-divisions are located. The transmission line maintenance sections and sub-divisions shall be formed as follows;

I. *Transmission Line Maintenance Sections*

1. Transmission line maintenance sections shall be formed with a work load of 150–200 RKMS of EHT lines (33 kV to 220 kV) in a jurisdictional area of not more than 65 kms radius. However having regard to field conditions, forming sections with a work load of less than prescribed limits of 150–200 kms within the jurisdictional area of 65 kms radius shall be decided by the Chief Engineer of the concerned area.

The staff complement for each section shall be as follows:—

1.	Supervisor (Elecl.)	1
2.	Linc Mechanic Gr. I	Number of posts and sections to which these posts are attached is given in Appendix–TL/A.
3.	Linc Mechanic Gr.II	Number of posts in each category to be determined as per Table TL–C by applying the calculations described in Appendix/TL–B.
4.	Lineman	
5.	Assistant Lineman	

Note.—Specimen calculations to determine the strength of personnel for given data of a section is defined in Appendices/TL–C1, C2, C3.

2. (*a*) Camps may be located at intervals of 15–20 kms along the EHT lines where telephone lines exist and the required maintenance staff for each camp in a section may be provided with a minimum of three maintenance men out of the total strength admissible for the section.

(*b*) Where, however, telephone lines do not exist along the EHT lines, camps may be located at the terminal power stations of the concerned EHT lines and the strength of the staff to be located in each of such camps out of the total admissible shall be determined by the concerned Superintending Engineer.

Formula for calculating maintenance men for transmission line maintenance sections.

(i) Work Load Data

Sl. No.	Category of lines			(a) Man mts for maidan area per Km	(b) Man mts for malnad (hilly/ forest) coastal area per Km
1.	Length of 220 KV lines in RKMS	Single circuit	×	521	791
2.	do.	Double circuit	×	704	974
3.	Length of 110 KV lines in RKMS	Single circuit	×	923	1193
4.	do.	Double circuit	×	1328	1598
5.	Length of 66 KV lines in RKMS	Single circuit	×	788	1049
6.	do.	Double circuit	×	1157	1418
7.	Length of 33 KV lines in RKMS	Single circuit	×	610	854
8.	do.	Double circuit	×	887	1131
9.	Length of Telephone lines		×	302	302
		Total man mts.	×		

Total man minutes required for the section can be calculated by selecting the appropriate man minutes under column (*a*) or (*b*) in the above table in respect of each category of lines in the section keeping in view whether the area falls under classification of maidan, or hilly/ forest/malnad/coastal area. A Table showing the details of standard man minutes in respect of each category of line for different areas is given in Appendix—TL-B.

Note.—In the case of sections having the combination of both maidan and hilly/ forest areas, man mts required for the length of line located in each area may be worked and added up to arrive at the total time and staff admissible thereon.

(ii) *Calculations*

Let the total man minutes required for the section be 'X' and the total number of maintenance men be 'Y'.
Then

$$\frac{Y = X}{11320}$$

where 'X' is the total man minutes arrived at for the section based on the work load of the section

where 11320 is the total man minutes available per person per month.

Further, when 'X' is divided by 11320, if the remainder number is 5660 or more, the total men entitled to will be Y + 1. Additional one maintenance men for every enroute camp in the section shall be added to the strength arrived at as above.

A further addition of 6% for leave reservist subject to a minimum of one per section is to be made to arrive at the total strength of staff for the section.

The total strength of maintenance men so arrived for the section shall be allocated among the different categories as shown in the Table *vide* Appendix–TL/'C'.

One additional lineman shall be provided to each of the enroute camps over and above the strength arrived at where telephone boards have to be kept in operation at least in two shifts to maintain communication between the several offices/stations, etc.

Each sub-division shall be provided with a Jeep/pick up van and 16 lorries are to be provided at the places mentioned in Appendix–TL–D for the maintenance of Transmission Lines.

APPENDIX/TL–A

Transmission Line Sections at the following places shall have the post/ posts of Line Mechanic Gr. I indicated aganist each:

	Place	No. of posts
1.	Jog	1
2.	Munirabad	1
3.	Sindhanur	1
4.	Davangere	1
5.	Gulbarga	
6.	Shahabad	
7.	Bagalkot	1
8.	Tumkur	1
9.	Gowribidnu	1
10.	Kanakapura	1
11.	Mysore	1
12.	Hassan	1
13.	Sivasamudram	1
14.	Hubli	
15.	Belgaum	
16.	Ghataprabha	1
17.	Shimoga	2
18.	Mangalore	1
19.	Bangalore	2
	TOTAL	22 posts

APPENDIX/TABLE-TL/B

Table showing the Standard Man Minutes for Transmission Line (33 KV and above) Activities of the Maintenance Staff for Different Areas

	Maidan area		Malnad and coastal area	
	Single circuit man mts per month	Double circuit man mts per month	Single circuit man mts per month	Double circuit man mts. per month
I. Maintenance of 220 KV lines (based on 110 Km)	52,100·00	70,400·00	79,100·00	97,400·00
II. Maintenance of 110 KV lines (based on 100 Km)	92,300·00	1,32,800·00	1,19,300·00	1,59,800·00
III. Maintenance of 66 KV lines (based on 100 Km)	78,800·00	1,15,700·00	1,04,900·00	1,41,800·00
IV. Maintenance of 33 KV lines (based on 100 Km)	61,000·00	66,700·00	85,400·00	1,13,100·00
V. Maintenance of telephone lines (based on 100 KM single circuit or double circuits)	..	30,200·00	..	30,200·00

APPENDIX/TABLE/TL–C

Table for the Composition of Maintenance Staff for Transmission Line Maintenance

Total No. of men arrived as per work load assessment and prescribed calculations	Line mechanics second class	Linemen	Assistant linemen
9	1	6	2
10	1	7	2
11	1	8	2
12	1	8	3
13	1	9	3
14	2	9	3
15	2	10	3
16	2	11	3
17	2	11	4
18	2	12	4
19	2	13	4
20	2	14	4
21	2	14	5
22	2	15	5
23	3	15	5
24	3	16	5
25	3	16	6
26	3	17	6
27	3	18	6

*APPENDIX/TL–C*1

Sample Calculations for Determining Maintenance Staff for Transmission Lines

(Maidan Area)

		Length in R.Kms
I. *Work Load Data*		
1. (*a*) 220 KV line Shimoga—Bangalore	Double circuit	45 Km
(*b*) do. do.	Single circuit	45 ,,
2. 110 KV do.	Single circuit	45 ,,
3. 66 KV line Tumkur—Sira	do.	18 ,,
4. Telephone line		63 ,,
5. Number of lineman camps		One

II. *Calculations*

Applying the formula given under para 2 using Table/T1, the results would be as shown hereunder:—

		man minutes per month
(i) (*a*) 220 KV line (D.C.)	$45 \times \frac{70400}{100}$	.. 31,680·00
(*b*) do. (S.C.)	$45 \times \frac{52100}{100}$	.. 23,445·00
(ii) 110 KV line (S.C.	$45 \times \frac{92300}{100}$	.. 41,535·00
(iii 66 KV line (S.C.)	$18 \times \frac{78800}{100}$	.. 14,184·00
(iv) Telephone line Km	$63 \times \frac{30200}{100}$	.. 19,206·00
	TOTAL	..1,30,050·00

Total man minutes for the section per month .. 1,30,050·00

Man minutes available person

$$\text{P.M.} \qquad 11320 = \quad 11 \quad \frac{5530}{11320}$$

Remainder man minutes 5530 is less than 5660 man minutes.

Therefore total staff entitled	=	11
Add 1 lineman for the camp for telephone duty	=	1
Add leave reservist @ 6%	=	1 (Minimum)
TOTAL		13

III. *Staff Complement of the Section*

The total maintenance men as arrived at above be allocated in different categories as per Appendix Table/TL–T2 shown below:

1.	Supervisor	.. 1	As per Table TL/T2
2.	Line Mechanic II Cl.	.. 1	
3.	Lineman	.. 9	
4.	Assistant Lineman	.. 3	

Sample calculations for determining maintenance staff for transmission line (Malnad area)

I. *Work Load Data*

			(*Malnad area*) *length in R.Km*
1.	110 KV line Hubli—Bagalkot Bagalkot—Bagewadi	Double circuit	90 Km
2.	110 KV line Mahalingapur	do. Single circuit	.. 24 ,,
3.	33 KV line Bagalkot—Ilkal		.. 23 ,,
4.	Telephone line		.. 23 ,,
5.	Lineman camps		.. Nil

II. *Calculations*

Applying the formula given under para 2 using Table T1 the results would be as shown hereinunder :

			Man Mts.
(i) 110 KV line (D.C.)	$= 90 \times$	$\frac{132800}{100}$	1,19,520·00
(ii) 110 KV S.C. in Km	$= 24 \times$	$\frac{92300}{100}$	22,152·00
(iii) 33 KV line in Km	$= 23 \times$	$\frac{6100}{100}$	14,030·00
(iv) Telephone line	$= 23 \times$	$\frac{30200}{100}$	6,946·00
		TOTAL	1,62,648·00

APPENDIX /TL–C2

Total man minutes for the section per month .. 1,62,648·00

Man minutes available per person per month .. 11,320·00

Therefore No. of persons required $\frac{1,62,648}{11,320} = 14\ \frac{4160}{11320}$

Remainder man minutes 4160 is less than 5660

Therefore total staff entitled .. 14

Add leave reservists at 6% .. 1

Staff complement of the section 15

3. *Staff Complement of the Section*

The total maintenance men as arrived at above be allocated in different categories as per Appendix Table TL/C shown below for section :

1.	Supervisor	.. 1	
2.	Line Mechanic I Gr.	.. 1	
3.	Line Mechanic II Gr.	.. 2	as per Table TL/C
4.	Lineman	.. 10	
5.	Assistant Lineman	.. 3	

APPENDIX/TL–C3

Sample Calculations for Determining Maintenance Staff for Transmission Line Section

Work Load Data	(Malnad area) (Hilly and forest area)
1. Sharavathi–Shimoga 220 KV double circuit (36 × 2)	.. 72 Km
2. Jog-Shimoga 110 KV S.C. II line	.. 36 ,,
3. Jog-Shimoga 110 KV D.C. (III and IV lines)	.. 32 ,,
4. Shimoga-Davangere No. 1—66 KV single circuit	.. 32 ,,
5. Telephone lines	.. 68 ,,
6. No. of lineman camps	.. 3

Calculations.—Applying the formula given under para 2 using Table TL/B the results would be as shown below.

		Man mts per month
(i) 220 KV line (D.C.)	$= 72 \times \frac{97400}{100}$	70,128·00
(ii) 110 KV line (S.C.)	$= 36 \times \frac{119800}{100}$	42,948·00
(iii) 110 KV line (D.C.)	$= 36 \times \frac{159800}{100}$	57,528·00
(iv) 66 KV line (S.C.)	$= 32 \times \frac{104900}{100}$	33,568·00
(v) Telephone lines	$= 68 \times \frac{30200}{100}$	20,536·00
	TOTAL	2,24,708·00

Total man minutes for the section per month	..	2,24,708·00
Therefore man minutes available per person per month	..	11,320
Therefore number of persons required $= \frac{2,24,708}{11,320} = 19\ \frac{9628}{11320}$ or 20		
Total staff entitled to	..	20
Add 3 linemen for 3 camps (for telephone duty)	..	3
Add leave reservists at 6%	..	1
		24

Complement of Staff for the Section

The total men arrived at as above to be allocated as per Appendix TL–C and as shown below:

1.	Supervisor	.. 1	
2.	Mechanic I grade	.. 1	
3.	Mechanic II grade	.. 3	} as per Table TL/C.
4.	Lineman	.. 16	
5.	Assistant Lineman	.. 5	

III. NORMS—GENERATING STATION—MAJOR RECEIVING STATIONS

APPENDIX/GST-1

MGHE Generating Station and Sharavathi Generating Station, Jog

The existing norm and complement of staff may continue except for the modifications detailed hereunder in the various sections of MGHE generating station.

I. *Electrical and Hydraulic Sections*

The shift duities at Forebay and Head Gate which are presently being taken care of by Station Attendant grade I shall have to be placed under Station Mechanic grade II. Therefore eight posts of Station Mechanic grade II are provided for shift duties at Forebay and Head Gate in lieu of Station Attendants grade I.

II. *Civil Engineering Sections*

The present designation of the posts of Lineman in grade Rs. 80–145 and Helpers in grade Rs. 70–118 are re-designated as Civil Mates in grade Rs. 80–145 and helpers in grade Rs. 70–118 respectively. The posts of Mason, Fitter, and Plumber in grade Rs. 80–145 are redesignated as Mason grade III, Fitter grade III and Plumber grade III.

Health Section

Out of 15 posts in existence in the grade Rs. 70–118 with different designations, three posts are up-graded with the pay scale of Rs. 80–145 and designated as Field Man grade I/Maistry grade III class. The remaining 12 posts are re-designated as Field Man grade II. The posts in the grade Rs. 55–90 are re-designated as Fieldman grade III.

Transport Section—Jog

In order to ensure proper upkeep of vehicles by servicing at regular intervals and timely repairs, the section shall have the following staff complement:

1.	Supervisor	.. 1
2.	Auto-mechanic Gr. I (Rs. 130–240)	.. 1
3.	Auto Mechanic Gr. II (Rs. 110–195)	.. 3
4.	Attendant Gr. I (Rs. 80–145)	.. 2
5.	Attendant Gr. II/Auto-helper (Rs. 70–118)	.. 2

Note.—The post of auto-mechanic grade I may be filled up by promotion of the best from among the mechanic II class working in the section with minimum experience of 5 years as mechanic in an auto-garage and has held a heavy vehicle Driving License for over 5 years and has the ability to execute and supervise repairs works. In the event no candidate satisfying the above requirements is available in the existing staff, the post may be filled up by direct recruitment in accordance with C and R Rules.

As regards automobile mechanic grade II the best 3 of the existing mechanics grade II found suitable for the posts of automechanic grade II may be fitted in these posts.

With regards to attendant grade I and attendant grade II, the Superintending Engineer may allocate necessaiy number of men from out of the existing supernumerary posts.

Workshop: Jog

As at present the workshops attached to MGHE and SGS works at Jog are carrying out works like manufacture of spare parts required for the Generating Stations, repair works of the components of Oil Circuit Breakers, Trolly hoist, etc., and other works connected with Generating Stations. In addition it is also engaged in manufacture of line materials, structures for transmission and distribution lines, etc., body building of the vehicles and other works connected with Transport vehicles.

The allocation of posts to different trade groups could be done by the Superintending Engineer, Electrical, Jog, depending on the needs and the present strength in each category. The following tradewise designations in different grades are prescribed for information of the Superintending Engineer.

Previous designations	Present tradewise designation
1. Mechanic I Class (Rs. 130–240)	1. Mechanic Gr. I/Machinist Gr. I (Rs. 130–240) 2. Welder Grade I (Rs. 130–240) 3. Turner Grade I (Rs. 130–240)
2. Mechanic II Class (Rs. 110–195)	1. Mechanic Gr. II/Machinist Gr. II (Rs. 110–195) 2. Blacksmith (Rs. 110–195) 3. Welder Gr. II (Rs. 110–195)

Previous designation	Present tradewise designation
	4. Turner Gr. II (Rs. 110–195)
	5. Carpenter Gr. II (Rs. 110–195)
	6. Fitter Gr. II (Rs. 110–195)
	7. Painter Gr. I (Rs. 110–195)
3. Lineman II Class (Rs. 80–145)	Mechanic Gr. II (Rs. 80–145) Driller (Rs. 80–145) Puncher/Cutter/Tiner (Rs. 80–145) Hammerman (Rs. 80–145) Painter Gr. II (Rs. 80–145) Carpenter Gr. III (Rs. 80–145) Attendant Gr. I (Tool-keeper) (Rs. 80–145)
4. Helpers (Rs. 70–118)	1. Helpers (Woporks (Rs. 70–118h))

With regard to the norms for Sharavathi generating station, the existing norms and the complement of executive staff shall continue.

APPENDIX/GST-2

The following norms are fixed for providing staff complement for shift work and general maintenance works of each generating station and major receiving stations.

A. *Statement of Staff Complement for Sivasamudram Generating Station*

I. Electrical and Hydraulic Sections

Sl. No.	Designation	Posts as per norms					Remarks
		Shift		General maintenance		Total	
		Ele.	Hyd.	Ele.	Hyd.		
1.	Asst. Engineer	4	..	1	1	6	
2.	Junior Engineer	..	4	..	..	4	
3.	Supervisor	..	4	..	..	4	
4.	Senior Mechanic	..	..	1	1	2	
5.	Station mechanic Gr. I	..	..	2	2	4	
6.	Station mechanic Gr. II	..	16*	6	4	26	* Includes 4 trolley operators
7.	Attendant Gr. I	8	8	10	14	40	
8.	Attendant Gr. II	4	12	3	8	27	

Note: Regarding item 4:

Considering the nature of duties and responsibilities involved in special jobs like attending to breakdowns of heavy equipments and heavy haulage works 2 posts of senior mechanics in the scale Rs. 190–355 are allocated one each to the electrical and hydraulic sections.

Item 6:

Four mechanics grade II out of 16 provided for shift duties should be postea for shift duties at the regulator gates in hydraulic section.

Statement of Staff Complement for Sivasamudram Generating Station

I. Civil Engineering and Health Section

(Buildings, Road, Circuit Houses and Generating Stations)

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
1	2	3	4	5	6
	'A' Civil Engineering Section				
1.	Assistant Engineer	..	1	1	
2.	Supervisor (Civil)	..	1	1	
3.	Maistry (Civil) I Cl. (Rs. 130–240)	..	1	1	
4.	Mechanic II Cl. Water supply (Rs. 110–195)	..	1	1	
5.	Carpenter II Gr. (Rs. 110–195)	..	1	1	
6.	Mason Gr. II (Rs. 110–195)	..	2	2	
7.	Painter Gr. I (110–195)	..	1	1	
8.	Civil Mate (Rs. 80–145)	14	12	26	
9.	Helper (Civil) (Rs. 70–118)	8	14	22	
10.	Butler (Rs. 80–145)	..	1	1	
11.	Cook (Rs. 70–118)	..	2	2	

1	2	3	4	5	6
12.	Maistry (Rs. 70–118)	..	1	1	
13.	Caretaker (Rs. 55-90)	..	1	1	
14	Mali Gr. I (Rs. 70-118)	..	1	1	
15	Mali Gr. II (Rs. 55-90)	..	1	1	
16	Dhobi (Rs. 55–90)	..	1	1	
	'B' Health Section				
1.	Senior Health Inspector			1	
2.	Fieldman Gr. I (Rs. 80–145)			4	
3.	Fieldman Gr. II (Rs. 70–118)			2	
4.	Sweeper/Scavenger (Rs. 55–90)			34	

III. O and M of distribution lines (colony and other installations)

Sl. No.	Designation	Posts as per norms
1.	Supervisor (with M.C.A.)	1
2.	Line mechanic Gr. II (Rs. 110–195 with C.A.)	1
3.	Attendant Gr. I (lines) (Rs. 80–145 with C.A.)	6
4.	Attendant Gr. II (lines) (Rs. 70–118 with C.A.)	3

IV. Workshop and Transport

Sl. No.	Designation	Posts as per norms
1.	Supervisor	1
2.	Mechanic Gr. I	1
3.	Blacksmith	1
4.	Carpenter Gr. II	1
5.	Mechanic-*cum*-Turner Gr. II	1
6.	Mechanic-*cum*-Welder Gr. II	1
7.	Hammerman	1
8.	Fitter grade III	3
9.	Helper	9
10.	Driver Gr. II	4
11.	Cleaner	2

APPENDIX/GST–3

B. *Statement of Staff Complement for Shimshapura Generating Station*

I. Electrical and Hydraulic Sections

Sl. No.	Designation	Posts as per norms					Remarks
		Shift		General maintenance		Total	
		Ele.	Hyd.	Ele.	Hyd.		
1.	Assistant Engineer	4	1	1	1	6	
2.	Junior Engineer	..	4	..	..	4	
3.	Supervisor	4	..	..	..	4	
4.	Stn. Mechanic Gr. I	..	..	1	2	3	
5.	Stn. mechanic Gr. II	..	12	1	2	15	
6.	Stn. Attendant Gr. I	4	20	4	8	36	
7.	Stn. Attendant Gr. II	4	4	2	2	12	

Note.—Eight mechanics grade II out of 12 provided for hydraulic section should be posted for shift duties at Head Gate and Forebay.

II. Civil Engineering and Health Section

Sl. No.	Designation	Building maintenance section	Roads, channel maintenance and water supply section	Circuit house	Total
		Posts as per norms			
	'A' Civil Engineering				
1.	Supervisor/Civil	1	1	1	3
2.	Maistry Gr. II	1	2	..	3
3.	Mechanic Gr. II	..	1	..	1
4.	Mason Gr. III	2	..	..	2
5.	Painter Gr. II	1	..	..	1
6.	Plumber Gr. III	1	..	..	1
7.	Carpenter Gr. III	1	..	..	1
8.	Civil Mates	5	7	..	12
9.	Helper Civil	4	4	..	8
10.	Butler	..	..	1	1
11.	Cook	..	..	2	2
12.	Maistry	..	..	1	1
13.	Mali Gr. I	..	..	1	1
14.	Mali Gr. II	..	..	1	1
15.	Dhobi	..	..	1	1

	'B' Health Section	
1.	Junior Health Inspector	1
2.	Fieldman Grade I	3
3.	Sweeper/Scavenger	19

III. O and M distribution lines (colony and other installations)

Sl. No.	Designation	Maintenance of distribution lines— posts as per norms	Remarks
1.	Supervisor Elecl. (with M.C.A.)	1	
2.	Mechanic II Class (Rs. 110–195 with C.A.)	1	
3.	Attendant Gr. I (Rs. 80–145 with C.A.)	3	
4.	Attendant Gr. II (Rs. 70–118 with C.A.)	2	

IV. Workshop and Transport

Sl. No.	Designation	Workshop	Transport
		Posts as per norms	
1.	Supervisor	1	..
2.	Mechanic-*cum*-Turner Gr. II	1	..
3.	Fitter Grade III	1	..
4.	Helper	1	..
5.	Driver Gr. II	..	2
6.	Auto-Helper/Cleaner	..	1

APPENDIX/GST-4

Statement of Staff Complement for Generating Station, Munirabad

I. Electrical and Hydraulic Sections

Sl. No.	Designation	Posts as per norms					Remarks
		Shift		General maintenance		Total	
		Ele.	Hyd.	Ele.	Hyd.		
1.	Assistant Engineer	4	..	1	1	6	
2.	Junior Engineer	4	4	1	1	10	
3.	Supervisor	..	..	1	..	1	
4.	Assistant Cable Jointer	..	..	1	..	1	
5.	Station mechanic Gr. I	..	..	1	1	2	
6.	Station mechanic Gr. II	8	4	4	3	19	
7.	Station Attendant Gr. I	4	4	5	6	19	
8.	Stn. Attendant Gr. II	4	4	..	6	14	

II. Civil Engineering and Health Sections

Sl. No.	Designation	Posts as per norms	Remarks
	'A' Civil Engineering Section		
1.	Junior Engineer, Civil	1	
2.	Supervisor (Civil)	1	
3.	Maistry Gr. II	2	
4.	Carpenter Gr. II	1	
5.	Mason Gr. II	1	
6.	Plumber Gr. II	1	
7.	Painter Gr. II	1	
8.	Helper (Civil)	2	
9.	Mali Gr. I	2	

Sl. No.	Designation	Posts as per norms	Remarks
	'B' *Health Section*		
1.	Senior Health Inspector	1	
2.	Junior Health Inspector	1	
3.	Maistry Gr. II	1	
4.	Fieldman Gr. II	2	
5.	Fieldman Gr. III	2	
6.	Sweeper/Scavenger	12	
	III. Workshop and Transport		
1.	Supervisor	1	
2.	Mechanic I Cl/Mechanist Gr. I	2	
3.	Turner-*cum*-Mechanic Gr. II	1	
4.	Welder-*cum*-Mechanic Gr. II	1	
5.	Blacksmith	1	
6.	Carpenter Gr. II	1	
7.	Painter Gr. I	1	
8.	Hammer Man	1	
9.	Fitter Gr. III	2	
10.	Puncher-*cum*-cutter	1	
11.	Helper (Workshop)	4	
12.	Driver Gr. I	1	
13.	Driver Gr. II	4	
14.	Cleaners/Auto-helper	4	

APPENDIX/GST-5

Statement of Staff complement for Generating Station Bhadra

I. Electrical and Hydraulic Sections

Sl. No.	Designation	Posts as per norms					Remarks
		Shift		General maintenance		Total	
		Ele.	Hyd.	Ele.	Hyd.		
1.	Assistant Engineer	..	..	1	1	2	
2.	Junior Engineer	4	..	..	..	4	
3.	Supervisor	4	..	1	..	5	
4.	Operator	8	..	..	..	8	
5.	Station Mechanic I Cl.	..	4	1	1	6	
6.	Station Mechanic II Cl.	4	4	1	1	10	
7.	Attendant Gr. I	..	..	3	3	8	* For colony distribution line maintenance
				2*			
8.	Station Attendant Gr. I	4	4	1	2	11	

II. Civil Engineering Section

Sl. No.	Designation	Posts as per norms	Remarks
1.	Supervisor (Civil)	1	
2.	Mason Gr. II	1	
3.	Mechanic Gr. II (water supply)	1	
4.	Civil Mate	1	
5.	Helper (Civil)	1	
6.	Mali	2	
7.	Sweeper/Scavenge	2	

III. Workshop and Transport

Sl. No.	Designation	Posts as per norms	Remarks
1.	Mechanic Gr. II	1	
2.	Fitter Gr. II	1	
3.	Turner-*cum*-Mechanic II Cl.	1	
4.	Carpenter Gr. II	1	
5.	Helper	1	
6.	Driver Gr. II	2	
7.	Cleaner	1	

APPENDIX/STN–1

Statement of Staff Complement for S.R.S., Peenya, Bangalore

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
1	2	3	4	5	6
1.	Assistant Engineers	4	2	6	
2.	Junior Engineers	4	2	6	
3.	Supervisors	4	2	6	
4.	Merit Grade Mechanic	..	1	1	
5.	Cable Jointer	..	1	1	
6.	Station Mechanic Gr. I	..	3	3	
7.	Station Mechanic Gr. II	12	3	15	

1	2	3	4	5	6
8.	Crane Operator Gr. II	..	1	1	
9.	Station Attendant Gr. I	4	12	16	
10.	Station Attendant Gr. I*	..	2	2	* For colony distribution line maintenance
11.	Station Attendant Gr. I (for Tool keeping)	..	1	1	
12.	Station Attendant Gr. II	8	11	19	
13.	Mali Gr. II	..	2	2	
14.	Sweeper/Scavenger	..	5	5	

Allocation of Staff for Shift in Peenya Receiving Station

		Asst. Engr.	Junior Engr.	Supr. Station Mech. Gr. II	Sta- tion Gr. I	Stn. Attendant Gr. II
1.	Control room	4	..	4	..	..	..
2.	L.T. switchgear panel (ground floor)	..	4	..	4	..	..
3.	Outdoor station yard	..	..	..	4	..	4
4.	Pump house	..	..	..	..	4	..
5.	Bore-well and water supply	..	..	..	4	..	..

III. Workshop and Transport

Sl. No.	Designation	Posts as per norms
1.	Mechanic Gr. I	1
2.	Mechanic-*cum*-Fitter Gr. II	3
3.	Helper (WS)	1
4.	Drivers Gr. II	4
5.	Cleaners/Auto-helper	2

APPENDIX/STN–2

Statement of Staff Complement for N.R.S., Bangalore (including 11 KV MUSS)

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
	'A' *N.R.S. Station and* 11 *KV MUSS*				
1.	Assistant Engineer	4	1	5	
2.	Junior Engineer	4	1	5	
3.	Supervisor	8	1	9	
4.	Station Mechanic Gr. I	..	1	1	
5.	Station Mechanic Gr. II	4	2*	6	* The services of these should be utilised for operation of crane
6.	Station Attendant Gr. I	8	14	22	
7.	Station Attendant Gr. I (Lineman for colony distribution)	..	1	1	
8.	Station Attendant Gr. I (Tool keeping)	..	1	1	
9.	Station Attendant Gr. II	8	..	8	
10.	Sweeper/Scavenger	..	2	2	
	'B' *Telephone Exchange*				
11.	Operator	4	..	4	

Allocation of Shift Staff in N.R.S., Bangalore

	Asst. Engr.	Jr. Engr.	Supr.	Opera-tor	Mecha-nic Gr. II	Stn. Gr. I	Atten-dant Gr. II
1. Control room	4	..	..	..	..	..	4
2. L.T. switchgear panel and O.D.S.	..	..	4	..	4	..	..
3. Pump house	..	..	..	..	..	4	..
4. F.C. set	..	4	..	..	..	4	..
5. 11 KV MUSS	..	..	4	..	..	..	4
9. Telephone Exchange	..	..	..	4	..	..	..

APPENDIX/STN–3

Statement of Staff Complement for MRS, Shimoga

Sl. No.	Designation	Posts as per norms: Shift	Posts as per norms: General maintenance	Total	Remarks
1	2	3	4	5	6
1.	Assistant Engineer	4	2	6	
2.	Junior Engineer	4	2	6	
3.	Supervisor, Elecl.	4	2	6	
4.	Supervisor, Civil	..	1	1	Additional posts for civil section
5.	Operator	4	..	4	For 11 KV MUSS
6.	Merit Gr. Mechanic	..	1	1	
7.	Cable jointer	..	1	1	
8.	Station Mechanic Gr. I	..	4	4	
9.	Station Mechanic Gr. II	12	5	17	

1	2	3	4	5	6
10.	Crane Operator Gr. II	..	1	1	
11.	Painter Gr. I	..	1	1	
12.	Mason Gr. II	..	1+1*	2	* One mason for colony and one for station works
13.	Mechanic Gr. II (Water supply)	..	1	1	
14.	Station Attendant Gr. 1	4	10	14	
15.	Attendant Gr. I (for colony distribution line maintenance)	..	2	2	
16.	Attendant Gr. I (for Tool keeping)	..	1	1	
17.	Station Attendant Gr. II	12	16	28	
18.	Helper (Civil)	..	2	2	
19.	Mali Gr. II	..	3	3	
20.	Sweeper/Scavenger	..	10	10	Six-posts for colony maintenance and four for station

Allocation for Shift Staff

	Asst. Engr.	Jr. Engr.	Supr.	Ope-rator	Stn. Mech. Gr. II	Stn. Mech. Gr. I	Atten-dant Gr. II
1.Control room	4	..	4	..	..	..	4
2. L.T. switchgear panel and compressor (ground floor)	..	4	..	..	4	..	..
3. Outdoor structure 66 KV/110 KV	..	..	..	..	4	..	4
4. do. yard 220 KV	..	..	..	..	4	4	..
5. MUSS 11 KV	..	..	..	4	..	..	4

Note: Item 4—

A civil supervisor and staff referred to in items 12, 13, 18, 19 and 20 shall be attached to the station to take care of all the civil engineering works such as maintenance of buildings and water supply works of the station and colony.

Item 7—

The cable jointer provided for general maintenance of the station shall also be utilised for cable jointing works of all the stations in the circle.

APPENDIX/STN–4

Statement of Staff Complement for S.R.S., Hubli

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
1.	Assistant Engineer	4	1	5	
2.	Junior Engineer	4	1	5	
3.	Supervisor	4	1	5	
4.	Merit Gr. Mechanic (Rs. 300–500)	..	1	1	
5.	Cable Jointer	..	1	1	
6.	Station Mechanic Gr. I	..	2	2	
7.	Station Mechanic Gr. II	4	4	9	
8.	Crane Operator Gr. II	..	1		
9.	Station Attendant Gr. I	4	3	8	
10.	Station Attendant Gr. I (for Tool keeping)	..	1		
11.	Station Attendant Gr. II	8	6	14	
12.	Mali Gr. II	..	1	1	
13.	Sweeper/Scavenger	..	3	3	

Allocation for Shift Staff

	Asst. Engr.	Jr. Engr.	Supr.	Mech. Gr. II	Atten-dant Gr. I	Atten dant Gr. II
1. Control room	4	..	4	..	..	4
2. L.T. switchgear panel	..	4	..	..	4	..
3. Outdoor station yard	..	..	..	4	..	4

Note: Item 5—

One post of cable jointer provided for general maintenance of the station shall also be utilised for cable jointing work of all the stations in the circle.

APPENDIX/STN–5

Statement of Staff Complement for FTS, Mysore

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
1.	Assistant Engineer	..	1	1	
2.	Junior Engineer	4	1	5	
3.	Supervisor	8	..	8	
4.	Cable Jointer	..	1	1	
5.	Station Mechanic Gr. I	..	3	3	
6.	Station Mechanic Gr. II	4	2	6	
7.	Attendant Gr. I	8	12	20	
8.	Attendant Gr. II	4	4	8	
9.	Sweeper/Scavenger	..	1	1	

Allocation of Shift Operation Staff

	Jr. Engr.	Supr.	Mech. Gr. II	Atten-dant Gr. I	Atten-dant Gr. II
1. Control room	4	4	..	..	4
2. L.T. Switchgear	..	..	..	4	..
3. F.C. set (ground floor)	..	4	..	4	..
4. Out-door station and transformer	..	..	4	..	..

Note: Item 1—

The Assistant Engineer in charge for maintenance administration and control shall also be in charge of Mysore South sub-station and M.C.F., Belagola station as at present. A vehicle shall be provided to the Assistant Engineer to attend to the works of all the three stations.

Item 4—

There are two posts of cable jointers available for cable work in the distribution system. One of them shall be attached to F.T.S. for cable jointing works of the station in the circle. His services may also be utilised for work in the distribution system also when he is free.

APPENDIX/STN–6

Statement of Staff Complement for KGF Station

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
1.	Assistant Engineer	..	1	1	
2.	Junior Engineer	4	1	5	
3.	Supervisor	4	..	4	
4.	Station Mechanic Gr. I	..	1	1	
5.	Station Mechanic Gr. II	4	2	6	
6.	Station Attendant Gr. I	4	2	6	
7.	Station Attendant Gr. II	4	..	4	
8.	Mali Gr. II	..	1	1	For both colony and station
9.	Sweeper/Scavenger	..	4	4	

Allocation of Shift Operation Staff

Sl. No.	Jr. Engr.	Supr.	Station mech. Gr. II	Atten-dant Gr. I	Atten-dant Gr. II
1. Control room	4	..	..	..	4
2. L.T. Switchgear ground floor	..	4	..	4	..
3. Pump house	..	..	4	..	..

WORKSHOP:

The workshop attached to the station for maintenance and repair works shall be continued as at present and staff complement shall be as follows:—

1. Mechanic Gr. II/Machinist Gr. II .. One
2. Blacksmith .. One
3. Carpenter Gr. II .. One

APPENDIX/STN 7

Statement of Staff Complement for 220 KV Station at Hootagalli, Mysore

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
1.	Assistant Engineer	..	1	1	
2.	Junior Engineer	4	1	5	
3.	Supervisor	4	1	5	
4.	Assistant Cable Jointer	..	1	1	
5.	Station Mechanic Gr. I	..	1	1	
6.	Station Mechanic Gr. II	4	3*	7	* one post to be ear-marked for crane operation
7.	Station Attendant Gr. I	4	..	4	
8.	Station Attendant Gr. II	4	3	7	
9.	Mali Gr. II	..	2	2	
10.	Sweeper/Scavenger	..	4	4	

Allocation for Shift Operation Staff

	Junior Engr.	Supr.	Mech. Gr. II	Atten-dant Gr. I	Atten-dant Gr. II
1. Control room	4	..	..	..	4
2. L.T. Switchgear	..	4	4	..	..
3. Outdoor station yard	..	..	..	4	..

APPENDIX/STN–8

Statement of Staff Complement for 220 KV Station at Mercada, Mangalore

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
1.	Assistant Engineer	..	1	1	
2.	Junior Engineer	4	1	5	
3.	Supervisor	4	1	5	
4.	Station Mechanic Gr. I	..	1	1	
5.	Station Mechanic Gr. II	4	3	7	
6.	Station Attendant Gr. I	4	..	4	
7.	Station Attendant Gr. II	4	3	7	
8.	Mali Gr. II	..	2	2	
9.	Sweeper/Scavenger	..	4	4	

Allocation for Shift Operation Staff

	Junior Engr.	Supr.	Mech. Gr. II	Atten-dant Gr. I	Atten-dant Gr. II
1. Control room	4	..	..	..	4
2. L.T. Switchgear	..	4	4	..	..
3. Outdoor station yard	..	..	..	4	..

APPENDIX/STN-9

Statement of Staff Complement for 220 KV Station at Lingapur—Munirabad

Sl. No.	Designation	Posts as per norms			Remarks
		Shift	General maintenance	Total	
1.	Assistant Engineer	..	1	1	
2.	Junior Engineer	4	1	5	
3.	Supervisor	4	..	4	
4.	Station Mechanic Gr. I	..	1	1	
5.	Station Mechanic Gr. II	..	2	2	
6.	Station Attendant Gr. I	..	3	3	
7.	Station Attendant Gr. II	4	..	4	
8.	Mali Gr. II	..	1	1	
9.	Sweeper/Scavenger	..	2	2	

APPENDIX/STN-10

Statement of Staff Complement for 220 KV Station at Belgaum

Sl. No.	Designation	Posts as per norms			Remarks.
		Shift	General maintenance	Total	
1.	Assistant Engineer	..	1	1	
2.	Junior Engineer	4	1	5	
3.	Supervisor	4	..	4	
4.	Station Mechanic Gr. I	..	1	1	
5.	Station Mechanic Gr. II	..	1	1	
6.	Station Attendant Gr. I	..	2	2	
7.	Station Attendant Gr. II	4	..	4	
8.	Mali Gr. II	..	1	1	
9.	Sweeper/Scavenger	..	1	1	

Norms for Cable Jointing Works in Power Stations

For maintenance works and break-down works involved in underground cable system in power stations, one cable jointer shall be provided for each circle except in the case of Bangalore, Jog, MRS, Shimoga and SRS, Hubli where posts of cable jointers are duly provided. He shall be posted at the most important power station in the circle so that his services can be availed of for cable jointing works in all the other power stations in the circle.

Norms for providing the Post of Merit Grade Mechanics

Considering the nature of duties and responsibilities involved in special jobs like attending to break-downs of heavy equipments and heavy haulage works in power stations, repairs and commissioning of instruments and equipments and such works in other fields of activities, posts of Merit Grade Mechanics shall be provided on the recommendations of the Chief Engineer (Elec.) (General). The existing posts of merit grade mechanics as at present shall be continued.

IV. NORMS—SUB-STATIONS

Norms for Providing Operation and Maintenance Staff for Sub-stations
(Other than main receiving stations)

The several sub-stations shall be classified as follows (for purposes of providing operation and maintenance staff):—

I. Sub-stations with 66 KV and higher rating and capacity of 10 MVA and above.

II. 33 KV sub-stations.

III. A B and C power stations, Bangalore.

The class-wise minimum staff complement for shift work and general maintenance of the station shall be as enumerated hereunder.

1. *66 KV and above sub-stations*

Power stations of 66 KV and higher voltage rating (except for which norms are given individually) will have the following operation and maintenance staff complement:

A. *Shift Staff (Operation)*:

1.	Supervisors	.. 4
2.	Station Attendant Gr. II	.. 4

B. *General Maintenance Staff*:

1.	Junior Engineer (Elecl.)	.. 1
2.	Station Mechanic Gr. II	.. 1
3.	Station Attendant Gr. I	.. 1

Note: 1. Depending on the work load of the station, additional maintenance men over and above the minimum complement for general maintenance is admissible, on calculations based on the equipments in the station.

2. In the case of sub-stations which are dead-end stations, the Junior Engineer in-charge of the sub-station may be utilised for the supervision of RCC pole manufacturing centre also if located in the premises of the station.

II. 33 *kV sub-stations*:

The 33 kV sub-stations including dead-end stations shall have the following minimum staff complement for operation and maintenance.

A. *Shift Staff (Operation)*:

1.	Operator	.. 4
2.	Station Attendant Gr. II	.. 3

B. *General Maintenance Staff*

1.	Supervisor	.. 1
2.	Station Mechanic Gr. II	.. 1
3.	Station Attendant* Gr. I	.. 1

* He should attend to operation work also in the day shift besides maintenance,

In the case of sub-stations which are dead-end stations, the services of the supervisor-in-charge of the sub-station may be utilised for any one of the following works.

(i) RCC pole manufacturing centre,

(ii) Distribution O and M section.

Note: In case distribution **O** and **M** Section is attached to the Supervisor, the Work Load pertaining to **O** and **M** Section may be limited to 75% as per the Work Load norms of the **O** and **M** Section.

The three power stations 'A', 'B' and 'C' in Bangalore do not fall under any category of stations dealt with in the foregoing paragraphs. Therefore, in respect of these stations the staff complement shall be detailed hereunder:

'A' Station, Bangalore

A. *Shift work*	Posts as per norms
1 Junior Engineer (Elecl.)	.. 4
2. Supervisor	.. 4
3. Attendant Gr. I	.. 4
4. Attendant Gr. II	.. 4

B. *General Maintenance*

	Posts as per norms
1. Junior Engineer (Elecl.)	.. 1
2. Supervisor	.. 1
3. Station Mechanic Gr. II	.. 2
4. Attendant Gr. I	.. 4
5. Attendant Gr. II	.. 4
6. Mali Gr. II	.. 2
7. Watchman	.. 3

'B' and 'C' Stations, Bangalore

Each of these stations shall have the following staff complement:

		Posts as per norms
A.	*Shift work*	
1.	Supervisor	..
2.	Attendant Gr. I	..
3.	Attendant Gr. II	..
B.	*General Maintenance Work*	
1.	Supervisor	..
2.	Mechanic Gr. II	..
3.	Attendant Gr. I	.. 1
4.	Mali Gr. II	.. 1
5.	Watchman	.. 3

General Note:

1. Additional maintenance men over and above the minimum complement for general maintenance is admissible on calculations based on the equipment in the station.

2. Out of the total number of posts of station mechanics admissible as per norms in respect of the following stations, one post in each shall be that of a station mechanic grade I in place of station mechanic grade II arrived at.

1. Davangere, 2. Doddaballapur, 3. Bagalkote, 4. Shahabad 5. Hiriadka, 6. Bhadravathi, 7. Chickmagalur, 8. Belgaum.

3. The complement of minimum staff for shift duties as provided would satisfy the requirement of almost all the stations. However, in stations like Davanagere and Shahabad where a large number of lines and equipments are to be handled, it may become necessary to have the assistance of more attendants grade II than they would be entitled as per the norms. This matter may be examined by the concerned Divisional Engineers and suitable proposals be submitted for sanction of additional station attendants grade II, that would be necessary in any of the above stations, to the competent authority.

4. The existing posts of Assistant Engineers at Belgaum and Bagalkote stations and the ringmain stations at Bangalore provided for general maintenance works shall be continued.

Norms for additional maintenance men for general maintenance works of sub-stations

The minimum staff complement, necessary for shift work and general maintenance has been enumerated separately under each group of sub-stations. As regards general maintenance work, any requirement of additional maintenance men, over and above the minimum staff complement as indicated for the various class of sub-stations, should be worked out with reference to the work load, *viz.*, standard man minutes *vide* Appendix/STN/Table T-1 and the following formula. If the total number so arrived at, exceeds the minimum staff provided for that station, additional men should be provided to the extent necessary.

Formula for Calculations

$$Y = \frac{X}{11320}$$

where (i) Y is the total number of men, (ii) X is the total man minutes arrived at using the standard man minutes as per Table STN-T1 for the various types of equipments, (iii) 11320 is the available total man minutes per person per month.

In the event 'Y' has a fractional part, it may be rounded of to the next higher number if the fractional part is 0·5 and above, and a fractional part omitted if the same is less than 0·5. The total number of men so arrived at, be allocated among different categories as shown in Table below.

APPENDIX/STN/T-2

Total number of men arrived at as per calculations	Station Mechanic Gr. II	Station Attendant Gr. I	Station Attendant Gr. II	Remarks
2*	1	1	..	* Minimum complement
3	1	1	1	
4	1	1	2	
5	1	2	2	
6	2	2	2	

APPENDIX/STN/T—1

Statement of the Standard Man Minutes for Maintenance Activities of Sub-stations

Sl. No.	Particulars of equipments	Allowed time in man minutes per unit per month
1.	Maintenance of O.D.S.	3,570·00
2.	do. of earths (20 earth pits)	3,830·00
3.	do. of disconnects 66 KV/110 KV	90·00
4.	do. of 33 KV/11 KV	43·00
5.	do. of minimum oil circuit breaker	720·00
6.	do. of bulk oil—OCB	1,250·00
7.	do. of transformer upto 10 MVA	760·00
8.	do. of transformer O.L.T.C.	160·00
9.	do. of Station Auxiliary Transformer	200·00
10.	do. of lightning arrester	70·00
11.	do. of PT and CT	250·00
12.	do. of 11 KV switchgear panel (8 cubicles per unit)	3,560·00
13.	do. of station battery	510·00
14.	do. of fire protection equipments—	
	(*a*) CO_2 type	20·00
	(*b*) Foam type	60·00
	(*c*) CTC type	5·00
15.	Maintenance of control panels—for 8–10 panels	3,980·00 (for Major stations only)
16.	Break-down and shut-down works	2,430·00

Specimen calculations to determine the additional men required over and above the minimum staff fixed as per the Norms (for General Maintenance of the sub-staticns) for a 66 KV sub-station with capacity of 10 MVA and above

WORK LOAD DATA

Sl. No.	Activity	Allowed time in Man Mts. equipment as per table STN/T 1	No. of equipments	Total allowed time per month
1.	Maintenance of ODS and yard	3,570·00	..	3,570·00
2.	do. of earths	3,830·00 per 20 earths	30	5,745·00
3.	do. of disconnects	90·00	13	1,170·00
4.	do. of 33 KV/11 KV G.O.S.	43·00	9	387·00
5.	do. of transformer	760·00	3	2,280·00
6.	do. of station auxiliary transformer	200·00	..	200·00
7.	do. of OCB (bulk oil)	1,250	5	6,250·00
8.	do. of 33 KV (OCB)	720·00	3	2,160·00
9.	do. of PT and CT	250·00	1	250·00
10.	do. of Ltg. arresters	70·00	5	350·00
11.	do. of switchgear panels	3,560·00	1	3,560·00
12.	Station battery	510·00	3	1,530·00
13.	Maintenance of fire protection equipments:			
	(*a*) CO_2 type/CTC type	20·00 × 2		
	(*b*) Foam type	60·00 × 1		100·00
14.	Misc. break-down and shutdown works	2,430·00		
	Total Man Minutes required for maintenance activities	29,982,00		

Note: Standard Man Mts. under Col. 3 is-taken from the table in Appendix/ STN/ Table T 1.

By applying formula $Y = \frac{X}{11320}$

Total number of men required $Y = \frac{29982}{11320} = 2 \cdot 64 = 3$ men

The minimum men fixed for this class of sub-stations for general maintenance works is as follows:—

1. Station Mechanic Gr. II (Rs. 110–195) .. 1
2. Station Attendant Gr. I (Rs. 80–145) .. 1

As per work load, this sub-station is entitled to three maintenance men for general maintenance works. These three men shall be allocated into different categories as follows as per Table STN/T 2.

1. Station Mechanic Gr. II (Rs. 110–195) .. 1
2. Station Attendant Gr. I (Rs. 80–145) .. 1
3. Station Attendant Gr. II (Rs. 70–118) — 1

V. NORMS=TECHNICAL SECTIONS OF OFFICES

Norms for Technical Sections of the Offices

The Technical Sections in each of the O and M Sub-divisions, Divisions, Circles and Office of the Chief Engineers, shall be placed under the supervision and control of the concerned officers for attending to scrutiny and processing of estimates, compilation of statistics, monthly returns, review of power sanctions, issue of tenders, local order, etc., etc., and such other correspondence relating to technical matters. Detailed job descriptions and duties of the posts in the sections are enumerated in the Board Order No. KEB/WLIC–9/74–75 dated 15th April 1975.

The norms for providing staff complement for each of the technical sections shall be as follows:

I. *O and M Sub-divisional Office*

1. Junior Engineer (Elecl.) (Junior Technical Assistant .. 1

Note.—The above post shall be manned either by a Junior Engineer (graduate) or by a Junior Engineer (non-graduate). These posts shall be filled up in the ratio of 50 :50 between the Junior Engineer (graduate) and Junior Engineer (non-graduate) in all O and M sub-divisions other than city category and in the ratio of 75 : 25 in respect of O and M sub-divisions of city category and in all O and M sub-divisions in Bangalore circle.

II. *O and M Division Office*

An Assistant Engineer (Elecl.) who shall work as an Office Assistant to the Executive Engineer shall be in charge of the Technical Section of an O and M Division. The work load is fixed on the number of installations in the Division and hence the Technical staff complement of the section shall be as detailed below:

Sl. No.	Work load	Post of Junior Engr. Elecl. (graduate)	Post of supervisor (Elec.l)	Post of Tracer
1.	Installations upto 20,000	1	..	1
2.	Installations above 20,000 and upto 45,000	2	..	1
3.	Installations above 45,000 and upto 75,000	2	1	1
4.	Installations above 75,000 and upto 1,10,000	2	2	1
5.	Installations above 1,10,000 upto 1,50,000	2	3	1

In the case of Divisions other than O and M Divisions, the existing pattern of staff complement for the technical sections shall, however, continue.

III. *O and M Circle Office*

The Technical Section in each of the O and M Circle Offices other than Bangalore Circle Office shall have the following staff complement:

	Number of posts
1. Assistant Engineer (Elecl.)	One
2. Junior Engineer (Elecl.) (graduate)	One for each O and M Division attached to the Circle
3. Supervisor (Elecl.)	One
4. Assistant Draughtsman	One

The Technical Section of the O and M Circle Office, Bangalore, shall have the following staff complement:

	Number of posts
1. Assistant Engineer (Electrical)	One
2. Junior Engineer (Elecl.) (graduate)	One for each O and M Division, attached to the Circle *plus* one additional post for all other Divisions attached to the Circle.
3. Supervisor (Electrical)	One *plus* one additional post for all other Divisions attached to the Circle.
4. Assistant Draughtsman	One

IV. *Technical Sections in the Chief Engineers Offices*

The strength of staff for Technical Sections in the Offices of the Chief Engineer, Electricity (General), the Chief Engineer, Electricity

(South) and the Chief Engineer Electricity (North) shall be regulated from time to time, in each case to meet the work load requirement according to plan programmes. The Chief Engineer, Electricity (General) shall send the proposals to regulate the number of posts of Assistant Engineers, Junior Engineers, Supervisors, Senior Draughtsman, Draughtsman, Assistant Draughtsman, etc., in these sections from time to time. However, the 5 posts in the Office of the Chief Engineer Electrcity (General) and 2 posts in the Office of the Chief Engineer, Electricity O andM (South) in the category of supervisor/senior draughtsman in grade Rs. 250–500 pertaining to drawing and statistical branches now in existence shall continue on permanent basis and the posts shall be re-allocated between different categories as follows:—

1. Technical Section in the Office of the Chief Engineer, Electricity (General):

1. Supervisor (Electrical) (Rs. 250–500)	.. 4
2. Senior Draughtsman (Rs. 250–500)	.. 1

2. Technical section in the office of the Chief (Engineer Electricity O and M South):

1. Supervisor (Elecl.) (Rs. 250–500)	.. 1
2. Senior Draughtsman (Rs. 250–500)	.. 1

VI. NORMS—STORES ORGANISATION

Norms for Stores Organisation

The transaction of materials for operation, maintenance and construction works shall be handled by the following category of stores:

(i) Sub-divisional Stores

(ii) Divisional Stores

(iii) Regional Stores

(iv) Central Stores

(i) *Sub-divisional Stores* :

Each O and M Sub-division shall have a Sub-divisional stores except for City O and M Subdivisions of Bangalore where a group of City O and M sub-divisions shall have a common sub-divisional stores, which shall be determined separately.

Based on the work load the complement of staff for each sub divisional stores shall be regulated as follows :—

Sl. No.	Work load	Number of posts in each category					
		Store-keeper Gr. II	A.S.K.	Maistry Gr. II	Store Attendant Gr. I	Helper	Watchman
1.	Transactions upto 3,000 issue invoices per year	..	1	..	1	3	2
2.	Above 3,000 upto 4,000	..	1	..	1	4	2
3.	Above 4,000 upto 6,000	1	1	..	2	5	2
4.	Above 6,000	1	1	1	2	6	2

Note: 1. Where Divisional stores or Regional stores is located, the O and M Sub-division in such places need not have a separate sub-divisional stores, provided, however, the Divisional stores or Regional stores, as the case may be, is situated within a reasonable distance of about 3 km from the O and M Sub-divisonal Headquarters. In the event, the divisional or regional stores is situated far away, separate Sub-divisional stores may be provided.

2. The stores attached to the generating station, Shimshapura, shall be placed at par with a sub-divisional stores for work load and providing the staff complement except that the provision of watchman for this stores shall be deleted as the watch and ward attached to the station shall be utilised for the watch and ward of the stores also.

3. The Assistant Store-keeper in-charge of the Sub-divisional stores shall be preferably an official of a minimum experience of at least one year,

(ii) *Divisional Stores*

Each O and M Division shall have a Divisional Stores under the control of the Executive Engineer (Electrical) of the Division. However, the Divisional Adminstration and Stores shall be placed in charge of the Assistant Engineer in the Technical Section of the Division Office.

All Generating Station Divisions and other divisions like Meter testing, Tele-communication, SRS Peenya, Work-Shop Division, Bangaloie, etc., shall have a Divisional Stores. In the case of Divisions other than O and M Divisions, the Executive Engineer of the Division shall make suitable arrangements to place an Assistant Engineer (Electrical) of a Sub-division at the Headquarters of the Division, in charge of Divisional Stores.

Based on the work load, the complement of staff for each Divisional Stores shall be as follows:—

Sl. No.	Work load	Number of posts in each category						
		Store keeper Gr. II	A.S.K.	Maistry Gr. II	Store Attendant Gr. I	Helper	Watchman	Sweeper/ Scavenger
1.	Transactions upto 6,000 issue invoices per year	1	1	1	2	6	3	1
2.	Above 6,000 and upto 9,000 issue invoices	1	2	1	3	7	3	1
3.	Above 9,000 issue invoices	1	2	1	4	8	3	1

Note:

(i) Places where Regional Stores are located no Divisional Stores for the Division at the Headquarters of the Circle shall be provided.

(ii) In case of Divisional Stores for M.T. Divisions, Tele-communication Division, S.R.S. Peenya Division, Workshop Division, Bangalore, the general pattern of staff complement *vide* item (1) shall be provided except that the number of helpers shall be four only as against 6 considering the nature of materials that would be handled by these stores.

(iii) As regards the complement of staff for Divisional Stores at Bhadra Generating Station the same pattern *vide* item (1) shall be followed with a slight modification of deleting the post of Maistry, reducing one post of Attendant grade I and two posts of helpers so that the total complement consists of one Store-keeper, one Assistant Store-keeper, one Store Attendant Grade 1 and 4 Helpers.

(iii) *Regional Stores*

Each O and M Circle shall have one Regional Stores except Tumkur and Bangalore Circle. These Regional Stores shall be under the control of the Superintending Engineers, Electrical, of the Circle. The Regional Stores shall be placed in-charge of an Assistant Engineer, Electrical, for overall supervision and administration.

As regards Bangalore and Tumkur Circles practice of obtaining their requirements from the Central Stores, Bangalore, shall continue.

Based on the work load, the complement of staff for each Regional Stores shall be as follows:—

Staff Complement for Regional Stores

I. Store Room and Outdoor Yard

Sl. No.	Workload	Store keeper Gr. I	A.S.K	Store Attendant	Helper	Watchman	Sweeper/ Scavenger
1.	Store Transaction upto 10,000 issue invoices	2	2+1*	4	4	6	1
2.	Above 10,000 and upto 1,50,000 issue invoices	2	3+1*	5	6	6	1

*In case where Construction Division or Sub-division in the Circle is also operating through Regional Stores with no separate stores for Construction Division or Sub-division one additional Assistant Store-keeper shall be provided extra, for Regional Stores.

II. Transport, Forwarding and Clearance

Sl. No.	Work load	Supervisor	Maisty		Store Attendant
			Gr. I	Gr. II	Gr. I
1	2	3	4	5	6
1.	Transaction upto 10,000 issue invoices	2	1	1	2
2.	Above 10,000 and upto 15,000 issue invoices	2	1	1	3

Sl. No.	Work load	Helper	Sweeper/ Scavenger	Tractor Driver Gr. I	Driver Gr. II	Cleaners
		7	8	9	10	11
1.	Transcation upto 10.000 issue invoices	8	1	1	2	3
2.	Above 10.000 and upto 15,000 issue invoices	10	1	1	2	-

(iv) *Central Stores*

1. The Central Stores at Bangalore, placed under the control of the Executive Engineer, shall, as at present, continue to receive and distribute all such materials which by circumstances, cannot be directly consigned to the Regional or Divisional Stores.

2. The Executive Engineer shall be assisted by the Assistant Engineer (Elecl.) for supervision and administration of the store transactions and transport work.

3. In order to meet the requirements of Work Load, the housing and handling of materials of the Central Stores shall be allocated among five Store Houses as hereunder :—

Store Houses	Particulars of materials for storing and handling
1. Store House No. 1 ..	Hardware materials, UG Cable Reels, Released Transformers, Line Supporters
2. Store House No. 2 ..	Meters, Metering equipments, Street-light fittings—furniture, spares for switches, Tele-communication equipments, etc.
3. Store House No. 3 ..	Line materials, Cable accessories, LT Distribution boxes, Control Cable, LT cable, Transformer, Vehicle accessories.
4. Store House No. 4 ..	Transformers, LT Feeder pillar boxes, H.T. feeder pillars Guy wires, Insulators, Switchgear panels, Vehicles GOS (33 KV and above), etc., Petrol, HSD oil, Transil oil and mobil, oil, etc.
5. Store House No. 5 ..	Released materials for disposal, scrap and obsolete materials.
6. Store House No. 6 ..	Stationary articles.

Based on the work load in terms of transactions of materials in each of the store houses, and to fulfil the requirement of transport,

loading and unloading, stacking of materials, etc., the complement of staff shall be as follows:—

Abstract of Staff Complement for Central Stores, Bangalore

		No. of posts
1.	Supervisor (Elecl.) ..	3
2.	Store-keeper Gr. I ..	4
3.	Store-keeper Gr. II ..	2
4.	Assistant Store-keeper ..	7
5.	Maistry Gr. I ..	3
6.	Maistry Gr. II ..	8
7.	Store Attendant Gr. I ..	48
8.	Helpers (Stores) ..	84
9.	Jamedar (Watch and Ward) ..	4
10.	Watchman ..	19
11.	Sweeper/Scavenger ..	2

The allocation of staff for various Store Houses and Forwarding and Clearing Sections shall be as hereunder :—

I. *Receipts and Issue of Materials*

Sl. No.	Store House particulars	Number of posts in each category					
		Store-keeper Gr. I	Store-keeper Gr. II	Asst. Store-keeper	Maistry Gr. II	Store Attendant Gr. I	Helper (Stores)
1.	Store House No. 1	1	..	1	1	8	10
2.	Store House No. 2	1	..	1	1	4	6
3.	Store House No.3	1	..	1	1	4	6
4.	Store House No 4.	1	..	2	1	4	6
5.	Store House No. 5 (Scrap disposal)	..	1	1	2	6	14
6.	Store House No. 6 (Stationery)	..	1	1	..	1	2

II. *Forwarding and Clearing Sections*

	Section I	Section II	Section III	Total
1. Supervisor (Elecl.)	1	1	1	3
2. Maistry Gr. I	1	1	1	3
3. Maistry Gr. II	1	..	1	2
4. Store Attendant Gr. I	6	6	9	21
5. Helper (Stores)	10	8	22	40
6. Jamedar (Watch and Ward)	..	4	..	4
7. Watchman	7	12	..	19
8. Sweeper/Scavenger	1	1	..	2

Note:

1. Employment of Temporary Time Roll men shall strictly be avoided.

2. The staff complement attached to each of the Store Houses shall be placed under the control of the Store-keeper in-charge of the concerned store house.

3. The accounts of the stationery articles shall be maintained in the prescribed registers and transactions recorded therein as in the case of other transactions in the stores.

4. In order to ensure qualitative and quantitative checks for compliance with specifications contained in the orders for supply of materials that are consigned to the Central Stores by suppliers an inspection wing with the following staff complement shall be attached to Purchase Section under the Chief Engineer, Electricity (General):

1. Assistant Engineer (Elecl.) .. 1

2. Junior Engineer (Elecl.) (Graduate) .. 2

This inspection wing shall be directly responsible to the Superintending Engineer, Electrical (Purchase).

Transport Vehicles Sub-division (for Central Stores Division), Bangalore

The fleet of transport vehicles attached to Central Stores Division shall be placed in charge of an Assistant Engineer under Central Stores Division for supervision, maintenance, repairs, new registrations etc.,

The sub-division shall have two sections, one for operation and maintenance of vehicles and the other one being workshop, for repairs and maintenance of the vehicles. The staff complement for each section shall be as follows:—

A. *General Staff*			Number of posts	
1.	Assistant Engineer (Elecl.)	..	1	
2.	Typist	..	1	
3.	Office Attendant Gr. II	..	1	
B. *Section I*				
1.	Supervisor	..	1	
2.	Assistant Foreman	..	1	
3.	Driver Special Grade	..	2*	For Tractor & Trailers of 35 Tonnes & above
4.	Driver Grade I	..	12**	
5.	Driver Grade II	..	33	
6.	Cleaners	..	19	
7.	Typist	..	1	
8.	Office Attendant Gr. II	..	1	

Note :

1. The post of Assistant Foreman is provided for supervising the repair works of all kinds that will be undertaken in the workshop as also to attend to the problems connected with the registration of vehicles at the RTO's office involving renewal of fitness certificate, private carrier permits, insurance, etc.

*2. Each tractor-trailor of capacity 35 tonnes and above shall be provided with one driver special grade.

** 3. The provision of Drivers and Cleaners shall be regulated from time to time at the rate of one Driver Grade I and one Cleaner per Tractor and trailer of less than 35 tonnes capacity, one Driver Grade II and one Cleaner per truck (lorry), one Driver Grade II only for each of the other vehicles like jeeps, cars, etc.

4. Provision of leave reservists at 6% be made in respect of Drivers Grade I and Grade II and Cleaners.

C. *Section II—Workshop (Repairs and Maintenance)*

		Number of posts
1.	Supervisor (Elecl) ..	1
2.	Auto Mechanic Gr. I ..	3
3.	Auto Mechanic Gr. II ..	3
4.	Attendant Gr. I ..	1
5.	Auto Helpers/Cleaners ..	10

VII. NORMS—METER AND TRANSFORMER TESTING

Norms for Work Load, Staffing Pattern and Organisation of Meter and Transformer Testing Divisions

1. *Meter and Transformer Testing Divisions*

Testing, repair and calibration of energy meters, rating of L.T. power installations, testing and repairing of power and Distribution Transformers, rectification of faults in OCBs. Generators, Meters and other Switchgear equipments and their repairs, etc., placed under the charge of two Divisions called M.T. Divisions, one at Bangalore and another at Hubli for south and north zones respectively, shall continue as at present. These Divisions shall carry out the works through Sub-divisions. The activities in these Divisions can be broadly brought under two classifications, *i.e.*, (1) Testing, calibration and repairs of meters and (2) repairs and Testing of Transformers and other equipments. The activities connected with Meters shall be placed under the charge of Sub-divisions located in each of the O and M Circle Headquarters. The activities connected with transformer testing/repairs and Testing of Switchgear, Commissioning of new equipments in stations, etc., shall be under the charge of one subdivision each in the two M.T. Divisions, one at Bangalore and the other at Hubli as at present.

2. The activities of the two wings of the divisions are classified as under:

A. *Activities pertaining to meters*

(*a*) Testing and calibration of meters of L.T. installations.

(*b*) Rating of L.T. Power Installations and street lights.

(*c*) Testing and calibration of faulty meters repairs and re-conditioning.

B. *Activities pertaining to Transformers and Equipments*

(*a*) Transformer repairs, reclamation and Testing.

(*b*) Rewinding of Motors and Generators, etc.

(*c*) Attending to break-downs and repairs to equipments.

2. *Meter Testing Sub-division*

Each O and M Circle shall have a M.T. Sub-division located at the Headquarters of the Circle under the administrative control of the Superintending Engineer (Electrical) and technical control of the respective M.T. Divisions for supervising, checking and controlling the activities of M.T. Sections in each O and M Divisions.

The Assistant Engineer of each M.T. Sub-division is responsible to plan and organise the activities of the M.T. Sections in his jurisdiction, conduct inspection of works, test check certain items of works to ensure desired accuracy in the works carried out by the sections and to render technical guidance necessary for them. The other duties and functions of the Assistant Engineer are, scrutinising the rating reports of the L.T. Power Installations in his jurisdictions pursue progress of Meter testing and calibration, to keep up the schedule and attend to the connected correspondence and administrative matters. Detailed job descriptions are enumerated in the Board Order No. KEB/WLIC-9/74-75 dated 15th April 1975.

The duties of the Assistant Engineer shall include the following besides those enumerated in the Board Order dated 15th April 1975:

I. *General*

1. Plan and organise the programme of works of the sections.
2. Overall supervision of work of sections.
3. Scrutiny of rating reports and forwardal of the same to the concerned Divisions.
4. All other connected office works incidental to the above.

II. *Test Checks*

1. *Meters in Single Phase Installations*

The Assistant Engineer shall pick up installations at random where the routine testing and calibration will have been carried out by the testing batches and carry out a fresh test and calibration by making the concerned batch re-insert the very same testing equipment in the presence of the Assistant Engineer at the rate of 1% per month of the number of meters tested and calibrated by each batch.

2. *L.T. Power Installations*

The Assistant Engineer shall pick up installations at random out of those already rated by the rating batches and carry out test check using the very same testing equipment at the rate of one installation per batch per month.

3. *Test Check—Reading of Meters*

The Assistant Engineer shall take test readings of 10 installations per batch per month in respect of single phase meters and two installations per month per batch in the case of LT 3 phase power installations. A report of the readings so taken may be made to the concerned officers where the relative Revenue Ledgers are maintained under a copy to the concerned O and M Divisions.

Note: In Bangalore, a certain proportion of the work mentioned above may be shared by the Executive Engineer also.

Each M.T. Sub-division shall have the following staff complement:

1. Assistant Engineer	..	One
2. Typist	..	One
3. Driver Gr. II.	..	One
4. Office Attendant Gr. II	..	One

Each sub-division shall be provided with one suitable vehicle for inspection works of the Assistant Engineer.

H.T. Installations—Testing and Calibration of Meters

I. *In All Circles other than Bangalore Circle*

Testing and calibration of meters in H.T. installations as at present, shall be carried out by the R.T. Sub-divisions in all the places other than Bangalore.

II. *In Bangalore Circle*

Testing and calibration of meters of H.T. installations in Bangalore Circle shall be carried out by the M.T. Division, Bangalore, as at present under the supervision and control of an Assistant Engineer. A Sub-division comprising of the following staff complement shall be in charge of H.T. installations testing and calibration of meters for Bangalore Circle.

1.	Assistant Engineer (Elecl.)	..	1
2.	Junior Engineer (Elecl.)	..	1
3.	Mechanic Gr. I (MT) (Rs. 110–195)	..	1
4.	Attendant Gr. I (MT) (Rs. 80–145)	..	2
5.	Typist	..	1
6.	Office Attendant Gr. II	..	1
7.	Driver Gr. II	..	1

A suitable vehicle shall be provided for the sub-division for conveying the testing equipment and the testing batches.

(1) ***M.T. Sections***

All O and M Divisions shall have one MT section each located at the Headquarters for carrying out Testing and calibration of Meters and Rating of LT Power installstions. The section shall be under the technical control and supervision of the Assistant Engineer of the MT Sub-division located at Headquarters of each O and M Circle. However, the section shall be under the administrative control of the Executive Engineers of the concerned O and M Divisions.

The section shall be under the control of a Junior Engineer out of the total staff complement admissible foı the section. The staff complement for each section shall be based on the work load of the section with reference to the number of installations in the Division as enumerated under norms for Meter Testing and Calibrating and Rating of LT 3 Phase Power Installations. Norms for providing testing batches, supervisory personnel shall be as detailed hereinunder:

Norms for Meter Testing and Calibrating

The testing and calibration of Single Phase Meters shall be carried out at the premises of the installations, that means meters need not be released and brought to laboratories for routine testing and calibration. Testing and calibration of each of the Single Phase Meters shall be carried out once in three years. The job descriptions of the posts attached to these sections are enumerated in the B.O. KEB/WLIC-9/74-75, dated 15th April 1975. A batch consisting of one Mechanic Grade II (MT) and one Attendant Grade II (MT) under the supervision of a Supervisor (Electrical) shall carry out the testing and calibration at the premises of the installations and the work load of each such batch shall be as follows:—

Sl. No.	Classification for work load	Monthly work load for testing and calibrating S. Ph. meters
1.	For all areas in O and M Divisions except Bangalore., Mysore and Hubli cities	380 Nos.
2.	For Bangalore, Mysore and Hubli cities where transport vehicles shall be provided	600 Nos.

Having regard to the work load in terms of S.Ph. installations in each of O and M Divisions the testing and calibrating batches and number of supervisors for supervision of testing and calibrating, shall be regulated as shown in the Table given on P. 199.

Table showing the Norm for determining the number of single Phase Meters Testing and Calibration batches for M.T. sections

I. *For all O and M Divisions except Bangalore, Mysore and Hubli cities*

Total number of single phase Installations in the O and MDivisions	Supervisor	Mechanic Gr. II (MT)	Attendant Gr. II (MT)
Upto 15000	1	1	1
15001–30000	1	2	2
30001–45000	1	3	3
45001–60000	2	4	4
60001–75000	2	5	5

II. *For City O and M Divisions of Bangalore and Hubli and Mysore*

Upto–24000	1	1	1
24001–47001	1	2	2
47001–72000	1	3	3
72001–97000	2	4	4
97001–120000	2	5	5
120001–145000	2	6	6
145001–170000	3	7	7

Norms for rating of L.T. 3 Ph. Power Installations and Calibration of 3 Ph. Meters

The rating of each of the 3 Ph. Power Installations and calibration of each of the 3 Ph. Meters shall be carried out once in two years. The job descriptions of the posts attached to these sections are enumerated in Board Order No. KEB/WLIC–9/74–75, dated 15th April 1975. A Junior Engineer or a Supervisor shall carry out the rating and calibration with the assistance of a batch consisting of One Mechanic Grade II (MT) and One Attendant Grade I (MT).

The Work Load of each such batch shall be as follows:

Sl. No.	Classification for work load	Monthly work load for rating of LT 3 Ph. Power Installations and Calibrating Meters
1.	For all areas in O and M Divisions except Bangalore and Mysore, Hubli Cities	75 Nos.
2.	For Bangalore, Mysore and Hubli Cities where transport vehicles shall be provided	100 Nos.

Having regard to the work load in terms of the number of 3 Ph. LT power installations in each of the O and M Divisions, the Rating Batches and the Supervisory staff shall be regulated as shown in the Table below.

I. *For all O and M Divisions except Bangalore, Mysore and Hubli Cities*

Total number of LT 3 Ph. Power Installations in O and M Divisions	Junior Engineer	Supervisor	Mechanic Gr. II	Attendant Gr. I
Upto 900	1	..	1	1
901–2400	1	1	2	2
2401–4000	1	2	3	3

II *For city O and M Divisions of Bangalore Mysore and Hubli*

Upto–2700	1	..	1	1
2701–5400	1	1	2	2
5401–8100	1	2	3	3
8101–10800	2	2	4	4
10801–13500	2	3	5	5
13501–16200	3	3	6	6
16201–18900	3	4	7	7
18901–21600	4	4	8	8

Supervision of the works of the testing batches shall be vested with the supervisor as at present. Each supervisor shall supervise 2–3 batches of testing and calibration. As regards, the duties of the supervisor it would be necessary that he shall be present in the area where all the batches under his control will be working and he shall carry out random test check of at least one meter on which the work of testing, calibration and sealing would have been already completed for the day by the batch and make a report of the same. For this purpose, the supervisor may employ the very same testing equipment which would have been used by the batch. In addition, it shall be his duty to seal all the meters tested for the day and obtain party's acknowledgements therefor.

Regarding, taking meter readings at the time of testing and furnishing reports, etc., to the concerned supervisor, the batch mechanics shall take the readings, record the percentage errors both, before and after calibration of meters, record the defects noticed and furnish the same to the supervisor. The Junior Engineer-in-charge of the section with the assistance of the concerned supervisor shall send the consolidated report to the concerned O and M division/sub-division/ O and M Section where the Revenue Accounts are maintained.

As regards meters in such of the installations which would be found under door lock at the time of testing rounds the batch mechanic would make a record of the same and furnish to the supervisor. A report in this regard shall be sent to the concerned O and M Section for arranging replacement of the Meters by tested and calibrated meters as early as possible.

The Junior Engineer or the Supervisors, as the case may be incharge of rating batches, shall be responsible for carrying out the works as per prescribed work norm and attending to other works connected with office such as preparing reports, statements, etc., and their submission to the concerned authorities. The detailed job descriptions of all the posts are enumerated under Board Order No. KEB WLIC–9/ 74–75 dated 15th April 1975.

(2) *Repair Sections*

Seperate sections for carrying out repairs, re-conditioning and testing of faulty meters, acceptance test of new meters, testing and calibration of meters at party's request shall be set up in the two M.T,

Divisions at Bangalore and Hubli. The works that have to be carried out by these sections shall be as follows :—

1. Repairing and re-conditioning of faulty meters, necessary testing and calibration thereof.

2. Calibration of sub-standard meters used by the field batches.

3. Carrying out acceptance test of meters supplied by manufacturers.

4. Sealing of all the meters supplied by suppliers.

5. Testing and calibration of meters at party's request.

6. Manufacture of sealing leads and any other works of miscellaneous nature.

For carrying out the repair works mentioned above and other allied works, these repair sections shall have the folllwing staff complements and shall be placed under the control and supervision of the Assistant Engineer of MT Sub-division at the Headquarters of the respective places:—

Sl. No.	Designation	Posts for Bangalore section	Posts for Hubli section
1.	Junior Engineer (Elecl.)	1	1
2.	Mechanic Gr. I (MT) (Rs. 130–240)	5	2
3.	Mechanic Gr. II (MT) (Rs. 110–195)	2	2
4.	Attendant Gr. I (MT) (Rs. 80–145)	2	1
5.	Attendant Gr. II (MT) (Rs. 70–118)	2	1

(3) *Transformer Testing Sub-divisions*

The MT Divisions at Bangalore and Hubli shall be attached with one Sub-division each to attend to the following items of work as at present:—

1. Te ting of distribution transformers at the request of the Field Officers of the O and M divisions.

2. Repairs, reconditioning and testing of faulty transformers.

3. Rewinding of faulty motors and generators of the Board or re-commissioning the machines where necessary and testing of motors on request by other parties.

4. Repairs and re-conditioning of switchgear and other equipments either at site or in the laboratory as the case may be.

5. Attending to breakdowns of any item of plant and equipment in power stations and other allied works.

These sub-divisions shall have the following staff complement:

Sl, No.	Designation	Posts for Bangalore Sub-division	Posts for Hubli Sub-division
1.	Assistant Engineer (Elecl.)	1	1
2.	Junior Engineer (Elecl.)	4	3
3.	Supervisor (Elecl.)	1	1
4.	Senior Mechanic (MT) (Rs. 190–355)	1	1
5.	Mechanic Gr. I (MT) (Rs. 130–240)	1	1
6.	Mechanic Gr. II (MT) (Rs. 110–195)	6	6
7.	Attendant Gr. I (MT) (Rs. 80–145)	4	4
8.	Attendant Gr. II (MT) (Rs. 70–118)	4	4
9.	Typist	1	1
10.	Office Attendant Gr. II	1	1

(4) *Transformer Reclamation Section*

For repairing, reconditioning and testing of distribution transformers separate transformer reclamation sections one at Bangalore and another at Gulbarga shall be formed for a period of two years in the first instance with the following staff complement for each of the two sections:—

	Number of posts
1. Junior Engineer (Elecl.)	1
2. Mechanic Gr. I (MT) (Rs. 130–240)	1
3. Mechanic Gr. II (MT) (Rs. 110–195)	2
4. Attendant Gr. I (MT) (Rs. 80–145)	2
5. Attendant Gr. II (MT) (Rs. 70–118)	2

The section at Bangalore shall work under the supervision and control of the Transformer Testing Sub-division, Bangalore, and the section at Gulbarga shall work under the control of the MT Sub-division, Gulbarga.

The utility of these two sections may be watched for a period of two years. In the event a total output of about 300–350 reclaimed transformers, in the aggregate is maintained annually, by the repair units at Bangalore, Hubli and Gulbarga inclusive of the reclamation section at Bangalore and Hubli inclusive of the presently proposed reclamation sections at Bangalore and Gulbarga, their further continuation may be considered for a suitable period, until all the accumulated transformers at NRS, Bangalore and at Hubli are disposed off by the process of reclamation or scrapping. The abolition of the section at Bangalore may be considered thereafter if necessary.

VIII. NORMS—FOR RELAY TESTING

Norms for Relay Testing Sub-divisions

Relay Testing Sub-divisions under R.T. Division, Bangalore, shall be placed in charge of testing of all Relays and testing and calibration

of Meters of the several Generating Stations, Main Receiving Stations and sub-stations as at present. These routine testing sub-divisions shall be located at the Headquarters of each O and M Circle except in Tumkur Circle. For Bangalore and Tumkur Circles there shall be four special sub-divisions, out of which three sub-divisions shall be located at Bangalore and one at Jog as at present.

The routine sub-divisions shall be in-charge of routine testing of Power Station Relays and calibrating the Meters in all the Generating Stations and Power Stations once in a year is stipulated, in the respective areas of the Circle to which they are attached.

The special sub-divisions shall be placed in-charge of special nature of works pertaining to Relays and Meters such as attending to break-downs of equipments in Genrating Stations and Receiving Stations, testing and commissioning of new equipments in Power Stations, works connected with Relay Co-ordination and protection analysis, repairs to relays, meters and other accessories, and equipments, Testing of current transformers and potential transformers. Testing and calibrating of HT Metering equipment supplied by firms before they are installed and such other incidental works.

All the HT Metering equipments ordered in future shall be tested for soundness and accuracy. Calibration of connected meters shall be carried out and the equipment passed by the RT division duly certified to be in satisfactory condition for use. This work may be attached to standards sub-division in Bangalore.

The routine testing sub-divisions located in each of the O and M Circles except in Bangalore Circle shall also be in-charge of testing and calibration of meters of HT installations in the respective areas of the sub-divisions. However, this work pertaining to Bangalore Circle shall be attached to MT Division, Bangalore, as at present. All the routine testing sub-divisions and, the sub-division in-charge of works of Generating Stations and major Receiving Station, located at Bangalore, shall be provided with suitable vehicles.

The detailed job descriptions and activities that are to be carried out by these sub-divisions are enumerated in the Board Order No. KEB/WLIC-9/74-75 dated 15th April 1975.

Considering the duties and functions that have been attached to these sub-divisions and in accordance with the work load, the complement of staff for all the sub-divisions shall be as detailed in the statement enclosed.

Statement of the Staff admissible for R.T. sub-divisions

Sl. No.	Particulars of sub-divisions	Number of posts in each category											
		Asst. Engr. Elecl.	Jr. Engr. Elecl.	Super-visor Elecl.	Merit grade Mecha-nics	Instru-ment Mecha-nics	Sr. Mecha-nics	Mecha-nic Gr. I	Mecha-nic Gr. II	Atten-dant Gr. I	Atten-dant Gr. II	Driver Gr. II	Typist
	(a) Routine sub-divisions												
1.	R.T. Sub-division, Bangalore (for Bangalore and Tumkur Circle)	1	1	..	..	..	...	1	1	1	1	1	1
2.	R.T. Sub-division, Mysore for Mysore Circle)	1	1	...	..	..	...	1	1	1	1	1	1
3.	R.T. Sub-division, Shimoga (for Shimoga Circle)	1	1	..	..	..	...	1	1	1	1	1	1
4.	R.T. Sub-division, Hubli (for Hubli Circle)	1	1	..	..	..	...	1	1	1	1	1	1
5.	R.T. Sub-division, Gulbarga (for Gulbarga Circle)	1	1	...	..	...	...	1	1	1	1	1	1
6.	R.T. Sub-division, Munirabad (for Munirabad Circle)	1	1	...	..	...	...	1	1	1	1	1	1

(b) Special Sub-divisions

1. Standard Sub-division, Bangalore (with workshop and transport)	1	1	2	1*	2*	...	1	3	2	2	...	...
2. Relay Co-odination and Protection Analysis Sub-division, Bangalore	1	2	..	..	..	..	..	..	...	...	...	...
3. Generating Stations and Major Receiving Stations sub-division, Bangalore	1	3	1	..	..	1	1	3	2	2	1	..
4. R.T. Sub-division, Jog for SGS and Jog Generating stations	1	1	..	..	..	1	1	1	1	1	...	1
TABLE	10	13	3	1	2	2	9	13	11	11	7	7

Note.—The two posts of Instrument Mechanics and one post of Merit Grade Mechanic sanctioned in B.O. No. MSEB/A11-3545 71-72 dated 16th November 1971 and B.O. Nc. A16/5400/72-73 dated 28th March 1973 respectively are continued.

IX. NORMS—TELE—COMMUNICATION SYSTEM

Norms for Tele-communication System

The operation, maintenance and constructions of the network of Tele-communication System with the problems of its maintenance and development shall be organised into one unit called Tele-Communication Division. This Tele-communication Division shall have eight Tele-communication Sub-divisions for carrying out the work of the divisions.

The activities of the Tele-communication Division, as broadly indicated hereunder, shall be carried out by the sub-divisions:

1. Erection and maintenance of PLC communication equipments in power stations.
2. Erection and maintenance of Auto-telephone exchanges, Magneto Exchanges, Carrier equipments, etc.
3. Attending to faults on PLC equipments, faults in Telephone exchanges and equipments.
4. Repairs and reconditioning of faulty Telephone instruments, accessories and equipments connected with communication system.
5. Maintenance of subscriber lines and underground Telephone cable system in Bangalore including new extentions.
6. Any other works connected with the communication system development and maintenance.

Out of the 8 Tele-communication sub-divisions, 6 shall carryout the routine maintenance works of the Tele-communication system with their jurisdictional area covering all the 7 O and M circles. These sub-divisions shall be located at the following places:

1. Bangalore
2. Shimoga
3. Hubli
4. Jog
5. Munirabad
6. Shahabad.

These 6 sub-divisions shall attend to periodical testing of Tele-communication equipments, Telephone Exchanges, etc., and shall rectify the faults in the equipment and system in the areas allotted to each sub-division. The activities pertaining to PLC maintenance in Generating Stations at M.G.H.E. and Sharavathi—shall exclusively be carried-out by the sub-division at Jog. The sub-divisions at other places mentioned above shall have the control and supervision over the activities of Telephone maintenance sections located in each of the O and M Divisions for carrying out the routine maintenance works of the system.

In addition to the above said 6 Tele-communication sub-divisions, there shall be two special sub-divisions located, one at Bangalore for attending to erection, repairs and developmental works and the other for Carrier Laboratory and maintenance of Tele-communication System at Bangalore.

Considering the duties and functions that are entrusted to these sub-divisions and in accordance with the work load of each sub-division, the complement of staff at the sub-divisional level shall be as detailed in the statement enclosed.

The detailed job description of the various posts attached to these sub-divisions are enumerated in the B.O. No. KEB/WLIC-9/74-75, dated 15th April 1975.

The Assistant Engineer incharge of Tele-communication sub-division shall conduct supervisory tests and checks as per prescribed schedules enumerated in the B.O. No. KEB/WLIC-9/74-75, dated 15th April 1975.

Statement showing the staff complement of Tele-communication sub-divisions

Sl. No.	Particulars of posts	Repairs and development sub-division, Bangalore	Carrier Laboratory sub-division, Bangalore	T.C. sub-division, Bangalore	T.C. sub-division, Shimoga	T.C. sub-division, Jog	T.C. sub-division, Hubli	T.C. Sub-division, Shahabad	T.C. sub-division, Munirabad	Remarks
1	2	3	4	5	6	7	8	9	10	
1.	Asst. Engineer (Elecl.)	1	1	1	1	1	1	1	1	
2.	Junior Engineer (Elecl.)	1	1	2	2*	1	1	1	1	
3.	Supervisor (Elecl.)	..	12	..	..	..	..	..	..	
4.	Senior Mechanic	1	1	..	..	..	..	..	..	
5.	Mechanic Gr. I (TC)	2	3	2	4**	1	2	3**	3**	
6.	Mechanic Gr. II (TC)	2	7	..	..	1	..	..	..	
7.	Carpenter Gr. II	1	..	..	..	..	..	..	..	
8.	Attendant Gr. I (TC)	..	17	2	2	1	2	2	2	
9.	Attendant Gr. II (TC)	2	16	..	..	..	..	..	..	
10.	Driver Gr. II	1	..	1	1	..	1	1	1	
11.	Typist	..	1	1	1	..	1	1	1	
12.	Office Attendant Gr. II	..	1	1	1	..	1	1	1	

Note.—1. The posts enumerated under column 4 pertaining to Carrier Laboratory Sub-division are inclusive of the posts for all the Sections under this sub-division and the Telephone Exchange in Bangalore.

2. The posts shown under columns 5, 6, 7, 8, 9 and 10 for T.C. sub-divisions do not include the posts in Telephone Maintenance sections in O and M Divisions.

* One post of Junior Engineer shall be located at Mercara Station Mangalore, for PLCC Maintenance.

** One post each of Mechanic Grade I shall be located at Power Station Hiriyadka, Bagewadi and Davangere for PLCC maintenance.

Norms for Telephone Maintenance Sections

Each O and M Division shall have a Telephone Maintenance section located at the Headquarters of the O and M Division for routine maintenance of Telephone installations, protective equipments, Telephone Exchanges and associated equipments, etc., attending to repairs to Telephone instruments, equipments, etc., and attending to break, downs and rectification of faults in the Tele-communication System.

2. These sections shall be placed under the overall control of the Tele-communication Sub-divisions in charge of the respective areas as detailed hereunder:—

1. Telephone Maintenance sections of O and M Divisions in Mysore and Tumkur Circles	T.C. Sub-Division, Bangalore
2. Telephone Maintenance Sections of O and M Divisions, in Shimoga Circle	T.C. Sub-Division, Shimoga
3. Telephone Maintenance Sections of O and M Division in Hubli Cirlce	T.C. Sub-Division, Hubli
4. Telephone Maintenance Sections of O and M Divisions in Gulbarga Circle	T.C. Sub-Division, Shahabad
5. Telephone Maintenance Section of O and M Divisions, in Munirabad Circle	T.C. Sub-Division, Munirabad
6. Telephone Line Sections and General Maintenance Section of Bangalore Circle	Carrier Laboratory Sub-Division, Bangalore

The detailed job descriptions of various posts in these sections are enumerated in the B.O. No. KEB/WLIC–9/74–75, dated 15th April 1975.

3. The three Telephone Line Sections and the one General Maintenance Section under the control of the Carrier Laboratory Sub-Division, Bangaloie shall carry out these activities in Bangalore Circle.

Considering the duties and functions that are entrusted to these Telephone Maintenance Sections and in accordance with the Work

Load of each of these sections, the complement of staff for each of the sections, except for those sections attached to Carrier Laboratory, Bangalore shall be as follows:—

1. Supervisor (Elecl.) .. One
2. Mechanic Gr. II (TC) (Rs. 110–195) .. Two

The sections attached to the Carrier Laboratory Sub-division, Bangalore shall have the following staff complement:—

Sl. No.	Category of post	Staff for one General Maintenance section for exchange maintenance, attending to complaints and repairs	Staff for all the 3 numbers Telephone Line Maintenance Sections
1.	Junior Engineer (Elecl.)	1	..
2.	Supervisor (Elecl.)	1	3
3.	Senior Mechanic (Rs. 190–355)	1	..
4.	Mechanic Gr. I (TC) (Rs. 130–240)	3	..
5.	Mechanic Gr. II (TC) (Rs. 110–195)	4	3
6.	Attendant Gr. I (TC) (Rs. 80-145)	2	15
7.	Attendant Gr. II (TC) (Rs. 70–118)	2	10

These four sections shall carryout the following activities:

1. General Maintenance of the Exchange inclusive of attending to defects in the equipments and Telephone installations and repairs thereof.

2. Installation and maintenance of Subscribers lines (overhead U.G. cable) and connected terminal equipments in Bangalore.

Norms for Operation and Maintenance of Telephone Exchanges

The Telephone Exchanges connected with the physical Carrier System and also with the PLCC system at the places shown in the statement enclosed shall be under the control and supervision of T.C. sub-division of the respective Circles. But Bangalore Telephone Exchange is an exception and it shall be under the control of the Carrier Laboratory Sub-Division, Bangalore.

Considering the magnitude of work in each of the Exchanges, and the requirements of the problems of maintenance, involving daily routine attention to defects and breakdowns, the staff complement for shift duties and general maintenance works of the Exchanges, shall be as shown in the statement.

The Job description of the posts attached to these Exchanges shall be as enumerated in the B.O. No. KEB/WLIC–9/74–75, dated 15th April 1975.

Norms for Routine Maintenance of PLCC equipments in power stations

The routine maintenance for PLCC equipments in power stations where no Tele-communication staff is stationed shall be carried out, as per prescribed schedule, by the concerned Power Station Electrical maintenance staff under the direction of the T.C. Sub-division of the Circle. The Station Staff required to attend to this work shall be given necessary training to handle the maintenance works of the PLCC equipment and system. The details of the maintenance schedule are as enumerated in the B.O. No. KEB/WLIC–9/74–75, dated 15th April 1975.

Statement showing staff complement for shift work in the Telephone exchanges and General maintenance of the exchanges and subscribers lines on the telephone system

Sl. No.	Category of post	Mysore		Bhadravati		Bhadra		Jog		Hubli		Munirabad		Sivasamudram		Shimshapura		Bangalore	
		Shift staff	Genl. maint.	Shift staff	Genl. maint.	Shift staff	Genl. maint.	Shift staff	Genl. maint.	Shift staff	Genl. maint.	Shift staff	Genl. maint.	Shift staff	Genl. maint.	Shift staff	Genl. maint.	Shift staff	Genl. maint.
1.	Junior Engineer (Elecl.)	..	1	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..
2.	Supervisor (Elecl.)	..	1	..	..	..	..	..	1	..	..	..	1	..	1*	..	..	8	..
3.	Operators	4	..	4	..	4	..	4	..	4	..	4	..	4	..	4	..	..	..
4.	Mechanic Gr. I (T.C.) (Rs. 130–240)	..	3	..	1	..	..	..	..	..	1	..	..	..	1*	..	..	..	..
5.	Mechanic Gr. II (TC) (Rs. 110–195)	..	2	..	2	..	..	..	2	..	1	..	1	..	1*	..	..	..	..
6.	Attendant Gr. I (TC) (Rs. 80–145)	..	6	..	6	..	2	..	2	..	4	..	2	..	2*	..	..	..	..
7.	Attendant Gr. II (TC) (Rs. 70–118)	4	..	4	..	..	..	4	..	4	..	4	..	4	..	4	..	4	..

* Combined staff for both Siva and Shimshapura Telephone Exchanges.

Note: 1. The general maintenance staff provided for Sivasamudram Exchange shall also be in charge of general maintenance of Shimshapura Telephone Exhange.

2. Provision for General Maintenance staff for Bangalore Exchange is made under General Maintenance Section attached to Carrier Laboratory Sub-division. Hence the same is not included in this statement.

X. NORMS—WORKSHOPS

Norms for Workshops

I. *Workshops for generating stations and receiving stations*

The working of the existing workshops attached to the generating stations and main receiving stations shall continue in its present pattern except for the slight modifications in the staff complement shown under "Norms for generating stations and main receiving stations".

II. *Regional Workshops*

As a matter of policy one workshop with the minimum standard equipment and staff complement shall be established and attached to each of the regional stores and called "REGIONAL WORKSHOPS".

Minimum standard equipments and staff complement for regional workshops shall be as follows

A. *Equipments*

1.	Lathe 6"	1
2.	Welding transformer 15 kVA	1
3.	Drilling machine 1½" size	1
4.	Shearing/punching and cutting machine 13 mm size	1
5.	Hacksaw machine 9" size	1
6.	Bench grinder 12" × 2 wheel	1
7.	Blower with forge 1 HP	1
8.	Bench vices	4Nos.

B. *Staff complement*

1.	Supervisor (Foreman)	1
2.	Assistant Foreman	1
3.	Mechanic Gr. I/Machinist Gr. I	1
4.	Turner Gr. II	1

5.	Welder Gr. II	1
6.	Blacksmith	1
7.	Fitter Gr. II	1
8.	Painter Gr. II	1
9.	Driller	1
10.	Puncher/cutter	1
11.	Hammerman	1
12.	Machine operator	1
13.	Fitter Gr. III	2
14.	Helper (Workshop)	6

In organising the regional workshops, action shall be taken as follows:

1. The workshops at Mysore and Hubli shall be re-organised on the minimum standards described above except that any equipment in excess of the standard provision shall continue.

2. A regional workshop for the regional stores at Shimoga shall be established by shifting the available equipments and the staff from Chickmagalur to Shimoga and re-organised on the standards, enumerated above.

3. A regional workshop shall be established in Gulbarga, with the minimum standard equipment and staff, and shall be attached to the regional stores at Gulbarga.

4. The existing workshop at Mangalore shall be continued there only. The equipments and staff at the workshop at Udipi shall be shifted to Mangalore and brought upto the standards of a regional workshop. Any excess equipments, if found, after reorganisation of the workshop, shall also be continued at Mangalore.

5. Consequent to the application of the above norms, if the existing staff inclusive of the temporary time roll men in Mysore and Mangalore workshops, are found to be in

excess of the proposed standard provisions the excess hands shall be absorbed in any other vacancies in suitable grades occurring in the concerned divisions in due course. Until such time all the excess permanent posts will have to be treated as supernumerary in the said workshop and the temporary time roll men disposed off as per the present practice in this regard.

6. Workshop which are also in existance in Raichur and Bagalkot shall be abolished and the respective equipments shall be shifted to the Regional workshops of the respective circles, *i.e.*, Munirabad and Gulbarga. The availability of equipments and staff thereof shall duly be taken note of, in bringing up the respective regional workshops to the standards set in this regard.

7. After creating all the posts according to norms, the available hands shall be suitably allocated in the posts of the various categories depending on their present scales and emoluments. The personnel employed in various workshops, (mostly in the work-charged and T.T. R. categories) that would become surplus shall be absorbed in other vacancies of the circles following the respective prevailing rules in regard to employees of the said two categories.

III. *Central Workshop—Bangalore*

1. The workshop at N.R.S., Bangalore shall continue on a permanent basis in its present set up of organisation and equipment and engage itself in the manufacture of the several items as at present. The workshop may be re-named as "CENTRAL WORKSHOP".

The workshop shall have three sections namely:—

1. Line material section.
2. Switch and fuse section and
3. Tower fabrication section.

While section 3 shall work in three shifts, the sections 1 and 2 shall work in two shifts for an average output of 3,000 tonnes per year.

2. The equipments for each of the three branches of the workshop and the staff complement in each category with their functional

designations required for operation and manufacturing process in each section are shown in Appendix WS–3.

3. The personnel now working under the work-charged category shall be allocated to permanent posts of corresponding scales that would be created as per proposals *vide* item 2 above.

4. Temporary time roll men working shall be absorbed in the permanent posts. This may be done following the prevailing rules and further, no TTR. men shall be employed.

5. The organisation pertaining to administration and supervisory controls in the Central Workshop shall be as follows:—

	Number of posts	Remarks
1. Executive Engineer	1	
2. Assistant Engineer	1	
3. Junior Engineer (Graduate)	2	This does not include posts for various section
4. Supervisor	3	
5. Tracer	1	
6. Driver Gr. I (Rs. 190–355)	1	
7. Driver Gr. II (Rs. 110–195)	2	
8. Cleaners (Rs. 70–118)	2	
9. Watchman (Rs. 55–90)	8	
10. Sweeper/Scavenger (Rs. 55–90)	2	

Statement showing the equipment and the complement of staff for each section in the central workshop, Bangalore

I. *Line Materials' Section*

A. Standard Equipments

Sl. No.	Equipment	Quantity
1.	Shearing machine	3
2.	Drilling machine	2
3.	Hacksaw machine	2
4.	Welding set	3
5.	Sheet metal press	1
6.	Smithy	1

B. Staff Complement

Sl. No.	Nomenclature of posts	Number of posts
1	2	3
1.	Junior Engineer (Graduate)	1
2.	Supervisor	2
3.	Assistant Foreman/Senior mechanic (Rs. 190–365)	1
4.	Mechanic Gr. I/Machinist Gr. I (Rs. 130–240)	2
5.	Mechanic Gr. II (Rs.. 110–195)	1
6.	Turner Gr. II (Rs. 110--195)	1

1	2	3
7.	Welder Gr. II (Rs. 110–195)	5
8.	Tinker Gr. I (Rs. 110–195)	2
9.	Blacksmith (Rs. 110–195)	2
10.	Puncher (Rs. 80–145)	5
11.	Driller (Rs. 80–145)	3
12.	Sheet metal worker/Tinker Gr. II (Rs. 80–145)	4
13.	Machine Operator (Rs. 80–145)	2
14.	Hammerman/Blacksmith Gr. II (Rs. 80–145)	6
15.	Painter Gr. II (Rs. 80–145)	2
16.	Fitter Gr. III (Rs. 80–145)	2
17.	Attendant Gr. I (Tool keeping)	1
18.	Helper (WS) (Rs. 70–118)	33

APPENDIX/WS–3

II. *Switches and Fuses Section*

A. Standard Equipment

Sl. No.	Equipment	Quantity
1.	Lathe	3
2.	Drilling machine	3
3.	Hacksaw machine	1
4.	Bandsaw machine	1
5.	All cut machine	1
6.	Grinders	2
7.	Welding set	1

B. Staff Complement

Sl. No.	Nomenclature of posts	No. of posts
1.	Junior Engineer (Graduate)	1
2.	Supervisors	2
3.	Assistant Foreman/Senior mechanic (Rs. 190–355)	1
4.	Mechanic Gr. I/Machinist Gr. I (Rs. 130–240)	2
5.	Turner Gr. II (Rs. 110–195)	5
6.	Welder Gr. II (Rs. 110–195)	2
7.	Fitter Gr. II (Rs. 110–195)	2
8.	Blacksmith Gr. I (Rs. 110–195)	3
9.	Carpenter Gr. II (Rs. 110–195)	1
10.	Driller (Rs. 80–145)	5
11.	Machine Operator (Rs. 80–145)	4
12.	Grinder (Rs. 80–145)	2
13.	Fitter Gr. III (Rs. 80–145)	10
14.	Hammerman/Blacksmith Gr. II (Rs. 80–145)	2
15.	Painter Gr. II (Rs. 80–145)	2
16.	Attendant Gr. I (Tool-keeping) (Rs. 80–145)	1
17.	Helpers (for all trades) (Rs. 70–118)	21

III. *Tower Fabrication*

A. Standard Equipment

Sl. No.	Equipment	Quantity
1.	Shearing machine	3
2.	Drilling machine	2
3.	Hacksaw machine	2
4.	Grinder	2
5.	Smithy	2

B. Staff Complement

Sl. No.	Nomenclature	Number of posts
1	2	3
1.	Junior Engineer (Graduate)	1
2.	Supervisors	2
3.	Senior mechanic (Rs. 190–355)	1
4.	Mechanic Gr. I/Machinist Gr. I (Rs. 130–240)	3
5.	Welders Gr. II (Rs. 110–195)	2
6.	Blacksmith Gr. I (Rs. 110–195)	2
7.	Fitter Gr. II (Rs. 110–195)	2
8.	Painter Gr. I (Rs. 110–195)	1

1	2	3
9.	Mechanic Gr. II Machinist Gr. II (Rs. 110–195)	3
10.	Puncher (Rs. 80–145)	3
11.	Driller (Rs. 80–I45)	3
12.	Machine Operator (Rs. 80–145)	2
13.	Fitter Gr. III (Rs. 80–145)	6
14.	Grinder (Rs. 80–145)	2
15.	Hammerman (Rs. 80–145)	4
16.	Painter Gr. II (Rs. 80–145)	4
17.	Attendant Gr. I/(Tol-keeping) (Rs. 80–145)	1
18.	Helpers (WS) (Rs. 70–118)	30

Statement showing the split up in each category for the total labour strength of 209 for all the three sections in Central Workshop, Bangalore

Sl. No.	Nomenclature of the post	No. of posts	Remarks
1	2	3	4
1.	Senior mechanic (Rs. 190–355)	3	
2.	Mechanic-*cum*-machinist Gr. 1 (Rs. 130–240)	7	
3.	Mechanic Gr. II/Machinist Gr. II (Rs. 110–195)	5	
4.	Welder Gr. II (Rs. 110–195)	9	
5.	Turner Gr. II (Rs. 110–195)	6	
6.	Tinker Gr. I (Rs. 110–195)	2	
7.	Blacksmith (Rs. 110–195)	7	
8.	Fitter Gr. II (Rs. 110–195)	4	
9.	Carpenter Gr. II (Rs. 110–195)	1	
10.	Painter Gr. I (Rs. 110–195)	1	
11.	Puncher (Rs. 80–145)	8	
12.	Driller (Rs. 80–145)	11	
13.	Machine operator (Rs. 80–145)	8	

1	2	3	4
14.	Sheet metal worker/tinker Gr. II (Rs. 80–145)	4	
15.	Hammerman (Rs. 80–145)	12	
16.	Painter Gr. II (Rs. 80–145)	12	
17.	Fitter Gr. III (Rs. 80–145)	18	
18.	Grinder (Rs. 80–145)	4	
19.	Attendant Gr. I (Tool-keeper) (Rs. 80–145)	3	
20.	Helpers (for all Trade and Genl.) (Rs. 70–118)	84	
	Total No. of posts	209	

XI. NORMS—TRANSPORT

Norms for the maintenance of Transport Vehicles

The activities (listed below and the works incidental thereon) pertaining to the maintenance of transport vehicles shall be placed at various levels as detailed below:—

1. Daily allocation of vehicles and maintenance of log books.
2. Preparation of progress reports and monthly accounts.
3. Preparation of indents for petrol/diesel/oils/lubricants, etc.
4. Preparation of T.A. bills of the drivers and cleaners.
5. Preparation of estimates for repairs.
6. Correspondence in connection with the above activities.
7. Maintenance of History books of the vehicles.
8. Works connected with payment of vehicles tax, renewal of fitness certificate, obtaining permits for carrying men, etc,

·9. Arranging for periodical maintenance services and repairs through tender by outside agencies—preparation of bills for repairs done and attending to minor repairs and replacements.

1. Maintenance of all vehicles in a sub-division shall be entrusted to the Junior Engineer in the Technical Section of the sub-division or to the Junior Engineer/Supervisors in-charge of a Power station/sub-station in the headquarters of the sub-division.

Maintenance of vehicles in transmission line sub-division or transmission line sections shall be entrusted to the Transmission line Supervisor at Headquarters of the sub-division or the supervisor in-charge of transmission line section where the vehicle is stationed.

2. *Maintenance of Vehicles at Divisional level*:

Maintenance of all vehicles in the headquarters of O and M divisions shall be entrusted to the Junior Engineer, voltage improvement cell attached to the division except in the O and M divisions at Bangalore.

Maintenance of vehicles of O and M divisions in Bangalore shall be entrusted to a Junior Engineer in the technical section of the concerned O and M division.

Maintenance of vehicles in other divisions shall be entrusted to one of the sub-divisions at the headquarters of the divisions and connected correspondence and office works shall be entrusted to one of the Junior Engineers/Supervisors in the Office.

3. *Maintenance of Vehicles at Circle level*

Maintenance of all vehicles in the headquarters of O and M circle inclusive of those in the regional stores shall be entrusted to one of the Supervisors in-charge of forwarding and clearing section in the regional stores under the control of the Assistant Engineer, Electrical, Regional Stores.

4. *Maintenance of Vehicles in Generating Stations and Power Stations*

Maintenance of vehicles in the generating stations and power stations shall be entrusted to the Supervisor in the workshop and Transport Sections of the respective stations.

The complement of staff shall be provided as per the norms of the respective workshops and transport sections.

5. *Maintenance of Vehicles in the Transport Section—Central Stores at Bangalore*

A sub-division attached to Central Stores Division in Bangalore shall be in-charge of the fleet of transport vehicles required for central stores, Board secretariat, Office of the Chief Engineer Electricity (general) and Chief Engineer Electricity O and M (South), etc., in Bangalore. The complement of staff shall be provided as per the norms of the Transport sub-divisions, central stores division, Bangalore.

Norms for providing Drivers for the Vehicles

Each vehicle shall be provided with one driver of a suitable category for 2 normal working periods of 8 hours. Vehicles used for more than one shift, shall be provided with additional drivers of suitable cateogry—one for each additional shift. The category of drivers for each type of vehicle shall be as follows:—

Type of vehicles	Category of Driver
1. Tractor and trailer (35 tons and higher capacity)	Special grade driver
2. Tractor and trailor less than 35 tons capacity	Driver grade I
3. Transport vehicles other than those specified under 1 and 2.	Driver grade II
4. One cleaner for each vehicle other than jeeps, vans, and cars.	

XII. NORMS—CIVIL ENGINEERING WORKS

Norms for Civil Engineering Works

The Civil Engineering works in the Board of routine nature placed under the supervision and control of the two Civil Engineering divisions (one in south zone and the other in north zone) shall be carried out through Civil Engineering sub-divisions.

1. *Civil Engineering Sub-divisions for works in O and M Circles*

O and M circles shall have one Civil Engineering sub-division each, located at the headquarters of the O and M circle for supervision of Civil Engineering works in the respective circles. The sub-division shall work under the administrative control of the respective superintending Engineers of the circle, but however, the technical control shall be exercised by the respective Executive Engineers of the Civil Engineering Divisions. The Assistant Engineer (Civil) in-charge of a sub-division shall exercise control and supervision over the Civil Engineering works like construction of Buildings for stations, offices and residential quarters; development of lay-outs for colonies inclusive of water supply and sewerage system; maintenance, improvements and repairs to buildings and structures; preparation of estimates, etc. In each of the O and M divisions the Civil Engineering Works shall be carried out by the Civil Engineering staff under the control and supervision of the Assistant Engineer (Civil) of the respective circles.

The detailed job descriptions of each post are enumerated in the Board Order No. KEB/WLIC–9/74–75 dated 15th April 1975.

The staff complement for the Civil Engineering sub-division shall be as follows:—

A. *Staff complement at each O and M Circle*

1.	Assistant Engineer (Civil)	.. 1
2.	Junior Engineer (Civil)	.. 1
3.	Typist	.. 1
4.	Office Attendant Gr. II	.. 1
5.	Driver Gr. II	.. 1

Note.—Each sub-division shall be provided with a jeep for inspecton and supervision of works.

B. *Staff complement at each O and M Division*

1.	Junior Engineer (Civil)	.. 1*
2.	Supervisor (Civil)	.. 1*

Note.—* Additional Number of posts of Junior Engineer (Civil), Supervisors (Civil) may be sanctioned depending on the works in the concerned **O & M Division.**

This shall be determined by the Chief Engineer Electricity (general) and recommended to the Board when necessary.

C. For meeting the day to day problems of maintenance and repairs of the buildings in the colonies of KEB (other than the colonies in generating stations) the complement of staff shall be as follows:—

(i) *For colonies having* 100 *tenaments and above*

1. Maistry (Civil) Gr. II/Mason Gr. II (Rs. 100–195)	..	1
2. Civil Mate (Rs. 80–145)	..	2
3. Sweeper/Scavenger (Rs. 55–90)	..	2* (upto 100 tenaments)

Note.—* Above 100 tenaments, one additional sweeper/scavenger for every additional 50 tenaments shall bc sanctioned.

(ii) *For colonies having less than* 100 *tenaments*

(*a*) Ten tenaments and above but less than 50 tenaments :—

Sweeper/Scavenger	..	1

(*b*) 50 to 100 temanents :

Sweeper/Scavenger	..	2

Note—For less than 10 tenaments part-time sweeper/scavenger shall be provided.

2. Civil Engineering works under the supervision and control of Civil Engineering sub-division/sections in generating sections shall be carried out in accordance with the norms of the respective generating stations.

Norms for R.C.C. pole manufacturing centre

R.C.C. pole manufacturing centres shall be under the following categories based on the (production targets) work load in terms of manufacturing number of poles per month.

		Work load
(*a*) Single unit centre	..	190–200 poles per month
(*b*) Double unit centre	..	380–400 „ „ „
(*c*) Centres for producing more than 400 poles per month		

The Junior Engineer/Supervisor in-charge of a sub-station/receiving station at the place where the RCC centre is located or a supervisor (Civil) where available, shall be placed in-charge of the supervision of works of RCC. centres in the category (*a*) and (*b*).

The labour force in respect of each of the categories of centres shall be as follows:—

A. *Single Unit Centre*

1.	Maistry-*cum*-Mason Gr. II	.. 1
2.	Barbender-*cum*-vibrator Attendant Gr. I	.. 5
3.	Helpers	.. 9
4.	Watchman	.. 2*

B. *Double Unit Centre*

1.	Maistry-*cum*-Mason Gr. II	.. 1
2.	Welder Gr. II	.. 1
3.	Barbender-*cum*-vibrator Attendant Gr. I	.. 7
4.	Helpers	.. 14
5.	Watchman	.. 2*

Note.—*Watchmen shall be provided only for centres which ca by watch and ward arangement that would already be available w are located within the premises of Muss or stores, etc.

C. *Centres for producing more than* 400 *poles per month*

A supervisor (Civil) exclusively in-charge of the centre shall supervise the works of this category of RCC centre. The labour force shall be regulated as follows:—

The labour force shall be provided at the rate of 16 persons for manufacturing 250 poles a month and the allocation among different categories of posts shall be made in the same proportion as is obtaining in the case of double unit centre. The detailed job description of the posts are enumerated in the Board Order No. KEB/WLIC-9/74-75 dated 15th April 1975.

Secretary
K.E.B.

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