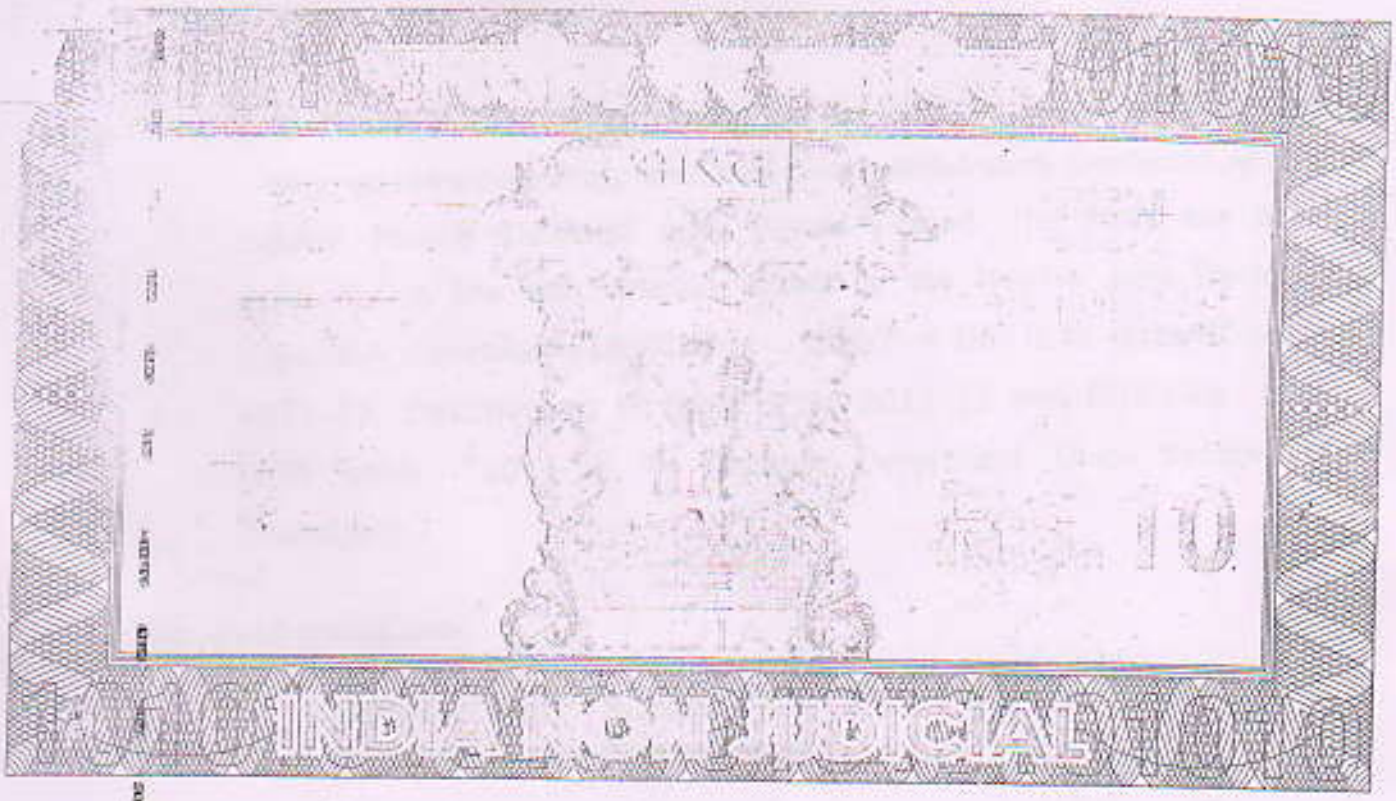


BEFORE THE HON'BLE JOINT ELECTRICITY REGULATORY COMMISSION FOR THE STATE OF GOA AND UNION TERRITORIES. GURGAON , HARYANA.

GPAA 724085

FILE No: _____
CASE No: _____

IN THE MATTER OF : Petition in respect of detailed study on manpower requirement at Chandigarh Electricity Department

AND

IN THE MATTER OF THE PETITIONER : Chandigarh Electricity Department (hereinafter referred to as "CED" which shall mean for the purpose of this petition the Licensee), having its office at Chandigarh - Petitioner

AFFIDAVIT VERIFYING THE PETITION

I, S. K. Chadha son of Sh. Om Prakash Chadha, aged 58 years do hereby solemnly affirm and state as follows:

1. That the deponent is the Chief Engineer of Chandigarh Electricity Department and is authorised to sign and submit the said petition on manpower study and is acquainted with the facts deposed to below.

2. I, on behalf of CED, hereby verify that the contents of the accompanying petition on manpower study are based on a detailed study conducted by M/s. Deloitte Touche Tohmatsu India Private Limited. The study has been conducted in line with directive issued by the Hon'ble Joint Electricity Regulatory Commission (JERC) vide Directive No. 6.11 of tariff order 2011-12, Directive 11 of tariff order 2012-13 and Directive 8 of tariff order 2013-14 for Electricity Department, Union Territory of Chandigarh.

Details of enclosures:

a) Annexure

i. Manpower Study – Summary

ii. Manpower Study – Detailed Report

DEPONENT

Place: Chandigarh
Dated: 01/01/2014

VERIFICATION

I, the above named deponent, do hereby verify on this day the _____th day of Oct, 2013 at Chandigarh and state that the contents of the foregoing additional submission are true and correct. Nothing stated therein is false and nothing material has been concealed.

DEPONENT

Place: Chandigarh
Dated: 01/01/2014

ATTESTED

(ATUL ARORA)
Special Executive Magistrate
U.T., Chandigarh
6/1/2014

BEFORE THE JOINT ELECTRICITY REGULATORY COMMISSION – GOA & UT, GURGAON

Filing No.....

Case No.....

IN THE MATTER OF: Petition in respect of detailed study on manpower requirement at Chandigarh Electricity Department

AND

IN THE MATTER OF: Chandigarh Electricity Department (hereinafter referred to as "CED" which shall mean for the purpose of this petition the Licensee), having its main office at Chandigarh - Petitioner

The Petitioner respectfully submits as under: -

1. That the Petitioner, the Chandigarh Electricity Department (CED) has been functioning as an integrated utility for performing Distribution and transmission licensee activities in the area of Chandigarh UT

2. That as per Directive No. 6.11 of tariff order 2011-12, Directive 11 of tariff order 2012-13 and Directive 8 of tariff order 2013-14 issued by Hon'ble JERC in its approved ARR and tariff order, M/s. Deloitte Touche Tohmatsu India Private Limited was engaged to conduct a detailed manpower study at CED. The manpower study conducted by M/s. Deloitte included the following steps:

   I. Detailed study of current setup and manpower at CED including Circle, Division and Sub-Division Offices.

   II. Detail study of existing techno-commercial challenges which includes reliability of power supply and AT&C losses

   III. Study of the best practices followed by progressive utilities such as North Delhi Power Limited etc.

   IV. Revised organization setup for CED in line with best practices

   V. Revised manpower requirement for CED in line Punjab's urban norms for field manpower and best practices on outsourcing

3. The salient features of revised organization setup are as under:
   I. Single point accountability for three verticals of Commercial, 11 KV & below Operations & Maintenance and 33 KV & above Operations & Maintenance
   II. Strengthening of Finance & Accounts, IT, and HR setup
   III. Focus of commercial activities to be at Division level with sub-division level focusing only on 11 KV & below operations
   IV. Outsourcing of field activities in line with the best practices followed in the market
4. As per the revised setup, the manpower requirement for CED shall be as under:

Total manpower requirement for CED in immediate term will be as follows:

Manpower Requirement for CED	Sanctioned	As-Is Manpower at CED	Total Proposed Manpower	Proposed In-house Manpower	Proposed Outsourced Manpower
Executives (AEE/AE & above)	30	22	59	59*	0
Non-Executives (JE & below)	1638	939	1335	950	385
Total	1668	961	1394	1009	385

*The increase in executive manpower is on account of strengthening of Finance & Accounts, IT, and Commercial functions.

As and when the manpower in field offices (Below Junior Engineer level) retires, no fresh recruitments shall be made and the outsourced manpower to be utilized accordingly. Hence, the total manpower requirement for CED in future will be as follows:

Manpower Requirement for CED	Sanctioned	As-Is Manpower at CED	Total Proposed	Proposed In-house	Proposed Outsourced
Executives (AEE/AE & above)	30	22	59	59	0
Non-Executives (JE & below)	1638	939	1335	736	599
Total	1668	961	1394	795	599

5. The approved Employee cost for FY 2013-14 is INR 58.98 Crores.
6. The employee cost projected by Petitioner as per revised manpower requirement is as under:
   a. Employee cost on account of regular employees is 48 + 4 = 52 Crores

b. Cost on account of outsourced manpower is INR 4.62 Crores
c. Total manpower cost is INR 56.62 Crores

Prayer to the Commission:

Considering the above given conditions, the petitioner respectfully prays that the Hon'ble Commission may kindly approve the following:

- The Hon'ble Commission is requested to accept this Petition, process and approve the same as per expeditiously.
- The Hon'ble Commission is requested to approve the manpower requirement for CED as per the manpower study conducted by M/s. Deloitte Touche Tohmatsu India Private Limited
- Condone any inadvertent omissions/errors/shortcomings and permit CED to add/change/modify/alter this filing and make further submissions as may be required at a future date.
- Pass such further and other orders, as the Hon'ble Commission may deem fit and proper keeping in view the facts and circumstances of the case.

Er. S.K.Chadha,
Petitioner
Chief Engineer,
UT, Chandigarh.

Place: Chandigarh
Date: 01/01/2014.

ANNEXURE-___

I. **Summary: Manpower Study**
II. **Detailed Report: Manpower Study**

Deloitte.

Detailed Report: Manpower Study

Chandigarh Electricity Department

26th October 2013

Contents

Context of the Assignment

Directive of Joint Electricity Regulatory Commission (JERC) on manpower at CED

- The manpower study at Chandigarh Electricity Department has been conducted in line with the directive issued by the JERC:
- **Directive – 8: Manpower Study:** *"EDC is directed to conducted a detailed study on manpower requirement by an accredited agency while taking into account the future load growth in Chandigarh*"

- In line with the above mentioned directive, Deloitte has conducted a detailed manpower study for Chandigarh Electricity Department wherein significant time has been spent in understanding the organizational setup and manpower determinants at the field level.

- To ensure the study is holistic in nature, Deloitte has visited all Division and sub-division offices and has collected existing data through one-on-on discussions with employees at various levels.

- This document is an outcome of Deloitte's understanding of existing setup, techno-commercial realities of CED, manpower requirements basis understanding of structure, process and technical requirements, and understanding of market best practices.

Source: *Tariff Order for Electricity Department, Union Territory of Chandigarh, 7th May 2012*

Context of the Assignment: Our Point of View

- The standard norms of average employee per thousand consumer may not apply to Chandigarh Electricity Department due to its unique consumer profile.
- The following norms have therefore been applied for comparison:

1. Employee Cost as a % of Revenue

#	Benchmark Organizations	Benchmark Parameters (Employee Cost % of Revenue)		
		AT&C Loss (%)	Employee Cost as a % of Revenue (As-Is)	Employee Cost as a % of revenue if AT&C loss was 24.5%
1	Chandigarh Electricity Department	24.5	9	9%
2	Tata Power Delhi Distribution Limited	13	5	6%
3	BSES Yamuna Power Limited	19.3	13	14%
4	BSES Rajdhani Power Limited	17	7	8%
5	Dakshin Haryana Bijli Vitran Nigam Limited	23.7	7	7%
Average across benchmark organizations		**19.5**	**8.2**	**9%**

2. Number of Employees / MkWh of Electricity Sold*

#	Benchmark Organizations	Number of Employees / MkWh of Electricity Sold
1	Chandigarh	0.83
2	Andhra Pradesh	0.71
3	Karnataka	0.95
4	Maharashtra	1.36
5	Tamil Nadu	1.41
6	West Bengal	0.94

The employee costs (as a % of revenue) and Number of Employees / MkWh of Electricity sold seems to be in line with some of the best performing utilities in the country.

- While its consumer profile and consumer expectations matches/exceeds most other metros and tier I cities in India, the Department's setup is still at pre-reform era where most of its operations are on manual basis. This mismatch between consumer expectations and existing setup is having an impact on CED's **Service Delivery**, **Operational Efficiency,** and **Financial Performance**.
- The department faces various challenges such as reducing the high AT&C losses, controlling cost of supply, and ensuring high supply reliability.

* *Annual Report on the working of State Utilities, Planning Commission*

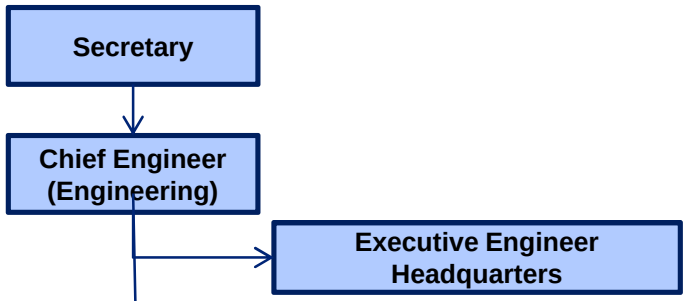
Context of the Assignment: Our Point of View

- In such a scenario, it is important to identify how organization setup can be restructured for improving the operational and financial performance (reducing AT&C loss, improving quality of supply, reducing cost of supply through minimal breakdowns etc.)
- For improving its performance, it is essential that CED identifies the critical functions and activities that are missing in the existing setup or activities that need adequate strengthening.
- In addition, it is also important to identify the factors impacting the speed of decision making considering distribution of electricity is a dynamic area of business.
- Hence, for this assignment the existing organization structure, all functional activities, manpower deployment, and Delegation of Powers have been studied in detail for identification of gaps.
- The identification of gaps in the existing setup has helped in identifying opportunities for re-allocation of work so that adequate focus is provided on critical activities both at Circle Office and Field level (Division/Sub-Division) level.
- This re-allocation of work has resulted in reallocation of manpower such that critical functions are adequately staffed. The staffing CED has been derived based on PSEB Norms, SIU Study coupled with market practices.
- Finally, changes to the Delegation of Powers have been proposed to improve the speed of decision making in line with the proposed structure.

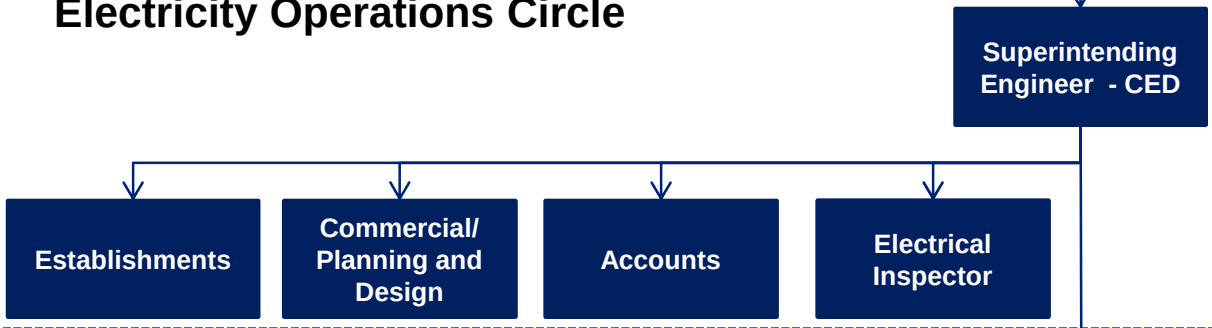
Contents

As-Is Organizational Framework for CED

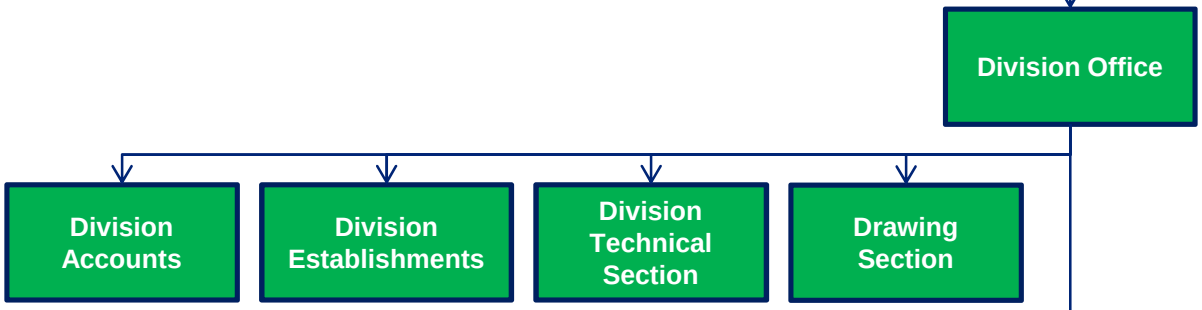
The Chief Engineer is the head of the Engineering Department of Chandigarh Administration. The department has five Circles viz. Construction Circle I and II, Public Health Circle, Electrical Circle and **Electricity Operations Circle** or **Chandigarh Electricity Department (CED).**



Electricity Operations Circle

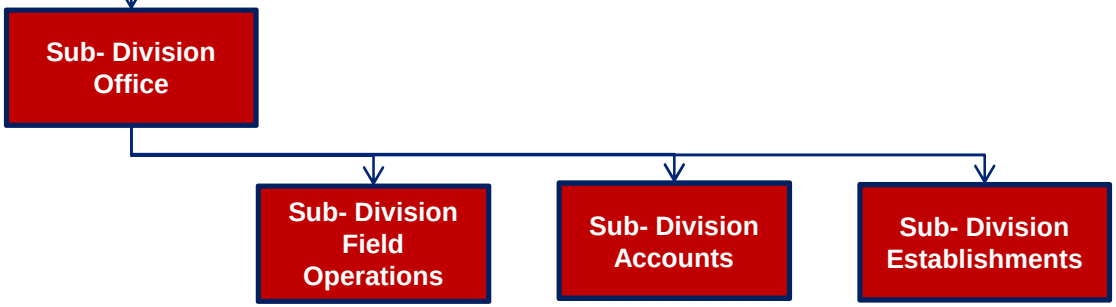


The Superintending Engineer is the head of Chandigarh Electricity Department and is responsible for all electricity operations (Transmission and Distribution) at Chandigarh. The Superintending Engineer's office (Circle) includes functions such as **Commercial/Planning/Design/Enforcement/Procurement/RAPDRP**, **Accounts**, and **Establishments**. The Superintending Engineer is also the Electrical Inspector for Chandigarh.



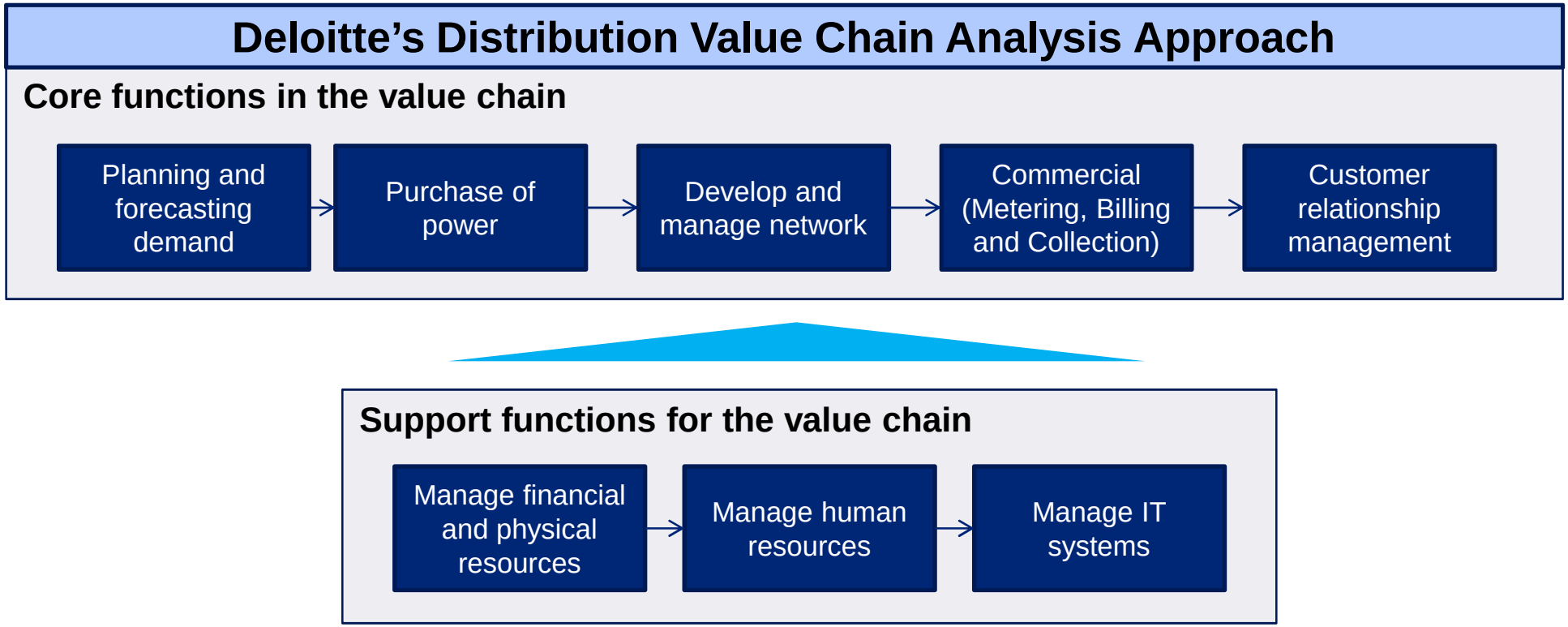
Executive Engineer is the head of the Division Office. The Division office includes functions such as **Accounts, Establishments**, **Technical,** and **Drawing** section. The Division Office is responsible for **technical operations** within allocated region. The Division office manages its operations through multiple Distribution O&M Sub-Division offices and Construction Sub-Divisions.

Assistant Executive Engineer/Assistant Engineer is the head of the –Sub Division Office and is also known as Sub-Division Officer. The Sub-Division office acts as both a **technical operating unit** and **customer touch point**. All **Operations and Maintenance**, **Customer Management** and **Commercial** activities are executed through Sub-Division office. The Sub-Division office has an Accounts section and Establishments section in addition to field operations which are executed by Junior Engineers (Grade I and II) with support from operational staff (Lineman/Assistant Lineman/Sub-Station Assistants etc.)



As-Is Study of the Organization Structure of CED

- Field visits were conducted to all Division and Sub-Division offices for analysis of as-is activities at various levels of office.
- Utilizing Deloitte's Distribution Value Chain (DVC) approach, the as-is activities at CED were mapped to the functional clusters in existing organization structure.
- The focus of this study was also to identify the business process ownership against the organizational framework of Circle, Division and Sub-Division.



- The details of the As-is Study are presented in the following pages.

As-Is Study: Mapping business processes against functional clusters in As-Is structure of CED

Sl. No.	Functions in the electricity distribution value chain and Sub-Activities, if any	Circle Office	Division Office	Sub-Division Office	Outsourced	Functional Cluster Title
1	**Network Planning and Design**					
A	System studies, load flow studies, network analysis etc. for 11 KV and above network	✓				**Planning and Design (P&D)**
B	Project formulation for 11 KV and above network	✓	✓	✓		
C	System studies, load flow studies, network analysis etc. for LT network	✓	✓	✓		**Planning and Design (P&D)**
D	Project formulation for LT network	✓	✓	✓		
2	**Purchase of power**					**Planning and Design (P&D)**
A	Power purchase	✓				
3	**Procurement of equipment**					
A	Procurement of services for LT network	✓	✓			**Planning and Design** / **Technical Section**
B	Procurement of services for 11 KV and above network	✓	✓			
C	Procurement of equipment	✓	✓			

Circle office functional cluster

Division Office functional cluster

Sub-Division Office functional cluster

As-Is Study: Mapping business processes against functional clusters in As-Is structure of CED

Sl. No.	Functions in the electricity distribution value chain and Sub-Activities, if any	Circle Office	Division Office	Sub-Division Office	Outsourced	Functional Cluster Title
4	**Develop network**					
A	Execution of projects/ works for LT and HT network	✓	✓	✓		Construction Sub-Division
B	Execution of minor LT works		✓			
C	Monitoring of projects/ schemes in HT network	✓	✓			Planning and Design; Technical Section
D	Monitoring of projects/ schemes in LT network		✓	✓		
5	**Manage Network**					
A	Carryout routine operation and maintenance of HT and LT network			✓		
B	Monitoring O&M of HT and LT network			✓		Operations Sub-Division
C	Carryout breakdown maintenance			✓		
D	Monitor the breakdown maintenance work at field level		✓	✓		Operations Sub-Division
E	Attend to FOC complaints			✓		
F	Load Management operations		✓	✓		Power Controller at Division
G	Monitoring the operation of 33/11 KV sub-stations		✓	✓		Operations Sub-Division

Circle office functional cluster

Division Office functional cluster

Sub-Division Office functional cluster

As-Is Study: Mapping business processes against functional clusters in As-Is structure of CED

Sl. No.	Functions in the electricity distribution value chain and Sub-Activities, if any	Circle Office	Division Office	Sub-Division Office	Outsourced
6	**Commercial**				
A	Receipt of new service connection application and approval of same (LT and HT)	✓	✓	✓	
B	Execution/ commissioning of new service connection (LT)			✓	
C	Execution/ commissioning of new service connection (HT)			✓	
D	Meter reading of LT consumers			✓	
E	Meter Reading of HT consumers			✓	
F	Bill preparation of LT and HT consumers				✓
G	Bill distribution of LT consumers				✓
H	Bill distribution of HT consumers				✓
I	Revenue collection from LT and HT consumers				✓
J	Preparation of arrears list				✓
K	Disconnection and reconnection of service			✓	

Functional Cluster Title

Operations Sub-Division

Operations Sub-Division

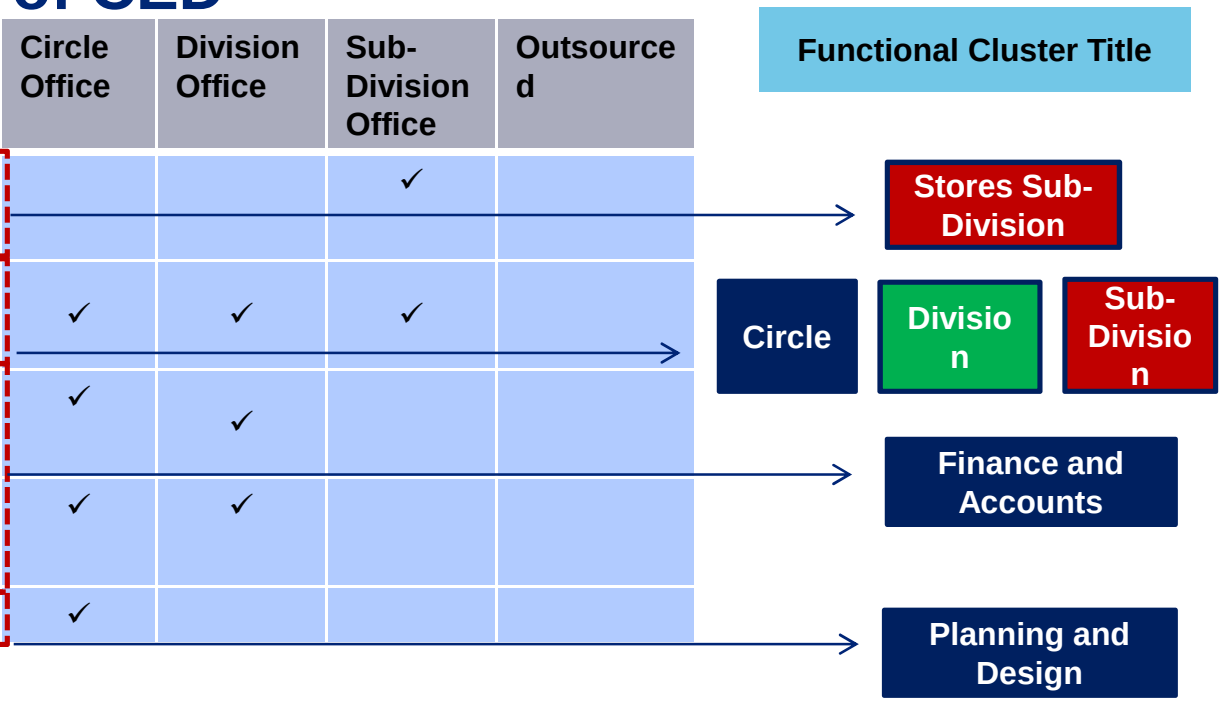
Circle office functional cluster

Division Office functional cluster

Sub-Division Office functional cluster

As-Is Study: Mapping business processes against functional clusters in As-Is structure of CED

Sl. No.	Functions in the electricity distribution value chain and Sub-Activities, if any	Circle Office	Division Office	Sub-Division Office	Outsourced
7	Management of inventory			✓	
8	Establishment	✓	✓	✓	
9	Preparation of budget and financial statements	✓	✓		
12	Internal Audit for financial and process compliance	✓	✓		
11	Regulatory compliance	✓			



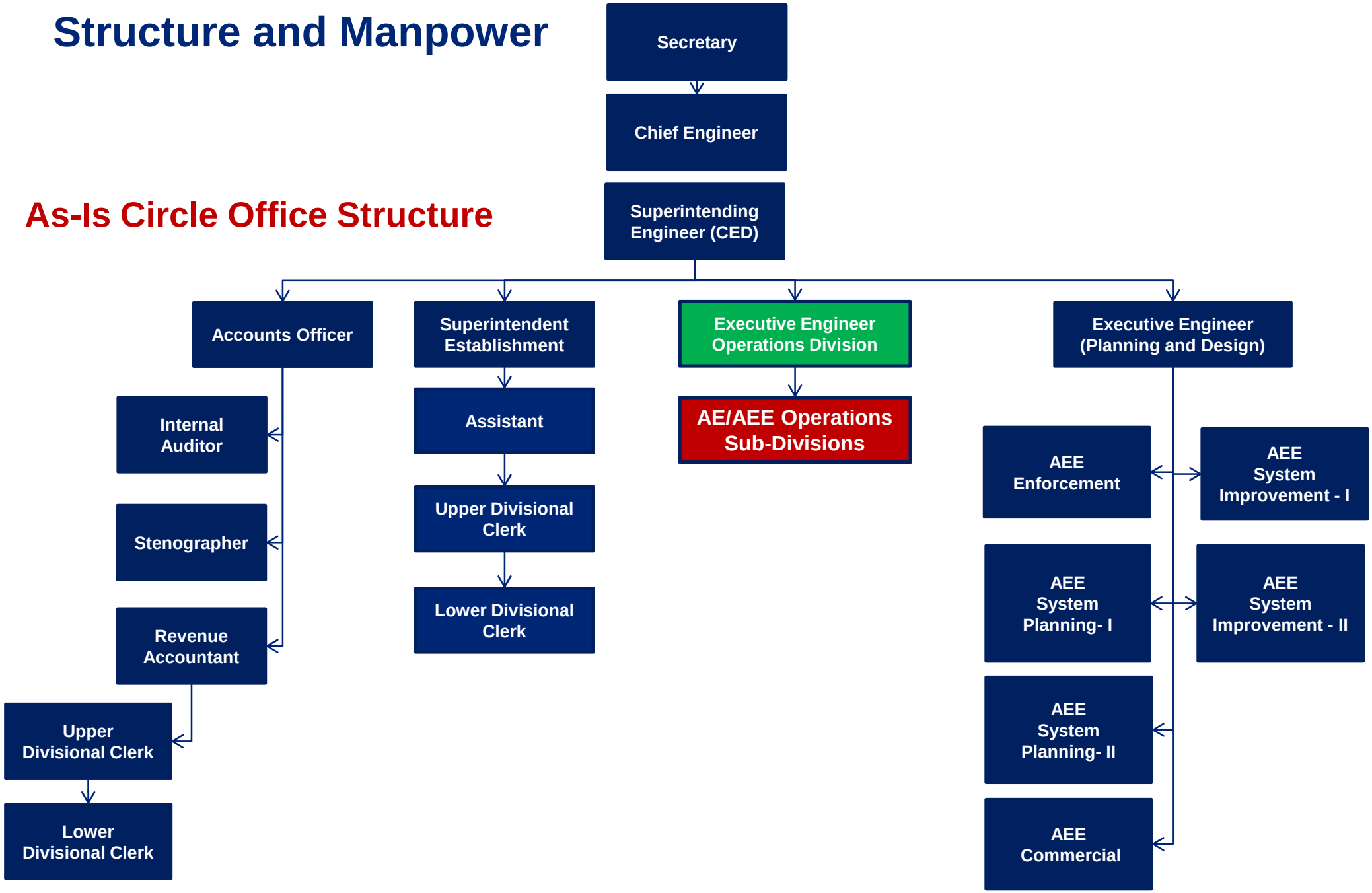
Circle office functional cluster

Division Office functional cluster

Sub-Division Office functional cluster

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

As-Is Circle Office Structure



Circle office functional cluster

Division Office functional cluster

Sub-Division Office functional cluster

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

Our Observations on the As-Is Circle Office Level Structure

- There is diffused focus on critical activities such as Commercial (Tariff and Regulatory), Projects (Network Planning and Design), and Contracts Management, with the same department (Planning and Design) being responsible for all three activities.
- There is no centralized Procurement team at Chandigarh Electricity Department. The responsibility of procurement for materials and services is segregated between Planning and Design department and the Division Operations in the field.
- The centralized functions focusing on conduct of network studies, conducting network health analysis are missing in the as-is structure
- Functions focusing on Energy Audit and Energy Accounting are missing in the existing setup.
- The five year capex plan for CED is around 375 crores. Out of this 375 crores, 200 crores is allocated to R-APDRP work, however there is no separate setup within CED to manage the planning, design and execution of capital works.
- Load management activities are being managed at the field level. There is no separate role for load dispatch and scheduling related activities at Circle level.

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

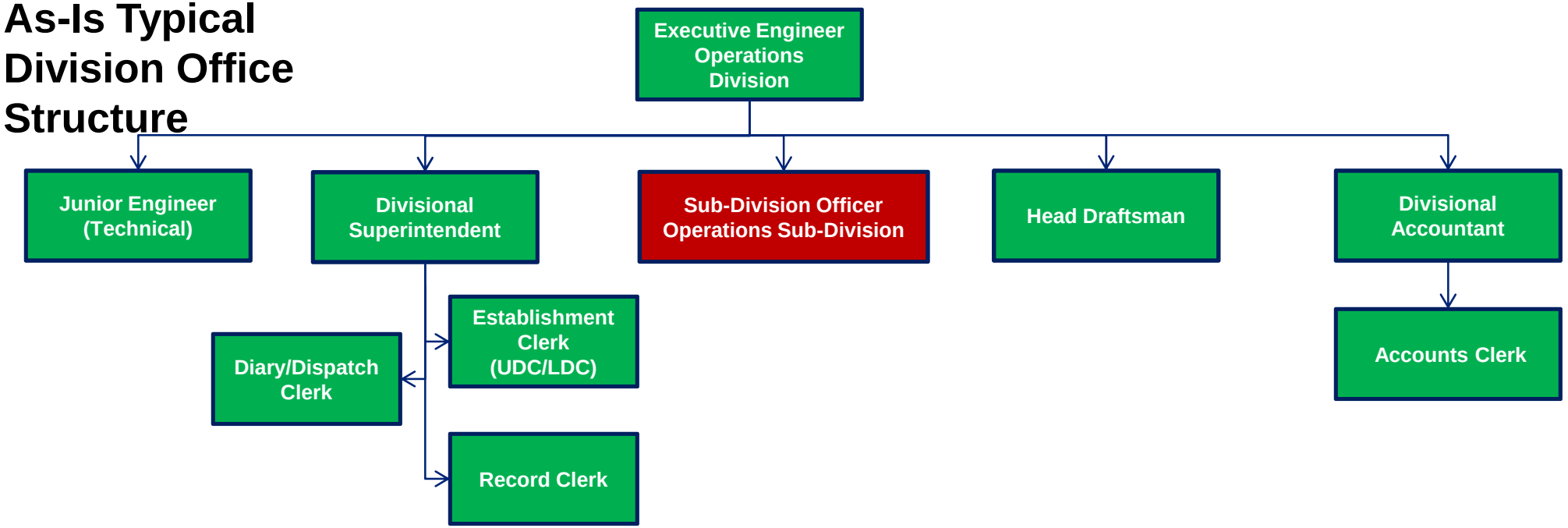
As-Is Circle Office Manpower			
#	Post/Designation	Group	As-Is
1	Superintending Engineer	A	1
2	Executive Engineer (P&D)	A	1
3	Assistant Executive Engineer/Assistant Engineer	A	6
4	Accounts Officer	A	1
5	Junior Engineer	B	7
6	Circle Superintendent	B	1
7	Circle Assistant	B	0
8	Circle Head Draftsman	B	1
9	Draftsman	B	1
10	Junior Draftsman	C	1
11	Upper Divisional Clerk	C	5
12	Lower Divisional Clerk	C	3
13	Stenographer	B	1
14	Steno-Typist	C	1
15	Driver	C	1
Total Circle Office Manpower			**31**

Our Observations on As-Is Circle Office manpower

- While Planning and Design department is responsible for critical activities such as Commercial, Network Planning and Design and Contracts, adequate support staff has not been provided for the same.
- Currently only one Executive Engineer is responsible for all the activities managed by Planning and Design department. The Accounts and Establishments department do not have a senior level officer responsible for the same.

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

As-Is Typical Division Office Structure



Our Observations on As-Is Division Office Structure

- The Division office plays more of a monitoring role and all **Network Management, Commercial, Consumer Management** activities are handled by the sub-division offices.
- The Division Office is responsible for design, contracts management and monitoring execution of all 11 KV (LT) schemes within the Division.
- The Division office is responsible for budget allocation to all its sub-divisions and maintenance of service records for all employees within Division office and at Sub-Division offices.
- The Division office is also responsible for procurement of material and services, however there is no defined setup for ensuring the Inspection and Quality Assurance for materials procured.

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

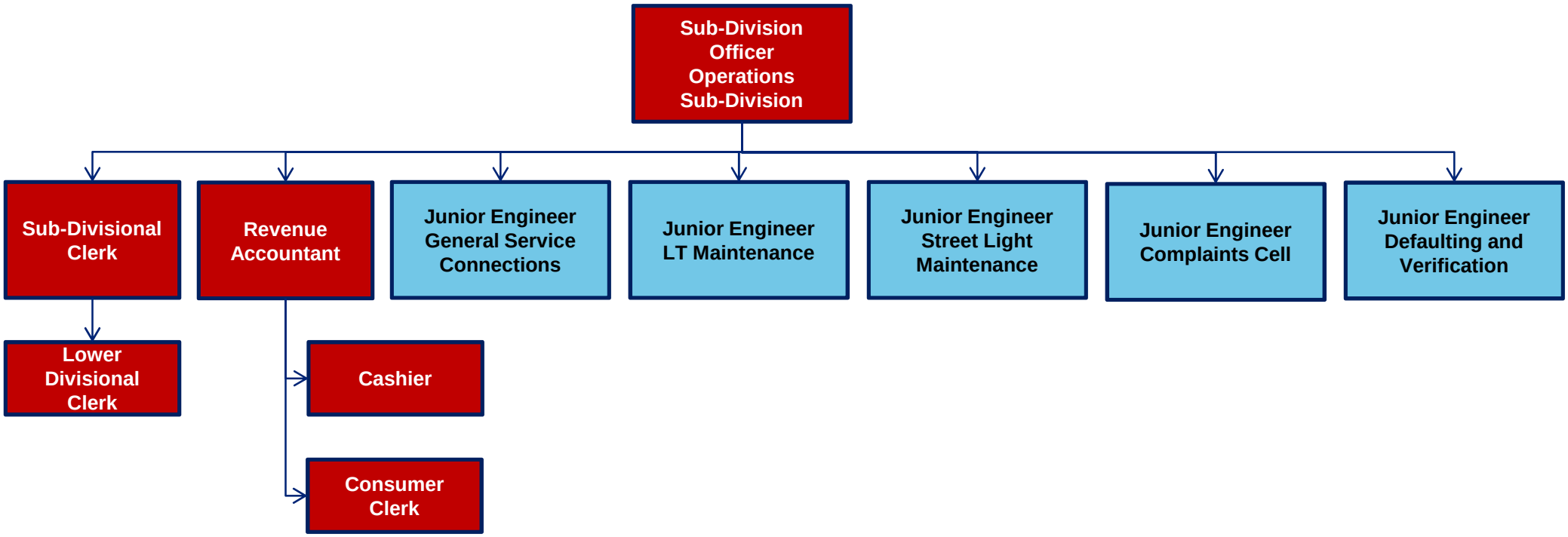
Typical Division Office Manpower for CED		
As-Is Designations	**Typical As-Is (Division Office Manpower) at CED**	**Four Divisions**
Executive Engineer	1	4
Junior Engineer (Technical)	1	4
Divisional Accountant	1	1
Revenue Accountant	1	4
Dispatch/Diary Clerk	1	4
Record Keeper	1	4
Upper Divisional Clerk	1	4
Head Draftsman	1	4
Lower Divisional Clerks	2	8
Total Division Manpower	**10**	**37**

Our Observations on As-Is Division Office Manpower

- The projects department at Division Office level (responsible for design and monitoring execution of LT schemes) is inadequately staffed with no support staff for Head Draftsman post.
- Considering its role as a supervisory unit, a typical Division Office has inadequate clerical staff for Accounts and Establishments functions.

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

As-Is Typical Sub-Division Office Structure



Our Observations on As-Is Sub-Division Office Structure

- The sub-division offices manages both LT and HT consumers at CED. The sub-division office is responsible for all O&M activities and consumer management including handling all Fuse Off Call (FOC) complaints, new connections, disconnections, default recoveries.
- The Sub-division offices have additional responsibility of managing the transmission sub-stations and lines (33 KV and above) within their allocated area. The sub-division offices are also responsible for maintenance of street lights within allocated area.

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

Our Observations on As-Is Sub-Division Office Structure

- At Sub-Division level, **Preventive Maintenance** is an area of concern, as maintenance is mostly reactive in nature. The Fault location cells are not functioning adequately primarily because of diffused focus and outdated equipment.
- Meter testing activities (of new, repaired and purchased by customers) is getting neglected as the existing Metering sub-division has additional responsibility of four 66 KV sub-stations and Protection System at CED.
- There is a diffused focus on upkeep/maintenance of Power Systems (33 KV and 66 KV substations).
- At Sub-Division level, Meter related activities are most neglected. Meter Reading is currently being carried in-house and due to lack of staff, Lineman and Assistant Lineman are also being used for meter reading purpose. The existing meter reading setup is prone to errors leading to adverse impact on revenue realization.
- Also, there is no set up for organizing Consumer books on distribution transformer basis and there is no system of reading at transformer level and its reconciling with related consumers to identify revenue leakage
- Also, there is no setup for checking the quality of bills generated and considerable time is being spent managing consumer complaints with respect to Billing as well..

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

As-Is Sub-Division Manpower									
Post/Designation	**General Service Connection**	**LT System Maintenance**	**Street Light**	**Defaulting and Verification**	**Complaints Cell**	**Accounts**	**Establishments**	**Total**	**For Ten**
AEE/AE	1							1	10
Junior Engineer	1	2	1	1	2			7	70
Revenue Accountant						1		1	10
Sub-Divisional Clerk							1	1	10
Lineman	1	3	3		6			13	130
Assistant Lineman	5	4	4	3	5			21	210
Consumer Clerk						1		1	10
Meter Reader	3							3	30
Total Manpower (Distribution O&M)								48	480

Our Observations on As-Is Sub-Division Office Manpower

- The existing manpower at. Sub-Division office has to play the twin role of managing customer expectations and running smooth operations of transmission and distribution network.
- Since there is a diffused focus on maintenance of health of Power Systems and LT network at CED, there are frequent faults, supply related issues especially during difficult months (Monsoon and peak summer). Lack of preventive maintenance adds further complication to this issue.
- Also since Meter is a neglected area, managing meter related complaints makes up most of the remaining time for manpower at Sub-Division level.

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

Our Observations on As-Is Sub-Division Office Manpower

- The daily average supply related complaints (in difficult months) are on the higher side. The Service line breakage/snapping forms a bulk of all such complaints. HT mains failure is another area of concern.
- This may be attributed to lack of preventive maintenance at CED. Most maintenance is being conducted for breakdowns. The manpower thus is always lagging behind in maintaining System Reliability and meeting the high consumer expectations.

Typical Power Supply related complaints received at a Sub-Division Office									
CGRF Parameters		Summer 2011	Monsoon 2011	Average in difficult months	Average per day for difficult months	Summer 2012	Monsoon 2012	Average in difficult months	Average per day for difficult months
A1	Fuse blown off/ MCB Tripped	361	462	412	14	711	682	697	23
A2	Service line broken/Snapped	499	421	460	15	444	646	545	18
A3	Fault in distribution line/System	2		2	1	48	35	42	1
A4	Distribution transformer failed/burnt	6		6	1	4	4	4	1
A5	HT mains failed	54	112	83	3	85	61	73	2
A6	Problem in grid	12	2	7	0	1		1	1
A7	Failure of Power Transformer	0	13	7	1	1	1	1	1
Daily (Average) Supply related complaints in difficult months (2011)					35	Daily (Average) Supply related complaints in difficult months (2012)			48

As-Is Analysis - Our observations on the existing Organization Structure and Manpower

Other observations on field level manpower at CED

- The Lineman and Assistant Lineman form the bulk of field staff and play a pivotal role in ensuring continuous power supply to the consumers.
- The requirements of the field work are typically hectic which includes regular climbing of electric poles for maintenance work. Considering such requirements, the typical active working life of a Lineman/ALM is around 15-20 years (Between Age 25-45).
- Also, other than physical capabilities the enthusiasm for such work tends to wane over a period of time and an employee with 15-20 years of experience prefers more of a supervisory rule.
- While these issues are standard across other utilities, the complexity of the problem at CED due to age profile of Lineman/Assistant Lineman at CED. 60% of the Lineman are retiring in the next 5 years. The average age of this population is > 50 years.
- Around 60% of the Assistant Lineman at CED will retire in the next 10 years. The Average age of this population is > 45 years.

To ensure proper maintenance of lines, there is a need for agile workforce at the field level for such hectic physical requirements.

Contents

NDPL (Presently a high performing utility), had to face similar challenges upon takeover from DESU in 2004

Techno-commercial similarities between CED and a circle of NDPL (2004)

- In addition to similar challenges faced by the two utilities, the commercial and operational parameters of CED and a circle of NDPL in 2004 are similar as well.
- Hence, the setup of a typical Circle at North Delhi Power Limited in the year 2004 has been taken as a suitable comparator for following reasons:
  - Similar consumer profile (Domestic and Commercial)
  - Similar geographic area (comparison between 1 circle of NDPL and CED)
  - Similar number of physical assets
  - Nascent levels of automation, IT implementation etc.

#	Parameter	Chandigarh Electricity Department (2013)	North Delhi Power Limited (2004)
1	Number of consumers	Approx. 2,00,000 per Circle	Average 2,00,000 per Circle
2	Geographic area	114 square kms	Approx. 100 square kms per Circle
3	Power System (number of 33 KV and 66 KV substations)	17	Approx. 10 per Circle

NDPL (Presently a high performing utility), had to face similar challenges upon takeover from DESU in 2004

Background

- NDPL took over a portion (North and North-West Delhi) of Government owned Delhi Vidyut Board with effect from July 1, 2002.
- Pre-take over of the operations, the consumers were facing issues with power supply and poor quality of service. The ATandC losses were as high as 53% with a backlog of nearly 100,000 consumer complaints.
- The computerization was limited with just two computers in the whole organization. Most systems and processes were manual. The structure allowed for slow decision making. The distribution network system was much below the requisite standards and in a state of dilapidation.

Challenges faced by NDPL on takeover of operations (Technical and Commercial)

- Dealing with a varied consumer mix that included high profile consumers as well as slum dwellers. Improvement of the sub-standard distribution network, securing comprehensive information on assets, decreasing power restoration levels.
- Reduction of ATandC losses from 53% to 20% over a period of years. (CED's existing loss ~ 24.5%
- Improving system reliability and changing the consumer perception and IT interface.
- Enhancing role clarity and reallocation of functions so that priority activities get adequate focus and employees are also not overworked.

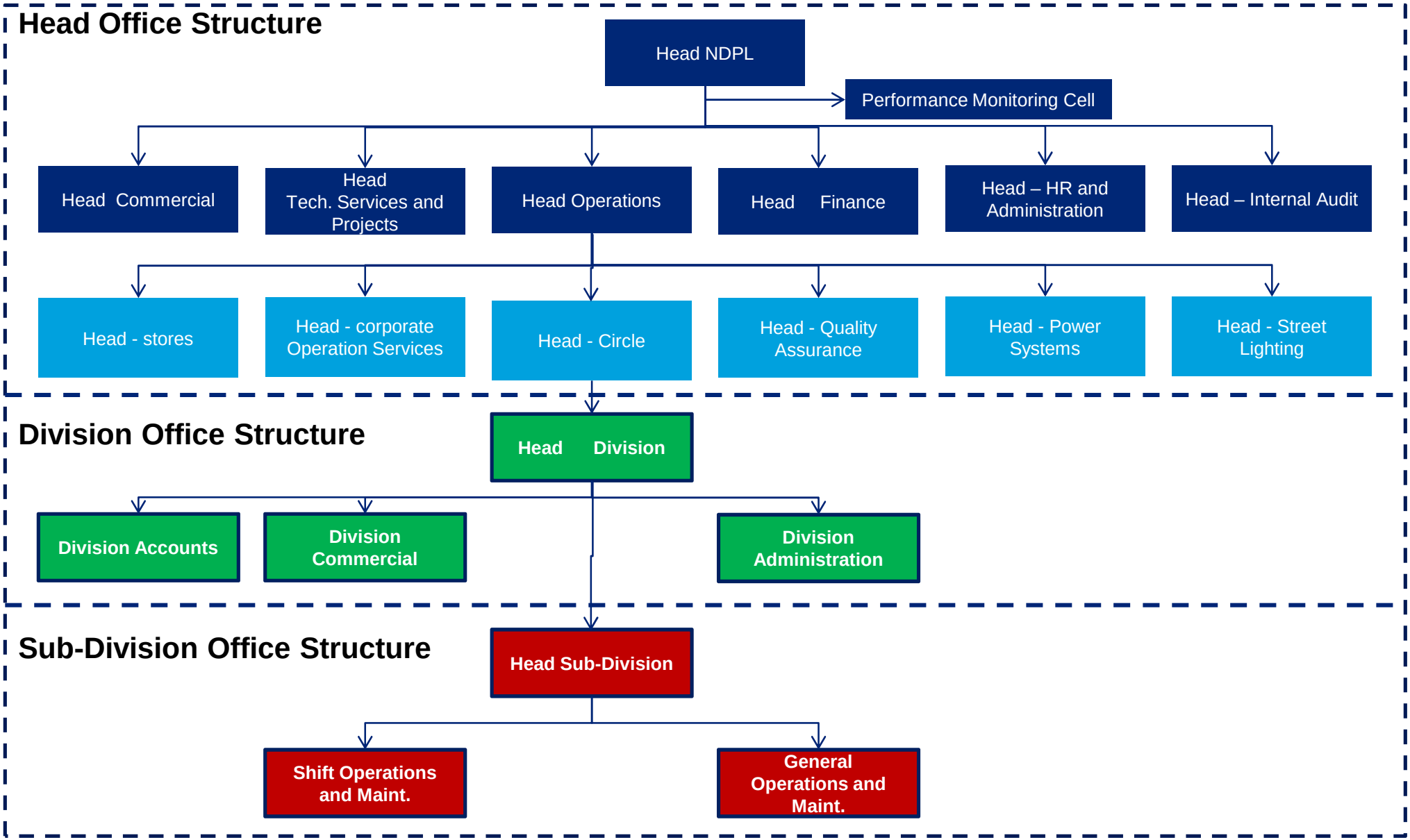
NDPL (Presently a high performing utility), had to face similar challenges upon takeover from DESU in 2004

Challenges faced by NDPL on takeover of operations (Human Resources)

- In addition to technical and commercial challenges, the organization faced similar challenges as CED around aging manpower at field level.
- Like CED, most of the Lineman and ALM were of age > 45 and NDPL faced the challenge of ensuring proper line maintenance and the needs of these employees.

To mitigate such challenges, NDPL took many initiatives on Organization Restructuring and HR aspects

Organization Restructuring Interventions



To mitigate such challenges, NDPL took many initiatives on Organization Restructuring and HR aspects

Organization Restructuring Interventions at Head Office Level

- A Performance Monitoring cell was set up at the Head Office in order to monitor the operational and financial performance of the field offices.
- Contract Management and Procurement functions were centralized at the Head Office level.
- Corporate Operation Services established at head office for identification, analyses of problems/faults (Fault Location Cell) in distribution and high voltage system network and implementing measures for improving network performance. The function also responsible for the protection system.
- The Technical Services and Project group was organized with distinct responsibility of load forecasting, identification of new schemes, detailed engineering award of contract to execute the schemes, supervision of execution of schemes for augmentation of network in the system.
- The Stores function has been established at head office to ensure timely delivery of material as per the need of field for improving operational efficiency and availability of equipment at field for attending faults.
- Inspection and Quality Assurance department was setup at the Head office for ensuring procurement of right quality of materials.

To mitigate such challenges, NDPL took many initiatives on Organization Restructuring and HR aspects

Organization Restructuring Interventions at Head Office Level

- Operations and Maintenance of Street lighting are centralized at Head office.
- Power Systems group established at head office for operations of grids through Power System control. Entire operations and maintenance of all 33 KV and above stations centralized.
- Information Technology setup established to focus on implementing an automated system across functions.

Organization Restructuring Interventions at Field Level

- The sub-division/zonal office to report to Division/District office, who in turn reported to Circle/Head office for monitoring and control.
- Since meter reading was a source of major issue, this function was completely outsourced. The Check Meter Reading concept was introduced for monitoring the outsourced agency.
- The Division offices play the critical role of managing all commercial activities for allocated area including all meter reading related activities, revenue realization, consumer management such as new connections, disconnections etc., addressing consumer complaints, conduct of Energy Audit, Enforcement activities, default recovery, MIS reporting etc. All consumer management at Division office level.
- The sub-division offices focused only on operation and maintenance activities to ensure system upkeep and reduction in consumer complaints.

To mitigate such challenges, NDPL took many initiatives on Organization Restructuring and HR aspects

HR interventions at NDPL

- As discussed earlier, NDPL also faced the issue of ageing manpower at field level. In order to improve network reliability (through proper maintenance), NDPL took following initiatives:
  - Provide Annual Maintenance Contracts for maintenance of all Transformers and Line equipment so that agile workforce (external) is available for such hectic works.
  - NDPL's own staff was supported by outsourced staff through AMCs to get the best advantage of domain knowledge of NDPL staff as well as the youth power of outsourced staff.
  - Service contracts were awarded for supporting routine maintenance and for supporting the commercial activities such as Meter Connection, Disconnection, Reconnection, Meter Reading etc.
- In addition to focusing on process/functional efficiency, NDPL also took steps in establishing a robust Human Resource Management and Development system.
- Training and development was given primary focus and a separate complement was established for the same. The training programs focused on both Technical and behavioral skill development of employees at NDPL.

To mitigate such challenges, NDPL took many initiatives on Organization Restructuring and HR aspects

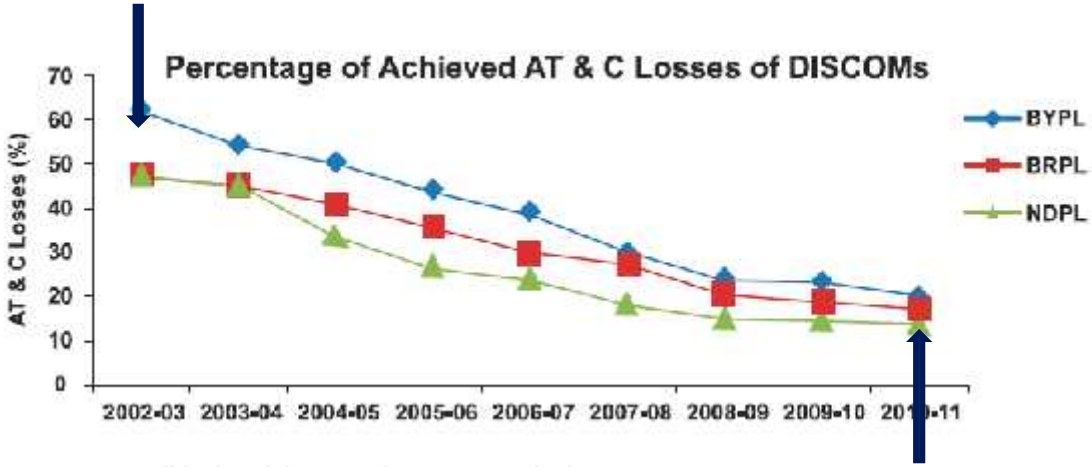
Other interventions at NDPL

- In addition, NDPL also focused on improving the quality and availability of equipment for the field staff in order to reduce response time
- Mobile phones were provided to all junior engineers and field staff for better connectivity.
- Refurbishment of all transformers

NDPL reaped technical and financial benefits post the restructuring exercise to emerge as a high performing utility

- Segregation of technical and commercial activities at field level ensuring desired focus on the respective activities. This resulted in improved operational and financial performance. ATandC loss for NDPL (now TPDDL) is around 13%.
- Central monitoring of all faults through a separate group in order to take remedial measures for improving network reliability. This resulted in continuous supply, leading to better consumer management.
- Optimum utilization of manpower by letting sub-division focus mostly on operations and maintenance while Division office focuses on monitoring and all commercial activities. This helped in better coordination and control and employees' workload also reduced.

ATandC Loss ~ 53%



Source: Delhi Electricity Regulatory Commission

ATandC Loss ~ 15%

Considering the similarities and its benefits, NDPL's structure has been utilized as the base structure for designing the To-Be organization structure for CED. However, considering the unique nature of CED, certain elements of existing structure have been retained.

TPDDL: Tata Power Delhi Distribution Limited

Key learning from NDPL experience

- Meter being a revenue parameter, all the activities related to meter i.e. Meter Procurement, Meter Testing, Meter Installation, Meter Reading, and accounting for defective meter must get focused attention.
- Aligning of consumer books with the Distribution Transformers and carrying out Energy Accounting must get focused attention.
- Planned Preventive maintenance and ensuring upkeep on network on a sustainable basis is a pre-requisite for achieving high system reliability and hence a separate complement for such activities should be present.
- Establishment of a separate complement for Asset Management which includes Fault Location Cell. This complement to be responsible for monitoring efficiency of system/distribution network, studying operational data for identifying equipment defects and operational deficiency, investigating breakdown, analysing effectiveness of preventive maintenance activities
- Inspection and Quality Assurance function should be introduced to improve material quality leading to system reliability.
- Projects (Planning and Design) and Contracts should have separate focus.
- Need for separating Commercial and Technical activities at the field level for providing adequate focus to these two critical areas.
- The Sub-Division offices should focus only on managing customer complaints related to Power Supply.

Contents

Design Principles for Organization Restructuring

Principles for Organization Restructuring

- In line with various utilities in Haryana and Delhi, reveals that the top level structure of the distribution utilities centres around the following:
    1. Head of Distribution Operations & Maintenance:
    2. Head of Technical
    3. Head of Commercial
    4. Head of Finance
    5. Head of Administration
- CED, has a special feature of having 33 KV/66KV setup as well which is typically under transmission utilities.
- A similar sized utility in Jamshedpur, where distribution operations are in the process of being taken over by Tata Power has the following top level structure
    1. Chief Operations Officer – Responsible for all Distribution O&M (including EHV setup)
    2. Chief Technical Officer –Responsible for Planning and Projects.
    3. Chief Commercial Officer – Responsible for sale & purchase of electricity
    4. Chief Finance Officer – Responsible for financial management
    5. Chief HR Officer – Responsible for all human resource activities

Design Principles for Organization Restructuring

- In line with the practices followed by these utilities, and also considering the fact that Electricity Act, 2003 provides that transmission be an independent setup, the top level CED structure has been proposed as under:

    1. Head of Commercial:
    2. Head of Distribution Operations & maintenance (for upto 11 KV setup) (To continue managing dual charge of Electrical Inspector for Chandigarh, till fresh recruitment for the same is not done)
    3. Head of Power System (for 33KV and above setup)
    4. Head of Finance and Administration

Critical activities to be carried out by various functions in the proposed structure for CED

- In order to design the proposed organization structure, the critical activities that need focus have been identified and suitably clubbed under various functions. These activities when adequately managed will help CED achieve the desired levels of Commercial & Operational performance.

Commercial
• Purchase of Power/PPAs • Regulatory Interface • Energy Audit • Enforcement • Meter Testing Lab • Legal • Information Technology

Distribution Operations & Maintenance
• 11 KV & below operations & maintenance • All Capex projects – Planning, Design, and Monitoring (11 KV & below) • All Purchases (Equipment & Services) • Stores

Critical activities to be carried out by various functions in the proposed structure for CED

Power System
• All 33KV and 66 KV operations & maintenance • Power Controller • Open Access • All Capex projects – Planning, Design, and Monitoring (33 KV & above) • Protection System • Inspection and Quality Assurance

Finance & Accounts
• Fund Management • Internal Audit • Payment of all employee salary & reimbursements • Payment for all Works/Contracts • Accounts and Tax • Budget

HR & Administration
• Human Resource Management activities such as Recruitment & Selection, maintenance of Service Books, Leaves, welfare & industrial relations etc. • Human Resource Development activities such as Training & Development, Performance Management, promotion etc.

Critical activities to be carried out by field offices in the proposed structure for CED

Field Level Activities

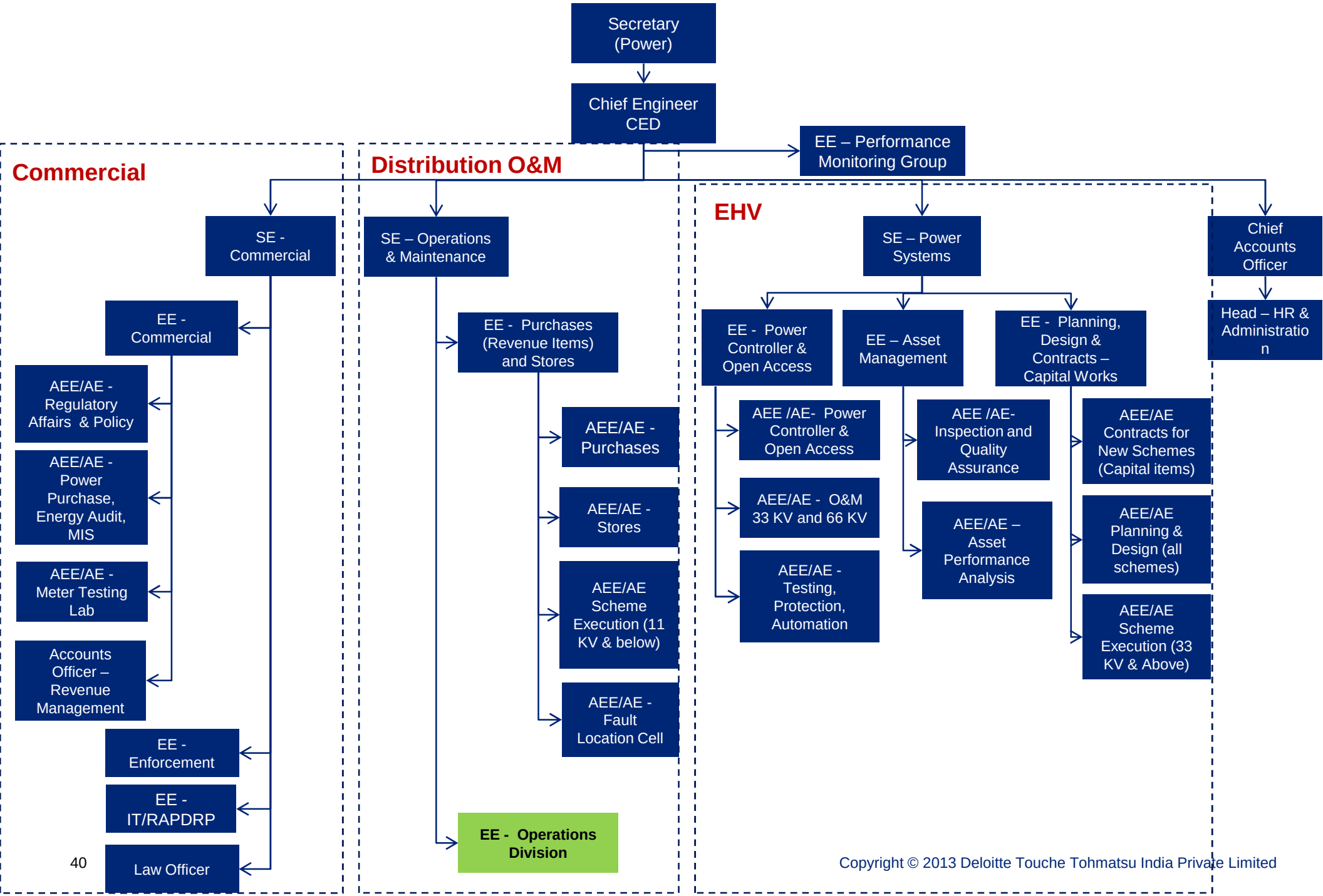
Division Office

- All Commercial activities to be managed at the Division level.
- The Division will also be the supervising office for sub-division O&M
- Division office will also be responsible for preparing of schemes for sub-transmission network
- Establishment activities from Division have been shifted to centralized establishment at Head Office.

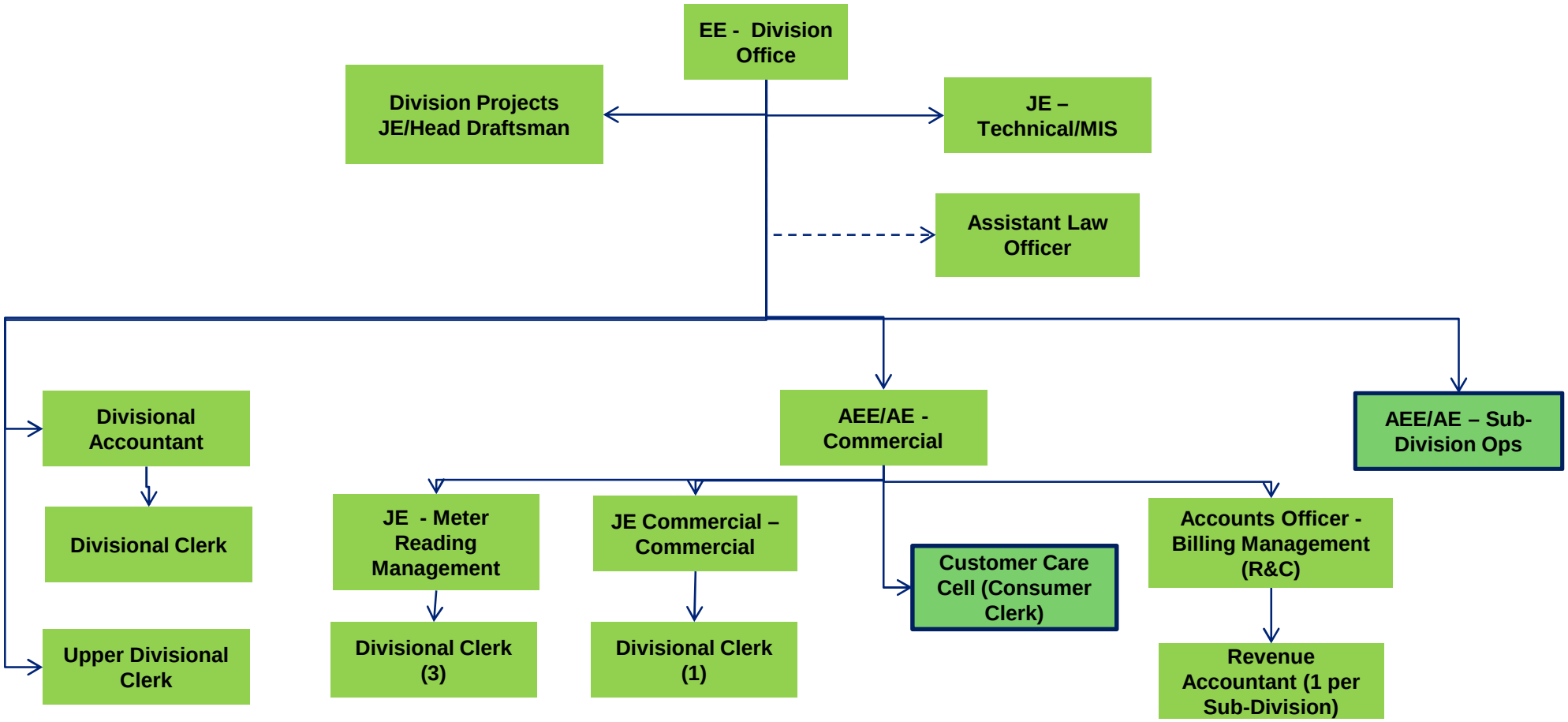
Sub-Division Office

- The sub-division office to be only responsible for operations & maintenance of sub-transmission network.
- Sub-Division to also provide support for carrying out commercial activities such as new connections, disconnections, re-connection as advised and guided by the Division Commercial.

Proposed Head Office Organization Structure for CED

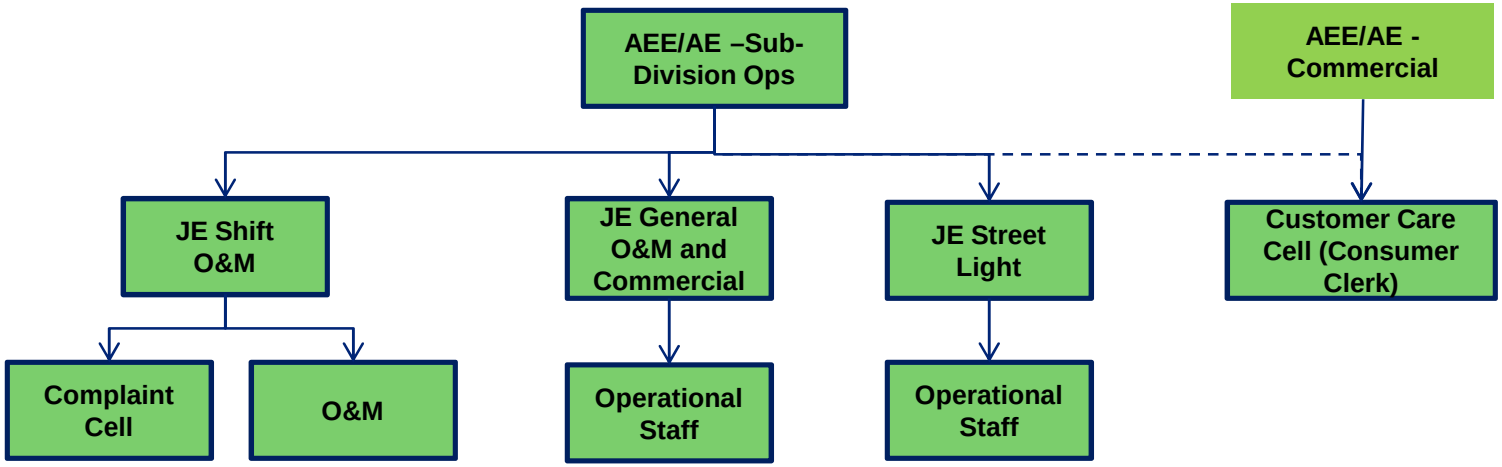


Proposed Division Office Structure



- All Commercial activities to be managed at the Division level.
- The Division will also be the supervising office for sub-division O&M
- Division office will also be responsible for preparing of schemes for sub-transmission network
- Establishment activities from Division have been shifted to centralized establishment at Head Office.
- 1 Consumer Clerk to be based in each Sub-Division.
- Assistant Law officer to be based in Division office with Administrative reporting to EE-Division and Functional reporting to Law Officer based in Circle.

Sub-Division Office Structure



- The sub-division office to be only responsible for operations & maintenance of sub-transmission network.
- Sub-Division to also provide support for carrying out commercial activities such as new connections, disconnections, re-connection as advised and guided by the Division Commercial.

Proposed Organization Structure for Chandigarh Electricity Department

Performance Monitoring Group

- It is proposed that a separate function focusing on monitoring the operational and financial performance of the department is established at the Circle level with direct reporting to the CE.

Commercial

- It is proposed that clear and separate accountabilities are established for critical sub-functional activities such as Power Purchase and Energy Audit, Enforcement, and Regulatory Affairs.
- Meter being a commercial parameter, it is proposed that the Meter Testing lab be moved under the Commercial department.
- The IT implementation to be moved under the Commercial department.

Asset Management

- It is proposed that an Asset Management Cell is established to monitor Asset performance and taking remedial initiatives.
- Asset Management cell to focus on monitoring efficiency of system/distribution network, studying operational data for identifying equipment defects and operational deficiency, investigating breakdown, analyzing effectiveness of preventive maintenance activities.

Proposed Organization Structure for Chandigarh Electricity Department

Power Systems

- It is proposed that a separate Power Controller complement is established for conducting power flow studies, load scheduling and ensuring efficient utilization of network and avoidance of network unbalancing/overloading.
- A Testing and Protection complement should be established for conduct of analysis of daily tripping's at grid stations, recommending remedial solutions and follow up testing. The complement to also conduct frequent protection audit of 33 KV/66Kv sub-stations and testing of new equipment at site.
- It is proposed that the monitoring of operations & maintenance of 33KV & 66 KV sub-stations to be centralized at Circle Office.

Planning and Projects

- It is proposed that all network planning and design for HT network be centralized at Circle office.
- It is proposed that a separate complement for contracts is established for managing the entire value chain of contracts management (from vendor identification to closure).

Proposed Organization Structure for Chandigarh Electricity Department

HR and Admin

- It is proposed that HR and Administration department is strengthened with a senior level (EE level) officer as the Head of the department.
- The department to focus on Training & Development and Capability Building initiatives in addition to current operational responsibilities.

Finance and Accounts

- It is proposed that Finance and Accounts department is strengthened with a senior level (Chief Accounts Officer level) officer as the Head of the department.

Principles for deciding the level of Head of Utility

If we look at similar utilities like TPDDL with over 12,lac consumers has the following top level manpower

1. CEO/MD
2. Head of Functions (Commercial, Operations, Technical, Finance, and HR)

- All the above manpower is at CE+ level . Thus the head of CED, controlling over 2 lac consumers should at least be at the Chief Engineer level.
- In the current setup at CED, the span of control of SE is very high with all Operations Divisions and Circle Offices function directly reporting to him.
- In line with practices followed by other utilities, the function heads are to be fully responsible and accountable for their respective functions with suitable levels of decision making authority with the Head of the organization playing more of a overall incharge.
- Hence when restructuring CED, there is a need to create a level between Division heads (Field) and the Head of the CED. This necessitates creation of Head – CED at Chief Engineer level, with function head being at Superintending Engineer level.

Parameters	CED	NDPL	TPJDL	Puducherry Electricity Department
Number of Consumers	2 Lacs	11 Lac	2.5 Lac	2.5 Lac
Chief Engineer Level Officers	-	5	4	-
SE Level Officers	1	3-4 per Chief Engineer	1-2 per Chief Engineer	3

Contents

Current practices of manning various functions in benchmark organizations

A. Executive and Supervisors (upto JE level) – All manpower is in-house

B. Non-Executive Level – Mix of in-house and outsourced

– **Technical Staff (Field)**

- The Lineman and Assistant Lineman form the bulk of field staff and play a pivotal role in ensuring continuous power supply to the consumers.
- The requirements of the field work are typically hectic which includes regular climbing of electric poles for maintenance work. Considering such requirements, the typical active working life of a Lineman / ALM is around 15-20 years (Between Age 25-45).
- Also, other than physical capabilities the enthusiasm for such work tends to wane over a period of time and an employee with 15-20 years of experience prefers more of a supervisory role.
- Hence organizations have chosen to outsource field activities to ensure availability of **agile workforce for such hectic work requirements.**

– **Clerical Staff**

- On implementation of ERP, the clerical manpower associated with documentation processes/ transactions / record maintenance etc. reduces by around 50%. Many progressive utilities have reduced the clerical manpower through ERP implementation

#	Activity	Outsourcing at NDPL	Outsourcing at TPJDL
1	Meter reading	Fully outsourced	Fully Outsourced
2	33/66 KV network	AMC based with supervision utility	Fully Outsourced with JE as supervisor
3	Sub-transmission network (maintenance of lines and transformers)	AMC based with supervision utility	Fully Outsourced with JE as supervisor
4	Fuse off call	50% outsourced	Fully Outsourced
5	Commercial Support (new Connections, reconnection, disconnection etc.)	Mix of in house and o/s	Mix of in house and o/s

Features of Proposed Manpower for Chandigarh Electricity Department

Manpower Assessment utilizing PSEB Urban Norms (2002)

- For defining the sub-division manpower as per PSEB's norms, a detailed analysis of the physical assets (sub-stations, transformers, Total Line Length) and number of effective connections has been conducted to identify the Workload units. The Work load units in turn have been utilized to identify the manpower requirements
  - Number of Workload units = 0.05X Effective number of Connections + Effective number of Transformers + .25 X Total Line length

Circle Manpower Norms	
SE Establishment Section	
Circle Superintendent	1
1 Circle Assistant + 1/2 per Division	
UDC	1+ 1/2 per Division
LDC	5
Construstion Division to be considered	1/2 Division

Sub-Division Manpower Norms	
Norms for Works section (Projects)	
UDC	2
LDC	1
Norms for Revenue Wing at Sub-Division	
ARA	upto 7000 connections
RA	> 7000 connections
UDC	1
LDC	1 per 2400 effective connections
Cashier	1 per 2000 effective connections (0.50*GS+1*SP+2*MS+2*(LS+BS)+2*SL)
Meter Reader	1 per 2000 effective connections .5*GSC+1SP
Technical Staff for Urban Sub-Division	
> 900 units	1AAE
every 200 units	1 JE
3 lineman + 6 ALM per JE	
Staff for Maintenance of Distribution Transformers	
240 DTR	1 Foreman/JE + 1 RTM
> 240 DTR	2 JE + 2 RTM

Division Manpower Norms	
Operational Division	
Norms for Accounts Section Division	
Divisional Accountant	1
Circle Assistant	1
UDC	1 per 325 employees
Internal Auditor	1 per sub-division
Norms for General Section at Division	
Divisional Superintendent	1
Circle Assistant	1
UDC	2
LDC	3
Norms for Drawing Section	
Division Head Draftsman	1
Junior Draftsman	1
Staff for checking Energy Meters/Metering Equipment	
Below 14400 connections	1 JE
Above 14400 connections	2 JE

Approach for Manpower Assessment

- Manpower upto AE/AEE and above has been worked out from proposed organization structure
- Manpower for JE and Below has been defined basis the PSEB norms
- Market best practices of outsourcing manpower has been applied to arrive at in-house manpower and outsourced manpower
- Category D employees such as Jamadar, Peon, Truck Cleaner, Mali, Chowkidar etc. totaling 96 (sanctioned 142) have not been considered for the manpower assessment and they are to be outsourced.
- Such manpower may need to be identified and retained as far as possible for re-deployment

Proposed Manpower for CED (All in-house)

Overall Manpower Summary

	Sanctioned	As-Is	Proposed (in-house)	Proposed (outsourced)
Group A	**30**	**22**	**59**	**0**
Group B	**194**	**138**	**184**	**0**
Group C	**1444**	**801**	**552**	**599**
Total	**1668**	**961**	**795**	**599**

Note 1: Does not include Category D employees such as Jamadar, Peon, Truck Cleaner, Mali, Chowkidar etc. totaling 96 (sanctioned 142)

Note 2: In addition manpower in categories such as JE-Civil, Draftsman, Plumber, Mason, Carpenter, Cable Jointer, Trade Mates etc. totaling 15 employees are also to be re-deployed.

Note 3: In case we are not able to redeploy this manpower, this manpower to be carried as supernumerary and total proposed manpower will be 906.

Executive Manpower – Group A

Manpower Assessment for CED		Total Sanctioned	As-Is Manpower at CED (Circle Office)	Total Proposed
Group	**Designations**			
A	Chief Engineer - CED	0	0	1
A	Superintending Engineer	1	1	3
A	Executive Engineer (Includes EE IT/RAPDRP)	5	5	11
A	AEE/AE (includes AEE/AE IT)	23	15	29
A	Law Officer	0	-	1
A	Chief Accounts Officer/Senior Accounts Officer/AO	1	1	10
A	Head HR & Administration	0	-	1
A	Assistant Law Officer	0	-	3
Total		**30**	**22**	**59**

Proposed Manpower for CED

Non - Executive Manpower – Group B

Manpower Assessment for CED		Sanctioned	As-Is Manpower at CED	Total Proposed basis norms
Group	Designations			
B	Junior Engineer	149	101	140
B	Revenue Accountant/ARA	7	10	14
B	Circle Superintendent	1	1	3
B	Circle Assistant	8	4	7
B	Divisional Superintendent	3	0	0
B	Divisional Accountant	3	3	3
B	Head Draftsman/Draftsman	9	8	3
B	Internal Auditor	10	9	10
B	Stenographer	1	1	4
B	Cable Jointer	3	1	0
Total		**194**	**138**	**184**

Non - Executive Manpower – Group C

Manpower Assessment for CED		Sanctioned	As-Is Manpower at CED	Total Proposed
Group	Designations			
C	Upper Divisional Clerk/ Lower Divisional Clerk/ Steno typist/ Cashier/Consumer Clerk	242	73	194
C	Meter Reader		30	50
C	Storekeeper		1	1
C	Lineman/SSA/Assistant Lineman	1080	625	846
C	Driver – Fault Locating Van	1	1	6
C	Driver - Others	53	34 (16 in-house, 18 o/s)	34 (16 in-house, 18 o/s)
C	Meter Mechanic	8	4	8
C	Junior Draftsman	6	1	0
C	Consumer Clerk	10	10	0
C	Electrician/Plumber/Blacksmith/Carpenter/Mason/oiler/cleaner	20	4	0
D	Store Attendant/Trade Mate	24	18	12
Total		**1444**	**801**	**1151**

Proposed Manpower for CED (With Outsourcing)

- At CED, 60% of the Lineman will retire in the next 5 years. The average age of this population is > 50 years.
- Around 60% of the Assistant Lineman at CED will retire in the next 10 years. The Average age of this population is > 45 years.
- The outsourcing model has been applied on non executive technical and clerical staff as following:
  - 50% outsourcing of Field Technical Staff (Lineman and ALM) and 100% outsourcing of Meter Readers, 50% outsourcing of Clerical staff, 50% outsourcing of drivers
  - However, it is proposed that as Phase I, the existing manpower is continued as-is and additional manpower required is achieved through outsourcing. This means there will be no fresh recruitments for such positions.
  - In Phase II, with retirement of incumbent employees, additional outsourced staff may be employed in line with the proposed model
- The next slide details the Phase I and Phase II outsourcing recommendations

Proposed Manpower for CED – Phasing of Manpower

- **Phase I – Outsourced manpower for roles where the existing manpower to be continued as is and additional required is outsourced**

Outsourced Manpower Assessment for CED		Sanctioned	As-Is Manpower at CED	Total Proposed	Proposed In-house	Proposed Outsourced
Group	Designations					
C	Upper Divisional Clerk/ Lower Divisional Clerk/ Steno typist/ Cashier	242	73	194	73	121
C	Meter Reader		30	50	30	20
C	Lineman/SSA/Assistant Lineman	1080	625	846	625	221
C	Driver – Fault Locating Van	1	1	6	1	5
C	Driver - Others	53*	16 in-house + 18 outsourced	34	16	18
D	Store Attendant/Trade Mate	24	18	12	18	0
Total		**1400**	**781**	**1142**	**763**	**385**

- **The overall manpower requirement for CED as per Phase I i.e. in immediate term will be as follows:**

Group		Sanctioned	As-Is Manpower at CED	Total Proposed Manpower	Proposed In-house Manpower	Proposed Outsourced Manpower
Group A	Executives (AEE/AE & above)	30	22	59	59	0
Group B & C	Non-Executives (JE & below)	1638	939	1335	950	385
	Total	**1668**	**961**	**1394**	**1009**	**385**

Proposed Manpower for CED – Phasing of Manpower

- **Phase II – With the subsequent retirement of employees, the proposed outsourcing model is achieved over time**

Outsourced Manpower Assessment for CED		Sanctioned	Total Proposed	Proposed In-house	Proposed Outsourced
Group	**Designations**				
C	Upper Divisional Clerk/ Lower Divisional Clerk/ Steno typist/ Cashier	242	194	97	97
C	Meter Reader		50	0	50
C	Lineman/SSA/Assistant Lineman	1080	846	423	423
C	Driver – Fault Locating Van	1	6	3	3
C	Driver - Others	53*	34	16	18
D	Store Attendant/Trade Mate	24	12	4	8
Total		**1400**	**1142**	**543**	**599**

- **The overall manpower requirement for CED as per Phase II i.e. in future will be as follows:**

Group		Sanctioned	As-Is Manpower at CED	Total Proposed Manpower	Proposed In-house Manpower	Proposed Outsourced Manpower
Group A	Executives (AEE/AE & above)	30	22	59	59	0
Group B & C	Non-Executives (JE & below)	1638	939	1335	736	599
	Total	**1668**	**961**	**1394**	**795**	**599**

Total Proposed Manpower – Group A&B

Proposed Manpower for Chandigarh Electricity Department – Group A&B			Sanctioned	Total Proposed Manpower	Total Proposed - Sanctioned	Proposed In-House	Proposed Outsourced	As-Is Manpower
#	Group	Designations						
1	A	Chief Engineer	0	1	1	1		0
2	A	Superintending Engineer	1	3	2	3	0	1
3	A	Executive Engineer	5	10	5	10	0	5
4	A	Executive Engineer (IT)	0	1	1	1	0	0
5	A	AEE/AE (Electrical)	23	28	5	28	0	15
6	A	AEE/AE (IT)	0	1	1	1	0	
7	A	Law Officer	0	1	1	1	0	
8	A	Chief Accounts Officer	0	1	1	1	0	
9	A	Senior Accounts Officer	0	2	2	2	0	
10	A	Accounts Officer	1	7	6	7	0	1
11	A	Head HR & Administration	0	1	1	1	0	
12	A	Assistant Law Officer	0	3	3	3	0	
13	B	Revenue Accountant/ARA	8	14	6	14	0	10
14	B	Circle Superintendent	1	3	2	3	0	1
15	B	Circle Assistant	7	7	0	7	0	4
16	B	Junior Engineer (Electrical)	148	140	-8	140	0	100
17	B	Junior Engineer (Civil)	1	0	-1	0	0	1
19	B	Divisional Superintendent	3	0	-3	0	0	0
20	B	Divisional Accountant	3	3	0	3	0	3
21	B	Head Draftsman/Draftsman	9	3	-6	3	0	8
22	B	Internal Auditor	10	10	0	10	0	9
23	B	Stenographer (1 for CE, 3 for SE)	1	4	3	4	0	1
24	B	Cable Jointer	3	0	-3	0	0	1
Total Manpower (Group A and Group B)			**224**	**243**	**19**	**243**	**0**	**160**

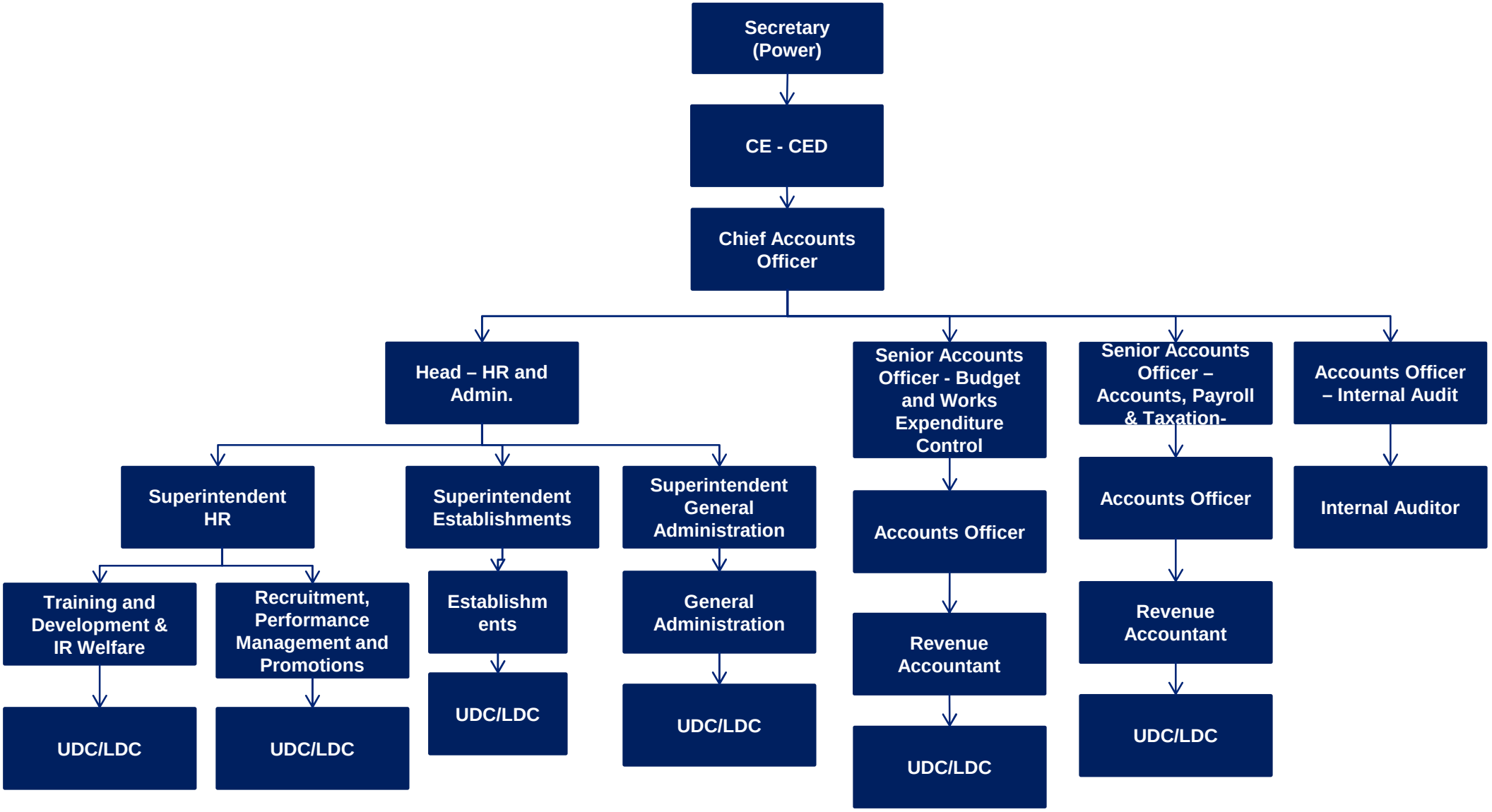
Additional Posts (Total Proposed – Sanctioned are highlighted in yellow

Proposed Manpower for CED – Overall Summary (Group C and D)

Proposed Manpower for Chandigarh Electricity Department – Group C							
#	Group	Designations	Sanctioned	Total Proposed Manpower	Proposed In-House	Proposed Outsourced	As-Is Manpower
1	C	Upper Divisional Clerk/ Lower Divisional Clerk/ Steno typist/ Cashier	242	194	97	97	73
2	C	Meter Reader		50	0	50	30
3	C	Storekeeper		1	1	0	1
4	C	Lineman/SSA	455	320	160	160	325
5	C	Assistant Lineman	625	526	263	263	300
6	C	Driver	1	6	3	3	17
7	C	Driver - Others	53	34	16	18	18
9	C	Meter Mechanic	8	8	8	0	4
10	C	Junior Draftsman	6	0	0	0	1
11	C	Consumer Clerk	10	0	0	0	10
12	C	Electrician/Plumber/Blacksmith/Carpentar/Mason	20	0	0	0	4
15	D	Store Attendant/Trade Mate	24	12	4	8	18
Total Group C			**1444**	**1151**	**552**	**599**	**801**
Grand Total (Without Group D)			**1668**	**1394**	**795**	**599**	**961**
Proposed Manpower for Chandigarh Electricity Department – Group D			**Sanctioned**	**Total Proposed Manpower**	**Proposed In-house**	**Proposed Outsourced**	**As-Is Manpower**
#	Group	Designations					
2	D	Jamandar	1	1	1	0	1
3	D	Bill Distributer	18	16	16	0	16
4	D	Lab Attendent	14	8	8	0	8
5	D	Truck Cleaner	1	1	1	0	1
6	D	Peon	63	43	43	0	43
7	D	Chowkidar / Sweepr/ Sweeper cum Chowkidar	39	26	26	0	26
8	D	Mali	6	1	1	0	1
Total Group D			142	96	96	0	96
Grand Total (With Group D)			**1810**	**1490**	**891**	**599**	**1057**

Contents

Head Office: Finance, Accounts, HR and Administration

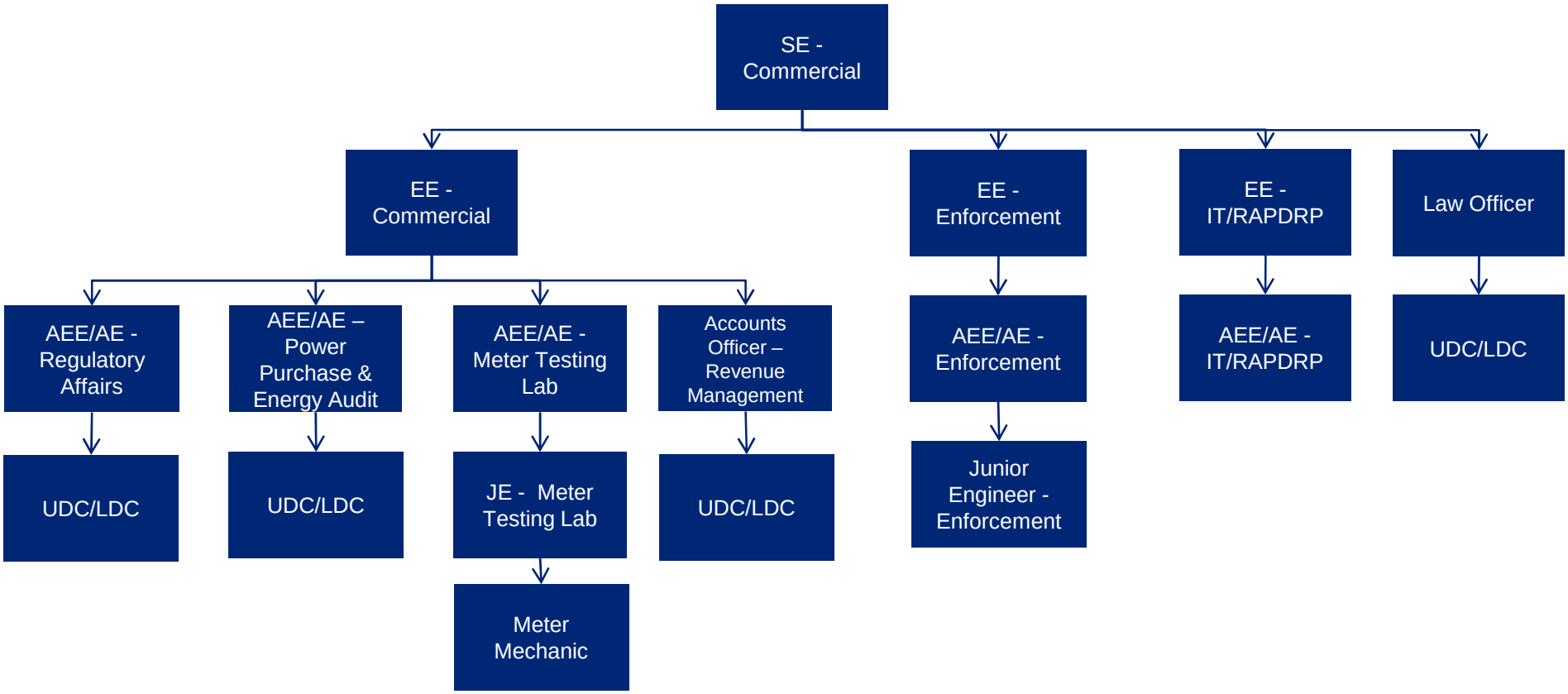


Proposed Manpower – Head Office Finance, Accounts, HR and Administration

Proposed Finance & Accounts Manpower for CED	
Designations	**Manpower**
Chief Accounts Officer	1
Senior Accounts Officer -Accounts, Payroll and Taxation	1
Senior Accounts Officer - Budget and Works Expenditure Control	1
Accounts Officer - Internal Audit	1
Accounts Officer	2
Revenue Accountant	4
Internal Auditor	10
Upper Divisional Clerk/Lower Divisional Clerk	8
Total Finance & Accounts Manpower	**28**
Proposed HR & Administration Manpower for CED	
Designations	**Proposed Manpower**
Head - HR and Administration	1
Superintendent - HR	1
Superintendent - Establishments	1
Superintendent - General Administration	1
Circle Assistant - Training & Development and IR Welfare	1
Circle Assistant - Recruitment, Performance Management System and Promotions	1
Circle Assistant - Establishments	4
Circle Assistant - General Administration	1
Upper Division Clerk/Lower Division Clerk	14
Total HR and Administration Manpower	**25**

The proposed Finance & Accounts manpower is specifically for Chandigarh Electricity Department and such number is required for strengthening of this critical function.

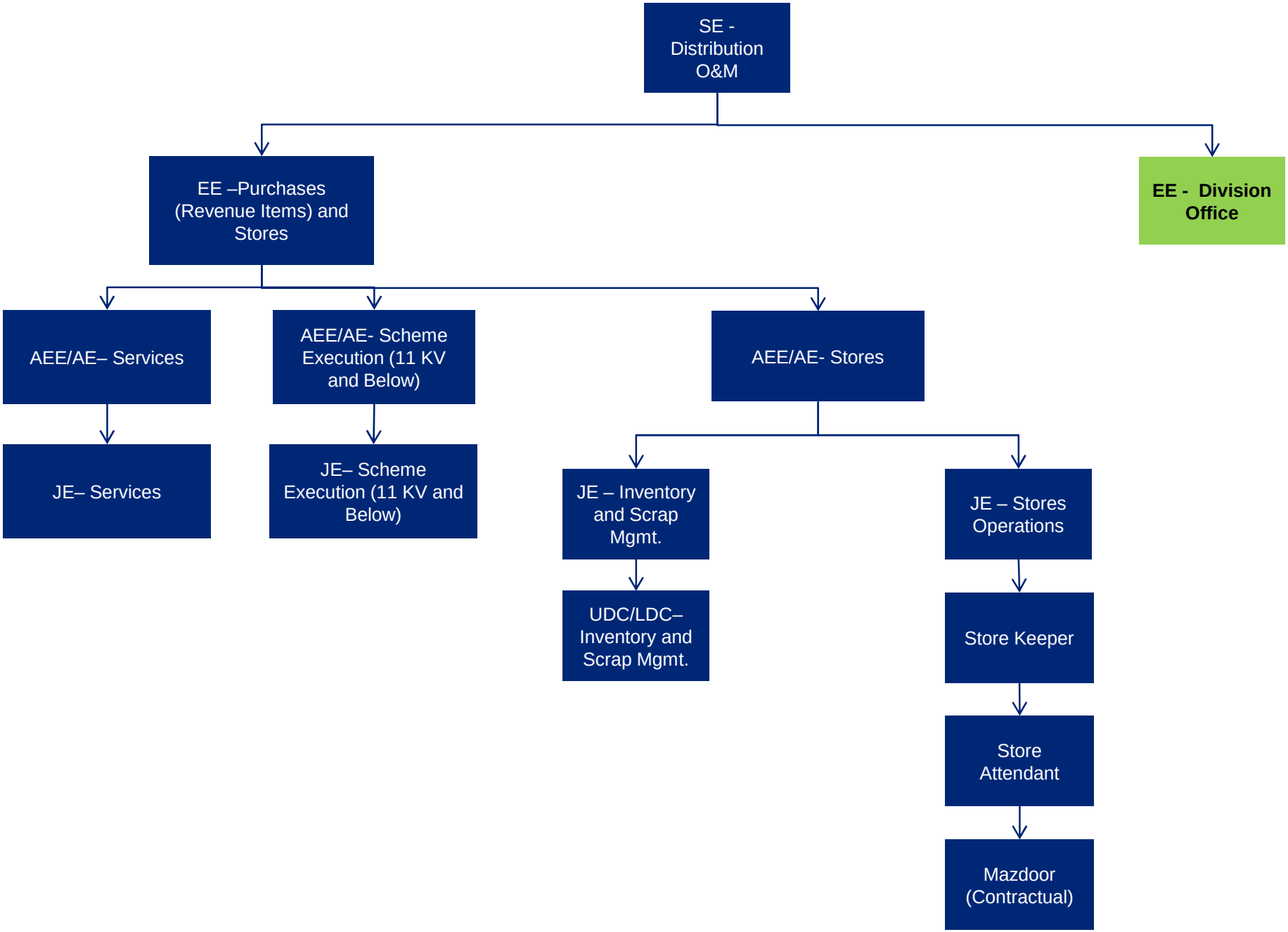
Head Office: Commercial



Proposed Manpower – Head Office Commercial

Proposed Commercial Manpower for CED	
Designations	**Proposed Manpower**
Superintending Engineer - Commercial	1
Executive Engineer - Commercial	1
Law Officer	1
Executive Engineer - Enforcement	1
Executive Engineer – IT/RAPDRP	1
AEE/AE Regulatory Affairs	1
AEE/AE Purchase of Power/PPAs/Energy Audit	1
AEE/AE Enforcement (1 for each Division)	3
AEE/AE Meter Testing Lab	1
AEE/AE IT/RAPDRP	1
JE Meter Testing Lab	3
JE Enforcement (1 for each Division)	3
Meter Mechanic	8
Accounts Officer - Revenue Management	1
Upper Division Clerk/Lower Division Clerk	7
Total Commercial Manpower	**34**

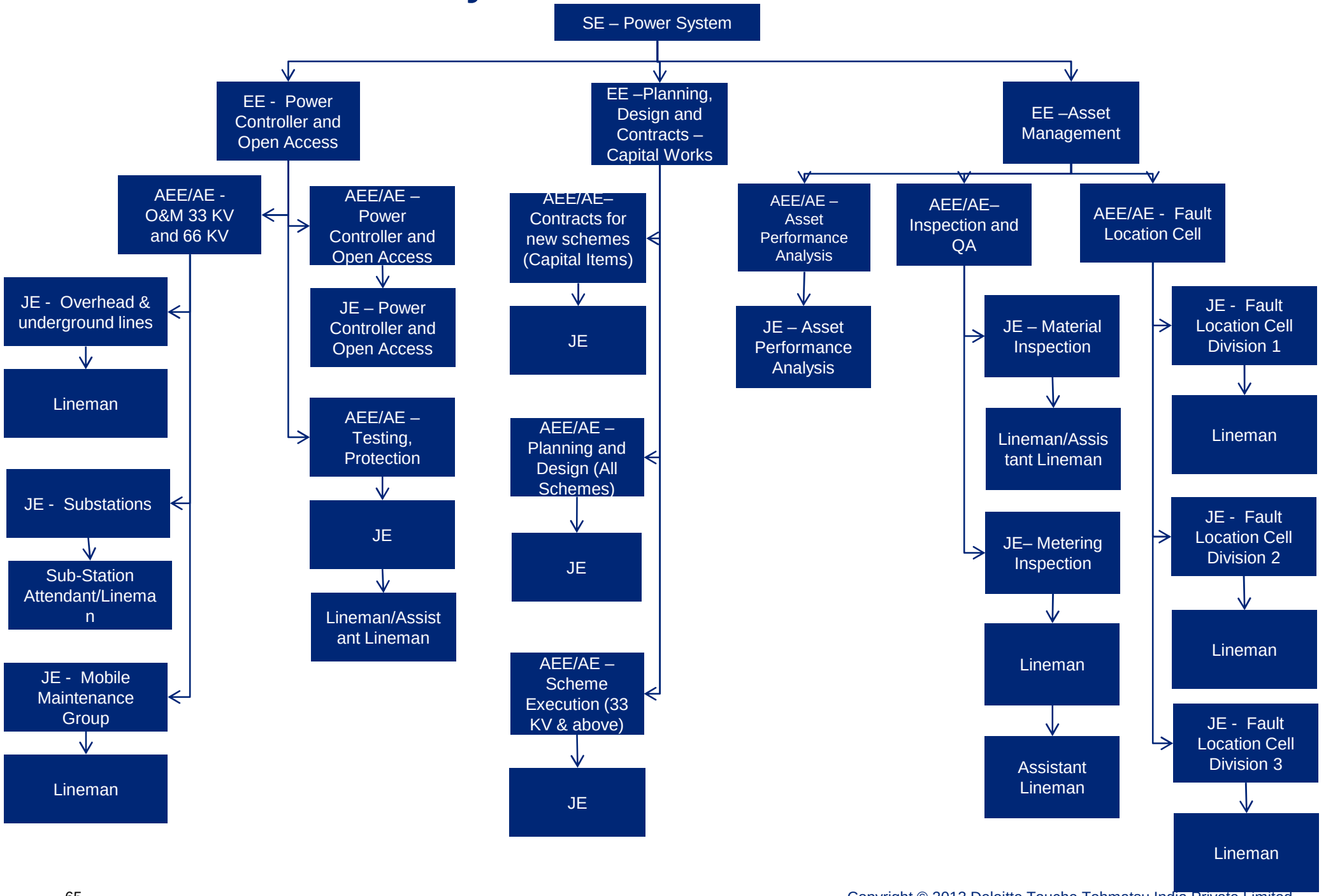
Head Office: Distribution Operations & Maintenance



Proposed Manpower – Head Office Distribution Operations & Maintenance

Proposed Head Office - Distribution O&M Manpower for CED	
Designations	**Proposed Manpower**
Superintending Engineer - Distribution O&M	1
Executive Engineer - Purchases (Revenue Items) and Stores	1
AEE/AE - Services	1
AEE/AE - Scheme Execution (11 KV & Below)	1
AEE/AE - Stores	1
Junior Engineer - Services	2
Junior Engineer - Scheme Execution (11KV and Below)	3
Junior Engineer - Inventory and Scrap Management	1
Junior Engineer - Stores Operations	1
Upper Divisional Clerk/Lower Divisional Clerk	1
Store Keeper	1
Store Attendant (1 per shift)	4
Mazdoor (Contractual) (2 per shift)	8
Total Manpower	**26**

Head Office: Power System



Proposed Manpower – Head Office Power System

Proposed Power Systems Manpower for CED			
Designations	**Proposed Total Manpower**	**Outsourced (50% of Technical Field Staff)**	**In-house**
Power Controller and Open Access			
Power Controller and Open Access			
Superintending Engineer - Power System	1		1
Executive Engineer Power Controller and Open Access	1		1
AEE/AE - Power Controller and Open Access	1		1
Junior Engineer - Power Controller (1 per shift)	4		4
Sub-Station O&M (Total Sub-Stations 17)			
AEE/AE O&M 33 KV and 66 KV	2		2
Junior Engineer - Overhead & Underground lines	2		2
Lineman - O/H and Underground lines	6	3	3
Assistant Lineman - O/H & Underground Lines	18	9	9
Junior Engineer - Sub-Stations (1 for 3 Sub Stations)	6		6
Lineman (SStn)	17	8.5	8.5
Asssistant Lineman(S/Stn)	17	8.5	8.5
Sub-Station Attendants/Lineman (4 per Sub-Stations)	68	34	34
Sub-Station Assistant Lineman (4 per Sub-Station	68	34	34
Testing & Protection			
AEE/AE - Testing & Protection	1		1
Junior Engineer	2		2
Lineman	2	1	1
Assistant Lineman	2	1	1
Total Manpower - Power Controller and Open Access	**218**	**99**	**119**

Proposed Manpower – Head Office Power System

Asset Management			
Executive Engineer - Asset Management	1		1
Asset Performance Analysis			
AEE/AE -Asset Performance Analysis	1		1
Junior Engineer - Asset Performance Analysis	3		3
Inspection & Quality Assurance (QA)			
AEE/AE - Inspection & QA	1		1
JE - Material Inspection	1		1
JE - Metering Inspection	1		1
Fault Location Cell			
AEE/AE - Fault Location Cell	1		1
Junior Engineer - Fault Location Cell (1 per shift)*2 Shifts*3 Divisions	6		6
Lineman FLC (2 per shift)*2 Shifts*3 Divisions	12	6	6
Driver FLC (1 per shift)*2 Shifts*3 Divisions	6	3	3
Assistant Lineman FLC (2 per shift)*2 Shifts*3 Divisions	12	6	6
Total Manpower - Asset Management	**45**	**15**	**30**
Planning, Design and Contracts			
Executive Engineer - Planning, Design and Contracts	1		1
Contracts, Procurement, Projects - 33 KV and Above			
AEE/AE - Contracts for new schemes (Capital Items)	1		1
AEE/AE - Planning and Design (All Schemes)	1		1
AEE/AE - Scheme Execution (33KV and above)	1		1
Junior Engineer	6		6
Total Planning, Design and Contracts manpower	**10**	**0**	**10**
Total Power System Manpower	**273**	**114**	**159**

Deloitte.

Summary: Manpower Study

Chandigarh Electricity Department (CED)

26th October 2013

Agenda

Project Context and Introduction

- JERC issued the following directive to Chandigarh Electricity Department - "*EDC is directed to conduct a detailed study on manpower requirement by an accredited agency while taking into account the future load growth in Chandigarh*"

- As a response to the above mentioned directive, CED engaged Deloitte for conducting a detailed study on the following aspects:
  - Submission of draft petition regarding Organization Restructuring, Manpower Study, and Delegation of Power for Chandigarh Electricity Department before JERC
  - Defending the petition before the JERC and public objections / hearing
  - Support for public objections and issuance of Commission orders

- This presentation focuses on Deloitte's recommendations on organization restructuring and manpower for Chandigarh Electricity Department

Challenges faced by Chandigarh Electricity Department

- CED's existing structure and setup has remained unchanged since its inception (1967) and the last sanction for officer level manpower was provided in 1992.

- While the structure and manpower has remained the same over the last 20 years, CED has witnessed significant growth on the following parameters
  - Load growth (approximately 3 times growth)
  - Number of connections (approximately 80% growth)

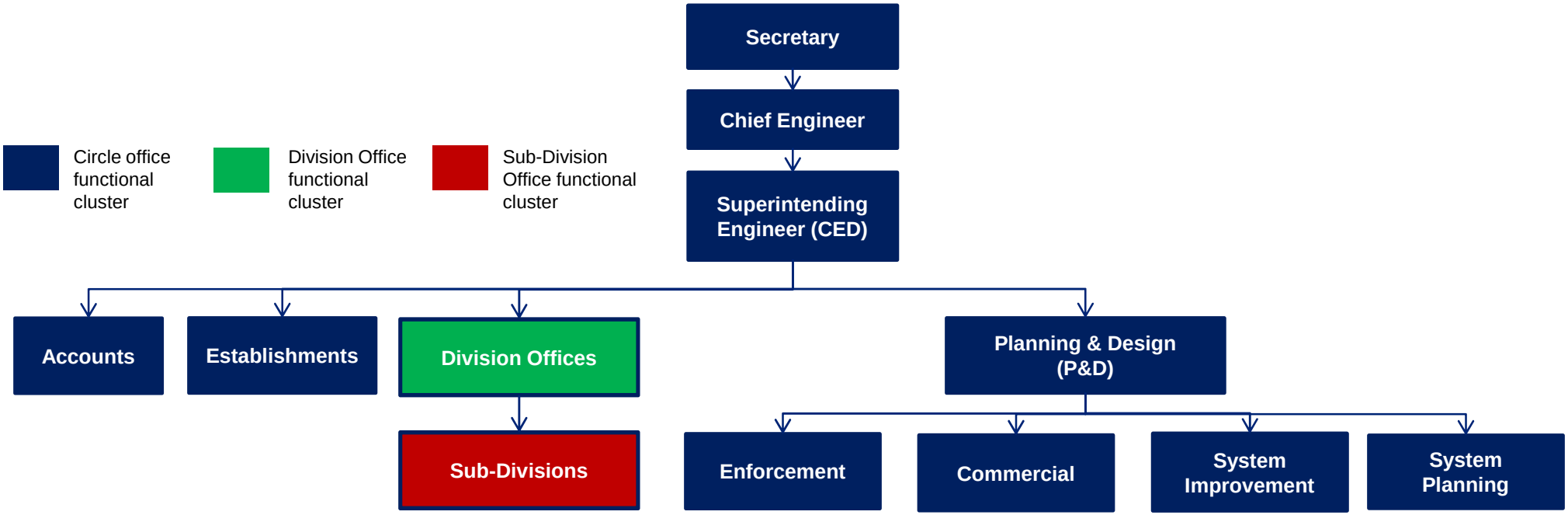
- CED's consumer profile is unique considering it is a capital city of two prominent states. The consumer expectations and demands have been increasing and are currently at par with most metros and tier I cities in India

- CED is facing issues on both commercial and power supply fronts:
  - Existing AT&C loss stand at 20% which is high in comparison to utilities in cities with similar consumer profile (NDPL is at 13%). 1% reduction in AT&C loss leads to additional revenue of 7.3 Crores
  - On a daily basis a sub-division has to manage, on an average, 30-40 supply related complaints

- The next slide highlights the reasons for the issues faced by Chandigarh Electricity Department

Note: While existing organization structure and speed of decision making is an area of concern, the employee costs (as a % of revenue) and Number of Employees / MkWh of Electricity sold at CED seems to be in line with some of the best performing utilities in the country.

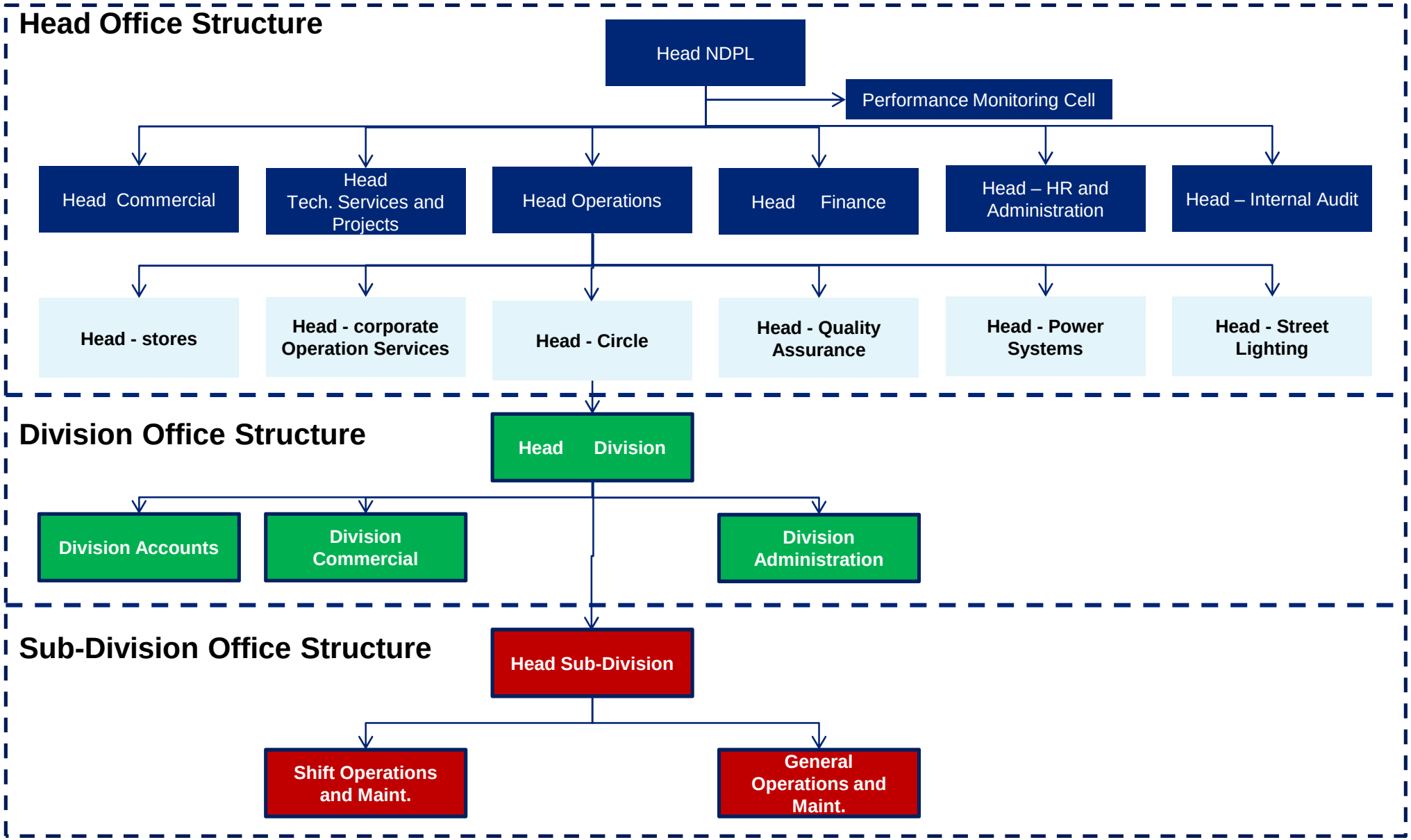
Challenges faced by Chandigarh Electricity Department



- CED is still operating in the pre-reform era with most of the activities being done on a manual basis.
- Circle Office P&D department is responsible for Commercial, Projects, and Contracts Management activities leading to a diffused focus on these key areas.
- The Division office plays more of a monitoring role and all Network Management, Commercial, Consumer Management activities are handled by the sub-division offices.
- Sub-Division Office is responsible for all Technical and Commercial activities resulting in diffused focus on both aspects. This is affecting the quality of power supply due to lack of preventive maintenance, lack of network health analysis studies, lack of asset management/refurbishment, lack of inspection and quality check of materials etc.. **The same is reflected in high consumer complaint rates.**
- The Commercial aspect is also negatively affected due to lack of Energy Auditing, Energy Accounting, Meter Reading, Meter testing, Bill Quality Check, non alignment of Consumer books with Distribution Transformers etc.. **This is resulting in revenue leakage and bill quality related issues.**

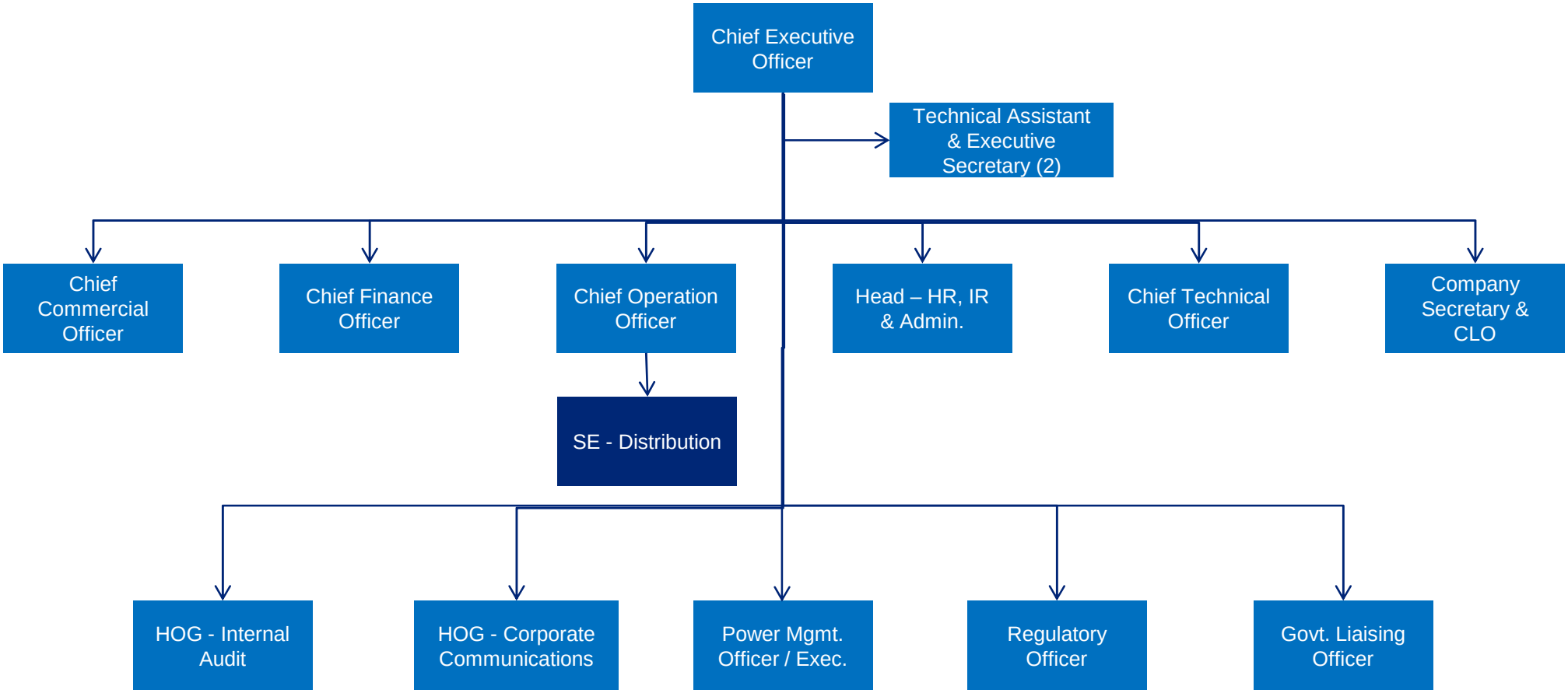
High performing utilities in metro cities and U.T.s have successfully managed similar issues through restructuring

North Delhi Power Limited



High performing utilities in metro cities and U.T.s have successfully managed similar issues through restructuring

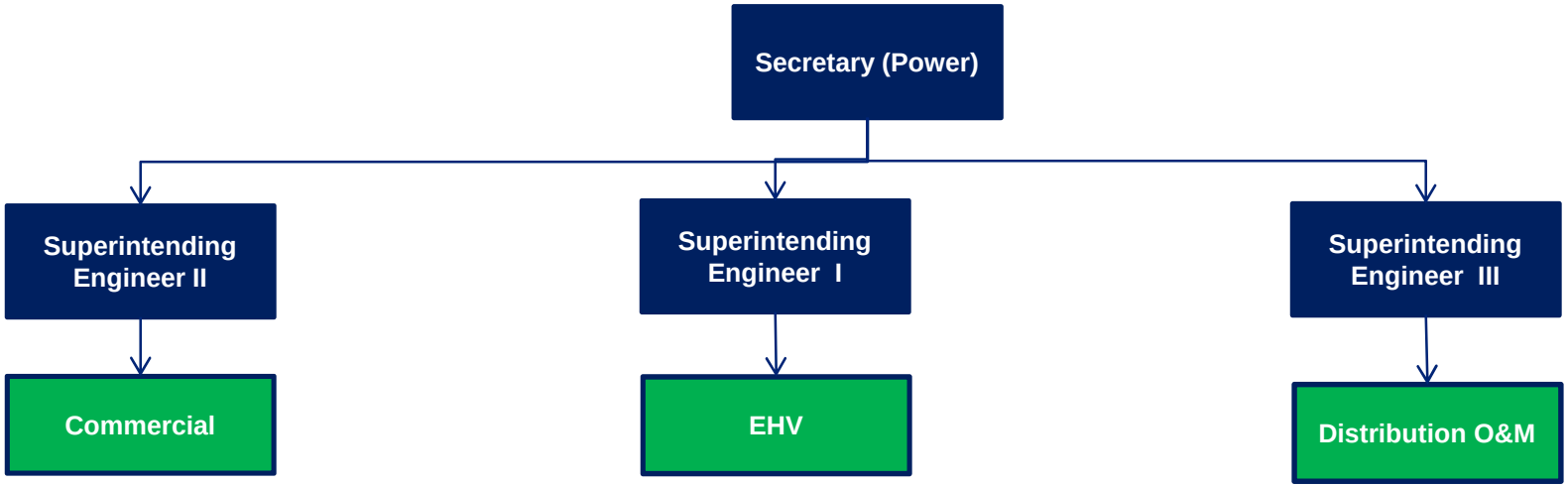
Tata Power Jamshedpur Distribution Limited (TPJDL)



- Separate senior level officer for Commercial activities such as Sale and Purchase of Power.
- Separate senior level officer for EHV, Planning and Projects.
- Senior level officer as the head for Distribution O&M.

High performing utilities in metro cities and U.T.s have successfully managed similar issues through restructuring

Puducherry Electricity Department



Separate SE for cables, Buildings, Master plan and **Commercial.**

Separate SE heading **Extra High Voltage**. Also manages stores, finance, legal and establishments departments.

Separate vertical for **Distribution O&M**.

Learning from Benchmarks

Head Office

- Post implementation of the Electricity Act 2003, the organization structure of Utilities has undergone change with separate focus on transmission network, distribution O&M and commercial activities
- At the Head Office level, distinct setups/departments for activities within Commercial, Distribution O&M (11KV & below), and Extra High Voltage (EHV) (33 KV & above) have been established. An SE level officer is typically the head of such a department
  - Commercial
  - Distribution O&M
  - Extra High Voltage (EHV)
- In addition to such setup, Inspection and Quality Assurance department setup has been established.
- A Performance Monitoring cell is typically set up at the Head Office to continuously monitor the operational and financial performance of the field offices.

Field

- The commercial and technical activities have been segregated with the Division office managing all commercial activities for allocated area including:
  - All meter reading related activities, Revenue realization, consumer management such as new connections, disconnections etc.,
  - Addressing consumer complaints, Conduct of Energy Audit, Enforcement activities, default recovery, MIS reporting etc.
  - Meter reading has been outsourced and Check Meter Reading concept has been introduced for monitoring the outsourced agency.
- The sub-division offices focus only on operation and maintenance activities to ensure system upkeep and reduction in consumer complaints.

Proposed Organization Structure for CED

- Learning from benchmarks has been utilized for developing the proposed organization structure for CED
- In the proposed structure, three verticals of Commercial, Distribution O&M, and Power Systems have been provided to provide focused attention
- The top level CED structure has been proposed as under:

    1. Head of Commercial
    2. Head of Distribution Operations & maintenance (for upto 11 KV setup) (To continue managing dual charge of Electrical Inspector for Chandigarh, till fresh recruitment for the same is not done)
    3. Head of Power System (for 33KV and above setup)
    4. Head of Finance and Administration

- In the proposed structure, it is proposed that all commercial activities be managed at the Division level.
- The sub-division level to only focus on Operations & Maintenance activities.

The next slides detail out the proposed Head Office and Field structures for CED.

rganization S

- Purchase of Power/PPAs
- Regulatory Interface
- Energy Audit
- Enforcement
- Meter Testing Lab
- Legal
- Information Technology
- DSM
  - Advocacy for Energy Efficiency (EE)
  - Initiatives for incentivizing EE
  - Time of the day metering to bridge gap between peak and non-peak load

- All 33KV and 66 KV operations & maintenance
- Power Controller
- Open Access
- All Capex projects – Planning, Design & Mtrg (33 KV & above)
- Protection System
- Inspection and Quality Assurance

Secretary (Power)

Chief Engineer CED

O&M

EE – Performance Monitoring Group

EHV

SE – Commercial

SE – Operations & Maintenance

SE – Power Systems

Chief Accounts Officer

Head – HR & Administration

EE - Commercial

EE - Purchases (Revenue Items) and Stores

EE - Power Controller & Open Access

EE – Asset Management

EE - Planning, Design & Contracts – Capital Works

AEE/AE - Regulatory Affairs & Policy

AEE/AE - Power Purchase, Energy Audit, MIS

AEE/AE - Meter Testing Lab

Accounts Officer – Revenue Management

AEE/AE - Purchases

AEE/AE - Stores

AEE/AE Scheme Execution (11 KV & below)

AEE/AE - Fault Location Cell

AEE /AE- Power Controller & Open Access

AEE/AE - O&M 33 KV and 66 KV

AEE/AE - Testing, Protection, Automation

AEE /AE- Inspection and Quality Assurance

AEE/AE – Asset Performance Analysis

AEE/AE Contracts for New Schemes (Capital items)

AEE/AE Planning & Design (all schemes)

AEE/AE Scheme Execution (33 KV & Above)

- 11 KV & below operations & maintenance
- All Capex projects – Planning, Design, and Monitoring (11 KV & below)
- All Purchases (Equipment & Services)
- Stores
- Fault Location Cell

EE - Enforcement

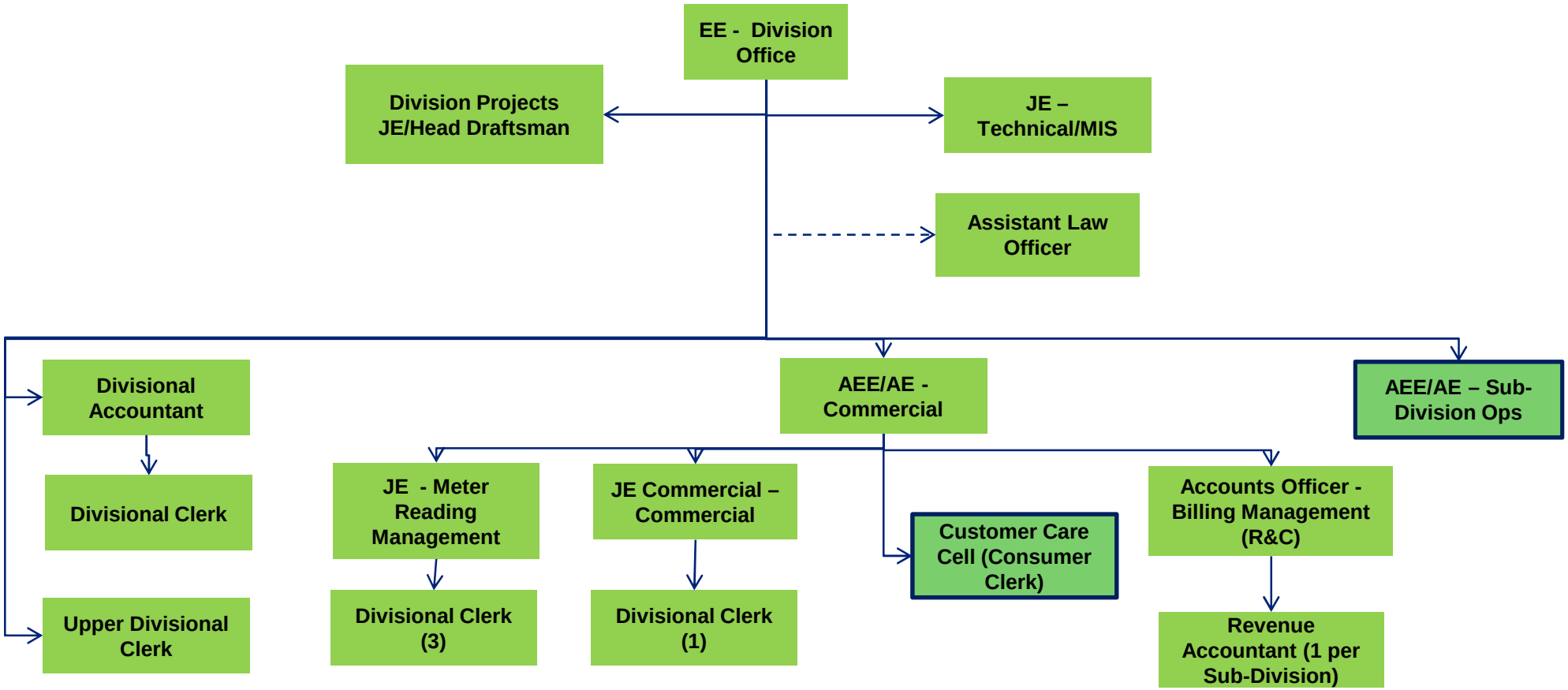
EE - IT/RAPDRP

Law Officer

EE - Operations Division

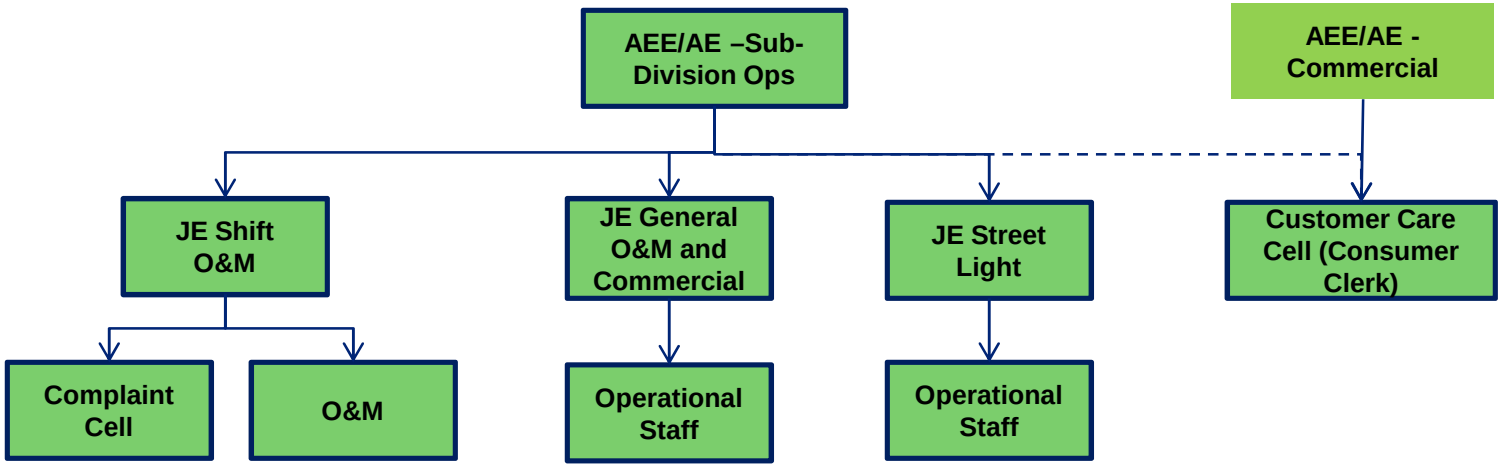
- Fund Management
- Internal Audit
- Payment of all employee salary & reimbursements
- Payment for all Works/Contracts
- Accounts and Tax
- Budget
- HRM and HRD

Proposed Division Office Structure



- All Commercial activities to be managed at the Division level.
- The Division will also be the supervising office for sub-division O&M
- Division office will also be responsible for preparing of schemes for sub-transmission network
- Establishment activities from Division have been shifted to centralized establishment at Head Office.
- 1 Consumer Clerk to be based in each Sub-Division.
- Assistant Law officer to be based in Division office with Administrative reporting to EE-Division and Functional reporting to Law Officer based in Circle.

Proposed Sub-Division Office Structure



- The sub-division office to be only responsible for operations & maintenance of sub-transmission network.
- Sub-Division to also provide support for carrying out commercial activities such as new connections, disconnections, re-connection as advised and guided by the Division Commercial.

Learning from benchmarks has been utilized for developing the proposed organization structure for CED

Determining the level of Head of CED

Parameters	CED	NDPL	TPJDL	Puducherry Electricity Department
Number of Consumers	2 Lacs	11 Lac	2.5 Lac	2.5 Lac
Chief Engineer Level Officers	-	5	4	-
SE Level Officers	1	3-4 per Chief Engineer	1-2 per Chief Engineer	3

- At NDPL, there are around five Chief Engineer level officers for a consumer base of 12 lac. SE level officers are responsible for managing various functions below them.
- In the current setup at CED, SE is the head of the department and has a high span of control. The setup has been in place since CED's inception and has not kept pace with changing consumer requirements.
- In line with current market practices, it is proposed that Head-CED be at Chief Engineer level. The three verticals i.e. Commercial, Distribution O&M, and EHV (Power Systems) to have independent Superintending Engineers as function heads for adequate focus.

Current practices of manning various functions in benchmark organizations

A. Executive and Supervisors (upto JE level) – All manpower is in-house

B. Non-Executive Level – Mix of in-house and outsourced

– **Technical Staff (Field)**

- The Lineman and Assistant Lineman form the bulk of field staff and play a pivotal role in ensuring continuous power supply to the consumers.
- The requirements of the field work are typically hectic which includes regular climbing of electric poles for maintenance work. Considering such requirements, the typical active working life of a Lineman / ALM is around 15-20 years (Between Age 25-45).
- Also, other than physical capabilities the enthusiasm for such work tends to wane over a period of time and an employee with 15-20 years of experience prefers more of a supervisory role.
- Hence organizations have chosen to outsource field activities to ensure availability of **agile workforce for such hectic work requirements.**

– **Clerical Staff**

- On implementation of ERP, the clerical manpower associated with documentation processes/ transactions / record maintenance etc. reduces by around 50%. Many progressive utilities have reduced the clerical manpower through ERP implementation

#	Activity	Outsourcing at NDPL	Outsourcing at TPJDL
1	Meter reading	Fully outsourced	Fully Outsourced
2	33/66 KV network	AMC based with supervision utility	Fully Outsourced with JE as supervisor
3	Sub-transmission network (maintenance of lines and transformers)	AMC based with supervision utility	Fully Outsourced with JE as supervisor
4	Fuse off call	50% outsourced	Fully Outsourced
5	Commercial Support (new Connections, reconnection, disconnection etc.)	Mix of in house and o/s	Mix of in house and o/s

PSEB (urban) Norms followed by CED as these norms are based pre-reform practices

Circle Manpower Norms	
SE Establishment Section	
Circle Superintendent	1
1 Circle Assistant + 1/2 per Division	
UDC	1+ 1/2 per Division
LDC	5
Construstion Division to be considered	1/2 Division

Sub-Division Manpower Norms	
Norms for Works section (Projects)	
UDC	2
LDC	1
Norms for Revenue Wing at Sub-Division	
ARA	upto 7000 connections
RA	> 7000 connections
UDC	1
LDC	1 per 2400 effective connections
Cashier	1 per 2000 effective connections (0.50*GS+1*SP+2*MS+2*(LS+BS)+2*SL)
Meter Reader	1 per 2000 effective connections .5*GSC+1SP
Technical Staff for Urban Sub-Division	
> 900 units	1AAE
every 200 units	1 JE
3 lineman + 6 ALM per JE	
Staff for Maintenance of Distribution Transformers	
240 DTR	1 Foreman/JE + 1 RTM
> 240 DTR	2 JE + 2 RTM

Division Manpower Norms	
Operational Division	
Norms for Accounts Section Division	
Divisional Accountant	1
Circle Assistant	1
UDC	1 per 325 employees
Internal Auditor	1 per sub-division
Norms for General Section at Division	
Divisional Superintendent	1
Circle Assistant	1
UDC	2
LDC	3
Norms for Drawing Section	
Division Head Draftsman	1
Junior Draftsman	1
Staff for checking Energy Meters/Metering Equipment	
Below 14400 connections	1 JE
Above 14400 connections	2 JE

Approach for Manpower Assessment

- Manpower upto AE/AEE and above has been worked out from proposed organization structure
- Manpower for JE and Below has been defined basis the PSEB norms
- Market best practices of outsourcing manpower has been applied to arrive at in-house manpower and outsourced manpower
- Category D employees such as Jamadar, Peon, Truck Cleaner, Mali, Chowkidar etc. totaling 96 (sanctioned 142) have not been considered for the manpower assessment and they are to be outsourced.
- Such manpower may need to be identified and retained as far as possible for re-deployment

Proposed Manpower for CED (All in-house)

Overall Manpower Summary

	Sanctioned	As-Is	Total Proposed	Proposed (in-house)	Proposed (outsourced)
Group A	**30**	**22**	**59**	**59**	**0**
Group B	**194**	**138**	**184**	**184**	**0**
Group C	**1444**	**801**	**1151**	**552**	**599**
Total	**1668**	**961**	**1394**	**795**	**599**

Note 1: Does not include Category D employees such as Jamadar, Peon, Truck Cleaner, Mali, Chowkidar etc. totaling 96 (sanctioned 142)

Note 2: In addition manpower in categories such as JE-Civil, Draftsman, Plumber, Mason, Carpenter, Cable Jointer, Trade Mates etc. totaling 15 employees are also to be re-deployed.

Note 3: In case we are not able to redeploy this manpower, this manpower to be carried as supernumerary and total proposed manpower will be 906.

Executive Manpower – Group A

Manpower Assessment for CED		Total Sanctioned	As-Is Manpower at CED (Circle Office)	Total Proposed
Group	**Designations**			
A	Chief Engineer - CED	0	0	1
A	Superintending Engineer	1	1	3
A	Executive Engineer (Includes EE IT/RAPDRP)	5	5	11
A	AEE/AE (includes AEE/AE IT)	23	15	29
A	Law Officer	0	-	1
A	Chief Accounts Officer/Senior Accounts Officer/AO	1	1	10
A	Head HR & Administration	0	-	1
A	Assistant Law Officer	0	-	3
Total		**30**	**22**	**59**

Proposed Manpower for CED

Non - Executive Manpower – Group B

Manpower Assessment for CED		Sanctioned	As-Is Manpower at CED	Total Proposed basis norms
Group	Designations			
B	Junior Engineer	149	101	140
B	Revenue Accountant/ARA	7	10	14
B	Circle Superintendent	1	1	3
B	Circle Assistant	8	4	7
B	Divisional Superintendent	3	0	0
B	Divisional Accountant	3	3	3
B	Head Draftsman/Draftsman	9	8	3
B	Internal Auditor	10	9	10
B	Stenographer	1	1	4
B	Cable Jointer	3	1	0
Total		**194**	**138**	**184**

Non - Executive Manpower – Group C

Manpower Assessment for CED		Sanctioned	As-Is Manpower at CED	Total Proposed
Group	Designations			
C	Upper Divisional Clerk/ Lower Divisional Clerk/ Steno typist/ Cashier/Consumer Clerk	242	73	194
C	Meter Reader		30	50
C	Storekeeper		1	1
C	Lineman/SSA/Assistant Lineman	1080	625	846
C	Driver – Fault Locating Van	1	1	6
C	Driver - Others	53	34 (16 in-house, 18 o/s)	34 (16 in-house, 18 o/s)
C	Meter Mechanic	8	4	8
C	Junior Draftsman	6	1	0
C	Consumer Clerk	10	10	0
C	Electrician/Plumber/Blacksmith/Carpenter/Mason/oiler/cleaner	20	4	0
D	Store Attendant/Trade Mate	24	18	12
Total		**1444**	**801**	**1151**

Proposed Manpower for CED (With Outsourcing)

- At CED, 60% of the Lineman will retire in the next 5 years. The average age of this population is > 50 years.
- Around 60% of the Assistant Lineman at CED will retire in the next 10 years. The Average age of this population is > 45 years.
- The outsourcing model has been applied on non executive technical and clerical staff as following:
  - 50% outsourcing of Field Technical Staff (Lineman and ALM) and 100% outsourcing of Meter Readers, 50% outsourcing of Clerical staff, 50% outsourcing of drivers
  - However, it is proposed that as Phase I, the existing manpower is continued as-is and additional manpower required is achieved through outsourcing. This means there will be no fresh recruitments for such positions.
  - In Phase II, with retirement of incumbent employees, additional outsourced staff may be employed in line with the proposed model
- The next slide details the Phase I and Phase II outsourcing recommendations

Proposed Manpower for CED – Phasing of Manpower

- **Phase I – Outsourced manpower for roles where the existing manpower to be continued as is and additional required is outsourced**

Outsourced Manpower Assessment for CED		Sanctioned	As-Is Manpower at CED	Total Proposed	Proposed In-house	Proposed Outsourced
Group	Designations					
C	Upper Divisional Clerk/ Lower Divisional Clerk/ Steno typist/ Cashier	242	73	194	73	121
C	Meter Reader		30	50	30	20
C	Lineman/SSA/Assistant Lineman	1080	625	846	625	221
C	Driver – Fault Locating Van	1	1	6	1	5
C	Driver - Others	53*	16 in-house + 18 outsourced	34	16	18
D	Store Attendant/Trade Mate	24	18	12	18	0
Total		**1400**	**781**	**1142**	**763**	**385**

- **The overall manpower requirement for CED as per Phase I i.e. in immediate term will be as follows:**

Group		Sanctioned	As-Is Manpower at CED	Total Proposed Manpower	Proposed In-house Manpower	Proposed Outsourced Manpower
Group A	Executives (AEE/AE & above)	30	22	59	59	0
Group B & C	Non-Executives (JE & below)	1638	939	1335	950	385
	Total	**1668**	**961**	**1394**	**1009**	**385**

Proposed Manpower for CED – Phasing of Manpower

- **Phase II – With the subsequent retirement of employees, the proposed outsourcing model is achieved over time**

Outsourced Manpower Assessment for CED		Sanctioned	Total Proposed	Proposed In-house	Proposed Outsourced
Group	**Designations**				
C	Upper Divisional Clerk/ Lower Divisional Clerk/ Steno typist/ Cashier	242	194	97	97
C	Meter Reader		50	0	50
C	Lineman/SSA/Assistant Lineman	1080	846	423	423
C	Driver – Fault Locating Van	1	6	3	3
C	Driver - Others	53*	34	16	18
D	Store Attendant/Trade Mate	24	12	4	8
Total		**1400**	**1142**	**543**	**599**

- **The overall manpower requirement for CED as per Phase II i.e. in future will be as follows:**

Group		Sanctioned	As-Is Manpower at CED	Total Proposed Manpower	Proposed In-house Manpower	Proposed Outsourced Manpower
Group A	Executives (AEE/AE & above)	30	22	59	59	0
Group B & C	Non-Executives (JE & below)	1638	939	1335	736	599
	Total	**1668**	**961**	**1394**	**795**	**599**

Proposed Manpower for CED – Overall Summary (Group A &B)

Proposed Manpower for Chandigarh Electricity Department – Group A&B			Sanctioned	Total Proposed Manpower	Total Proposed - Sanctioned	Proposed In-House	Proposed Outsourced	As-Is Manpower
#	Group	Designations						
1	A	Chief Engineer	0	1	1	1		0
2	A	Superintending Engineer	1	3	2	3	0	1
3	A	Executive Engineer	5	10	5	10	0	5
4	A	Executive Engineer (IT)	0	1	1	1	0	0
5	A	AEE/AE (Electrical)	23	28	5	28	0	15
6	A	AEE/AE (IT)	0	1	1	1	0	
7	A	Law Officer	0	1	1	1	0	
8	A	Chief Accounts Officer	0	1	1	1	0	
9	A	Senior Accounts Officer	0	2	2	2	0	
10	A	Accounts Officer	1	7	6	7	0	1
11	A	Head HR & Administration	0	1	1	1	0	
12	A	Assistant Law Officer	0	3	3	3	0	
13	B	Revenue Accountant/ARA	8	14	6	14	0	10
14	B	Circle Superintendent	1	3	2	3	0	1
15	B	Circle Assistant	7	7	0	7	0	4
16	B	Junior Engineer (Electrical)	148	140	-8	140	0	100
17	B	Junior Engineer (Civil)	1	0	-1	0	0	1
19	B	Divisional Superintendent	3	0	-3	0	0	0
20	B	Divisional Accountant	3	3	0	3	0	3
21	B	Head Draftsman/Draftsman	9	3	-6	3	0	8
22	B	Internal Auditor	10	10	0	10	0	9
23	B	Stenographer (1 for CE, 3 for SE)	1	4	3	4	0	1
24	B	Cable Jointer	3	0	-3	0	0	1
Total Manpower (Group A and Group B)			**224**	**243**	**19**	**243**	**0**	**160**

Additional Posts (Total Proposed – Sanctioned are highlighted in yellow

Proposed Manpower for CED – Overall Summary (Group C and D)

Proposed Manpower for Chandigarh Electricity Department – Group C			Sanctioned	Total Proposed Manpower	Proposed In-House	Proposed Outsourced	As-Is Manpower
#	Group	Designations					
1	C	Upper Divisional Clerk/ Lower Divisional Clerk/ Steno typist/ Cashier	242	194	97	97	73
2	C	Meter Reader		50	0	50	30
3	C	Storekeeper		1	1	0	1
4	C	Lineman/SSA	455	320	160	160	325
5	C	Assistant Lineman	625	526	263	263	300
6	C	Driver	1	6	3	3	17
7	C	Driver - Others	53	34	16	18	18
9	C	Meter Mechanic	8	8	8	0	4
10	C	Junior Draftsman	6	0	0	0	1
11	C	Consumer Clerk	10	0	0	0	10
12	C	Electrician/Plumber/Blacksmith/Carpentar/Mason	20	0	0	0	4
15	D	Store Attendant/Trade Mate	24	12	4	8	18
Total Group C			**1444**	**1151**	**552**	**599**	**801**
Grand Total (Without Group D)			**1668**	**1394**	**795**	**599**	**961**

Proposed Manpower for Chandigarh Electricity Department – Group D			Sanctioned	Total Proposed Manpower	Proposed In-house	Proposed Outsourced	As-Is Manpower
#	Group	Designations					
2	D	Jamandar	1	1	1	0	1
3	D	Bill Distributer	18	16	16	0	16
4	D	Lab Attendent	14	8	8	0	8
5	D	Truck Cleaner	1	1	1	0	1
6	D	Peon	63	43	43	0	43
7	D	Chowkidar / Sweepr/ Sweeper cum Chowkidar	39	26	26	0	26
8	D	Mali	6	1	1	0	1
Total Group D			142	96	96	0	96
Grand Total (With Group D)			**1810**	**1490**	**891**	**599**	**1057**

Thank You