CHAPTER 2

POWER DISTRIBUTION COMPANIES IN CENTRAL INDIA

ABSTRACT

This chapter introduces the power distribution companies (DISCOMs) in central India. The first part of the chapter presents the brief genesis and present status of all the four DISCOMs operating in central India. The chapter elaborates on the training programs and the activities at the DISCOMs under study. For preparing the questionnaire items the researcher collected the reflection of the managers involved in decision making on the conduct of training and those, who are directly involved in imparting training at power distribution companies under study.

2.1. INTRODUCTION

Energy plays a pivotal role in the development of a region (Ramchandra and Hegde, 2015). Economy of the country is influenced by energy, technology improvement from extraction to end use and supply-demand balance (Parikh and Radhakrishna, 2002; Asafu-Adjaye, 2000). Power distribution companies (DISCOMs) have a major role in the socio-economic development of the area under their operation (ADB, 2014). A huge share of the labour force and distribution infrastructure is required by the DISCOMs, which generates both positive and negative externalities with huge social costs (Gupta, 2008). The study of losses in the distribution system, and initiating schemes for their progressive reduction is of prime importance at DISCOMs (Vishwakarma and Dwivedi, 2016). Modern technologies and practices are being widely employed by DISCOMs to keep their system as well as manpower updated with latest developments (ADB, 2014). The commercial viability of the DISCOMs can be attained by understanding the balance of power customer interest based on the quality of service and tariff (MPCRPDC, 2010). Thus, frontline managers' services at DISCOMs are not only limited to providing reliable supply but also educating customers on their installation, creating awareness on safe and efficient usage of electricity, and motivating them to be a responsible customer (Vishwakarma and Tyagi, 2016).

2.2. BRIEF GENESIS AND PRESENT PROFILE OF DISCOMS IN CENTRAL INDIA

Power distribution companies were set up in the central India for many reasons. Less dependence on the government and the commercial viability was amongst the few major reasons for which DISCOMs were set up (ADB, 2014). There are four power distribution companies (DISCOMs) operating in central India. These power distribution companies are – Madhya Pradesh Eastern Region Power Distribution Company (MPERPDC), Madhya Pradesh Central Region Power Distribution Company (MPCRPDC), Madhya Pradesh Western Region Power Distribution Company (MPWRPDC), and Chhattisgarh State Power Distribution Company Limited (CSPDCL). The present study takes account of all the DISCOMs at central India. The details of DISCOMs at central India are as follows:

1. **M.P Eastern Region Power Distribution Company (MPERPDC):** Under the Companies Act 1956, Madhya Pradesh Eastern Region Power Distribution Company was incorporated as a wholly owned Government Company. On July 01, 2002 this DISCOM was registered as "Madhya Pradesh Poorva Kshetra Vidyut Vitaran Company Limited". "Poorva Kshetra" in English language means "Eastern Region", and "Vidyut Vitaran" means "Electricity Distribution". The areas covered under MPERPDC are the districts included in the commissionaires of Jabalpur, Sagar, and Rewa.

Table 2.1: MPERPDC's Mission, Vision and Values

Madhya Pradesh Eastern Region Power Distribution Company (MPERPDC)
Vision Statement: To be the best electricity supply company in India by continuously enhancing its technological leadership and commercial acumen to satisfy its customers. **Mission Statement**: To provide quality electricity supply to each customer satisfying his / her needs in most efficient and effective manner at reasonable prices through continuous innovations and by maintaining commercial & financial viability of the company along with employee's satisfaction. **Value Statement**: Company and its employees commit themselves to honesty and integrity,

result oriented work, transparency in work, dedication to duty, cost consciousness, openness to suggestions and feedback from all stake holders.

Action Statement: The main objectives are to achieve efficiency gains, self-sustainability, commercial viability, and less dependency on government.

"The Company's top priority is to ensure quality electricity supply to customers, and recovering revenue from them." - Mukesh Chand Gupta, IAS, Managing Director

(Source: Site visit and personal interview with Mr. Harsh Mishra, Deputy General Manager, Madhya Pradesh Eastern Region Power Distribution Company)

2. **Madhya Pradesh Central Region Power Distribution Company (MPCRPDC):** Under the Companies Act 1956, Madhya Pradesh Central Region Power Distribution Company was incorporated as a wholly owned Government Company. On May 31, 2002 this DISCOM was registered as "Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited". "Madhya Kshetra" in English language means "Central Region", and "Vidyut Vitaran" means "Electricity Distribution". MPCRPDC undertakes the activities of distribution and retail supply of electricity in the districts included in the commissionaires of Bhopal, Hoshangabad, Gwalior and Chambal.

Table 2.2: MPCRPDC's Mission, Vision and Values

Madhya Pradesh Central Region Power Distribution Company (MPCRPDC)
Vision Statement: To establish as the best state distribution utility in India with continuous improvement in performance and service standards. **Mission Statement**: Dedicate to plan, build up, operate and maintain the state distribution system to facilitate distribution of electricity from its source, in a reliable and economic manner. Provide an efficient distribution service in a transparent and non-discriminatory manner by adopting the best practices and standards laid down from time to time. **Value Statement**: Achieving Commercial viability of the Company by providing quality, reliable and environmental safe power supply at economical rate, to the customers. **Action Statement**: The main objectives are to always work to the best of ability in serving

the customers and ensure excellence in meeting expectations held towards the company. The company aims to benefit the government and citizens of the state in their respective requirements with timely and efficient services. *"The Company aims to ensure fair employment practices, which recognize and uphold human resource as an important asset. The company vows to become one of the best state distribution utilities in India with continuous improvements in performance and service standards."* - Vivek Kumar Porwal, IAS, Managing Director *(Source: Annual Report, 2014 and personal interview with Rajnish Reja, Deputy General Manager, Madhya Pradesh Central Region Power Distribution Company)*

3. **Madhya Pradesh Western Region Power Distribution Company (MPWRPDC):** Under the Companies Act 1956, Madhya Pradesh Western Region Power Distribution Company was incorporated as a wholly owned Government Company. On July 01, 2002 this DISCOM was registered as "Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited". "Paschim Kshetra" in English language means "Western Region", and "Vidyut Vitaran" means "Electricity Distribution". MPCRPDC undertakes the activities of distribution and retail supply of electricity in the districts included in the commissionaires of Indore and Ujjain.

Table 2.3: MPWRPDC's Mission, Vision and Values

Madhya Pradesh Western Region Power Distribution Company (MPWRPDC)
Vision Statement: To rank amongst the best ten DISCOMs in India in terms of: financial viability, consumer satisfaction, and safety measures. **Mission Statement**: To transform company into a commercially viable and financially healthy enterprise by fostering growth of employees, adopting modern technology and best practices, reducing distribution losses, providing reliable, quality and safe power to the consumers at affordable rates, and promoting policies that support faster economic growth. **Value Statement**: Company and its employees commit themselves to honesty and integrity, result oriented work, transparency in work, dedication to duty, cost consciousness, openness

to suggestions and feedback from all stake holders.

Action Statement: The main objectives are to achieve efficiency gains, become commercially viable, progressively self-sustainable, less government dependent, and balance the interest of consumers in regard to quality of service and economical tariff.

"*We are committed to provide reliable quality power supply to consumers at affordable tariffs.*"- Akash Tripathi, IAS, Managing Director

(Source: RTI Manual, 2016 and personal interview with Mr. R.D Agarwal, Ex-Chief Engineer, Madhya Pradesh Western Region Power Distribution Company)

4. **Chhattisgarh State Power Distribution Company Limited (CSPDCL):** Under the provisions contained in Section 131-134 of Electricity Act 2003, Govt. of Chhattisgarh vide its notification number F1-8/ 2008/ 13/ 1 dated 19.12.2008 had reorganized erstwhile Chhattisgarh State Electricity Board (CSEB) into five companies. Accordingly, Chhattisgarh State Power Distribution Company Limited (CSPDCL) came into existence on January 01, 2009. CSPDCL was registered by the 'Registrar of Companies M.P & C.G' under the title "Chhattisgarh Rajya Vidyut Vitaran Company Limited". "Rajya" in English language means "State", and "Vidyut Vitaran" means "Electricity Distribution". The company handles distribution and retail supply of electricity across the Chhattisgarh State.

Table 2.4: CSPDCL's Mission, Vision and Values

Chhattisgarh State Power Distribution Company Limited (CSPDCL)
Vision Statement: To establish as one of the best DISCOM in India. **Mission Statement**: To adopt best business practices, implement modern technologies in the business, reducing distribution losses, provide reliable and quality power to consumers at affordable rates, provide power supply to the consumers 24 Hours x 365 days, and implement growth policies. **Value Statement**: Providing consumer satisfaction through service excellence, and supporting faster economic growth of Chhattisgarh State.

Action Statement: Company's strengths are satisfactory progress in terms of reforms and restructuring, implementation of key reform measures, strengthening of regulatory environment, 100% metering, anti-theft measures, consumer service, and debt repayment.

'24x7 Power for All' (PFA) programme will be implemented by Government of Chhattisgarh with active support from Government of India, with the objective to connect the unconnected in phased manner by FY 2017-18, ensure 24x7 quality, reliable and affordable power supply to all Domestic, Commercial Agriculture and Industrial consumers within a fixed time frame.' - Joint Statement of State and Central Government.

(Source: Ministry of Power, Govt. of India, State Distribution Utilities First Annual Integrated Rating, 2013, page 28 and personal interview with Ranjit Ghosh, Executive Engineer, CSPDCL)

On the basis of above tables, it can be safely asserted that the customer is at the core of DISCOMs' operations. Customers are important stakeholders of utility companies who, very basically, pay for the services and with the formation of independent DISCOMs to manage distribution systems, their expectations are on the rise (Smith and Wood, 2004). The role of distribution system after reforms in utility sector has become more important (Mishra, 2008). The utility services and their infrastructure are important for better customer services (Nathan, 2011). Table 2.5 presents the demographic, technical, and manpower details of DISCOMs under study.

Table 2.5: Demographic and Technical Composition of DISCOMs Under Study

Particulars		**MPERDC (2016)**	**MPWRDC (2015)**	**CSPDCL (2015)**	**MPCRDC (2014)**
Offices	City Zones	53	56	52	87
	Distribution Centres	428	427	364	260
Area of operation (sq. km)		135,162	65925	135194	96069

Population (2011) of DISCOM's area	28993519	20215709	27928015	22387433
Employees Strength	12503	11085	10439	15017
Peak demand (MW)	2134	3856	3948	3321
High Voltage Customers	1327	2013	2318	1735
Low Voltage Customers	4490655	3830198	4292288	2936656
Sanctioned load (MW)	5758.63	5040	7394	5605
Energy units purchased (MU)	17969	16432	17592	17107
Energy Units sold (MU)	13710.40	10412	17106	11557.39

(Source: Past annual reports of DISCOMs under study)

Utility companies provide essential services to the public, for this, they need heavy infrastructure (TAC, 2013). Customers' satisfaction has always remained important at the former State Electricity Boards (SEBs) as well as lately formed power distribution companies (DISCOMs) (Vishwakarma and Tyagi, 2016). However, the electricity customers in India have for long been at the receiving end. Customers' satisfaction surveys most of the time surfaced customer dissatisfaction and displeasure with power distribution services (PCL, 2013). The studies on customer services in power distribution companies are listed in Table 2.6.

Table 2.6: Studies undertaken on DISCOMs' Customer Services.

S. No.	Author(s)	Year	Dimension(s)
1	Kushwah and Bhargav	2014	Understanding customers' needs, and expectations.
2	Ramachandra and Bilolikar	2014	Customers' grievances and redressal
3	Masoud et al.	2013	DISCOM-customer relationship
4	Satapathy and Mishra	2013	Customer oriented systematic framework
5	Yadav	2013	Geographical Imaging System (GIS) in Power Sector Management

6	Sinha	2011	Information Technology (IT) applications in Power Distribution
7	Mishra	2008	Educating customers on the installation- safety, efficient usage, and beneficial schemes
8	Zeithaml et al.	2006	DISCOM-customer relationship
9	Smith and Woods	2004	Educating customers on energy efficiency
10	Purcell et al.	2003	Quality customer services by staff

2.3. TRAINING DEPARTMENT AT DISCOMS IN CENTRAL INDIA

Establishing a relationship with members of the organization is very important. A liaison team may be formed, which provides a two-way communication network in order to increase people's motivation in the organization (Glasser and Taylor, 1973). DISCOMs need to train their manpower on the new emerging technologies, customer care and customer support to maintain a good image in public (Zeithaml et al. 2006). For this each organization has Human Resources Department which is responsible for the conduct of training. A description of the training and development department at the DISCOMs under study is presented below. This information is sourced from site visits and discussions with the managers involved in decision making on the conduct of training, and those who are directly involved in imparting training at power distribution companies under study.

1. **M.P. Eastern Region Power Distribution Company (MPERPDC):** MPERPDC has a dedicated Human Resource & Administration department headed by an Executive Director. The department of Human resources is responsible for the conduct of training programs at MPERPDC. Madhya Pradesh Eastern Region Power Distribution Company has ISO 900:2008 certified training institute christened as, 'Central Training Institute'. The central training institute is based at Jabalpur in company's corporate headquarters (Figure 2.1). The head of the Central Training Institute is designated as Deputy General Manager; the institute undertakes the following activities:

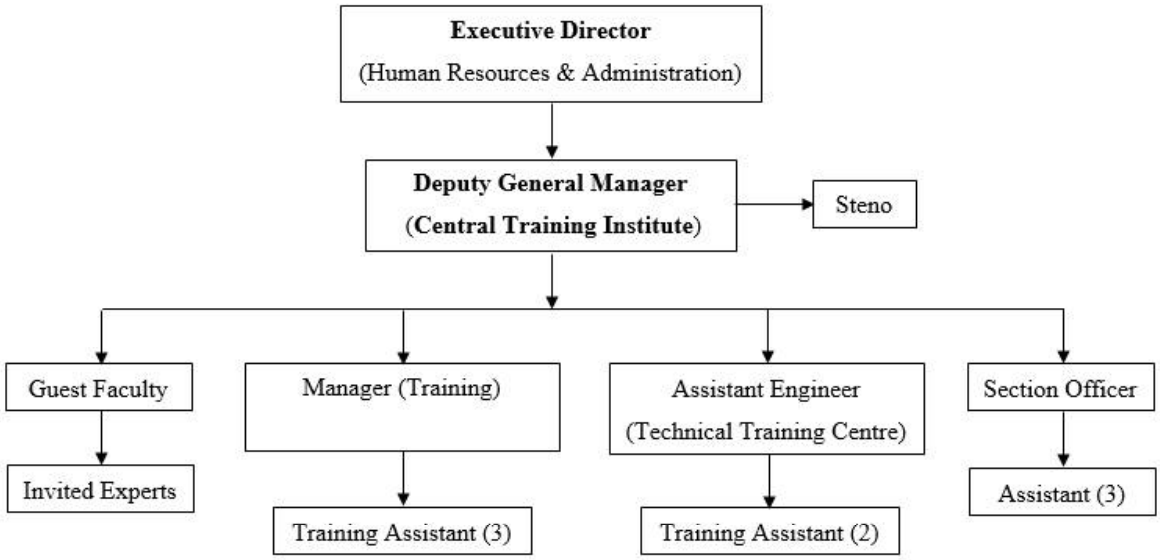

Fig. 2.1: Training Department at MPERPDC

a) Imparting class room training, conducting practical sessions, demonstrations, seminars and workshops, field visits. These activities are for different cadre of trainees (Assistant Engineers (A.E.), Programmers, Accounts Officer, Junior Engineers (J.E.), Testing Assistants, Office Assistants, Line staff, and other such staff.
b) Examination and evaluation of the trainees.
c) Upkeep and maintenance of training records.
d) Preparation and submission of the information and correspondences pertaining to training, examinations and evaluation.
e) Overall management of training centre and trainees' hostel.

The institute initially provide induction training to the newly recruited junior engineers and assistant engineers. Training in accounts and audit practices is also given to in-service personnel on introducing advanced software; training is being given to officers and employees of different departments as chosen by top management. The institute is affiliated to Rural Electrification Corporation (REC) and Power Finance Corporation (PFC).

2. Madhya Pradesh Central Region Power Distribution Company (MPCRPDC): MPCRPDC has Human Resource & Administration department headed by a Chief General Manager. Madhya Pradesh Central Region Power Distribution Company has ISO 900:2008 certified training institute christened as, 'Power Distribution Training Centre' administered by Power Distribution Training Centre Society (a society constituted under Madhya Pradesh Society Act by MPCRPDC based at Bhopal in company's corporate headquarters).

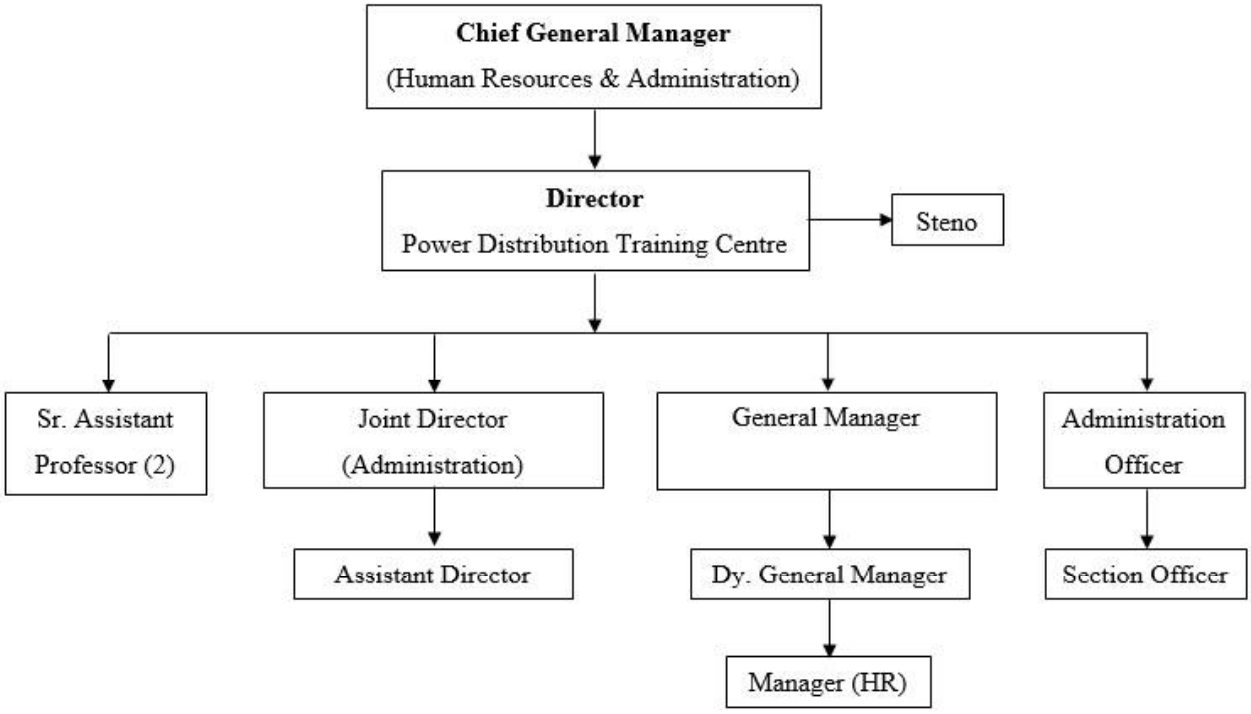

Fig. 2.2: Training Department at MPCRPDC

The training centre is headed by a Director who reports to the CGM (Human Resource & Administration), and he / she is also the President of Power Distribution Training Centre Society (Figure 2.2). The centre is responsible for:

a) Job analysis.

b) Research and training needs assessment.

c) Enhancement of knowledge and skills of employees.

d) Development of training resources (audio, video and written content), coordination with corporate office and forum of company, conducting training programmes, engagement of faculty resources, and faculty development.

e) Rising financial resources for the centre.

f) Tying ups with similar educational or training institutes of repute at state, national and international levels.

g) Establishing as a nationally recognized leading training institute in its sector for conducting power distribution training for other power distribution companies.

h) Developing and maintaining necessary training infrastructure including hostel, library, computer centre, residence facility for trainees, sports facility and outdoor training facility.

3. Madhya Pradesh Western Region Power Distribution Company (MPWRPDC): MPWRPDC has a dedicated Human Resource Department headed by a Chief General Manager. The company's organization structure is presented in Figure 2.3.

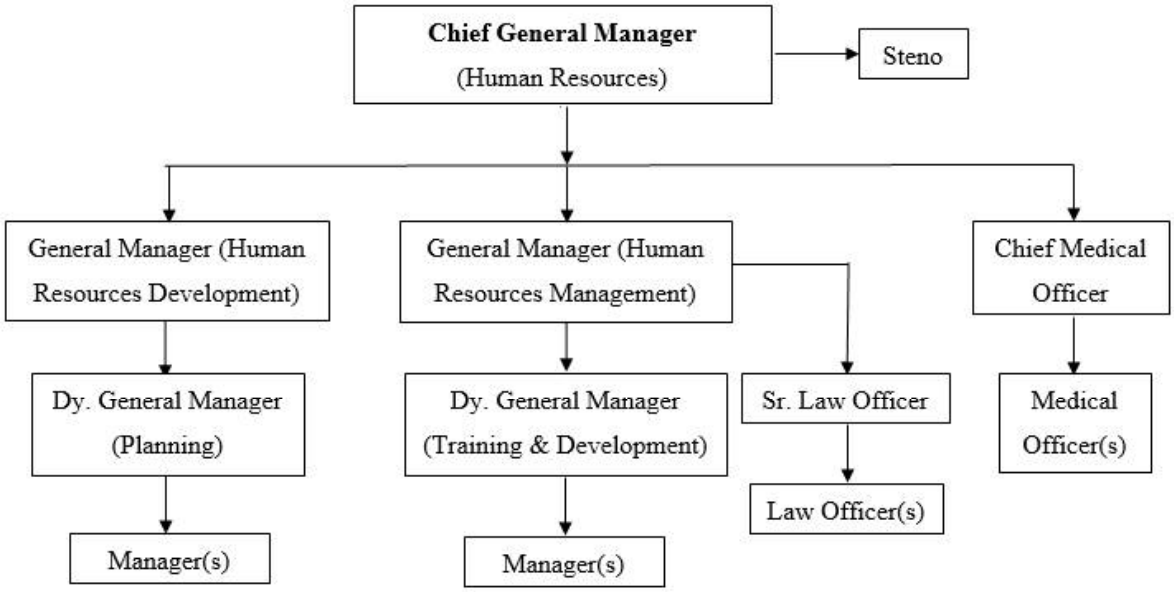

Fig. 2.3: Training Department at MPWRPDC

(Source: MPWRPDC- Organization Structure Report, 2012)

The human resource development department is responsible for - personnel & staffing, incentive planning, career planning, succession planning and manpower planning. The General Manager, who directly reports to Chief General Manager, is also responsible for human resource information system and employee database. The human resource management department is responsible for appraisals management, estate administration, industrial relations & liaison,

employees' benefits and compensation management. The human resources department is managed by a General Manager and a Manager. A provision for Deputy General Manager is kept for managing recruitment and training & development. Company's training policy foresees to provide opportunities for learning and development to its employees through workshops and training programs in both functional and operational (supervisory) areas. Employees are considered for both in-house and external training programmes, subject to the fulfilment of the eligibility criteria, to enhance their skill and competencies. Company's training institute organizes both in-house trainings and external training. In-house training also includes induction program. Induction program is to introduce and train the new recruits on company's structure, function and policies. This program is mandatory for all new entrants. External trainings can be provided to the employees at national institutes or overseas courses to improve and update their knowledge, abilities, attitude and skills. The corporate office issues annual training calendar.

4. **Chhattisgarh State Power Distribution Company Ltd. (CSPDCL):** CSPDCL has 'Central Training Institute' and 'Lineman Training Centre' at company's corporate headquarter in Raipur. The Central Training Institute conducts induction program to newly recruited Junior Engineers, Assistant Engineers, and administrative staff. Training in accounts and audit procedures is also given to the in-service personnel. Lineman Training Centre trains the Line Assistants and Line Attendants. In addition, in-house training courses are also organized to meet specific needs. The Training Department is headed by a Chief Engineer, who is assisted by six officers, out of which four are at engineers at executive level while the remaining two engineers at assistant level. Chhattisgarh State Power Distribution Company's organization structure is presented in Figure 2.4.

The company runs the Energy Info Tech Center (EITC). It has also established a State of Art Centralized Data Center at Raipur. The company, under SAP-Enterprise resource planning project has implemented many modules such as: Billing Module, Material Management Module, Human Resource Module, FICO Module FI (Financial Accounting) and CO (Controlling), Supplier Relationship Management (SRM) Module, and Document Management System Module. The employees from various departments, who need training on information technology, System Applications Project (SAP) modules for efficient operations, have been trained under enterprise resource planning project. The company has also networked its own

intranet connecting more than its 845 officers over Chhattisgarh State for efficient real time operations and internal communication.

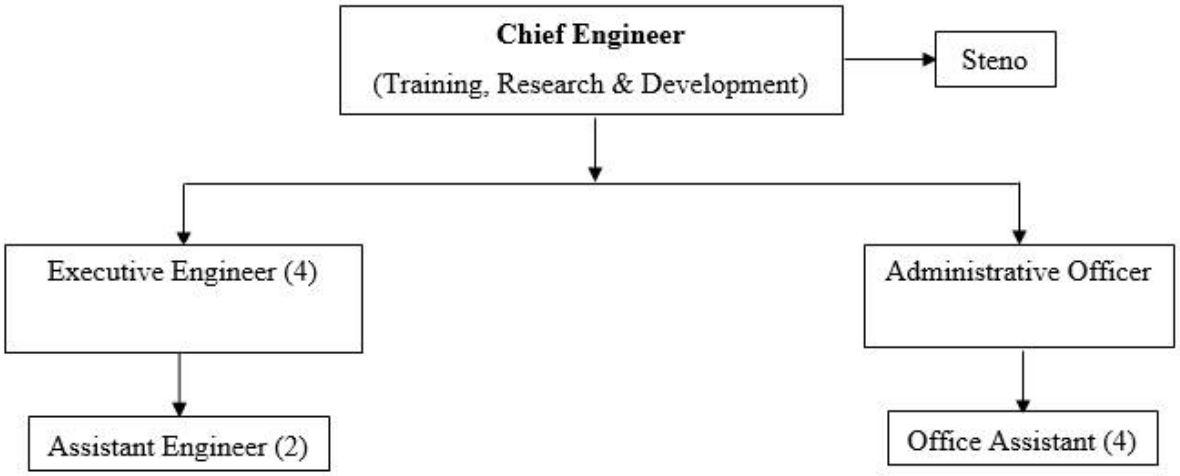

Fig. 2.4: Training Department at CSPDCL

The objectives of training centres and functions of training department described above confirm that the DISCOMs under study conduct induction of their new recruits, and that too very efficiently. The DISCOMs under study conduct many training program and activities as per their training schedule planned in discussion with upper level. Table 2.7 tabulates the training programs and activities being undertaken at the DISCOMs under study.

Table 2.7: Training Programs and Activities of DISCOMs Under Study

DISCOM	Training activities and programs
MPERDC	• Institute has facilities of class room training, conducting practical sessions, demonstrations, seminars, workshops, and field visits for Engineers, Programmers, Account Officer, Testing Assistants, Office Assistants, and Line staff. • Induction program for the newly recruited engineers and administrative staff.
MPWRDC	• Company's training institute organizes in-house and external training. • Induction program for the newly recruited engineers and administrative staff.

	• Workshops and courses on both functional and operational (supervisor) areas.
MPCRDC	• Company has its own Power Distribution Training Centre at Bhopal which is responsible not only to conduct training but also to develop and maintain the necessary training infrastructure, resources and international tie-ups. • Induction program for the newly recruited engineers and administrative staff.
CSPDCL	• Company has its Central Training Institute in Raipur. • Induction program for the newly recruited engineers and administrative staff. • Accounts and audit training. • Linemen Training Centre to train line staff. • In-house training courses.

(Source: Site visits, Personal interviews, Company's Annual Reports and Newsletters)

The echelons during discussions conferred that training has always been an integral part of operations. The application of utility related software for technical and commercial work as an outcome of reforms is the area where power distribution companies should concentrate its training programs (Vishwakarma and Tyagi, 2016). The upper level during personal visit submitted that analytical capability, IT skills, commercial approach, and customer care are now the most important competencies for frontline managers. Frontline managers are now expected to conduct technical analysis and develop highly efficient networks. They should be able to implement pre-paid metering technologies wherever needed. They should be able to professionally address customer grievances, and ensure customer care. The researcher discussed the training and development practices followed at the DISCOMs under study during his site visits with managers at upper level. These reflections of DISCOMs echelon on front line managers training are compiled in Table 2.9 which were later used for developing questionnaire items. Researcher has taken help of NVivo software to develop codes for developing questionnaire item statements. Studies which have followed similar method are enlisted in the Table 2.8. Several studies in the literature have used the coding as methodology to extract items for developing their questionnaires (Alikinani, 2013; Jones, 2008; Dwivedi, 2005; Nfila, 2005).

Table 2.8: Studies carried out coding to develop questionnaire items' statement

S. No.	Author	Year	Dimensions
1	Kreitz	2007	Fair training practices
2	Jungert	2012	Support from co-workers and managers in teams when working
3	Kihongo	2011	Factors inhibiting effective staff training
4	Oade	2009	Managing workplace bullying
5	Verhoest et al.	2007	Pressure, legitimacy, and innovative behaviour
6	Liu	2007	Learning satisfaction
7	Smith	2000	Applying knowledge-enabling methods
8	Quinlan et al.	2001	Precarious employment - effective communication
9	Lowe and Northcott	1995	Stressful working conditions and union dissatisfaction
10	Tracey	1992	Designing training and development systems

Table 2.9: Coding upper level reflections to develop questionnaire items' statement

Reflection and Resource Person	Coding
"There is hardly any systematic effort to assess training needs of frontline managers. Even though executives voice their training requirement in their annual appraisal forms, but the decisions on training are often being taken at management level without consulting frontline managers and their immediate superiors (middle managers). Frontline managers don't get any other platform to voice their training needs. There are hardly any customer satisfaction surveys to assess rising customers' expectations. They often get pressure from multiple sources." – Dr. SM Akhtar, Retired Member (Transmission & Distribution) Madhya Pradesh State Electricity Board, Jabalpur	*Decisions* *Pressure* *Training* *Systematic* *Customer* *Survey* *Management*
"Apart from asking training needs in the annual appraisal form, there	

is no systematic procedure for TNA. Subsequent to the induction training at the time of initial entry, there is no mandatory training or refreshers for the in-service engineers. Management needs to take strong decisions on training the frontline managers. At times training is given on any new technology, but to only those who are likely to use that technology. Sometimes there is pressure on selection of participants. Not much effort is made or surveys conducted to understand customers' expectations from DISCOMs." - PK Lal, Ex-Chief Engineer, Madhya Pradesh State Electricity Board, Jabalpur.	
"TNA is a part of executives' annual performance appraisal, and is shared with the training department. The annual appraisal form collects managers' training needs in their opinion. The outcome of collecting this info is however not encouraging. Decision on selection of participants is sometimes biased. In spite of management's initiative, at times participants don't get release for training due to work pressure. A large number of managers do not get any training opportunity for years together. Scarcity of resources remains quite often. Rarely customer-surveys are conducted to know their changing expectations from DISCOMs. There is a need of systematic efforts."- BL Ratley, Retired Superintending Engineer, Madhya Pradesh State Electricity Board, Jabalpur.	
"The mid-term and annual appraisals give opportunity to all executives to document their concerns and training needs to perform better. Comments of their superiors are then collected before routing the appraisal forms to the management. Management, together with the departmental heads, reviews the comments, and makes decisions on training. Systematic efforts to carry out periodic customers-survey are needed to understand their needs. There is often pressure to meet deadlines and targets" - NR Vishwakarma, Retired Superintending Engineer, Madhya Pradesh State Electricity Board, Jabalpur	

(Source: personal interviews with resource person)

The training literature relates numerous instances which enables the organisations to empower its workforce, so as to enhance its skills, competencies, and performance (Carlisle et al., 2012; Eerde et al., 2008; Schneier et al., 1988; Smith et al., 1986). Table 2.9 shows that DISCOMs' have training policy to ensure training opportunities for effective performance of frontline managers in their job role. Frontline managers' services at DISCOMs are not only limited to providing reliable supply but also to educate customers on their installation, creating awareness on safe and efficient usage of electricity, and motivating them to be a responsible customer. Therefore, studies on customer related skills of front line managers are compiled in Table 2.10, these studies are also considered for developing questionnaire items as presented in Table 2.11.

Table 2.10: Studies undertaken on DISCOMs' frontline managers' customer related skills

S. No.	Author	Year	Findings
1	TERI 2015	2015	Customer care executives are the voice of the franchisee, thus, it is very important to build capacity of the executives on the various aspects related to faults and complaints.
2	Talbott	2013	By offering customers an array of service options corresponding to different levels of reliability and prices, with higher reliability plans carrying higher prices, retailers could unlock both additional revenue flowing into the power sector from end users and a higher level of welfare for those users.
3	Sony and Mekoth,	2012	At times frontline managers are caught in the middle between discerning customers' service excellence demands and management's productivity and performance requirements. Also most often they need to participate in unscripted and challenging interactions with customers.
4	Chawla	2012	There is a demand & supply gap, felt in the power sector be it by the people and / or industry and yet Industry is not getting what they require in terms of qualitative inputs Industry requires from

			the new entrants to the Industry. The HR Team in addition to power sector needed skills have also to focus on communication skills, lifelong learning, problem solving, professionalism, teamwork, updating oneself – self learning.
5	Alexandrov et al.	2007	Frontline employees are perhaps the most critical link in the provision of superior service to customers and their actions
6	Bencsik	2006	Customers' opinion of overall service quality is very much influenced by the impression, when they encounter front-line staff. Providing the right quality staff is even more important than having the right number of staff in any company.
7	Ilic et al	2003	Decision on new capacity and operations will have to be made with a view to its costs and expected revenues.

The reflections of upper level and power sector professionals, on the competencies required by DISCOMs' frontline managers to be able to perform their changed roles in terms of customer services, are tabulated as follows (Table 2.11)

Table 2.11: Coding upper level reflections on FLM's customer related skills to develop Questionnaire items' statement

Reflection and Resource person	Coding
"Quick restoration of power supply if there is an interruption. Clean power supply is the new aspect, and pollution free power supply is the requirement of the present day consumers. Frontline managers with upgraded technical and commercial skills are required to provide cheap power with 100% recovery of cost of power along with return on capital investment. They must have better interaction with all stake holders. They should be good at data analysis."- Dr. R.P. Bhatele, Retired Executive Director, Madhya Pradesh State Electricity Board.	1. Supply restoration. 2. Clean power 3. Data 4. Customer 5. Skills 6. Interaction 7. Technical 8. Commercial
"Improved the customer complaints, better customer interaction, quick	

supply restoration, consumer data, and monitoring reports, upgraded technical and commercial skills, efforts for clean power etc."- C.P. Sharma, Retired Executive Director (Commercial), Uttarakhand Power Corporation Limited, Dehradun.	
"They must have customer orientation and customer interaction and relationship management skills, good business communication, negotiation skills and inter-personal skills with emotional intelligence. They should be able to encourage customers for clean power by giving supporting data. They should be prompt on supply restoration, and resolving technical & commercial issues. "- P.A.R. Bende, Executive Director, Madhya Pradesh Power Transmission Company.	
"*Customer interaction, clean power, prompt supply restoration, fault data-analysis, are the few newly emerged technical and commercial skills in which DISCOMs' frontline managers need training."*- S.K. Chaudhary, Principal Director, National Power Training Institute, Faridabad.	
"Technical areas include quick supply restoration, clean power. Commercial areas include, meter management, updated customer data-base, better customer interaction, billing system. They need to be trained on these skills"- Indu Maheshwari, Deputy Director, National Power Training Institute, Faridabad.	

The view points of the managers at upper level and power sector professionals suggest following research theme for literature review – *Customers' expectation from the distribution sector after reforms*.

Studies on technical skills of front line managers are compiled in Table 2.12, these studies are also considered for developing questionnaire items as presented in Table 2.13.

Table 2.12: Studies undertaken on DISCOMs' frontline managers' technical skills

S. No.	Author	Year	Findings
1	Bhattacharya	2016	Enterprise Resource Planning (ERP) enables an environment for integration of utility applications. More than 60% Indian state utilities have not yet implemented ERP solution to integrate their business. Success of a ERP implementation project depends on meeting some critical factors, including top management involvement & support, organisation culture improvement towards ERP system adaptability, and user involvement and training.
2	Deloitte Report on the future of global power sector	2015	As the power industry evolves, utilities will have to change profile of their professionals from technical experts focused on technical excellence to new professionals who possess management, analytical and commercial capabilities. Power companies are shifting to more complex, data driven, "smarter" technologies.
3	Dasgupta	2015	The crux to increase reliability of power lay is in the capability to remote observing and control of the distribution network. Customization of the SCADA system to suit the needs of the network, and training of operators lays the ground for the automation drive. Adoption of new technology, improvement of processes, and solving of encountered problems in a novel way has formed the gamut of technological innovation.
4	Talbott,	2013	In his discussion paper, Lighting the Way: Unlocking Performance Gains in Electricity Distribution and Retailing in India' concludes that the poor management practices at Indian

			DISCOMs present obstacles to more efficient operation and improved financial performance by distributors.
5	Report of Ministry of Power	2012	Low levels of computerization and inadequate IT systems at DISCOMs make it difficult to track sales and collection rates.
6	Ghorai	2012	In the corporate and field level, there is a distinct skill gaps which have arisen due to lack of knowledge upgradation of experienced staff or absence of skill transfer to the newly employed staffs. Both existing employees and new recruits need update on technological scenarios. A core team should be identified and trained in the pilot locations selected for commercial process improvement and reduction of AT&C losses.
7	IEMR Report on Human Capital Challenges in Indian Power Sector	2011	Due to the technology intensive nature of the business, technical and managerial competency is critical. Training requirements in the power sector include mandatory training after induction, refresher courses for keeping the personnel updated and to build competencies.
8	Beattie	2006	Line managers' workplace learning, regular one-to-one performance discussions, provide them conditions for rapport and trust.

Table 2.13: Coding upper level reflections on FLM's technical skills to develop Questionnaire items' statement

Reflection and Resource person	Coding
"Engineers are not performing their exact duties, as there is no guidance given by the top management and non-availability of technical map. They are only concentrating on recovery of the revenue and not on technical aspects of it. Engineers are not trained on SCADA, IT	

applications, reducing system losses."- K.M Saxena, Retired Member (Transmission & Distribution), Madhya Pradesh State Electricity Board.	1. Top management 2. SCADA* 3. I.T 4. Reducing losses 5. Revenue recovery
"Electronic meters, computerized billing, IT applications, online accounts, reducing AT&C losses, revenue recovery, SCADA, smart grid are the newly emerged areas in which DISCOMs' frontline managers need training. Top management should review their training practices" - S.K Chaudhary, Principal Director, National Power Training Institute, Faridabad	
"Technical areas for training include IT, SCADA, distribution automation, energy auditing, reducing system losses, energy accounting, timely revenue recovery, GIS etc. Top management needs to emphasize on training activities"- Indu Maheshwari, Deputy Director, National Power Training Institute, Faridabad.	
"Frontline managers now require IT skills, using SCADA and DSS tools, analytical skills for reducing losses and revenue recovery, working with ERP, MIS, DMS, EA etc. Support of top management is anticipated"- P.A.R. Bende, Executive Director, Madhya Pradesh Power Transmission Company.	
"Reducing AT&C losses, recovery of revenue in a scientific manner with IT inputs, SCADA, and using computer for analysis are the areas of frontline managers' training. Training budget and support of top management is required" RD Agarwal, Retired Chief Engineer, Madhya Pradesh Western Region Power Distribution Company.	

(Source: personal interview) *SCADA stands for Supervisory Control and Data Acquisition

The view points of the top managers at higher level (above Additional Chief Engineer level) of power distribution companies, and the reflections of the independent professionals of power sector on DISCOMs frontline Managers' customer related skills. and technical skills trailed a research theme for literature review. Thus, the second research theme for literature review is '*Training needs in power distribution companies are affected by customers' expectations*.'

2.4. SUMMARY

1. There are four power distribution companies (DISCOMs) operating in central India. These power distribution companies are, Madhya Pradesh Eastern Region Power Distribution Company, Madhya Pradesh Central Region Power Distribution Company, Madhya Pradesh Western Region Power Distribution Company, and Chhattisgarh State Power Distribution Company Limited.
2. Several studies in the literature have used the coding as methodology to extract items for developing their questionnaires (Alikinani, 2013; Jones, 2008; Dwivedi, 2005; Nfila, 2005) similar methodology has been adopted in the present study.
3. Reflections of managers at upper level on training at DISCOMs and post reform role of FLMs related to changes in customer expectations and technology are coded to develop questionnaire items' statement.
4. The second research theme for literature review is, 'training needs in power distribution companies are affected by customers' expectations.'
5. The next chapter includes theory, processes, and models on training needs assessment (TNA).