

AN OVERVIEW OF ORGANISATIONS INVOLVED IN SKILL DEVELOPMENT OF POWER SECTOR

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Abstract : To accomplish the mission to have energy for all, it will require the skilled manpower at each level from lineman to the researchers; this study investigates the existing literature in the field of skill development activities prevailing in India with reference to power sector. The focus of the literature survey is to review the kind of organisation, various initiatives taken by public and private bodies to promote the enhancement of skill development in power sector. The aim is to structure and understand the way organisations involved in skill development activities in power sector. An attempt is made to draw an easy identification and classification of various ministries and organisations involved in providing short and long term training programmes dedicated to provide skilled workforce in the power sector.

IndexTerms – Training, Skill development, Power Sector

I. INTRODUCTION

With 50% population below the age of 25 and 65% below the 35, India is the second most populated country in the world, every year 12 million people are added in the working age population. This provides a golden opportunity for India to become the superpower but it also has a severe dilemma of uneven distribution of employment in the country. Large fraction of the population is either unemployed or partially employed or un-employable due to lack of skill set. The same problem exists in the ever growing power sector of the economy, the sector whose growth is of prime importance for the growth of a nation. For better functioning of the sector the Centre Electricity Act 2003 unbundled the sector into separate entities for handling generation, transmission, and distribution. The nation having abundant of solar, water, wind and geothermal resources, the pledge of clean energy using renewable sources to accomplish the 41% energy need demands more skilled and trained manpower.

II. OVERVIEW OF POWER SECTOR ORGANISATION INVOLVED IN SKILL DEVELOPMENT

For the 12th Five-Year Plan, a total of 88.5 GW of power capacity addition is targeted; of which, 72.3 GW constitutes thermal power, 10.8 GW hydro power & 5.3 GW nuclear power. Ministry of Power, Ministry of New and Renewable Energy and Power Sector Skill Council are working for achieving the targets and also to increase the skilled and employable workforce to serve the sector.

Under the skill development mission for identification and imparting training numerous sector skill councils are recognised whose objective is to share skills and employability concerns, categorising the key job roles with high employment dimensions, inputs for NOS/QPs, etc. To achieve the target of skilling, training and certifying 4 million workforces in Power Industry, Power Sector Skill Council was promoted by Ministry of Power, through Central Electricity Authority (CEA), Ministry of New and Renewable Energy (MNRE) and Indian Electrical & Electronics Manufacturers Association (IEEMA) with necessary support by National Skill Development Corporation (NSDC).

PSSC is involved in assessing LMIS demand and Supply, providing affiliation to training providers, creating the National Occupation Standards specifying the standard of performance, knowledge & understanding when carrying out a particular activity in the workplace aligned to job role called qualification pack. It is also involved in assessment of training partners and focus is towards training the trainers too.

III. MINISTRY OF POWER

The current Union Minister of State (Independent charge) is R.K. Singh. The ministry is charged with overseeing electricity production and infrastructure development, including generation, transmission, and delivery, as well as maintenance projects. The ministry acts as a liaison between the central government and state electricity operations, as well as with the private sector. The ministry also oversees rural electrification projects. Organisation under MOP is divided into three categories, they are:

Table 1.1

Statutory Bodies	Autonomous Bodies	Public Sector Undertaking
<ul style="list-style-type: none"> •Central Electricity Authority •Appellate Tribunal for Electricity •Central Electricity Regulatory Commission •State Electricity Regulatory Commission •National Load Despatch Centre •Regional Load Despatch Centre •State Load Despatch Centre •Bureau of Energy Efficiency •Damodar Valley Corporation •Bhakra Beas Management Board 	<ul style="list-style-type: none"> •Central Power Research Institute •National Power Training Institute 	<ul style="list-style-type: none"> •National Thermal Power Corporation •National Hydroelectric Power Corporation •Rural Electrification Corporation •North Eastern Electric Power Corporation •Power Finance Corporation •Power Grid Corporation of India •SJVN – A Mini Ratna Company •THDC India Limited

The two autonomous bodies mentioned are formed to serve the power sector in terms of providing short term, long term, refresher training, induction training and filling the customized need of the industry. NPTI & CPRI are not responsible for generation rather they look at the consultants for framing DPR's and running courses. NPTI is also involved in designing the working group report every year, conduct various academic courses like B. Tech in Power and MBA in Power which are niche and led by the NPTI. Apart from these both have training calendar for 2 weeks to 6 months programmes. Other organisations under statutory body and PSU also conduct the programs but mainly in the form of small workshop or for filling the gap of internal training requirements.

IV. MINISTRY OF NEW AND RENEWABLE ENERGY

Renewable energy training and study tours of two week short duration within or outside India to promote the manpower development was started in the year 1999-2000. In the same year National Renewable Energy Fellowship Scheme was introduced later in 2007-08 was reoriented to cater more manpower requirement by including the provision of training of professionals working in ministry, attached offices or autonomous bodies, in state Nodal Agency/Government/ Utilities, working R&D, NGO, community based organisation, banking and financial institution.

The need for developing the curriculum for inclusion in ITI's, diploma and degree course was identified. Government has increased the number fellowship from 50 to 400, identified 20 institution with 15 seats per institution will be selected based on open advertisement methodology. For rest of the fellowships, the selection will be made through open advertisement and evaluation of the received applications by a committee of experts.

The 400 fellowships will be distributed as follows:

Table 1.2

Course	Duration	Intake every year	Fellowship 1st Year	2nd Year	3rd Year (stabilized no. for subsequent years)
M.Tech	2 year	200	200	400	400
M.Sc	2 year	100	100	200	200
JRF	2 year	40	40	80	280*
SRF	3 year	40	40	80	120
RA/PDF	3 year	20	20	40	60
TOTAL		400	400	800	960

*This includes 200 integrated M.Sc students joining JRF.

(Source: <http://mnre.gov.in/human-resource-development>)

V. INDIAN ELECTRICAL & ELECTRONICS MANUFACTURERS ASSOCIATION (IEEMA)

Customized training programs and other programmes on diverse topic on technology, managerial fronts, taxation, law, import /export etc. are conducted by IEEMA. Around 5000+ professionals have participated in the programmes from 2001 to till date. Also about 70% of IEEMA members fall under skill development category as defined under MSME Act 2006.

VI. NATIONAL SKILL DEVELOPMENT COUNCIL

There are 54 training partners associated with the NSD to impart the training in the field of energy. Although Ministry, Gov. bodies, and other association are there to meet the manpower demand in power sector, NSDC offered to become the training partners to other private players so that they can contribute in skilling the young India and making efficient for the growth and achieving target of power industry.

Under the PMKVY around 54 partners are registered and a total of 95 centres are involved in the short and long term training programmes as per instruction and QP/NOS framed by PMKVY.

Table 1.3

State	No of training partners	No. of Training Centers	Targets
Chhattisgarh	3	11	4600
Haryana	11	26	4560
Madhya Pradesh	11	19	3804
Punjab	1	1	240
Rajasthan	14	15	2640
Uttar Pradesh	6	11	2700
Uttarakhand	1	1	480
Telegana	1	1	200
Bihar	2	2	340
Manipur	1	1	90
Orissa	1	3	330
Maharashtra	2	4	960
Total	54	95	20944

As per the table 1.3 around training is imparted in twelve states among which Haryana, Madhya Pradesh, Rajasthan and Chhattisgarh is having the more number of training centres. Although the highest no of training centres are in Haryana but the target allocation is more to Chhattisgarh. With 26 training centres in Haryana target is 4560 whereas with 11 training centres in chhattisgarh targets is 4600.

These twelve states at present are involved in imparting training for the below mentioned job roles. As the demand for Distribution Lineman is highest so the target allocation for it is more.

Table: 1.4

Job role name	Targets
Assistant Electricity Meter Reader, Billing & Cash Collector	60
Assistant Technician - Street Lighting Solutions (Installation & Maintenance)	260
Consumer Energy Meter Technician	7080
Distribution Lineman	12524
Technician – Distribution Transformer Repair	1020
Grand Total	20944

Among the twelve states involved in imparting training Uttar Pradesh and Rajasthan are the only states completely focusing on imparting training to individual job roles. The training for Assistant Electricity Meter Reader, Billing & Cash Collector is only provided in UP and for Assistant Technician - Street Lighting Solutions is only in Rajasthan.

Table: 1.5

Job role name	Training Centre State	Total
Assistant Electricity Meter Reader, Billing & Cash Collector	Uttar Pradesh	60
Assistant Electricity Meter Reader, Billing & Cash Collector Total		60
Assistant Technician - Street Lighting Solutions (Installation & Maintenance)	Rajasthan	260
Assistant Technician - Street Lighting Solutions (Installation & Maintenance) Total		260
Consumer Energy Meter Technician	Chhattisgarh	2480
	Haryana	360
	Madhya Pradesh	660
	Maharashtra	720
	Odisha	180
	Rajasthan	840
	Telangana	200
	Uttar Pradesh	1640
Consumer Energy Meter Technician Total		7080
Distribution Lineman	BIHAR	340
	Chhattisgarh	2120
	Haryana	4200
	Madhya Pradesh	2264
	Maharashtra	240
	Manipur	90
	Odisha	150
	PUNJAB	240
	Rajasthan	1440
	Uttar Pradesh	960
	Uttarakhand	480
Distribution Lineman Total		12524
Technician – Distribution Transformer Repair	Madhya Pradesh	780
	Rajasthan	240
Technician – Distribution Transformer Repair Total		1020
Grand Total		21124

1. For job role Assistant Electricity Meter Reader, Billing & Cash Collector total target allocated is 60 for which training is imparted in uttarpradesh containing 11 training centres.
2. For job role Assistant Technician - Street Lighting Solutions (Installation & Maintenance) total target allocated is 260 for which training is imparted in Rajasthan through 15 training centres.
3. For job role Consumer Energy Meter Technician total target allocated is 7080 eight states including Chhattisgarh, Haryana, Madhya Pradesh, Maharashtra, Odisha, Rajasthan and Telangana where Chhattisgarh is covering the highest training target of 2480.
4. For job role Distribution Lineman total target allocated is 12524 eleven states including Bihar, Chhattisgarh, Haryana, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand where haryana is covering the highest training target of 4200.
5. For job role Technician – Distribution Transformer Repair total target allocated is 1020 two states including Madhya Pradesh and Rajasthan where Madhya Pradesh is covering the highest training target of 780.

VII. INFERENCES

The skill development and meeting the manpower requirement in power sector is done through various bodies and modes. There are 10 statutory bodies, 2 autonomous bodies and 8 public sector undertakings which are taking care of the manpower requirement of the sector under MOP. All the statutory bodies are there to guide and mentor the various activities to be done to cater the demand of skilled workforce by the industry. Various academic integrated curriculum is been designed and fellowship is awarded to cater the high level demand of the industry under MNRE. Various integrated course are developed and fellowships are awarded to enhance the capability of manpower at the higher level, to understand the better and latest know how, increase the R & D for innovating the improved technology at low cost. For continuous apprising and up-gradations various workshops, seminars and short term programs are conducted by IEEMA. To involve the small private players according to LMIS and LMID various job roles along with the requirement are identified and organisation had got registered as training partners for providing training on the guideline of QP and NOS already developed.

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