

## 4. ENERGY

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### 4.1 POWER

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Outlay – Rs. 3300.00 crore

4.1.1 In the Annual Plan 2012-13, a sum of Rs. 3300 crore is earmarked for power sector. Strengthening of distribution system and transmission system, clearing of pending agriculture power connections and conversion of Low Voltage Distribution System (LVDS) into High Voltage Distribution System (HVDS) in agriculture sector are some of the initiatives planned for achieving full and effective rural electrification. The outlay which is 25% of the total plan funds includes Rs. 1800 crore for transmission, 769 crore for distribution and Rs. 731 crore for generation. The state government is committed to make making Punjab a power surplus state in near future. The present generation capacity of Punjab is 7035 MW including central share of 1973 MW, The State is likely to become power surplus by the year 2013-14 during 12<sup>th</sup> plan.

4.1.2 Power plays a vital role in the development of the overall economy of the State. In the State of Punjab, not only the industrial sector but the agriculture sector is also heavily dependent on power. In view of the rising living standards of the people of the State, the demand for power is increasing day by day. The main objective is to expand and strengthen the power generation system so that adequate power supply is available on demand to consumers in various sectors of the economy. For this, the strategy for the 12<sup>th</sup> Five Year Plan is as under:-

- (1) Maximum utilization of existing installed capacity by improving the performance of thermal power stations and renovation and modernization of old thermal/hydro power plants.
- (2) Expeditious commissioning of new projects.
- (3) To initiate advance actions on new schemes to be proposed.
- (4) Diversification of source of power generation-use of gas based thermal plants/biomass based plants and establishing nuclear power plants for Punjab.
- (5) Development of captive power plants.
- (6) Encouragement of captive power plants and cogeneration plants in the State.
- (7) Liberalizing setting up of new renewable energy source (NRES) based plants through attractive tariff and other concessions.

- (8) Augmenting and strengthening of the transmission and distribution systems to supply proper quality of power in both urban as well as in rural areas.
- (9) Reduction of Aggregate Technical and Commercial (AT and C) losses.
- (10) Conservation of energy and load management.
- (11) Adoption of information technology in the power sector.

4.1.3 Per capita consumption of electricity in the State has increased from 163 kwh in 1968 to 1163 kwh in 2011-12 and accordingly electricity consumption has increased from 700 million units to 33731.002 million units in 2011-12. The total installed capacity in 1967-68 was 614 MW which has increased to 7035 MW by the end of March, 2012. All the 12428 inhabited villages in the State have already been electrified. At present the number of consumers being served upto March, 2012 are 7604644 nos which includes general connections 6316865 nos, industrial connections 121207 nos, agriculture connections 1163274 nos and others connections 3298 nos in the State. In order to create employment/self employment opportunities and also to encourage agro based small scale industries in the rural areas, power supply on urban pattern has already been provided to 18866 villages including 12428 villages and 6438 deras and dhanies through independent feeders in the State. The total no of grid sub-stations are 790 as on March, 2012 and length of the transmission lines is 16733 Ckt. km as on 31/3/2012. Besides this, the length of 11kv lines is 184406 Ckt km and LT lines is 160738 Ckt km. The transmission and distribution losses which were 30.82% in 1999-2000 have been brought down to 17.65% during 2011-12 which shows overall reduction of about 13.09%.

4.1.4 An outlay of Rs. 5963.65 crore was approved in the 10<sup>th</sup> Five Year Plan for power sector, the expenditure incurred during the corresponding period was Rs. 4928.89 crore. The outlay provided for 2011-12 is Rs. 3300.00 crore. An outlay of Rs. 7055.83 crore was provided under sub-head "Power" in the 11<sup>th</sup> Plan against which an expenditure of Rs. 8771.79 crore has been incurred. An outlay of Rs. 22673.80 crore and Rs. 3300.00 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

Status as on 31/3/2012 is given below:

(1)	Installed Capacity (Own) (Including Common Pool)	4878 MW
(2)	Share from Central Sector Projects	1993MW
(3)	PEDA and other NRSE project including 10 MW Jalkheri	184MW
(4)	Total Installed Capacity	7035MW
(5)	Maximum Demand Met Within 2010-11	10471MW
(6)	Energy Sent Out 2010-11	33731.02 Mu
(7)	Connected Load	28573.74 MW
(8)	Per Capita Consumption	1131 kwh/yr
(9)	Numbers of Villages Provided Urban Pattern Supply including Deras and Dhanis	18866* Nos.
(10)	T and D Losses(Including Commercial)	17.65%
(11)	No of grid Sub Stations	790
(12)	Length of Transmission Lines	16733 Ckt km
(13)	Length of 11 KV Lines	184406 Ckt km
(14)	Number of Distribution Transformers	541000
(15)	Length of LT Lines	160738 Ckt km
(16)	Number of Connections	7604644
	(i) General	6316865
	(ii) Industrial	121207
	(iii) Agriculture	1163274
	(iv) Others	3298

\*Including 12428 villages and 695 deras and dhanis and 5743 additional deras/dhanies having a cluster of 5 or more houses.

### **Ongoing Schemes**

#### **Centrally Sponsored Schemes**

##### **PP-01 Transmission System**

*Outlay – Rs. 1095.41 crore*

4.1.5 The outlay for transmission includes execution of various 220/132/66/33KV sub stations and transmission lines, renovation and modernization works of existing sub stations, various PLC works and evacuation systems for Talwandi Sabo Thermal Plant through PGCIL on Turn Key basis. During 11<sup>th</sup> Five Year Plan an outlay of Rs. 2445.74 crore has been allocated to this component which included distribution, Restructured Accelerated Power Development Programme & Rajiv Gandhi Gramin Viduti karan Yojana. An outlay provided for Annual Plan 2011-12 is Rs. 1270.00 crore. An outlay of Rs. 2445.74 crore was provided under this scheme in the 11<sup>th</sup> Plan against which an expenditure of Rs. 3570.94 crore has been incurred. An outlay of Rs. 5777.05 crore and Rs. 1095.41 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan

2012-13 respectively. Targets for 11<sup>th</sup> Five Year Plan and achievements upto 3/2012 are as under:-

SN	Item	Units	11th Plan (2007-12)	2008-09	2009-10	2010-11	2011-12	2012-13
			Target	Achievements	Achievements	Achievements	Achievements	Targets
1	2	3	4	5	6	7	8	9
1	220 KV S/S New/ Upgradation/ Augmentation	Nos. (MVA)	50 (5000.00)	8 (716.00)	12 (535.00)	22 (2125.00)	17 (1700.00)	19 (1900.00)
2	132 KV S/S New/ Upgradation/ Augmentation	Nos. (MVA)	75 (725.00)	6 (84.00)	23 (291.00)	9 (169.00)	16 (203.50)	5 (100.00)
3	66 KV S/S New/ Upgradation/ Augmentation	Nos. (MVA)	620 (3775.00)	51 (576.50)	85 (700.25)	169 (1716.00)	190 (1600.95)	200 (2250.00)
4	33 KV S/S New/ Upgradation/ Augmentation	Nos. (MVA)		6 (25.50)	10 (38.00)	6 (31.00)	13 (73.00)	
5	220 KV Transmission Line New/ Upgradation/ Aug.	Ckt.Km	1500.00	138.904	127.550	342.516	345.220	450.00
6	132 KV Transmission Line New/ Upgradation/ Aug.	Ckt.Km	200.00	4.89	13.324	30.967	26.721	100
7	66 KV Transmission Line New/ Upgradation/ Aug.	Ckt.Km	1300.00	313.391	359.741	555.760	467.219	800.00
8	33 KV Transmission Line New/ Upgradation/ Aug.	Ckt.Km		-		0.251		
9	HT Shunt Capacitors	MVAR	-	149.458	229.561	145.347	133.627	434.00

**PP-01(i) Work Relating to Restructured Accelerated Power Development & Reforms Programme (R-APDRP). *Outlay – Rs. 680.00 crore***

4.1.6 Ministry of Power, Government of India, had sanctioned 26 schemes amounting Rs. 715.57 crore in 2002-03 to 2004-05 under Accelerated Power Development Reforms Programme (APDRP) for strengthening of transmission, distribution system and replacement of metering equipment. This programme was in operation during the period 2002-03 to 2008-09. Government of India had been providing 25% grant and the balance 75% funds (of the project cost) were contributed by PSEB from internal resources or through availing loans from PFC/REC. Due to launch of Restructured APDRP during 2009-10, all ongoing APDRP schemes were closed as per directions of MoP/GoI. Cumulative expenditure of Rs. 4.63 crore was incurred on this project upto 31/3/2009. Government of India has decided to continue APDRP in the restructured form during 11<sup>th</sup> plan (APDRP-II) as central sector scheme.

4.1.7 R-APDRP (2009-2012): The focus of the programme on the establishment of reliable/automated baseline & reduction of Aggregate Technical & Commercial losses. It will cover urban areas with population above 30,000. The activities are being taken up in two parts A and B. Part A covers consumer indexing, GIS Mapping and Automatic Data Logging for all distribution transformers and feeders as well as establishment of IT enabled consumer service centres. For Part-A 47 schemes/works costing Rs. 354.11 crore have been approved and loan amount of Rs. 272.83 crore has been sanctioned. M/s Wipro Ltd has been engaged as IT consultants. M/s Spanco has been selected as IT implementation agency and work has been started. For this part 100% financial assistance is admissible by way of loan which is convertible into grant after successful implementation of the project within an agreed time frame of 3 years from the date of approval of the DPRs. Part-B covers strengthening of sub-transmission and distribution system of 47 towns. For the part 25% funds will be provided by GoI as loan and remaining 75% are to be arranged by PSPCL from its own resources or from the financial institutions. Entire GoI loan plus 25% of the state contribution is convertible into grant. Schemes of 47 towns stands submitted to PFC out of which 15 schemes costing Rs 312 crore have been approved and loan sanctioned by PFC is 128 crore. The work for meters to be shifted out side and installation of LT Shunt Capacitor is under process. An expenditure of Rs. 59.34 crore was incurred against the approved outlay of Rs.150.00 crore during 2010-11. Rs. 508.00 crore is provided for this programme during Annual Plan 2011-12. An expenditure of Rs. 103.23 crore has been incurred during 11<sup>th</sup> Plan. An outlay of Rs. 2680.00 crore and Rs. 680.00 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-01(ii) Rajiv Gandhi Gramin Vidyutikaran Yojana (RGGVY) (GoI: PSPCL) (90:10):**

*Outlay – Rs. 25.00 crore*

4.1.8 The Government of India under RGGVY has approved 17 Schemes for Rs. 183.91 Cr on 22/8/2008, the aim is to provide an infrastructure for electrification of un-electrified villages and rural households including the electrification of Below Poverty Line (BPL) house-holds. It is a centrally sponsored scheme, which facilitates the PSPCL for a grant of 90% of the project cost & balance 10% amount of scheme has to be funded by REC as a soft loan. REC released Rs. 57.36 crore in 2008-09 (Rs. 46.88 crore for infrastructure works and Rs. 10.48 crore for BPL connections). Out of identified 92645 beneficiaries, 53941 have been provided single batti connection and remaining BPL families will be covered in 2012-13. Total expenditure incurred during 2008-11 was Rs. 33.00 crore. Since the targets are expected to be completed during the year 2011, no outlay is provided for Annual Plan 2011-12. An outlay of Rs. 115.28 crore was provided under this scheme in the 11<sup>th</sup> Plan against which an expenditure of Rs. 27.30 crore has been incurred. An outlay of Rs. 25.00 crore and Rs. 25.00 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02 Generation**

**PP-02(i) Renovation and Modernization of GNDTP unit III and IV based on Residual Life Assessment (RLA) study (Phase-II) –Bathinda:**

*Outlay – Rs. 117.00 crore*

4.1.9 For renovation and modernization of Units-II and IV Residual Life Assessment (RLA) study has been carried out and a project report amounting to Rs.290.00 crore (at 2002-03 level) on the basis of this study has been submitted to CEA, New Delhi for finalization. In this scheme renovation and modernization works on boiler, turbine and instrumentation etc are to be carried out to upgrade the capacity of GNDTP Units-III and IV from 110 MW to 120 MW each. Final memorandum for price negotiation with M/S BHEL has been approved. PO and work order were placed upon M/s BHEL on 14/11/2006. Design and drawing work is in progress. However latest cost of the project is Rs. 490.00 crore at price level 2006-07. After completion of renovation & modernization activities, capacity will be up rated from 110 MW to 120 MW, plant availability factor will improve, operational efficiency will increase and auxiliary consumption will reduce. Expenditure incurred during 2009-10 was Rs. 66.99 crore. An expenditure of Rs. 116.00 crore lac was incurred against the approved outlay of Rs. 200.00 crore during 2010-11. Rs.189.00 crore is provided for

this programme during Annual Plan 2011-12. An outlay of Rs. 609.00 crore was provided under this scheme in the 11th Plan against which an expenditure of Rs.318.71 crore has been incurred. An outlay of Rs. 177.00 crore and Rs. 117.00 crore has been provided in the 12th Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02(ii) GHTP Stage II Lehra Mohabat (2x250 MW):**

*Outlay – Rs. 22.15 crore*

4.1.10 To meet with the acute power shortage in Punjab the project has been installed at village Lehra Mohabbat Distt. Bathinda with a capacity of 2x250 MW. This project is being executed by BHEL on erection, procurement and commissioning mode (EPC) basis. The Third & Fourth unit of this project has achieved COD on 16/10/2008 & 25.01.2011 respectively. An outlay of Rs. 1431.05 crore lacs was provided under this scheme in the 11<sup>th</sup> Plan against which an expenditure of Rs. 1256.67 crore has been incurred. An outlay of Rs. 22.15 crore and Rs. 22.15 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02(iii) Mukerian Hydro Electric Project-II (18 MW):**

*Outlay – Rs. 65.00 crore*

4.1.11 This Project is under execution and is being funded from loan of Rs. 211.576 crore taken from REC. This loan amount is for all the civil, electrical & mechanical works. Mukerian Small Hydel Project Stage-II is located at RD-880 M of the Mukerian Small Hydel Stage-II, which takes off from Mukerian Hydel Channel Stage-I at RD-35500 M. The project site is located about 5 KM from Unchi Bassi and 12 KM from Dasuya Township. Two Machines of 9 MW Kaplan Bulb Turbine are proposed for the project. The turbines are designed with net head of 8.23 M. The project envisages average annual generation of about 214.85 MUs at approximate generation cost of Rs. 1.85/KWh & Rs. 1.74/KWh with interest subsidy. Detailed work order for civil works have been allotted to M/S P&R Infra projects Ltd, Chandigarh. Supply-cum-Works Contract Agreement for E&M works of Mukerian Stage-II on Turnkey basis had been issued to M/s BHEL. Energy benefits provided by this project will be 214.85 MUs./ per year at 89.33% PLF.

4.1.12 In the 10th Plan, the expenditure incurred was Rs. 38.82 crore. An outlay of Rs. 101.29 crore was provided under this scheme in the 11th Plan against which an expenditure of Rs. 36.97 crore has been incurred. An outlay of Rs. 90.00 crore and Rs. 65.00 crore has been provided in the 12th Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02(iv) Renovation and Modernization of GGSSTP, Ropar Phase I and II :**

*Outlay – Rs. 56.15 crore*

4.1.13 Guru Gobind Singh Super Thermal Power Plant, Ropar is in operation for the past about 25 years. Due to continuous running of plant and up-gradation of technology certain renovation and modernization activities are planned to be executed so as to improve the efficiencies, PLF and availability factor of Plant. The total cost of the renovation and modernization works involving all 6 units is approximately Rs. 568.00 crore and work is proposed to be completed during 12<sup>th</sup> Five Year Plan through 13 Nos schemes already formulated. In the 10<sup>th</sup> Plan, the expenditure incurred was Rs. 87.89 crore. An outlay of Rs. 96.60 crore was provided under this scheme in the 11<sup>th</sup> Plan against which an expenditure of Rs. 62.31 crore has been incurred. An outlay of Rs. 455.96 crore and Rs. 56.15 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02(v) Renovation and Modernization works at Thermal Plant as per Residual Life Assessment (RLA) study of GNDTP (Unit I and II)**

**GNDTP– Bathinda:**

*Outlay – Rs. 9.02 crore*

4.1.14 Before renovation and modernization unit I & II of Guru Nanak Dev Thermal Plant were running at 90/95 MW i.e. below their rated capacity of 110 MW each. After renovation & modernization these are running at their rated capacity of 110 MW each and also plant load factor and plant availability factor have been improved considerably. Major renovation & modernization works of Unit I & II have been completed. Unit –II has taken over normal operation w.e.f. 20/1/06 and Unit-I has been taken over w.e.f. 31.5.07. Funds have been provided under this scheme for replacement of existing tools and machinery which have become obsolete with usage. In the 10<sup>th</sup> Plan, the expenditure incurred was Rs. 177.95 crore. Approved outlay for Annual Plan 2009-10 was Rs. 643.00 lac. An outlay of Rs. 6.00 crore was provided for Annual Plan 2010-11. An outlay of Rs. 7.00 crore is provided for Annual Plan 2011-12. An outlay of Rs. 84.00 crore was provided under this scheme in the 11<sup>th</sup> Plan against which an expenditure of Rs. 329.50 crore has been incurred. An outlay of Rs. 11.65 crore and Rs. 9.02 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.



**PP-02(vi) Additional works of GNDTP Bathinda**

*Outlay – Rs 70.24 crore*

4.1.15 In this scheme works like Dry Fly Ash Handling system of GNDTP, Raising of Ash Dyke GNDTP, Augmentation of Fire Protection System of GNDTP, Procurement and installation of 2<sup>nd</sup> “In motion weighing system at GNDTP and Capital works other than R&M works like replacement of CTs, PTs and replacement/addition of 3 phase 4 wire energy meters at GNDTP are proposed to be carried out. Under this scheme an amount of Rs 50.00 crore was provided in the revised estimates of Annual Plan 2011-12, but no expenditure was incurred. An outlay of Rs. 173.98 crore and Rs. 70.24 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02(vii) Renovation and Modernization of Bhakra PHs and Associated works:**

*Outlay – Rs. 62.00 crore*

4.1.16 All the 5 units of Bhakra Right Bank have been up-rated from 132 MW each to 157 MW each giving an additional power of 125 MW against which PSEB will be getting 63.6 MW of the additional installed capacity. 5 No. of Units of Bhakra Left Bank Power House of 90 MW capacity were commissioned during 1960-61. The units were however up-rated to 108 MW by changing the stator winding having class-B with Class-F insulation during the period 1980-85 enabling use of high cross-section of copper in some slots. Since these machines have already outlived their useful life and are also experiencing fall in turbine efficiency, the machines are thus due for carrying out renovation & modernization and up-gradation works. The works relating to renovation & modernization are to be taken in the 12<sup>th</sup> Five Year Plan. With the upgrading of 5 units of 108 MW each to 126 MW, it is estimated to have an extra-generation capacity 90 million units, equivalent to approximately annual revenue of Rs. 21.00 lac to the partner states. An outlay of Rs. 16.10 crore was provided under this scheme in the 11<sup>th</sup> Plan against which an expenditure of Rs. 131.38 crore has been incurred. An outlay of Rs. 62.00 crore and Rs. 62.00 crore lacs has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02(viii) Shahpur Kandi Dam Hydro Electric Project (206 MW):**

*Outlay – Rs. 242.14 crore*

4.1.17 The Shahpur Kandi project is a sister project of Ranjit Sagar Dam project (which is now completed). The construction of Shahpur Kandi Dam project is essential to

get the optimum benefits of power and irrigation potential created by Ranjit Sagar Dam project. The proposed dam is situated on the river Ravi, down stream of the Ranjit Sagar Dam and 8 km. upstream of the Madhopur Head Works. The concrete dam is flanked by two head regulators on its right and left abutments falling in J & K and in Punjab.

4.1.18 Shahpur Kandi Dam project has been declared as National project by the Ministry of Water Resources, Government of India. Planning Commission, Government of India has accorded investment clearance of the project during 2010 amounting to Rs. 2285.81 crore. As per guidelines for the National Projects, 90% of the cost of the irrigation component is being provided by Ministry of Water Resources, Government of India as central assistance & balance 10% of the cost of the irrigation component is to be provided by the state government. Power component of the project which is 71.39% of the total cost is being provided by Punjab State Power Corporation Limited. Power Finance Corporation has already given approval for 80% of the cost of power component as loan and remaining 20% of the cost of power component shall be arranged by Punjab State Power Corporation Limited. Target date is Oct., 2014. After completion of the project the potential of 5000 Ha in Punjab State and 32713 Ha. in J&K State shall be created. With the completion of Shahpur Kandi Dam project, the full generation capacity of the R.S.D. Project (600 MW) will be utilized when all the turbines at the project will be made functional. An expenditure of Rs. 20.00 crore was incurred against the approved outlay of Rs. 75.00 crore during 2010-11. Rs. 214.17 crore are provided for Annual Plan 2011-12. An outlay of Rs. 2156.77 crore lacs was provided under this scheme in the 11<sup>th</sup> Plan against which an expenditure of Rs. 20.00 crore has been incurred. An outlay of Rs. 2054.29 crore and Rs. 242.14 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02(viii) Renovation and Modernization of PSEB Hydel Projects:**

*Outlay – Rs. 45.00 crore*

4.1.19 It covers renovation and modernization of activities like capital maintenance of machinery, replacement of existing AVR with new technology, replacement of existing relay panels, annunciation panels, turbine control panels & control desk etc of PSEB hydel projects namely Shanan HEP (110 MW), Mukerian Hydel Project-1, UBDC HEP- I&II (91.35 MW), Anandpur Sahib HEP (134 MW), Ranjit Sagar Power Project (600 MW). An expenditure of Rs. 34.64 crore has been incurred during 11<sup>th</sup> plan. An outlay of Rs. 134.29 crore and Rs. 45.00 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02 (xii) Renovation & Modernization of GHTP Stage 1**

*Outlay – Rs. 20.89 crore*

4.1.20 Rs. 10 crore are proposed for the renovation & modernization of Guru Har Gobind Thermal Plant, Lehra Mohabbat stage-I. Works like improvement in lighting system for energy efficiency, replacement of conventional bolted type clamps, replacement of station building, handling plant, raising of plant boundary wall, procurement of spare 6.6KV HT motors for Stage-II etc., are some of the works planned during 2012-13 for GHTP Stage-I, Lehra Mohabbat. An expenditure of Rs 5.89 crore was incurred during 11<sup>th</sup> Plan. An outlay of Rs.136.92 crore and Rs. 20.89 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.

**PP-02(xiii) 1320 MW State Sector Thermal Plant Near Mukarian.**

*Outlay Rs.10.00 crore.*

4.1.21 The Punjab Govt. has approved the development of 1320 MW (2x660 MW) Thermal Power Project with Super-Critical technology as a State Power project at Hazipur (Mukerian), Punjab.

4.1.22 To deal with the activities like conducting the various studies, preparation of project information report, obtaining the requisite clearances, preparation of bid documents, rafting of agreements and assistance in the bid process for the project, it is proposed to appoint a Consultant for the Project. This project will take approx. 6.5 years to complete and commission. The total project cost shall be around Rs. 7000 Crore. The 90% cost of project shall be met by raising loans from PFC/REC and balance 10% shall be arranged by PSPCL through its own resources/raising loans from market. An outlay of Rs. 5910.00 crore has been provided for 12<sup>th</sup> plan 2012-17 and Rs. 10.00 crore have been provided in the Annual Plan 2012-13.

**PP-02(xiv) Computerization of Thermal Power Plants**

*Outlay Rs.1.00 crore*

4.1.23 For efficient functioning & Management of thermal plants, M/s TCs, New Delhi has been engaged by PSPCL for the work of on-line Computerization of Thermal Plants, Thermal Designs & Director/G office4 (Cost Rs. 6.5 Crores approx.) TCS is to supply, install & commission Hardware & Networking Hardware components and various System Software's as per the qty. indicated in the W.O. In addition firm has to develop & configure Application Software having modules like Financial accounting, Purchase Management, Inventory Management, Operation&maintenance, Fuel Management, HRMS,

Generation of MIS reports etc. for all the plants (GNDTP Bathinda, GHTP Lehra Mohabbat and GGSSTP Ropar), Thermal Designs Patiala & Director/G office. Imparting/G office. Imparting training. Job of data conversion/data entry. Operation & Support. AMC is also to be provided by TCS. An outlay of Rs.5.00 crore has been provided for 12<sup>th</sup> plan 2012-17 and Rs.1.00 crore is provided in the Annual Plan 2012-13.

**PP-02(xv) Institute of Power Management (IPMP)**

*Outlay Rs.10.00 crore*

4.1.24 Institute of Power Management (IPMP) is being setup at Patiala for providing in house training facility for both new as well as existing staff of Punjab State Power Corporation. Under this scheme an outlay of Rs.19.00 crore has been provided for 12<sup>th</sup> plan 2012-17 and an outlay of Rs. 10.00 crore is provided for Annual Plan 2012-13.

**P-03 Distribution**

*Outlay – Rs. 769.00 crore*

4.1.25 During the past 30 years, more emphasis was laid on generation side as compared to distribution system. The maximum amount of plan outlays was allocated to addition in generation capacity. PSPCL has vast network of 11KV lines, 11KV transformers, general connections i.e GSC, ISC, bulk supply and other, tubewell connections and it has connected all villages for 24-hour urban pattern power supply. It has now been proposed to give priority to the distribution system till the distribution system is brought to the level of delivering qualitative supply to ultimate consumers in the State. The length of 11 KV lines, which was 1,27,734 ckt km in 2007-08 has been increased to 184406 ckt km as on 31/3/2011. Similarly, the number of 11 KV transformers, which was 2,74,637 in 2007-08 are increased to 541000 as on 31/3/2012. A total no of 50.88 lac meters will be shifted in pillar boxes which include 31.88 lac meters in rural areas and 19 lac meters in urban areas. The total cost of this project is Rs. 817 crore out of which 661.77 crore will be provided by REC in the form of loan and 155.23 crore by the PSPCL from its own sources, it will result in following benefits:-

Improvement of voltage at tail end Minimal damage of transformers Minimum Fuse off complaints Reduction of LT Losses by 1-1.5% Saving of 500 to 600 Mu's /yr (Rs 180 crore/Yr) An expenditure of Rs. 2757.15 crore has been incurred during 11<sup>th</sup> Plan. An outlay of Rs. 4939.50 crore and Rs. 769.00 crore has been provided in the 12<sup>th</sup> Plan 2012-17 and Annual Plan 2012-13 respectively.