PUNJAB STATE ELECTRICITY REGULATORY COMMISSION

TARIFF ORDER FOR PSPCL FY 2016-17

VOLUME-I

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PUNJAB STATE ELECTRICITY REGULATORY COMMISSION
SCO NO. 220-221, SECTOR-34-A
CHANDIGARH

PETITION NO. 79 OF 2015

IN THE MATTER OF:
ANNUAL REVENUE REQUIREMENT
FILED BY THE PUNJAB STATE POWER CORPORATION LIMITED
FOR THE FINANCIAL YEAR 2016-17

PRESENT : Shri D.S. Bains, Chairman
Shri S.S. Sarna, Member

Date of Order: July 27, 2016

ORDER

The Punjab State Electricity Regulatory Commission (Commission), in exercise of powers vested in it under the Electricity Act, 2003 (Act) passes this order determining the Annual Revenue Requirement (ARR) and Tariff for supply of electricity by the Punjab State Power Corporation Limited (PSPCL) to the consumers of the State of Punjab for FY 2016-17. The ARR filed by PSPCL, facts presented by PSPCL in its various submissions, objections received by the Commission from consumer organizations and individuals, issues raised by the public in hearings held at Jalandhar, Ludhiana, Bathinda and Chandigarh, the responses of the PSPCL to the objections and observations of the Government of Punjab (GoP), in this respect have been considered. The State Advisory Committee constituted by the Commission under Section 87 of the Act has also been consulted and all other relevant facts and material on record have been perused before passing this Order.

1.1 Background

The Commission has in its previous Tariff Orders determined tariff in pursuance of the ARRs and Tariff Applications submitted by erstwhile Punjab State Electricity Board (the Board) for the years 2002-03 to 2006-07, 2008-09, 2009-10, 2010-11 and Punjab State Power Corporation Limited (PSPCL) for 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16. Tariff Order for FY 2007-08 had been passed by the

Commission in suo-motu proceedings.

1.2 ARR for FY 2016-17

PSPCL has filed the ARR for FY 2016-17 on 30.11.2015. In this Petition, PSPCL has submitted that it is one of the 'Successor Companies' of the erstwhile Board, duly constituted under the Companies Act, 1956 on 16.04.2010 after restructuring of the Board by Government of Punjab vide notification no.1/9/08-EB(PR)/196 dated 16.04.2010, under the "Punjab Power Sector Reforms Transfer Scheme" (Transfer Scheme).

As per the Transfer Scheme, the erstwhile Punjab State Electricity Board (the predecessor) has been unbundled into two entities i.e. POWERCOM and TRANSCO. The POWERCOM has been re-named as Punjab State Power Corporation Limited (PSPCL) and the TRANSCO has been re-named as Punjab State Transmission Corporation Limited (PSTCL).

As per the Transfer Scheme, the Government of Punjab has segregated the "transmission business of erstwhile Punjab State Electricity Board". It is reproduced as under:

"The transmission undertaking shall comprise of all assets, liabilities and proceedings, belonging to the Punjab State Electricity Board, concerning the transmission of electricity and the State Load Dispatch Centre (SLDC) function".

Hence, the PSPCL is left with the Distribution, Generation and allied activities of the erstwhile PSEB. As per the "the Punjab State Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2005, [Chapter–1 ((3)(k))], PSPCL should be considered as the integrated utility as it is currently engaged in multiple functions namely Generation, Trading and Distribution of electricity.

First Amendment in Transfer Scheme notified by Government of Punjab:

On 24th December, 2012, Government of Punjab amended the Transfer Scheme vide notification number 1/4/04EB (PR)/620 known as Punjab Power Sector Reforms Transfer (First Amendment) Scheme, 2012.

Following are the salient features of the aforesaid amendments:

i) As per the transfer scheme, the funding of the Terminal Benefit Trusts in respect of pension, gratuity and leave encashment of the personnel, shall be a charge on the tariff of Powercom and Transco, respectively, on yearly basis, as may be decided by the Punjab State Electricity Regulatory Commission.

ii) The Terminal Benefit Trusts in respect of pension, gratuity and leave encashment, shall be progressively funded by the Powercom and Transco, as decided by the Punjab State Electricity Regulatory Commission, in the ratio of 88.64:11.36, over a period of 15 Financial Years commencing from 1st April, 2014. The terminal benefits liability accruing during the period of progressive funding, and thereafter, shall be shared in the same ratio by both corporations. Thus, funding shall continue even after the absorption of personnel in Transco and the trust shall be administered jointly by the said Powercom and Transco.

iii) It is also mentioned that the actual amount of pension, gratuity and leave encashment paid / to be paid on and with effect from 16th April, 2010 to 31st March, 2015, shall be shared by the Powercom and Transco, in the ratio of 88.64:11.36 on yearly basis.

iv) The General Provident Fund Trust, shall be funded by Powercom and Transco both, as per the apportionment made in the opening balance sheet, on and with effect from 16th April, 2010, and the same shall be funded over a period of ten years commencing on and with effect from 1st April, 2014, along with interest as applicable.

v) Also provided that for the period commencing from 16th April, 2010 to 31st March, 2014, the Powercom and Transco shall be liable to pay interest on the apportioned General Provident Fund liability, at the rate as applicable for the respective financial years.

vi) The Powercom and Transco shall be liable to pay interest, as applicable to General Provident Fund from time to time, on the net accruals (on monthly basis) of the General Provident Fund amount on and with effect from 16th April, 2010, to the date of issuance of this notification, and thereafter all the General Provident Fund matters, shall be settled through trust.

vii) Until otherwise directed by the State Government, the Powercom and Transco shall maintain common Trust for pension, gratuity and other terminal benefit liabilities and General Provident Fund, instead of individual trusts for each of the companies and all the contributions shall be made to such Trusts in the aforesaid manner.

viii) The Government of Punjab notified the final opening balance sheet for Powercom and Transco as on the 16th April, 2010.

Based on the opening balance sheet notified by the Government of Punjab vide the

Amendment in Transfer scheme and the provisions of Regulation 13 of the PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 and in compliance with the directives of the Commission on the matter and based on projections and consolidated revenue gap, PSPCL had filed Petition No. 71 of 2014 for approval of ARR and Determination of Tariff for FY 2015-16, for Review of ARR for FY 2014-15, based on actual figures for the first half of FY 2014-15 and projections for second half of the year and for true up of ARR for 2012-13 based on audited accounts for the year and in terms of provisions of PSERC Tariff Regulations, 2005 as amended from time to time. The Commission passed Tariff Order dated 05 May, 2015 for PSPCL for FY 2015-16 and decided to undertake the true-up for FY 2012-13 and FY 2013-14 when the audited accounts for FY 2012-13 and FY 2013-14 are available. In compliance with the directions of the Commission, PSPCL has filed the present petition for approval of ARR and Determination of Tariff for FY 2016-17, revised ARR estimate for 2015-16 and audited accounts / data for FY 2012-13 and FY 2013-14 for final truing-up.

The petitioner has made the prayers to the Commission to:

a) Consider the submissions and approve the final true up of expenses for FY 2012-13, FY 2013-14 and Revised Estimates for FY 2015-16;

b) Approve to consider the true up for FY 2014-15 when the audited annual accounts for the year are available;

c) Approve the Aggregate Revenue Requirement for FY 2016-17 as proposed in this Petition;

d) Treat the filing as complete in view of substantial compliance as also the specific requests for waivers with justification placed on record;

e) Examine the proposal submitted by the petitioner for a favourable dispensation as detailed in the enclosed proposal;

f) Condone any inadvertent omissions/errors/shortcomings and permit PSPCL to add/change/modify/alter this filing and make further submissions as may be required at a future date;

g) Pass such further order, as the Commission may deem fit and proper keeping in view the facts and circumstances of the case.

On scrutiny of the petition, it was noticed that the ARR was deficient in some respects. The deficiencies were conveyed to PSPCL vide DO No.PSERC/Tariff/T-191/9112 dated 07.12.2015. The replies to the deficiencies were furnished by PSPCL vide its letter No.1124/CC/DTR/Dy.CAO/246/Deficiency dated 17.12.2015 followed by letter No.1149 dated 28.12.2015. The Commission took the ARR Petition on record on 23.12.2015 after considering reply dated 17.12.2015 submitted by PSPCL.

The Annual Revenue Requirement determined by the Commission in this Tariff Order is based on the petition filed by PSPCL, operating as a Utility performing functions of Generation, Distribution and Trading of electricity. The tariff determination by the Commission is based on audited annual accounts of FY 2012-13 & FY 2013-14, the revised estimates of FY 2015-16 and projections of FY 2016-17 as submitted by PSPCL.

1.3 Objections and Public Hearings

A public notice was published by PSPCL in the The Tribune (English), Hindustan Times (English), Dainik Bhaskar (Hindi), Jagbani (Punjabi) and Ajit (Punjabi) on 25.12.2015 inviting objections from the general public and stakeholders on the ARR filed by PSPCL. Copies of the ARR were made available on the website of PSPCL and in the offices of the Chief Engineer/ARR and TR, PSPCL, Patiala and also in the offices of all the Chief Engineers (Operation) and all the Superintending Engineers (Operation) of the PSPCL. In the public notice, objectors were advised to file their objections with the Secretary of the Commission within 30 days of the publication of the notice i.e. by 25.01.2016 with an advance copy to PSPCL. The public notice also indicated that after perusing the objections received, the Commission will conduct public hearings on the dates which would be notified subsequently.

The Commission received total 2 No. written objections by due date i.e. 25.01.2016 and 49 Nos. after due date (ARR = 30, Uday Scheme = 5, Two Part Tariff = 16). The Commission decided to take all these objections into consideration.

Number of objections received from individual consumers, consumer groups, organizations and others are detailed below:

Sr. No.	Category	No. of Objections
1.	Chambers of Commerce	7
2.	Industrial Associations	6
3.	Industry	20
4.	Railways	1
5.	PSEB Engineers Association	2
6.	Individuals	3
7.	Govt. of Punjab (GoP)	1
8.	Others	11
	Total	**51**

The list of objectors is given in Annexure-III, Volume-II to this Tariff Order. PSPCL submitted its comments on the objections which were made available to the respective objectors.

The Commission decided to hold public hearings at Chandigarh, Jalandhar, Ludhiana and Bathinda. A public notice to this effect was published on 12.02.2016/13.02.2016 in various news papers i.e. Indian Express, The Tribune, The Hindustan Times, Amar Ujala and Punjabi Tribune as well as uploaded on the website of the Commission and also informed the objectors, consumers and the general public in this respect as per details hereunder:

Venue	Date & time of public hearing	Category of consumers to be heard
BATHINDA Conference Room, Guest House, Thermal Colony, PSPCL, Bathinda.	**February 25, 2016** 11.30 AM to 1.30 PM. (To be continued in the afternoon, if necessary).	All consumers/organizations of the area.
CHANDIGARH Commission office i.e. SCO 220-221, Sector 34-A, Chandigarh.	**February 29, 2016** 11.00 AM to 1.30 PM	All consumers, except Industrial & Agricultural consumers/organizations and Officers'/Staff Associations of PSPCL and PSTCL.
	3.00 P.M. onwards	Agricultural consumers and their unions.
CHANDIGARH Commission office i.e. SCO 220-221, Sector 34-A, Chandigarh.	**March 03, 2016** 11.00 AM to 1.30 PM	Industrial consumers/organizations
	3.00 PM onwards	Officers' / Staff Associations of PSPCL and PSTCL
LUDHIANA Multi Purpose Hall, Power Colony, PSPCL, Opposite PAU, Ferozepur Road, Ludhiana.	**March 09, 2016** 11.30 AM to 1.30 PM. (To be continued in the afternoon, if necessary).	All consumers/organizations of the area.
JALANDHAR Conference Room, Office of Chief Engineer/Operation (North), PSPCL, Shakti Sadan, GT Road, Near Khalsa College, Jalandhar.	**March 10, 2016** 11.30 AM to 1.30 PM (To be continued in the afternoon, if necessary).	All consumers/organizations of the area.

Through this public notice, it was also intimated that the Commission will also hear the comments of the Punjab State Power Corporation Limited and Punjab State Transmission Corporation Limited to the objections raised by the public besides Corporations' own point of view regarding the ARR Petitions at Commission's office i.e. SCO 220-221, Sector 34-A, Chandigarh on 18.03.2016 from 11.00 AM to 1.30 PM (to be continued in the afternoon, if necessary).

1.4 The Commission held public hearings as per schedule from 25^{th} February, 2016 to 10^{th} March, 2016 at Bathinda, Chandigarh, Ludhiana and Jalandhar. During on-going proceedings of public hearings, the Commission directed PSPCL vide DO No.12561 (191) dated 09.03.2016 to revise the petition after taking into account the impact of Ujwal Discom Assurance Yojana (UDAY) Scheme as per the Tripartite Memorandum of Understanding dated 4^{th} March, 2016 executed amongst Ministry of Power, Government of India, Government of Punjab and Punjab State Power Corporation Limited, on the ARR for FY 2016-17 filed by PSPCL vide this petition. Accordingly, the date of hearing the comments of PSPCL and PSTCL to the objections raised by the public/stakeholders, besides corporations' own point of view fixed for March 18, 2016 was cancelled, to be held on a date to be notified later on.

1.5 PSPCL vide C.E./ARR & TR memo No. 487 dated 12.04.2016 filed the impact of UDAY Scheme on ARR for FY 2016-17 by way of Annexure 'X' to this petition, Revised figures of ARR for FY 2016-17 were put by PSPCL on its website and a public notice dated 23.04.2016 was issued by PSPCL as per the directions of the Commission inviting objections from public, so as to reach within 15 days, addressed to Secretary, Punjab State Electricity Regulatory Commission, with a copy to C.E./ARR & TR, PSPCL. Another public notice for hearing the comments of PSTCL and PSPCL to the objections raised by the public besides corporations' own point of view, on 16^{th} May, 2016, was issued.

1.6 The Commission received 5 No. objections / comments from public on impact of UDAY Scheme. Hearing was held on 16.05.2016 to hear the views of PSTCL, PSPCL, objectors and others on the objections / comments received from public and other stakeholders.

1.7 During public hearings, a view has emerged that Peak Load Exemption Charges (PLEC) should be removed in the light of the fact that Punjab has become a power surplus State and system constraints have also been tackled due to investment in transmission and distribution system and in place of PLEC, Time of Day (ToD) tariff should be levied. Accordingly, a Staff Paper was prepared by the staff of the Commission and put on the website of the Commission. A public notice was got published in the various news papers on 14.05.2016 so that objections / comments from the general public / stakeholders, may be filed with the Secretary of the Commission so as to reach him within 15 days of publication of the notice. The

Commission received twelve (12) No. of comments, which have also been considered by the Commission while passing this Tariff Order.

1.8 The Commission asked PSPCL through various references to supply information on some important issues raised by industrial consumers during public hearings and it was decided to hold hearings of this petition and PSPCL was informed vide Order dated 28.03.2016 that first hearing shall be held on 30.03.2016. Reply of PSPCL was sought on the following issues:

(i) The operation and maintenance of Hydro Electric Projects.

(ii) Arrangements/steps being taken by PSPCL for market sale of surplus power.

(iii) Impact of Hon'ble CERC Orders dated 12.11.2015 and 21.03.2016 on the share of PSPCL in O&M expenses of BBMB.

Hearings were held on 30.03.2016, 22.04.2016, 05.05.2016 and 19.05.2016. Replies/reports filed by PSPCL and submissions made during hearings were considered by the Commission and appropriate directions were issued vide Order dated 31.05.2016.

A summary of issues raised in objections, the response of PSPCL and the view of the Commission are contained in Annexure-IV, Volume-II of this Tariff Order.

1.9 The Commission in Tariff Order for FY 2015-16 had directed PSPCL vide para 5.2 (Two Part Tariff for Retail Supply) under Chapter 5 (Tariff Related issues) as under:

"Therefore, PSPCL is directed to discuss with various categories of consumers / consumer associations, the issues / objections raised by them (as brought out in Tariff Order for FY 2014-15) and resubmit the Two Part Tariff Proposal along with ARR for FY 2016-17 after building consensus amongst various stakeholders".

1.10 PSPCL did not file any Two Part Tariff proposal with this petition. PSPCL issued a public notice that proposal for Two Part Tariff was uploaded on PSPCL website on 18.04.2016, whereby objections were sought from all concerned consumers / Associations, some of which have filed their views / objections. As per public notice, PSPCL decided to hold a meeting with all consumers / representatives of Associations on 18.05.2016 at 11.30 A.M. at Patiala. PSPCL has received sixteen no. objections, copies of which have also been filed by the objectors with the Commission. The proposal for Two Part Tariff submitted by PSPCL vide C.E./ARR&TR letter no. 4811 dated 06.07.2016 and amended proposal vide C.E./ARR&TR letter no. 4827 dated 13.07.2016 have also been considered as discussed at para 7.1.

1.11 The Government was approached by the Commission through letter No. 9244 dated 09.12.2015 seeking its views on the ARR to which the Government responded vide its letter No. 1/1/2016-EB(PR)/139 dated 11th July,2016. The same has been considered by the Commission.

1.12 State Advisory Committee

The State Advisory Committee constituted under Section 87 of the Act, discussed the ARR of PSPCL in a meeting convened for this purpose on 16.03.2016. The minutes of the meeting of the State Advisory Committee are enclosed as Appendix-I, Volume-I to this Order.

The Commission has, thus, taken the necessary steps to ensure that due process, as contemplated under the Act and Regulations framed by the Commission, is followed and adequate opportunity given to all stakeholders in presenting their views.

1.13 Compliance of Directives

In its previous Tariff Orders, the Commission had issued certain directives to PSPCL in the public interest. A summary of directives issued during previous years, status of compliance along with the Directives of the Commission for FY 2016-17 is given in Chapter 8 of this Tariff Order.

Chapter 2
True up for FY 2012-13

2.1 Background

The Commission approved the ARR and Tariff for FY 2012-13 in its Tariff Order dated 16.07.2012, which was based on the costs and revenues estimated by the Punjab State Power Corporation Limited (PSPCL). PSPCL had furnished revised estimates for FY 2012-13 during the determination of ARR and Tariff for FY 2013-14, in which there were major differences in certain items of costs as well as projected revenues both in the revised estimates furnished by PSPCL and the approvals granted by the Commission. The Commission, in its Tariff Order of FY 2013-14, reviewed its earlier approvals and re-determined the same based on the revised estimates made available by PSPCL. PSPCL, in its ARR Petition for FY 2014-15, prayed that the truing up of the costs and revenue for FY 2012-13 may be undertaken by the Commission after the finalisation of the Audited Annual Statement of Accounts (Audited Annual Accounts) of the year. As per provisions under Tariff Regulations, true up can be undertaken only after the Audited Annual Accounts are made available. As such, the Commission decided to undertake the true up for FY 2012-13 along with the ARR Petition of PSPCL for FY 2015-16, when the Audited Annual Accounts for FY 2012-13 were likely to be made available.

PSPCL in the ARR for FY 2015-16, furnished the Audited Annual Accounts for FY 2012-13 signed by Statutory Auditor along with Audit Report of Statutory Auditor and stated that the CAG Audit Report is awaited. PSPCL vide its letter no. 1229 dated 09.12.2014 intimated that audit certificate from CAG is still awaited and will be submitted to the Commission as and when received from CAG. Again, PSPCL vide its letter no. 1246 dated 15.12.2014 intimated that CAG Audit Report will be submitted to the Commission likely by 31.01.2015. PSPCL submitted CAG Audit Report on 27.03.2015 vide its letter no. 407 dated 27.03.2015. By the time of submission of CAG Audit Report, the Commission had already finalised the contents/ figures of the Tariff Order. Further, opportunity was not given to the general public and stakeholders for offering comments on the CAG Audit Report. As such, the Commission decided, in the Tariff Order for FY 2015-16, to undertake the true up for FY 2012-13 along with ARR petition of PSPCL for FY 2016-17.

In the ARR for FY 2014-15, the Audited Annual Accounts furnished by PSPCL for FY

2010-11 and FY 2011-12 did not contain the audited figures of energy sales, generation and power purchase. On reply by PSPCL to a query, the Commission decided to take the energy sales, generation and power purchase figures as submitted by PSPCL in the ARR petition for FY 2014-15 into consideration for true up of FY 2010-11 and FY 2011-12. Further, the Commission, in para 2.1 of Tariff Order for FY 2014-15, directed PSPCL to get these figures audited in future. Again, in the ARR for FY 2015-16, PSPCL furnished the Audited Annual Accounts for FY 2012-13. The Audited Annual Accounts of PSPCL for FY 2012-13 did not contain the audited figures of energy sales, generation and power purchase. PSPCL was directed vide Commission's letter no. 13250-51 dated 01.12.2014, to furnish the audited figures of energy sales, generation and power purchase. PSPCL vide its letter no. 1229 dated 09.12.2014 submitted that as per the duties of Statutory Auditors laid down under section 227 of Companies Act, 1956, auditing of energy sales, generation and power purchase figures is over and above the preview of this Section. These figures stood already approved by the Whole Time Directors (WTDs) of the Company and also these figures were duly signed by the Chief Engineer/ARR & TR who was duly authorized by the corporation for preparing the ARR petition and disclosing the information to the Commission. Further, the ARR was duly approved by the WTDs. PSPCL further submitted that as the figures of ARR were duly approved by the WTDs, which indicate that the figures of energy sales were also approved by the WTDs. It was pointed out to PSPCL vide Commission's letter no. 13526 dated 10.12.2014 that similar submissions were made by it for not submitting the audited figures, and it was intimated to PSPCL that audited energy sales, generation and power purchase figures should be submitted in future, if the audited figures are not available now. PSPCL vide its letter no. 1246 dated 15.12.2014 submitted that it has noted the directions of the Hon'ble Commission and further submitted that it will provide audited energy sales, generation and power purchase figures in future.

Now, in the ARR for FY 2016-17, PSPCL furnished the Audited Annual Statement of Accounts (Audited Annual Accounts) for FY 2012-13. The Audited Annual Accounts of PSPCL for FY 2012-13 did not contain the audited figures of energy sales, generation and power purchase. PSPCL was directed vide Commission's letter no. 9112 dated 07.12.2015 to furnish the audited figures of energy sales, generation and power purchase. PSPCL vide its letter no. 1124 dated 17.12.2015 has submitted that as per the duties of Statutory Auditors laid down under section 227 of the Companies Act, 1956, auditing of energy sales, generation and power purchase figures are over and above the scope of Statutory Audit. These figures taken in the ARR are already approved by the WTDs of the company and also these figures are duly signed by the Chief Engineer/ ARR&TR, who is duly authorised by the company for preparing the ARR petition and disclosing the information to the Commission. Further, the ARR has been duly approved by the WTDs of the Company, which indicates that the figures of energy sales, generation and power purchase are also approved by the WTDs.

In view of the submissions made by PSPCL, the Commission decides to take into consideration the energy sales, generation and power purchase figures as submitted by PSPCL in the ARR petition for FY 2016-17, for true up of FY 2012-13. However, PSPCL is directed to submit these figures duly audited in future.

The figures supplied by PSPCL vary in parts with the figures taken into account in the Review for FY 2012-13 by the Commission. This Chapter contains a final true up of FY 2012-13, based on energy sales, generation and power purchase figures, as submitted by PSPCL in the ARR for FY 2016-17.

2.2 Energy Demand (Sales)

2.2.1 The sales projected by PSPCL during the determination of ARR for FY 2012-13, sales approved by the Commission in the Tariff Order of FY 2012-13, revised estimates furnished by PSPCL during determination of ARR of FY 2013-14, sales approved by the Commission in review and sales figures now given by PSPCL are summarized in Table 2.1.

Table 2.1: Energy Sales – FY 2012-13

(MU)

Sr. No.	Category	Projected by PSPCL during determination of ARR FY 2012-13	Approved by the Commission in T.O. FY 2012-13	Revised Estimates by PSPCL during determination of ARR FY 2013-14	Approved by the Commission in Review	Energy Sales as in ARR of FY 2016-17	Now approved by the Commission
I	II	III	IV	V	VI	VII	VIII
1.	Domestic	10082	9642	9536	9535	9504	9504
2.	Non-Residential	3126	2838	2902	2902	2790	2790
3.	Small Power	939	891	917	917	903	903
4.	Medium Supply	1918	1815	1852	1853	1834	1834
5.	Large Supply	7856	7856	9864	9864	9563	9563
6.	Public Lighting	129	135	146	146	148	148
7.	Bulk Supply	576	552	591	592	570	570
8.	Railway Traction	156	184	140	139	135	135
9.	**Total metered Sales (within the State)**	**24781**	**23913**	**25948**	**25948**	**25447**	**25447**
10.	Common Pool	305	305	305	305	309	309
11.	Outside State sales	111	0	113	53	160	99
12.	**Total metered Sales (9+10+11)**	**25197**	**24218**	**26366**	**26306**	**25916**	**25855**
13.	AP consumption	11922	11003	11456	10687	10794	9886
14.	**Total Sales (12+13)**	**37119**	**35221**	**37822**	**36993**	**36710 ***	**35741**

* Against 36711 MU projected by PSPCL in the ARR.

PSPCL has furnished the total sales at 36711 MU for FY 2012-13, as per ARR for FY 2016-17, which are as per column VII of Table 2.1.

2.2.2 Metered Sales

The Commission estimates sales for FY 2012-13 on the basis of sales figures supplied by PSPCL in the ARR for FY 2016-17 and in view of the submissions made by PSPCL in its letter no. 1124 dated 17.12.2015, as brought out in para 2.1. The Commission, thus, approves metered sales within the State at 25447 MU.

Further, PSPCL has submitted 160 MU of energy sales under the head "Outside State sale," which consist of 45 MU of sales to other States through power exchange, 55 MU as royalty of Himachal Pradesh (HP) in Shanan and 61 MU as free share from RSD to HP. The Commission considers the Outside State sale of 99 MU, after excluding free share of HP in RSD from Outside State sale. Further, the Commission considers common pool sale of 309 MU on the basis of figures as given in the ARR for FY 2016-17.

Total metered sales now approved by the Commission are 25855 MU as shown in column VIII, Sr. No. 12 of Table 2.1.

2.2.3 AP Consumption

PSPCL in its ARR for FY 2012-13, projected the AP consumption as 11922 MU and the Commission, in its Tariff Order for FY 2012-13, approved AP consumption of 11003 MU, after applying an increase of 5% over the consumption of 10479 MU approved by the Commission for FY 2011-12 (review) in the Tariff Order for FY 2012-13. In the ARR petition for FY 2013-14, PSPCL had revised the estimate of AP consumption to 11456 MU for FY 2012-13. The Commission, in the review of FY 2012-13 carried out in the Tariff Order for FY 2013-14, approved the AP consumption of 10687 MU for FY 2012-13, on the basis of energy pumped during April, 2012 to December, 2012 and on proportionate basis (in proportion to average of the percentages of AP pumped energy during the last three months to the first nine months of FY 2010-11 and FY 2011-12) for the period from January, 2013 to March, 2013. PSPCL has now submitted the energy sales to AP category as 10794 MU, in the ARR for FY 2016-17. PSPCL in the ARR for FY 2016-17 has submitted as under:

i) PSPCL has submitted the AP consumption based on sample meters. In the Tariff Order for FY 2012-13, the Commission directed PSPCL to increase sample size of AP consumers to 10%. Further, PSPCL has also strived hard to achieve the directive of the Commission to restrict the percentage of faulty meters to 10% of the total installed. As on March 2013, sample size of AP meters is 109516 no. i.e. 9.29%.

ii) PSPCL has already been complying with the directions of the Commission with effect from October, 2010 and data has been supplied on a monthly basis.

iii) As regards the mandate of 100% metering of all consumers including AP and in compliance to the directive issued in the Tariff Order for FY 2012-13, PSPCL submitted that pilot project has been completed by installing 52 meters on Mouly feeder in Mohali circle. The pilot project highlighted/ projected the problem of damage/burning of meters as well as stealing of meters. It has been anticipated by PSPCL that situation may be more serious in remote belts for meters installed on AP consumers for AMR on the basis of the experience of Mouly feeder.

iv) The Commission in the Tariff Order for FY 2013-14 has changed methodology for AP consumption. The Commission has been disallowing the actual sales for AP consumers on the grounds of change in methodology for calculating AP consumption since Tariff Order for FY 2013-14. Further, PSPCL is in close compliance to most of the directives of the Commission regarding the implementation of metering to Agriculture consumers.

v) The disapproval of AP sales ultimately results in huge disallowance in the power purchase cost.

vi) Since its incorporation, PSPCL is aggressively pursuing the directives issued by the Commission within the overall budgetary constraints. The financial constraints are largely on account of the huge disallowances in actual expenses. Continuation of such disallowance regime may lead PSPCL to the same financial crisis.

vii) AP pumped energy data was submitted in February, 2013 as per the requirement of the Commission for monitoring purpose. The segregation of AP feeders was not complete and was still in process. In such circumstances, determining the AP consumption on the basis of pumped energy into the feeders for retrospective years did not give an accurate assessment of the AP consumption.

viii) In the true up for FY 2012-13, the actual AP consumption is slightly more than sample meter consumption approved by the Commission. The principle once adopted in Tariff Order cannot be altered during truing up proceedings.

ix) AP consumption has been taken based on sample meters as AP consumption based on pumped energy is not a trusted method of taking the consumption. It is a fact that there is always some unauthorized shifting of AP load from AP feeders to nearby 24 hour supply feeders in order to have access to day time supply and extended hours of supply. Further, the computation of AP consumption on pumped energy involves assumptions with respect to losses of agriculture feeder and contribution of AP consumption on mixed load feeders and any unreasonable assumption shall affect the consumption pattern adversely to PSPCL. This principle of calculation for AP consumption is not being applied by any of the SERCs. Further, there is hardly any State except one or two, which has 100% metering of Agriculture consumers and wherever it exists, 100% readings of the same have never been ensured and accordingly insistence of the Commission to adopt pumped energy methodology may kindly be not applied.

x) The criteria of calculating AP consumption as adopted by the Commission based on pumped energy is also not correct due to the reasons that AP consumption of Kandi Area mixed feeders taken as 30% of the total consumption, whereas PSPCL has calculated the same as 45% of the total consumption. PSPCL has supplied detailed calculations to this effect to the Commission vide its letter no. 2944 dated 23.12.2013.

xi) The Commission had assumed the losses of AP feeders by deducting 2.5% losses of transmission level and 15% of the distribution losses as sub-transmission level losses, which is not based on the facts. All new AP connections and shifting of connections are on HVDS only and therefore losses on AP feeders are nowhere more than 6-10%.

PSPCL has prayed that in light of the above, the AP sales as submitted in the Petition be approved.

Section 55 of the Electricity Act, 2003 mandates supply of electricity through a correct meter in accordance with the regulations to be made by the Central Electricity Authority. The Commission has been issuing directions to the erstwhile PSEB (now PSPCL) through various Tariff Orders to prepare a road map to achieve 100% metering, but no action has been taken by the distribution licensee, even after a time period of more than 10 years. Most of the unmetered consumers in Punjab belong to AP category. In the absence of 100% metering, only alternative is to estimate AP consumption on the basis of some reliable data available with the distribution licensee (PSPCL). The endeavour of the Commission has always been to determine the AP consumption as accurately as possible and near to actual, for which various directions have also been issued from time to time by the Commission.

The Commission, in the Tariff order for FY 2013-14, while working out the AP consumption from the monthly AP data submitted by PSPCL to the Commission, on the basis of load of AP connections and supply hours, observed that in many cases, the AP consumption recorded by the sample meters was almost the same as worked out on the basis of load of AP connections and supply hours. This indicated that the readings of the sample meters were not recorded correctly. Further, the energy pumped shown in AMR data submitted by PSPCL every month for 25 number AP feeders per circle of PSPCL showed considerable difference when compared with the AP consumption calculated by PSPCL on the basis of AP factor, which in turn was calculated by PSPCL on the basis of sample meter readings.

Punjab is one of the few states in the country where the agricultural load has been segregated from other mixed rural load. As per the pumped energy data submitted by PSPCL in the ARR for FY 2016-17, in April, 2012, 95.71% of the AP load (7461.57 MW out of a total AP load of 7796.18 MW) was fed through exclusive AP feeders. The input energy of all 11 kV AP feeders is recorded daily at the grid-substations and is available for verification at the grid substations. On the other hand, the authenticity of sample meters data installed on less than 9% AP consumers, spread across the State, has always remained doubtful and found to be inaccurate during validation, in the past. In order to further examine the authenticity of the sample meters data, the Commission asked PSPCL to supply the details of energy pumped for AP supply during FY 2012-13. PSPCL supplied the information regarding month wise and division wise details of number of feeders, energy pumped and load, giving separate figures for AP 3-phase 3-wire feeders, AP 3-phase 4-wire feeders and Kandi Area mixed feeders feeding AP load.

After scrutiny of the data from April, 2012 to December, 2012, it was observed that during the months of April, May, November and December, 2012, more than 40% divisions of PSPCL had claimed AP consumption even more than the input energy. Similar trends were observed from the scrutiny of the data for FY 2010-11 and FY 2011-12. Accordingly, on the basis of the pumped energy data supplied by PSPCL, the Commission, in the Tariff Order for FY 2013-14, estimated AP consumption during review of FY 2012-13 as 10687 MU. PSPCL filed an Appeal (No. 106 of 2013) in the matter of ARR for FY 2013-14 and review for FY 2012-13, before the Hon'ble APTEL and raised the following issues:

(i) Fuel cost for the generating stations of the appellant

(ii) Subsidy to be contributed by the Government of Punjab

(iii) Generation incentive

(iv) Carrying cost to be allowed for the revenue gap

(v) Employees cost

(vi) Transit loss on coal

(vii) Return on equity

(viii) Quantum of short term power purchases by the appellant

(ix) Interest and finance charges

(x) Working capital requirements of the appellant

From the above, it is evident that PSPCL did not at any stage raised the issue regarding methodology for assessment of AP consumption on the basis of pumped energy data in the aforesaid Appeal before the Hon'ble APTEL. The Appeal has since been decided by an Order dated 16.12.2015 of the Hon'ble APTEL. However, Mawana Sugars Ltd., in Appeal No. 142 of 2013 and Bansal Alloys & Metals (P) Ltd. and others in Appeal No. 168 of 2013, before the Hon'ble APTEL, challenged the assessment of AP consumption for FY 2012-13 and that allowed for FY 2013-14, in the Tariff Order for FY 2013-14. PSPCL, as one of the respondents, again never raised any objection on the assessment of AP consumption on pumped energy basis in its reply and contested the objections of the appellant on the issue before the Hon'ble APTEL. The Hon'ble APTEL, after going through the arguments and submissions of all the parties, including PSPCL, in its Order dated 17.12.2014 held that:

"21. We find that PSPCL estimated the AP consumption of 11456 MU for FY 2012-13. The State Commission after scrutinizing the detailed data obtained from PSPCL regarding month-wise and division wise details of feeders, energy pumped and load, etc., revised the approved energy consumption to 10687 MU as against 10479 MU approved in the tariff order, subject to validation. For FY 2013-14, the State Commission has decided to estimate the AP consumption by applying 5% increase (adhoc) over the AP consumption approved for FY 2012-13. Thus, the State Commission approved energy consumption of 11221 MU as against 12029 MU projected by PSPCL. This is subjected to review on the basis of revised estimates in the next tariff order.

22. ***We find that the State Commission has estimated the AP consumption***

after detailed scrutiny of the data. Therefore, we find no reason to interfere in the matter.” **[Emphasis Supplied]**

Thus, whereas methodology of assessment of AP consumption on the basis of pumped energy data is concerned, the issue has attained its finality as no infirmity has been pointed out by the Hon’ble APTEL in its order dated 17.12.2014.

However, PSPCL in the ARR for FY 2016-17, has raised the following issues in the matter of accuracy of assessment of AP consumption on the basis of pumped energy data:

(i) Segregation of AP feeders was not complete

(ii) Principle once adopted in the Tariff Order cannot be altered during true up

(iii) Assumption of loss figure is on higher side since all new connections are being released on HVDS

(iv) Assessment of AP consumption on mixed feeders is not accurate

(v) Pumped energy for agriculture load fed from kandi area mixed feeders has been considered as 30% of the total pumped energy instead of 45%, as proposed by PSPCL

The first plea that segregation of AP feeders was not complete and as such determination of AP consumption on the basis of pumped energy does not give accurate assessment, is devoid of any merit. The data annexed by PSPCL in Vol. II of the ARR for FY 2016-17, shows that there were 4059 pure 11 kV AP feeders feeding only agriculture load, whereas only 37 rural mixed 11 kV feeders were catering to both agriculture and general load i.e. more than 99% feeders were already segregated upto April, 2012. Even if 231 number kandi area feeders catering to mixed load are taken in to account, more than 93% of 11 kV feeders were catering exclusively the agriculture load. Thus, extrapolating pumped energy of more than 99% feeders to calculate total pumped energy is far more accurate than assessing it on the basis of 9% sample meters whose accuracy has always been doubtful. The segregation of AP feeders was almost complete in April, 2012 (except kandi area feeders) and was a fairly large sample size for assessment of AP consumption accurately.

Regarding the submission that principle once adopted in the Tariff Order cannot be altered during true up, it has already been brought out above that whereas true up for FY 2012-13 is concerned, the methodology used for carrying out review for FY 2012-13 in the Tariff Order for FY 2013-14, is being followed for carrying out the true up for

FY 2012-13. Thus, there is no change in methodology. Having commented upon for FY 2012-13, the Commission makes it clear that as far as verification of the data submitted by PSPCL is concerned, the Commission is free to adopt any transparent and equitable methodology to arrive at a fair and accurate conclusion in any matter in public interest. It is the statutory duty of the Commission to carry out prudence check and verification of all the claims that may be lodged by the licensee on the basis of projections for the ensuing year or review of the current year or true up of the previous year. The distribution licensee cannot be allowed to hide its inefficiencies to burden the consumers and State exchequer by claiming higher subsidy from the State Government by manipulating AP consumption and claim lower T&D losses, by citing the alibi of change in methodology. If fudging of data is detected even at the true up stage, the Commission is duty bound to allow only the genuine claims of the licensee. Whereas Order dated 04.12.2007 of the Hon'ble APTEL in Appeal No. 100 of 2007 is concerned, the facts of the reported case are entirely different and Judgment of the Hon'ble APTEL does not support the case of PSPCL. Further, Appeal No. 264 of 2014 is still pending before the Hon'ble APTEL, so no comments are offered at this stage in this matter.

PSPCL has submitted that the Commission has erred in calculating higher T&D loss level for AP feeders by deducting 2.5% losses at transmission level and 15% of distribution losses at sub-transmission level from total T&D losses of the State. PSPCL has further submitted that since all new AP connections are released on HVDS, so the losses of the AP feeders are in the range of 6-10%. The claim of PSPCL is contrary to the submissions made by it in the status of compliance of directives submitted vide CE/ARR & TR letter no. 2074 dated 17.02.2016, wherein in reply to directive at para 6.1(iii), it has been mentioned that analytical losses of HVDS feeders are in the range of 6-10%, whereas those of non-HVDS AP feeders are in the range of 12-20%. So, the average analytical losses of AP feeders, as per claim of PSPCL, will be approximately 14-15%. In case, Commercial losses due to rampant unauthorized running of AP motors during paddy season are taken into account, the losses in the AP sector would be much higher. On the other hand, the Commission has only considered 13.12% loss level for FY 2012-13 to allow AP consumption to PSPCL. It is also wrong that PSPCL is releasing all new AP connections on HVDS, which envisage each consumer to be fed from exclusive distribution transformer. PSPCL has also adopted a less LT scheme by providing a 25 kVA distribution transformer for a group of consumers with length of LT line limited to 250 meters. This layout cannot be termed as HVDS. However, to arrive at a more accurate and fair conclusion regarding loss level prevailing in AP sector, PSPCL was directed in para 3.2.2 of the Tariff Order for FY 2015-16 as under:

"PSPCL is directed to cover atleast 5% of the AP feeders under 100% metering spread across the State by December, 2015 and to engage an independent agency to collect data of pumped & billed energy to calculate T&D losses of these feeders on regular basis".

However, till date no compliance of the above mentioned directive has been reported by PSPCL. Although it is apprehended that due to high incidence of unauthorised running of AP motors, particularly during paddy season, the T&D losses on the AP feeders may be much higher than assumed for calculating AP consumption, as mentioned above, but due to non compliance of the directions by PSPCL, there is no option with the Commission at this juncture but to continue to determine the loss level as per regulation 30(2) of the PSERC (Terms & Conditions of Intra-state Open Access) Regulations, 2011. However, the Commission may take appropriate action to allow only the realistic level of T&D losses, in future.

Regarding assessment of AP consumption of consumers fed from mixed kandi area feeders, the pumped energy for agriculture load was taken as 30% of the total pumped energy of kandi area feeders in proportion to the connected load. PSPCL vide its letter no. 2944/CC/DTR-121/Vol.II/TR-II dated 23.12.2013 requested the Commission to consider 45% of the total pumped energy of mixed Kandi Area feeders for assessing the consumption of AP consumers being fed from mixed Kandi Area feeders (instead of 30% as taken by the Commission for assessing AP consumption in the Tariff Order for FY 2013-14), on the plea that although the percentage of sanctioned load of AP consumers fed from mixed Kandi Area feeders is around 30% but the billed energy of the consumers is around 45% of the total pumped energy. The above reasoning submitted by PSPCL was not found convincing by the Commission, and PSPCL was accordingly asked to submit comments on the observations of the Commission in the matter vide letter no. 702/PSERC/DTJ/105 dated 20.01.2014. But, PSPCL did not submit its comments in the matter, and presuming that PSPCL had nothing more to say in the matter, the Commission accordingly estimated and approved the AP consumption for FY 2010-11 (true up), FY 2011-12 (true up) and FY 2013-14 (review) in the Tariff Order for FY 2014-15, on the basis of energy pumped data / information supplied by PSPCL in the ARR for FY 2014-15 and during processing of ARR for FY 2014-15.

In the ARR for FY 2016-17, PSPCL has again submitted that the Commission is wrongly taking AP consumption of Kandi Area mixed feeders as 30% of the total consumption, whereas PSPCL has calculated the same as 45% of the total consumption. PSPCL further submitted that it has supplied detailed calculations to this effect to the Commission vide its letter no. 2944/CC/DTR-121/Vol.II/TR-II dated 23.12.2013.

For more accurate assessment of agriculture consumption in kandi areas, PSPCL was directed in Tariff Order for FY 2013-14 that AP load of Kandi area feeders fed from mixed feeders should be segregated and in case of any practical difficulty due to difficult terrain in certain areas, all AP motors of such feeders should be metered during the year 2013-14. This directive was reiterated in the Tariff Order for FY 2014-15, but PSPCL failed to implement the directions of the Commission. In the Tariff Order for FY 2015-16, the Commission in para 6.5 issued the following directions to PSPCL on this issue:

"The Commission repeatedly directed PSPCL to segregate AP load of Kandi area feeders fed from mixed feeders and in case segregation in some cases is not practicable, then in such cases all AP motors should be metered. The Electricity Act, 2003 mandate 100% metering of all consumers. However, PSPCL in the last two years had not taken any step to implement the directions of the Commission. ***Under these circumstances, the Commission has no other option but to continue the present methodology to assess AP consumption of kandi area feeder.***

Government of India has now launched Deendayal Upadhyaya Gram Jyoti Yojana which not only allow liberal funding including substantial portion of grant to segregate the mixed feeders and to achieve 100% metering. ***PSPCL is directed to utilise this scheme for segregation of mixed kandi area feeders and/or achieve 100% metering on these feeders during 2015-16."*** **[Emphasis supplied]**

As per the status of compliance of directives ending March, 2016 submitted by PSPCL, no action in this regard has been taken by the licensee. Let alone implementation of the directive of the Commission within the stipulated time, PSPCL has not included the proposal of segregation of kandi area feeders or 100% metering of AP consumers in the project reports got approved under Deendayal Upadhyaya Gram Jyoti Yojana. This scheme has specifically been launched by Government of India to achieve segregation of 11 kV mixed agriculture feeders and ensure 100% metering of consumers as per the mandate of the Act.

In the Tariff Order for FY 2013-14, the Commission approved the AP consumption for FY 2012-13 (review) on the basis of data supplied by PSPCL of energy pumped for

AP supply during April, 2012 to December, 2012 and estimated (on proportionate basis) energy pumped for AP supply during January, 2013 to March, 2013. Further, the AP consumption for FY 2013-14 was estimated by the Commission in the ibid Tariff Order by applying 5% adhoc increase over the AP consumption approved by the Commission for FY 2012-13 (review).

In view of the above, the Commission has estimated the AP consumption as 9886 MU during FY 2012-13, on the basis of energy pumped data supplied by PSPCL, as worked out in Table 2.2.

Table 2.2: AP Consumption for FY 2012-13

(MU)

Sr. No.	Description	Energy
(i)	Energy pumped during April, 2012 to March, 2013 in case of 3-phase 3-wire AP feeders	10746.32
(ii)	Energy pumped during April, 2012 to March, 2013 in case of 3-phase 4-wire AP feeders	91.41 [a]
(iii)	Energy pumped during April, 2012 to March, 2013 in case of Kandi Area mixed feeders feeding AP load	418.24 [b]
(iv)	Total energy pumped during FY 2012-13 for AP supply {(i)+ (ii)+ (iii)}	11255.97
(v)	Less losses @13.12%[c] (18-(2.5+15% of 15.90)) {(iv)x13.12%}	1476.78
(vi)	Net AP consumption for FY 2012-13 {(iv) - (v)}	9779.19
(vii)	AP consumption for load of 87.49 [d] MW running on Urban Feeders [not included above at Sr.No.(vi)] {(vi)x 87.49/8028.92[e]}	106.56
(viii)	**Total AP consumption for FY 2012-13 {(vi)+ (vii)}**	**9885.75**

(a) *Calculated by multiplying the number of 3-phase 4-wire AP feeders for each month with AP consumption per feeder for that month in case of 3-phase 3-wire AP feeders.*
(b) *Calculated by assuming the AP load on Kandi Area feeders feeding AP load as 30%.*
(c) *The loss @13.12% (11kV and below) for FY 2012-13 has been computed from Tariff Order for FY 2012-13.*
(d) *As per data supplied by PSPCL in the ARR for FY 2016-17 (Format 1A).*
(e) *AP load running on 3-phase 3-wire, 3-phase 4-wire and Kandi Area mixed feeders is 8028.92 MW ending March, 2013 as per data/information supplied by PSPCL in the ARR for FY 2016-17 (Format 1A).*

Thus, the Commission approves the AP Consumption of 9885.75 MU (say 9886 MU) for FY 2012-13.

2.3 Transmission and Distribution Losses (T&D Losses)

PSPCL, in its ARR Petition for FY 2012-13, projected the T&D losses of 17%. The Commission, however, fixed the T&D losses at 18% for FY 2012-13 in its Tariff Order for FY 2012-13.

PSPCL, in its ARR Petition for FY 2013-14, projected the T&D losses at 17% for FY 2012-13. However, the Commission decided to retain T&D losses at 18% as fixed in the Tariff Order for FY 2012-13.

PSPCL, in its ARR Petition for FY 2016-17, has intimated the T&D losses at 16.77%, as actual, for FY 2012-13, considering the AP consumption of 10794 MU for FY

2012-13. PSPCL has submitted that the actual value of T&D losses for FY 2012-13, arrived at in accordance with the actual energy sales, own generation and energy purchase, is 16.77%. The actual loss is lower than approved loss level of 18.00%, with an over achievement to the extent of 1.23% in comparison to the target given by the Commission for the year. PSPCL has further submitted that the Commission approved the transmission loss of 2.5% for PSTCL for FY 2012-13 in revised estimates. Accordingly, PSPCL has achieved the distribution loss (66 kV and below) of 14.27% as against the approved target of 15.90% in revised estimates.

PSPCL has submitted that it is making concerted efforts to reduce and control the losses and is already recognized at par with some of the efficient utilities in the country. The loss reduction achieved is because of various loss reduction measures initiated by PSPCL. This is an indication of the significant technical and operational efficiency efforts initiated by PSPCL to reduce losses in the LT networks/ consumer categories. PSPCL has further submitted that an analysis of the methodology for consideration of actual losses in the last Tariff Order for PSPCL suggests that the Commission disallows the sales pertaining to AP consumption and adds such disallowed sales to the T&D losses. The combined impact of disallowance in AP consumption and T&D losses being higher (after reworking by the Commission) is passed on as an ultimate disallowance in the power purchase cost.

PSPCL has further submitted that the Commission has fixed the trajectory of reduction of T&D losses considering the AP consumption on the basis of sample meter readings. However, the approach of approving the T&D losses based on AP pumped energy consumption is contrary to the Commission’s trajectory of reduction in T&D losses, as without revising the trajectory, the same has proved detrimental to PSPCL.

The Commission, in para 2.2.3 of the Tariff Order, has determined and approved AP consumption as 9886 MU for FY 2012-13. As brought out in para 2.2.3 of the Tariff Order, the Commission has determined the AP consumption on the basis of energy pumped to the AP consumers, as the AP consumption projected by PSPCL on the basis of sample meters has not been found to be correct. The determination of AP consumption by either methodology, rather any methodology, should not have any bearing on T&D losses, if determination of AP consumption is correct. The endeavour of the Commission has always been to determine the AP consumption as accurately as possible and near to actual. As such, the contention of PSPCL in this regard cannot be accepted in any imagination.

Keeping the overall T&D loss level of 18% as approved for FY 2012-13 in the Tariff Order for FY 2012-13 and based on the approved transmission loss of 2.5% for PSTCL for FY 2012-13 in Tariff Order for PSTCL for FY 2016-17, the targeted distribution loss (66 kV and below) for PSPCL for FY 2012-13 has been worked out as 15.90%, which the Commission approves.

2.4 PSEB'S Own Generation

2.4.1 **Thermal Generation:** The station-wise generation projected by PSPCL during the determination of ARR by the Commission for FY 2012-13, generation approved by the Commission in the Tariff Order, revised estimates furnished by PSPCL during determination of ARR of FY 2013-14, generation approved by the Commission in the review, generation figures now supplied by PSPCL in the ARR for FY 2015-16 and generation now approved by the Commission are given in Table 2.3.

Table 2.3: Thermal Generation – FY 2012-13

(MU)

Sr. No.	Thermal Station	Projected by PSPCL during determination of ARR for FY 2012-13		Approved by the Commission in T.O. FY 2012-13		Revised Estimates by PSPCL during determination of ARR for FY 2013-14		Approved by the Commission in Review		Generation as submitted by PSPCL in ARR of FY 2016-17		Now approved by the Commission	
		Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
1.	GNDTP	2815	2505	2552	2271	1784	1588	1782	1586	1632	1452	1632*	1452
2.	GGSSTP	9300	8509	9863	9025	9678	8856	9593	8778	9167	8399	9167	8388
3.	GHTP	6989	6360	7577	6933	7350	6745	7402	6773	7215	6643	7215	6602
	Total	19104	17374	19992	18229	18812	17189	18777	17137	18014	16494	18014	16442

* including 145 MU during trial run of Unit III of GNDTP.

Plant-wise generation figures supplied by PSPCL in the ARR for FY 2016-17 and the generation figures validated by the Commission have been taken into account.

Accordingly, the Commission approves gross thermal generation for FY 2012-13 at 18014 MU.

Auxiliary Consumption

The auxiliary consumption projected by PSPCL during determination of ARR by the Commission for FY 2012-13, auxiliary consumption approved by the Commission in the Tariff Order, revised estimates furnished during determination of ARR of FY 2013-14, auxiliary consumption approved by the Commission in the review, auxiliary consumption figures supplied by PSPCL with the ARR for FY 2016-17 and auxiliary consumption now approved by the Commission are given in Table 2.4.

Table 2.4: Auxiliary Consumption – FY 2012-13

Sr. No.	Thermal Station	Projected by PSPCL during determination of ARR FY 2012-13	Approved by the Commission in T.O. FY 2012-13	Revised Estimates by PSPCL during determination of ARR FY 2013-14	Approved by the Commission in Review	Submitted in ARR of FY 2016-17	Now approved by the Commission
I	II	III	IV	V	VI	VII	VIII
1.	GNDTP	11.00%	11.00%	11.00%	11.00%	11.02%	11.00%
2.	GGSSTP	8.50%	8.50%	8.50%	8.50%	8.37%	8.50%
3.	GHTP	9.00%	8.50%	8.24%	8.50%	7.93%	8.50%

It is observed that actual auxiliary consumption now reported by PSPCL is marginally higher for GNDTP and lower for GGSSTP and GHTP than the approved levels. The Commission observes that the auxiliary consumption of GGSSTP and GHTP has been approved on normative basis.

PSPCL in the ARR for FY 2016-17 has submitted that GNDTP is an old generating station and all four units have already outlived their useful life of 25 years. PSPCL has also submitted that R&M activities have been undertaken in Unit-III and Unit-IV. PSPCL has further submitted that R&M activities were also undertaken in the neighbouring state of Haryana wherein two agencies i.e. Alstom and BHEL were involved for the R&M of 110 MW Panipat Units-1 and 2. It needs to be appreciated that BHEL had not taken any guarantee of the performance results, post completion of the R&M activities of the units. Therefore, even after the R&M initiatives, the performance of these units have not been in line with the normative limits being approved by the Commission. It needs to be appreciated that technology constraints in 110MW units, make it really difficult even for the Original Equipment Manufacturers (OEMs) to commit any guaranteed performance for the units. As such, the auxiliary consumption remains more or less constant for the generating units. However, the auxiliary consumption for GNDTP appears to be slightly higher i.e. 11.02%, when compared to the Commission's approved figure of 11.00%.

PSPCL has further submitted that Regulation 20 of PSERC Tariff Regulations, 2005 states that while determining cost of generation, the Commission shall be guided by Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, as amended from time to time. Regulation 26 (iv) of CERC Tariff Regulations specify that the norm for auxiliary consumption for all thermal generating stations shall be 8.50%, except for those mentioned in the said regulation. However, GNDTP having sets of 110 MW/120MW can be compared with Tanda Thermal Power Station, for which CERC has determined auxiliary consumption to be 12%. Thus, it can be seen that the actual auxiliary consumption for GNDTP station for FY

2012-13, being 11.02%, is within the range of norm specified, as provided in the PSERC Tariff Regulations, 2005, benchmarked with CERC Tariff Regulations, 2009.

PSPCL has further submitted that the Hon'ble APTEL in its Judgment dated 18th October, 2012, held as follows:

> *"…It appears to us that the Commission is not oblivious of the provisions of the Central Electricity Regulatory Commission Regulations. It is established that the Central Electricity Regulatory Commission Tariff Regulations, 2009 has provided* ***auxiliary consumption at 12%.*** *If the circumstances applicable to Tanda Stations are applicable to and are not different from GNDTP units then there will be not too much of rationale in deviation from the Central Electricity Regulatory Commission norms." (emphasis added)*

PSPCL has submitted that from the above reference, it can be seen that the norm for auxiliary consumption for GDNTP station of 110 MW/120 MW unit sets should be benchmarked with that applicable for Tanda Station at 12%, in accordance with the provisions of the State Regulations as linked with the CERC norms. The actual auxiliary consumption for GNDTP for FY 2012-13 is 11.02%, which is lower than norm of 12% as applicable to Tanda Station. PSPCL has prayed to approve the actual auxiliary consumption for GNDTP at 12.00%.

The Hon'ble APTEL vide its order dated 18.10.2012 in Appeal Nos. 7, 46 & 122 of 2011 had remanded back to the Commission various issues, including auxiliary consumption in respect of GNDTP station, for passing appropriate order. The Commission in its order dated 07.01.2013 in Petition No. 57 of 2012 (suo-motu), compositely determined auxiliary consumption for all four units of GNDTP at 11%. The Commission in its review order dated 28.03.2013 in Petition No. 10 of 2013 did not allow further relief to PSPCL in the matter of auxiliary consumption of GNDTP. PSPCL filed an appeal (No. 174 of 2013) with the Hon'ble APTEL against Commission's order dated 28.03.2013. The order in the matter of Appeal No. 174 of 2013 has been pronounced by the Hon'ble APTEL on 22.04.2015 and found no infirmity in the order of the Commission regarding fixing of auxiliary consumption at 11% for GNDTP.

The Commission notes that Units I, II and III of GNDTP have been put on commercial operation on 31.05.2007, 19.01.2006 and 07.12.2012 respectively, after completion of Renovation and Modernisation (R&M) works, and Unit IV of GNDTP remained under R&M during FY 2012-13.

As such, the Commission finds no justification in allowing auxiliary consumption after

R&M works of Units I, II and III, in excess of pre R&M value and approves auxiliary consumption for GNDTP units at 11.00%, as considered and approved in para 4.4.1 of the Tariff Order for FY 2012-13.

In view of the above, the Commission approves the auxiliary consumption of 11.00%, 8.50% and 8.50% for GNDTP, GGSSTP and GHTP respectively.

The net thermal generation on this basis works out to 16442 MU as shown in column XIV of Table 2.3.

The Commission further observes that PSPCL has not been able to achieve gross and net thermal generation originally approved in the Tariff Order for FY 2012-13. PSPCL has under-achieved the target by 1978 MU (19992-18014) gross and 1787 MU (18229-16442) net as compared to generation originally approved, as shown in Table 2.3.

PSPCL in its ARR for FY 2016-17, has submitted that its generating plants are operating as part of integrated grid and abide by the rules and regulations framed by CERC and PSERC, to ensure the safety of the grid. In view of this, to manage the frequency-load balance, PSPCL had to follow the instructions from Punjab State Load Despatch Centre (PSLDC). In FY 2012-13, PSPCL has suffered loss of generation to the tune of 383 MU, 1155 MU & 492 MU from GNDTP, GGSSTP & GHTP respectively, because of backing down of its generation on instructions received from PSLDC, even though it was available for generation. PSPCL has requested to consider the loss of generation due to backing down instructions of PSLDC for assessing the performance of its generating plants. The matter is further discussed further in para 2.10.

2.4.2 **Hydel Generation:** The station-wise generation submitted by PSPCL to the Commission during determination of ARR for FY 2012-13, generation approved by the Commission in the Tariff Order, revised estimates furnished by PSPCL during determination of ARR of FY 2013-14, generation approved by the Commission in review and generation figures now furnished by PSPCL and those accepted by the Commission are given in Table 2.5.

Table 2.5: Hydel Generation – FY 2012-13

(MU)

Sr. No.	Hydel Station	Projected by PSPCL during determination of ARR for FY 2012-13	Approved by Commission in TO FY 2012-13	RE by PSPCL in ARR for FY2013-14	Approved by Commission in TO FY 2013-14	Generation figures submitted by PSPCL in ARR of FY 2016-17	Now approved by the Commission
I	II	III	IV	V	VI	VII	VIII
1.	Shanan	545.41	528	446	435	439	439
2.	UBDC	378.43	368	327	325	318	318
3.	RSD	1454.69	1360	1401	1386	1428	1428
4.	MHP	1112.37	1127	1289	1383	1421	1421
5.	ASHP	678.76	658	706	689	639	639
6.	Micro hydel	9.37	10	8	8	8	8
7.	**Total own generation (Gross)**	**4178.72**	**4051**	**4177**	**4226**	**4253**	**4253**
8.	Auxiliary consumption and Transformation losses	155.17	149	42	34	41	34*
9.	HP share in RSD (free)				64	61	61**
10.	**Total own generation (Net)**	**4023.55**	**3902**	**4135**	**4128**	**4151**	**4158**
11.	**PSPCL share from BBMB**						
(a)	PSPCL share (Net)	3904.83	3905	4074	3901	3836	3836
(b)	Common pool share (Net)	305.43	305	305	305	309	309
12.	**Share from BBMB (Net)**	**4210.27**	**4210**	**4379**	**4206**	**4145**	**4145**
13.	**Total hydro generation (Net) (Own + BBMB)**	**8233.82**	**8112**	**8514**	**8334**	**8296**	**8303**

* *Transformation losses @0.5% (21 MU), auxiliary consumption @0.5% for RSD generation of 1428 MU and UBDC stage-1 generation of 143 MU (having static exciters) and @0.2% for others (13 MU).*

** *HP share in RSD (61 MU) as intimated by PSPCL in the ARR.*

The actual gross hydel generation from PSPCL's own hydel stations for FY 2012-13 is 4253 MU and the Commission accepts the same. The Commission has worked out net hydel generation by deducting free HP share in RSD along with the auxiliary consumption and transformation losses. Thus, the net hydel generation for FY 2012-13, works out to 4158 MU. The actual net availability from BBMB is 4145 MU, including common pool share, which the Commission accepts.

The Commission, therefore, approves net hydel generation for FY 2012-13 at 4158 MU from PSPCL's own hydel generating stations and 4145 MU as net share from BBMB as shown in Table 2.5.

2.5 Power Purchase

The Commission in its Tariff Order of FY 2012-13 approved net power purchase of 16544 MU (net). During determination of ARR of FY 2013-14, PSPCL furnished revised estimates for power purchase of 19779 MU (net). But, in review, the

Commission determined the net power purchase of 19564 MU. PSPCL has now submitted power purchase during FY 2012-13 as 19161 MU (net), in the ARR for FY 2016-17. This matter is further discussed in para 2.8.

2.6 Energy Balance

2.6.1 The details of energy requirement and availability for FY 2012-13 approved by the Commission in review in the Tariff Order of FY 2013-14 and figures now furnished by PSPCL in the ARR are given in Table 2.6. PSPCL has prayed in the ARR for FY 2016-17 to approve the energy balance as projected in the ARR and allow incentive for lower T&D losses of 16.77% against approved trajectory of 18.00% for FY 2012-13. The energy balance, including T&D losses along with sales and availability now approved by the Commission is depicted in column VI of Table 2.6.

Table 2.6: Energy Balance – FY 2012-13

(MU)

Sr. No.	Particulars	Approved by the Commission in T.O. FY 2013-14	As per PSPCL in ARR FY 2016-17	Now approved by the Commission	Sales & actual T&D losses as per approved energy available
I	II	III	IV	V	VI
A) Energy Requirement					
1.	Metered Sales	25948	25447	25447	25447
2.	Sales to Agriculture Pumpsets	10687	10794	9886	9886
3.	Total Sales within the State	**36635**	**36241**	**35333**	**35333**
4.	Loss percentage	18.00%	16.77%	18.00%	18.77%
5.	T&D losses	8042	7302	7756	8165
6.	Sales to Common pool consumers	305	309	309	309
7.	Outside State Sales	53	99	99	99
8.	**Total requirement**	**45035**	**43951**	**43497**	**43906**
B) Energy Available					
9.	Own generation (Ex-bus)				
10.	Thermal	17137	16494	16442	16442
11.	Hydro(Including share from BBMB and common pool consumers)	8334	8296	8303	8303
12.	Purchase (net)	19564	19161	19161	19161
13.	**Total Available**	**45035**	**43951**	**43906**	**43906**

2.6.2 The total energy available with PSPCL works out to 43906 MU (net), considering all purchases and own generation (net). With this energy available, the Commission works out the T&D losses as 18.77%. The difference of 409 MU (net) between energy requirement and energy availability is owing to the underachievement of T&D loss target as discussed in para 2.3 and depicted in column V & VI of Table 2.6. Higher T&D loss over and above the level approved by the Commission has resulted in increased net power purchase to the extent of 409 (8165-7756) MU. The matter is further discussed in para 2.9.

The Commission approves the total energy requirement for FY 2012-13 at 43497 MU after retaining T&D losses at 18%.

2.7 Fuel Cost

2.7.1 In its Tariff Order for FY 2012-13, the Commission approved the fuel cost as ₹3824.34 crore for a gross thermal generation of 19992 (gross) MU. In review, this cost was revised to ₹4092.95 crore for the then approved gross generation of 18632 MU. The details of approved fuel cost for FY 2012-13, in the Tariff Order for FY 2012-13 and in the Tariff Order for FY 2013-14 in review, are given in Table 2.7.

Table 2.7: Fuel Cost – FY 2012-13

Sr. No.	Station	As per T.O. FY 2012-13		As per Review in T.O. FY 2013-14	
		Gross Generation (MU)	Fuel Cost (₹crore)	Gross Generation (MU)	Fuel Cost (₹crore)
I	II	III	IV	V	VI
1.	GNDTP	2552	540.76	1782	390.55
2.	GGSSTP	9863	1913.39	9593	2090.43
3.	GHTP	7577	1370.19	7402	1611.97
4.	**Total**	**19992**	**3824.34**	**18777**	**4092.95**

2.7.2 PSPCL, in its ARR for FY 2016-17, has indicated the actual fuel cost for FY 2012-13 for a gross generation of 18014 MU as ₹3865.77 crore, whereas in the Audited Annual Accounts of PSPCL for FY 2012-13, the total generation expenses are ₹3885.22 crore.

PSPCL has submitted that it has considered the cost under the heads of cost of water, lubricants & consumable stores and station supplies of ₹17.07 crore in the R&M expenses in accordance with the philosophy adopted by the Commission in previous orders. Also, the fuel expenses during the trial run of units III & IV of GNDTP of ₹2.36 crore have not been considered as the same was booked in the capital expenditure in FY 2012-13.

In the Audited Annual Accounts of PSPCL for FY 2012-13, the total generation expenses comprise of ₹3801.13 crore for coal and oil consumption, ₹26.15 crore for other fuel related costs, ₹40.86 crore for fuel related losses and ₹17.07 crore for other operating expenses such as cost of water, lubricants, consumable stores and station supplies. Out of these, ₹17.07 crore booked towards other operating expenses do not form part of the fuel cost and are being considered under Repair and Maintenance Expenses in para 2.12. Thus, the net fuel cost for FY 2012-13 as per Audited Annual Accounts is taken as ₹3868.15 (3885.22-17.07) crore.

The Commission observes that the fuel cost intimated by PSPCL in respect of GNDTP units includes the fuel cost during trial runs of GNDTP units III & IV. The Commission further observes that PSPCL is carrying out the functions of generation and distribution, and the power generated during trial runs of units III and IV of GNDTP has been injected into the grid of PSPCL without consideration of frequency at that time. As such, the Commission is not inclined to treat the power generated during trial run, as power purchased at UI rate and consequently reduce the amount from the capital cost of the plant. However, fuel cost of the generation during trial run will be considered and allowed as revenue expense.

2.7.3 The actual fuel cost intimated by PSPCL for FY 2012-13 in its ARR for FY 2016-17 for a gross thermal generation of 18014 MU is based on calorific value and price of coal / oil as given in Table 2.7A.

Table 2.7A: Calorific Value and Price of Coal and Oil as submitted by PSPCL for FY 2012-13

Sr. No.	Station	As considered by PSPCL				
		Calorific value of coal (kCal/kg)	Calorific Value of Oil (kCal/lt)	Price of Oil (₹/KL)	Price of coal excluding transit loss (₹/MT)	Transit loss
I	II	III	IV	V	VI	VII
1.	GNDTP	4041.51	9400	47565.00	3279.86	2.81%
2.	GGSSTP	4053.00	9700	42656.98	3572.27	(-) 0.13%
3.	GHTP	4068.00	9500	43553.00	3365.67	2.28%

2.7.4 Fuel cost being a major item of expense, the Commission thought it prudent to get the same validated. The finally accepted values are indicated in Table 2.7B.

Table 2.7 (B): Calorific Value and Price of Coal and Oil as approved by the Commission for FY 2012-13

Sr. No.	Station	As accepted by the Commission					
		GCV of coal from Apr.12 to Oct. 12 (kCal/kg)	GCV of coal from Nov. 12 to Mar. 13 (kCal/kg)	Calorific Value of Oil (kCal/lt)	Price of Oil (₹/KL)	Price of coal excluding transit loss (₹/MT)	Transit loss
I	II	III	IV	V	VI	VII	VIII
1.	GNDTP	4005.16	4182.69	9548.09	47564.92	3279.83	2.81%
2.	GGSSTP	4025.45	4304.08	9741.18	42656.88	3572.11	(-) 0.13%
3.	GHTP	4039.17	4120.17	9621.17	43554.07	3365.80	2.28%

2.7.5 The Commission passed an order dated 08.10.2012 in petition no. 42 of 2012 (suo motu) in the matter of Fuel Audit of various Thermal Plants of Punjab State Power Corporation Limited. The parts relevant to the issue of GCV as contained in the order of the Commission dated 08.10.2012 are reproduced below:

"(c) To adopt a uniform method of GCV measurement for receipted and bunkered coal by adding the effect of surface moisture to the GCV at the rate of 145

kCal/kg per 1% of moisture."

"(d) *To bring down the drop in GCV between the receipted coal and bunkered coal within 150 kCal/kg."*

"(f) *To work out the monthly weighted average GCV of receipted coal (at the thermal plants) and bunkered coal and furnish the same quarterly and at the time of filing the ARR and Tariff Petition with the Commission."*

The issue of drop in GCV of receipted coal and bunkered coal to 150 kCal/kg as per the order of the Commission dated 08.10.2012 in petition no. 42 of 2012 (suo-motu) and order of the Commission dated 27.02.2013 in review petition no. 66 of 2012 was challenged by PSPCL in the Hon'ble APTEL in Appeal No. 98 of 2013. The Hon'ble APTEL in its order dated 02.12.2014 held as under:

"*17.1. The State Commission is fully and legally justified in determining the norms and giving directions to the appellant on the issue of drop in GCV between the receipted coal and fired/bunkered coal to 150 kilocal/kg as the impugned order has been passed after considering the relevant facts and the recommendations of CPRI. The State Commission is justified in accepting the recommendations of CPRI and the impugned order has been passed on due consideration of the recommendations and other factors available on record. We do not find any contradiction or discrepancy between the two reports submitted by CPRI, namely, report submitted to the appellant in February, 2012 and the report submitted by the CPRI to the State Commission in August, 2012. The State Commission is justified in giving various directions with regard to the fuel audit after due consideration considering that such directions are practically implementable. There is nothing on record to suggest or indicate that the directions given by the State Commission with regard to the fuel audit are practically not implementable.*

17.2. The State Commission may take steps to frame regulation regarding drop & GCV between receipted coal and bunkered/fired coal after following due process of law.

18. Consequently, for the reasons stated above, the appeal has no merits and is hereby dismissed. The impugned review order dated 27.02.2013 passed by the State Commission is hereby affirmed. No order as to costs."

As the Commission issued the order in the matter of Fuel Audit of various Thermal Plants of Punjab State Power Corporation Limited on 08.10.2012, the Commission while carrying out the review of FY 2012-13 in the Tariff Order for FY 2013-14, decided to continue with the existing practice of adopting of GCV of bunkered coal for working out the fuel cost for the period from April, 2012 to October, 2012 i.e. values as given under Column III of Table 2.7(B). The Commission further decided to adopt the GCV of receipted coal minus maximum permissible drop in GCV as per the order of the Commission dated 08.10.2012 (150 kCal/kg) for working out the fuel cost from November, 2012 to March, 2013.

The Commission vide letter no. 2093 dated 08.12.2014 sought the information regarding GCV of receipted coal and bunkered coal from PSPCL. On the basis of the information supplied by PSPCL vide its letter no. 2632 dated 11.12.2014; the Commission determined the values of GCV as per order of the Commission dated 08.12.2012. The values of GCV given under column IV of Table 2.7 (B) are as per order of the Commission dated 08.10.2012.

2.7.6 **Station Heat Rate (SHR)**

Regarding Station Heat Rate (SHR), PSPCL has intimated in the ARR for FY 2016-17, the SHR for GNDTP as 2820.91 kCal/kWh, for GGSSTP as 2537.77 kCal/kWh and for GHTP as 2324.46 kCal/kWh. PSPCL in its ARR has submitted excerpts from orders of Hon'ble APTEL in case of Appeal Nos. 42 & 43 of 2008, in the matter of Haryana Power Generation Company Limited v/s Haryana Electricity Regulatory Commission, Appeal Nos. 86 & 87 of 2007, in the matter of by Maharashtra State Power Generation Company Limited v/s Mahrashtra Electricity Regulatory Commission and Appeal No. 129 of 2006, in the matter of Gujarat State Electricity Company Limited v/s Gujarat Electricity Regulatory Commission. Further, PSPCL has prayed that the technical performance of its stations at relaxed levels be allowed.

Regulation 20 of PSERC Tariff Regulations specifies that while determining the cost of generation of each thermal/gas/hydro electric generating stations located within the State, the Commission shall be guided as far as feasible, by the principles and methodologies of CERC, as amended from time to time. Further, Regulation 37 of PSERC Tariff Regulations specifies that the components of generation tariff shall be as laid down in the CERC Tariff Regulations. Regulation 26(ii)(B) of CERC (Terms and Conditions of Tariff) Regulations, 2009 states that the SHR of the New Thermal Generating Station achieving COD on or after 01.04.2009 shall be as per the formula (given in the regulation). Further, as per fourth proviso to Regulation 26(ii)(B) of CERC (Terms and Conditions of Tariff) Regulations, 2009, states that if one or more units are declared under commercial operation prior to 01.04.2009, the heat rate norms for those units as well as units declared under commercial operation on or after 01.04.2009 shall be lower of the heat rate norms arrived at by above methodology and the norms as per Regulation 26 (ii) A (a). As such, lower of SHR as worked out on the basis of formula given in Regulation 26 (ii) B & Regulation 26 (ii) (A) (a) of CERC Tariff Regulations, will be applicable for Unit III & Unit IV of GHTP, since units III and IV of GHTP were declared under commercial operation on 16.10.2008 and 25.01.2010 respectively.

The Commission while processing the ARR of PSPCL for FY 2012-13 and FY 2013-14, has been allowing the Gross Station Heat Rate for all units of GHTP at 2500 kCal/ kWh.

The information/data regarding Unit III and Unit IV of GHTP was obtained from PSPCL vide Commission's letter no. 3382/3383 dated 16.07.2013 and PSPCL vide its letter no. 2665 dated 30.07.2013 submitted the data/information. As per information supplied by PSPCL, the maximum design Unit Heat Rate of Units III and IV of GHTP is 2279.85 kCal/kWh with 0% make and 33^{o}C Cooling Water (CW) temperature subject to 0.1% increase per month due to ageing.

As per Regulation 26(ii)(B) of CERC (Terms and Conditions of Tariff) Regulations, 2009, the Station Heat Rate for new thermal generating stations achieving COD on or after 01.04.2009 i.e. Unit IV of GHTP, has been determined by the Commission as 2428.04 kCal/kWh (say 2428 kCal/kWh) (1.065 x 2279.85 kCal/kWh). As per Regulation 26 (ii) (A) (a) of CERC (Terms and Conditions of Tariff) Regulations, 2009, SHR norm of coal based thermal generating stations of 200/210/250 MW shall be 2500 kCal/kWh. As such, as per fourth proviso to Regulation 26 (ii)(B) of CERC (Terms and Conditions of Tariff) Regulations, 2009, SHR for Unit III of GHTP shall also be 2428 kCal/kWh, as explained above, which the Commission approves.

The Commission has approved the SHR for units III and IV of GHTP at 2428 kCal/kWh in view of provisions in CERC (Terms and conditions of Tariff) Regulations, 2009, while carrying out the true up of FY 2010-11 & FY 2011-12, review of FY 2013-14 and while determining ARR for FY 2014-15, in the Tariff Order for FY 2014-15 and also for review of FY 2014-15 and while determining ARR of FY 2015-16, in the Tariff Order for FY 2015-16.

For Units I & II of GHTP as well as for GGSSTP and GNDTP, the Commission decides to allow the SHR as allowed earlier in the Tariff Order for FY 2012-13.

2.7.7 **Price and calorific value of coal and oil**

The Commission has now approved revised gross thermal generation of 18014 MU (1632 MU for GNDTP, 9167 MU for GGSSTP and 7215 MU for GHTP) as discussed in para 2.4.1, including 145 MU generated during trial run of Unit-III of GNDTP. The fuel cost for different thermal generating stations corresponding to generation now approved has been worked out, based on the parameters adopted by the Commission in its Tariff Order of FY 2012-13, except for SHR in respect of GHTP units III and IV, which has now been determined at 2428 kCal/kWh in para 2.7.6 above and the GCV of coal as discussed in para 2.7.4 & para 2.7.5. Price and calorific value of coal and oil have been adopted as validated and accepted by the Commission.

2.7.8 **Transit Loss**

PSPCL has submitted that the coal transit losses are higher than the approved by the Commission for GNDTP and GHTP. However, these losses are negative for GGSSTP. PSPCL has further submitted that the coal transit losses are not within the control of PSPCL and attributable to the following reasons:

a) Calibration of measuring instruments- Weighing of coal at two different locations having different calibration of weighing machines lead to error more than permissible limits.
b) The transit loss occurred because of seasonal variation during the transportation of the coal which changes the moisture content of the coal during the transportation.
c) The transportation of coal happens through open wagon. As soon as the goods are loaded on the wagon, it becomes owner's risk and railways disown the responsibility. It is subject to pilferages at all halts, which is beyond the control of PSPCL.
d) During unloading, small quantities of coal get stuck at the edges of the transport wagons due to moisture and remain undelivered to the plant, contributing to transit losses.

In the Tariff Order for FY 2012-13, no transit loss was allowed for PANEM coal while arriving at fuel cost, as prices according to the contract are on F.O.R. destination basis and in case of coal other than PANEM coal, transit loss at actual, subject to a maximum of 1.50% was allowed by the Commission. PSPCL filed Appeal No. 106 of 2013 with APTEL on the various issues, including transit loss allowed by the Commission. The Hon'ble APTEL in its order dated 16.12.2015 has decided the issue against PSPCL. The abstract of the related part of the ibid order of Hon'ble APTEL is reproduced as under:

"22. Our consideration and conclusion on issue No.(vi):

22.1 We have pondered over the rival contentions of the parties and the relevant *part of the Impugned Order, including the reasons recorded in the Impugned Order, for restricting transit loss and we find no merit in the contentions of the appellant on this issue. It is true that the law laid down by this Appellate Tribunal is that the tariff order for each year has to decide the principles applicable for the said year and cannot decide the same in advance in the previous year. But the previous tariff order has not been challenged by the appellant before a higher forum. Hence, it is binding upon all the concerned parties so far as the issue of coal transit issue is concerned.* ***The State Commission in its tariff order has given the following reasons for restricting the transit loss:***

i) The actual transit loss of coal in respect of all the three thermal generations of the appellant has considerably come down.

ii) CERC has fixed a norm of 0.8% for transit loss of coal in case of non pit head thermal generating stations in its Tariff Regulations for the period 2009-14.

iii) PSPCL has engaged an outside agency for the coal linkage materialization and shortage minimization in respect of the coal for its thermal plants, the expenditure on which is being charged to the fuel cost of the respective generating stations.

22.2 The State Commission has allowed the transit loss of 2% for the Indian coal in respect of all the three thermal generating stations of the appellant during the year 2006-07 and continued to approve the same transit loss of 2% in its subsequent tariff orders. It was at the stage of tariff order for 2012-13 when the State Commission thought it necessary to reconsider the whole issue of transit loss of coal and then fixed the norm of transit loss of coal of all the generating stations of the appellant at actuals subject to a maximum of 1.5% for 2012-13 and 1% for 2013-14 and onwards. Thus we agree to the findings of the State Commission on this issue as we do not find any sufficient reasons to deviate there from. This issue No. (vii) is decided against the appellant."

As such, in case of coal other than PANEM coal, transit loss at actual, subject to a maximum of 1.50% has been allowed by the Commission, as approved in the Tariff Order for FY 2012-13. No transit loss has been allowed for PANEM coal while arriving at fuel cost as prices according to the contract are on F.O.R. destination basis.

2.7.9 On the above basis, fuel cost for FY 2012-13 for different thermal generating stations corresponding to actual generation is given in Table 2.8.

Table 2.8: Approved Fuel Cost for FY 2012-13

Sr. No.	Item	Derivation	Unit	GNDTP	GGSSTP	GHTP Units I&II	GHTP Units III&IV	Total
I	II	III	IV	V	VI	VII	VIII	IX
For the Period April, 2012 to October, 2012								
1.	Generation	A	MU	946	5671	2059*	2514*	**11190**
2.	Heat Rate	B	Kcal/kWh	2825	2500	2500	2428	
3.	Specific oil consumption	C	ml/kWh	1.00	1.00	1.00	1.00	
4.	Calorific value of oil	D	kcal/litre	9548.09	9741.18	9621.17	9621.17	
5.	Calorific value of coal	E	kcal/kg	4005.16	4025.45	4039.17	4039.17	
6.	Overall heat	F = (A x B)	Gcal	2672450	14177500	5147500	6103992	
7.	Heat from oil	G = (AxCx D) / 1000	Gcal	9032	55242	19810	24188	
8.	Heat from coal	H = (F-G)	Gcal	2663418	14122258	5127690	6079804	
9.	Oil consumption	I=(Gx1000)/D	KL	946	5671	2059	2514	
10.	Coal consumption excluding transit loss	J=(H*1000)/E	MT	664997	3508243	1269491	1505211	
For the period November, 2012 to March, 2013								
11.	Generation	K	MU	686	3496	1059*	1583*	**6824**
12.	Heat Rate	L	Kcal/kWh	2825	2500	2500	2428	
13.	Specific oil consumption	M	ml/kWh	1.00	1.00	1.00	1.00	
14.	Calorific value of oil	N	kcal/litre	9548.09	9741.18	9621.17	9621.17	
15.	Calorific value of coal	O	kcal/kg	4182.69	4304.08	4120.17	4120.17	
16.	Overall heat	P = (K x L)	Gcal	1937950	8740000	2647500	3843524	
17.	Heat from oil	Q = (KxMxN) / 1000	Gcal	6550	34055	10189	15230	
18.	Heat from coal	R = (P-Q)	Gcal	1931400	8705945	2637311	3828294	
19.	Oil consumption	S=(Qx1000)/N	KL	686	3496	1059	1583	
20.	Coal consumption excluding transit loss	T=(R*1000)/O	MT	461760	2022719	640098	929159	
Total Fuel Cost for FY 2012-13								
21.	Total Generation	U = A+ K	MU	1632	9167	3118	4097	**18014**
22.	Total Oil Consumption	V = I + S	KL	1632	9167	3118	4097	
23.	Total coal consumption excluding transit loss	W = J + T	MT	1126757	5530962	1909589	2434370	
24.	Transit loss of coal	X	(%)	1.50	-0.13	1.50	1.50	
25.	Quantity of PANEM coal	Y	MT	713783	3218283	1277278#	1678321#	
26.	Quantity of coal other than PANEM coal	Z = W - Y	MT	412974	2312679	632311	756049	
27.	Quantity of coal other than PANEM coal including transit loss	AA =Z/(1-X/100)	MT	419263	2309676	641940	767562	
28.	Total quantity of coal required	AB = Y + AA	MT	1133046	5527959	1919218	2445883	
29.	Price of oil	AC	₹ /KL	47564.92	42656.88	43554.07	43554.07	
30.	Price of coal	AD	₹ /MT	3279.83	3572.11	3365.80	3365.80	
31.	Total cost of oil	AE = AC x V / 10^7	₹ crore	7.76	39.10	13.58	17.84	78.28
32.	Total cost of coal	AF = AB x AD/10^7	₹ crore	371.62	1974.65	645.97	823.24	3815.48
33.	**Total Fuel cost**	**AG = AE + AF**	**₹ crore**	**379.38**	**2013.75**	**659.55**	**841.08**	**3893.76**
34.	**Per unit Cost**	**AH = AG x 10 /U**	**₹ /kWh**	**2.32**	**2.20**	**2.12**	**2.05**	**2.16**

** Generation from April, 2012 to October, 2012 and November, 2012 to March, 2013 has been taken as per data supplied by PSPCL vide letter no. 2632 dated 11.12.2014.*

 # Quantity of PANEM Coal where not given for different units of a plant has been considered on pro-rata basis of generation.

The Commission, thus, approves the fuel cost at ₹3893.76 crore for gross generation of 18014 MU for FY 2012-13.

2.8 Power Purchase Cost

2.8.1 The Commission, in its Tariff Order for FY 2012-13, approved the power purchase cost of ₹5717.04 crore, comprising of ₹5636.69 crore for purchase of 17151 MU (gross) and ₹80.35 crore for purchase of RECs. In review, the Commission revised the power purchase cost to ₹7074.88 crore, comprising of ₹7024.88 crore for the purchase of 20432 MU (gross), after adding the external transmission losses of 4.25%(19564 MU+ external losses of 868 MU) and ₹50.00 crore for purchase of RECs.

2.8.2 The gross power purchase for FY 2012-13 now reported by PSPCL is 19894 MU (gross) including short term power purchase of 4558.23 MU and unscheduled interchange (UI) of 651.34 MU. The net power purchase after accounting for actual external losses of 3.68% is 19161 MU. The actual cost of power purchase for FY 2012-13 as per ARR for FY 2016-17 is ₹7219.09 crore, including ₹45.08 crore for purchase of RECs for FY 2012-13. The power purchase cost as per Audited Annual Accounts for FY 2012-13 is also ₹7219.09 crore, excluding intra-state transmission and SLDC charges of ₹830.01 crore paid to PSTCL.

The Commission observes that as per previous practice, requirement of power purchase at the time of review is taken based only on the energy balance as determined in the Tariff Order for the relevant year and approved accordingly. However, at the time of true up, the actual quantum of power purchased has been allowed since it has been purchased by PSPCL and supplied to the consumers of different categories.

Regarding power purchase through traders and through UI, the Commission observed in the Tariff Order for FY 2012-13 as under:

"……..As such, there is a surplus availability of 419 MUs of energy. PSPCL has projected to purchase short-term power of 2254.80 MUs at 485 paise per unit. Now since surplus energy is available, the short-term power purchase of 2254.80 MUs by PSPCL is not justified. As such, the Commission does not approve short-term power purchase during FY 2012-13, as proposed by PSPCL. Further, the Commission approves the sale of available surplus energy at a rate not less than the average power purchase rate of 329 paise / unit during FY 2012-13.

The Commission directs PSPCL to sell the surplus energy judiciously, by watching the Market / Power Exchange rates, UI and Banking.

However, if in case of any exigency, PSPCL has to go in for short-term purchase of power through traders, then it should be done in a judicious manner. For the purpose of approving the rate for short-term purchase, the Commission has analyzed the monthly reports on short-term transactions of electricity published by Market Monitoring Cell (MMC) of CERC. Based on such monthly Reports, the Commission has worked out the weighted average price of short-term bilateral transactions for the period from April 2011 to February 2012 as 417 paise per unit, which the Commission considers to be reasonably realistic for short-term power purchase.

Accordingly, the Commission decides to limit the cost of short-term power purchase from traders / UI at an average rate of 417 paise per unit for FY 2012-13."

PSPCL in its ARR Petition for FY 2016-17 has shown power purchase of 5209.57 MU [4558.23 MU through traders (short term) + 651.34 MU through UI] at an average rate of 399.05 paise per unit during FY 2012-13, which is within the ceiling rate of 417 paise per unit fixed for FY 2012-13 by the Commission in the Tariff Order for FY 2012-13.

However, the Commission decides not to allow additional UI charges leviable/ paid under CERC's UI Regulations for over-drawl of power when frequency is below 49.5 Hz. During the exercise of "Audit of Power Purchase/Sale/Surrender, including Power Purchase/Sale under UI by PSPCL from 01.04.2010 to 31.03.2013", PSPCL submitted vide letter no. 4649 dated 23.08.2013 that ₹23.75 crore has been paid as additional UI charges during FY 2012-13. The data was revised during the processing of ARR for FY 2014-15 and additional UI charges during FY 2012-13 were intimated as ₹23.63 crore, vide letter no. 2946 dated 31.12.2013. While replying to the deficiencies pointed out by the Commission in the ARR for FY 2015-16, PSPCL submitted vide letter no. 1246 dated 15.12.2014 that it has paid ₹12.79 crore as additional UI charges during FY 2012-13. The reasons, along with documentary proof, for deviating from the information already supplied were asked for from PSPCL vide Commission's letter no.13803 dated 22.12.2014. In reply, PSPCL vide its letter no. 1291 dated 26.12.2014 submitted that additional UI charges paid by PSPCL during FY 2012-13 were ₹23.63 crore. Further, due to revision of UI bills of FY 2012-13, received during 2014, the amount of additional UI amount was worked out to be ₹22.51 crore. PSPCL, vide its letter no. 246 dated 26.02.2016, in reply to Commission's letter no. 11749 dated 15.02.2016, has now intimated additional UI charges paid by PSPCL during FY 2012-13 as ₹22.51 crore. On the basis of information supplied by PSPCL vide ibid letter dated 26.02.2016, the Commission decides to take figure of ₹22.51 crore as additional UI charges and disallows the same.

The Commission also notes that PSPCL has paid ₹20.27 crore interest on delayed payments to UI account in FY 2012-13, as intimated by PSPCL vide its letter no. 1124 dated 17.12.2015. The Commission disallows the same.

PSPCL in its ARR for FY 2016-17 intimated an expenditure of ₹0.28 crore as 'Adjustment' (S. No. 58 of Table 24 of the ARR). On a query by the Commission vide letter no. 12699 dated 14.03.2016, PSPCL vide its letter no. 504 dated 20.04.2016 intimated that the amount of ₹0.28 crore has appeared due to some mis-classification in the balance sheet. The reply of PSPCL is not satisfactory. The Commission, as such, disallows the same.

Accordingly, the Commission approves cost of ₹7176.03 (7219.09 - 22.51 - 20.27 - 0.28) crore for net power purchase of 19161 MU (gross power purchase of 19894 MU) and also including amount of ₹45.08 for purchase of RECs for FY 2012-13.

2.9 Disincentive on account of higher T&D losses

As discussed in para 2.6.2, PSPCL has under-achieved the T&D loss level vis-a-vis the target approved by the Commission. As per the PSERC Tariff Regulations, the entire loss on account of under-achievement of T&D losses vis-a-vis the target set by the Commission is to be borne by the licensee. As brought out in the afore-mentioned para, T&D loss level higher than that approved by the Commission has resulted in increase in power purchase to the extent of 409 MU (net), the pro-rata cost of which based on power purchase cost approved in para 2.8.2, works out to ₹152.22 ((7176.03 - 45.08) x 409 / 19161) crore.

The Commission, therefore, determines an amount of ₹152.22 crore as disincentive on account of higher T&D losses and disallows the same.

The effect of this is reflected at Sr. No. 13 of Table 2.16.

2.10 Incentive/disincentive on account of higher/lower availability of thermal generating stations

2.10.1 PSPCL in the ARR Petition for FY 2016-17, submitted that the generating plants are operating as part of integrated grid and abide by the rules and regulations framed by CERC and PSERC, and to ensure the safety of the grid, PSPCL has to follow the instructions from Punjab State load Dispatch Centre (PSLDC) to manage the frequency-load balance. In FY 2012-13, PSPCL suffered loss of generation because of backing down of its generation on instructions received from PSLDC even though it was available for generation. PSPCL has requested to consider the loss of generation due to backing down instructions of PSLDC for assessing the performance of generating plants. PSPCL has submitted the stations wise detail of loss of generation due to backing down instructions from SLDC, as under:

Sr. No.	Thermal Generating Station	Gross Generation approved in TO for FY 2012-13 (MU)	Actual Gross Generation as per the accounts for FY 2012-13 (MU)	Loss of Generation due to backing down instructions from SLDC (MU)	Total Gross Generation including loss of generation due to backing down (MU)
1.	GNDTP	2552	1632	383	2015
2.	GGSSTP	9863	9167	1155	10322
3.	GHTP	7577	7215	492	7707
	Total	**19992**	**18014**	**2030**	**20044**

The details of unit wise generation and Plant Availability Factor (PAF) in respect of GNDTP, GGSSTP and GHTP for FY 2012-13 have been given by PSPCL in the ARR for FY 2016-17, as under:

Plant	Unit	Gross Generation (MU)	PAF (%)
GNDTP	Unit 1	610	86.06
	Unit 2	636	85.97
	Unit 3	385	91.80
	Unit 4	0	0.00
	Total	**1632**	**87.37**
GGSSTP	Unit 1	1288	84.70
	Unit 2	1680	97.17
	Unit 3	1340	84.49
	Unit 4	1747	99.06
	Unit 5	1441	89.61
	Unit 6	1670	97.65
	Total	**9167**	**92.11**
GHTP	Unit 1	1648	93.21
	Unit 2	1470	89.06
	Unit 3	1984	93.33
	Unit 4	2113	98.88
	Total	**7215**	**93.84**

PSPCL has submitted that it has achieved higher plant availability than the normative target of 85% for GNDTP, GGSSTP and GHTP for FY 2012-13. Further, in case of GNDTP, the overall plant availability has been computed after taking into consideration the effective capacity of the plant, as Renovation & Modernisation of unit III and unit IV was planned for FY 2012-13.

2.10.2 In the ARR for FY 2016-17, PSPCL has submitted that as per Regulation 10 of the PSERC Tariff Regulations, 2005, any gain or loss, as the case may be, with respect to excess or under recovery of norms and targets shall be retained/ borne by the licensee itself. Further, Regulation 20 and Regulation 37 of the PSERC Tariff

Regulations, 2005, state that while determining generation tariff and components of generation tariff, the Commission shall be guided by the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, as amended from time to time. PSPCL has also submitted, in the ARR for FY 2016-17, the relevant extracts of Regulations 10, 20 and 37 of the PSERC Tariff Regulations, 2005.

PSPCL has further submitted that as per these regulations, for the determination of generation tariff, the Commission is guided by the norms and principles as laid down in the CERC Tariff Regulations, 2009. Regulation 21 of the CERC Tariff Regulations, 2009 states that the recovery of fixed charges, inclusive of incentive payable shall be based on the Normative Annual Plant Availability Factor (NAPAF) for each station, and as per Regulation 26(i)(a), NAPAF for all thermal generating stations shall be 85%.

To lay emphasis, PSPCL has quoted relevant para of the Hon'ble APTEL Judgment dated 18.10.2012, in Appeal Nos. 7 of 2011, 46 of 2011 and 122 of 2011. PSPCL has further quoted relevant paras of the Hon'ble APTEL Judgment dated 11.09.2014 in Appeal No. 174 of 2012. PSPCL has further submitted that it has already submitted the information of segregation of costs amongst various functions as per Audited Accounts of FY 2012-13, vide letter no. 5423/TR-5/662 dated 13.11.2014, in compliance to the Hon'ble APTEL judgment. PSPCL has prayed that the generation incentive be determined on the basis of PSERC Tariff Regulations, 2005, in conformity to the CERC Tariff Regulations, as mentioned in the PSERC Regulations.

2.10.3 The Hon'ble APTEL in its order dated 11.09.2014 has disposed of Appeal No. 174 of 2012, in which the issue of 'Generation Norms and Target for Recovery of Fixed Charges and Incentive' was one of the issues among various other issues. The Hon'ble APTEL ordered the Commission to examine this issue afresh as per the directions given by it in judgment dated 18.10.2012 in Appeal No. 7 of 2011. PSPCL was also directed by the Hon'ble APTEL, in the ibid order, to furnish the requisite data/accounts as required by the Commission in order to determine the incentive in the form of additional capacity charges as per the regulations.

2.10.4 In compliance to the order of the Hon'ble APTEL in Petition No. 174 of 2012, the Punjab State Electricity Regulatory Commission initiated suo-motu Petition No. 55 of 2014. The Commission in its order dated 14.05.2015, in case of suo-motu Petition No. 55 of 2014, decided the issue, along with some other issues. The part of the Commission's Order dated 14.05.2015, relevant to the issue, is reproduced as under:

"7.6 Separate Tariff for each Function

7.6.1 The Hon'ble APTEL decided Appeal Nos. 245, 176, 237 and 191 of 2012 by common judgement dated 12.09.2014. The findings of the Hon'ble APTEL on the issue of non-segregation of cost of generation from distribution (Para 88 (iii)) are as under:-

"Non-segregation of cost of Generation from Distribution: We find that the State Commission has determined the variable charges of different thermal power stations after considering the operational norms viz. norms for Station Heat Rate, specific fuel consumption, auxiliary consumption, etc., as per its Regulations. However, the State Commission has determined the Return on Equity, interest on loan, employees cost, A&G expenses, Repair and Maintenances expenses, etc., considering the combined assets/expenditure of the generation and distribution assets. The State Commission in paragraph 6.6.1 of the impugned order has stated that the segregation of ARR for FY 2012-13 of PSPCL into generation and distribution functions has been carried out on the basis of information furnished by PSPCL in its letter dated 30.3.2011 and audited accounts of FY 2009-10 of the erstwhile Board since audited accounts for FY 2010-11 are not provided by PSPCL. It is indicated that ROE is bifurcated proportionally on the value of fixed assets of each function. The State Commission then determined the fixed cost of each generating station based on the data provided by PSPCL. We have observed some discrepancies in the bifurcated function-wise expenses as pointed out in paragraph 76. We feel that the State Commission should have determined the fixed charges for the generating stations separately. The State Commission as per its Regulations has to determine the station-wise generation tariff. Apportioning of the total fixed cost of PSPCL in some proportion to different functions of PSPCL is not in consonance with the Regulations. FY 2012-13 is already over and is due for truing up. Therefore, the State Commission is directed to correct the discrepancies as stated above and true up station-wise/function-wise expenditure after prudence check. This issue is decided in favour of the Appellant."

The Commission initiated suo-motu proceedings vide Petition No. 56 of 2014 to comply with the directions of the Hon'ble APTEL and called upon the parties to file written submissions with regard to the directions of the Hon'ble APTEL. Siel Chemical Complex, Mandi Gobindgarh Induction Furnace Association (Regd.), Open Access Users Association and PSPCL filed their written submissions. The Commission in Chapter 2 of this Tariff Order has decided not to carry out the true up of FY 2012-13. As such, the Commission is not determining the station-wise/function-wise expenditure for FY 2012-13 in this Tariff Order as ordered by the Hon'ble

APTEL in its judgement dated 12.09.2014 in Appeal Nos. 176, 191, 237 and 245 of 2012. Further, the judgement of the Hon'ble APTEL dated 12.09.2014 has been stayed by the Hon'ble Supreme Court as per its Order dated 27.03.2015 in Civil Appeal No(s). 2151-2152/2015.

The Commission in its letter no. 11488 dated 01.10.2014 requested PSPCL as under, in the matter of determining separate tariffs for generation and distribution:

"The Commission is to determine the separate tariffs for Generation and Distribution (Wheeling and Retail Supply) of electricity as per Electricity Act and the Tariff Regulations notified by the Commission. Further as per Orders of Hon'ble APTEL dated 11.09.2014, the Commission has been directed to determine the separate tariffs for Generation and Distribution. As such, the audited details of costs/figures be filed separately for Generation (Plant wise), Wheeling and Retail Supply Business so that Commission could determine the Generation Tariff (Plant wise Fixed/Capacity charges and Energy charges), wheeling charges and retail supply charges separately. The existing performae may be used for this purpose and for any left out information, additional performae may be designed at your level."

PSPCL commented as under in its ARR for FY 2015-16:

"The detail of segregated cost/figures for generation, transmission and distribution for the FY 2012-13 has already been supplied vide this office Memo no. 920/924/A-45 dated 27th October, 2014. So far as the information for FY 2013-14 & FY 2014-15 is concerned, it is intimated that the accounts for FY 2013-14 is under preparation. Thereafter the accounts for the year FY 2014-15 will be prepared."

PSPCL was again asked to supply the information in the matter vide Commission's letter no. 13250 dated 01.12.2014, as under:

"Cost audit report and the compliance report duly authenticated and signed by the cost accountant in the specified formats (Performae A to H) as per the notification of Ministry of Corporate Affairs dated 07.12.2011 may be furnished. Separate plant-wise statement in Performa C as per notification for each type of generation viz Hydroelectric, Thermal, Atomic etc. and for captive consumption, power sold within country and power exported may also be furnished."

PSPCL vide its letter no. 1229 dated 09.12.2014 commented as under:

"PSPCL submits that the firm of professional Cost Accountants has already been appointed and work regarding Cost Audit of the cost accounting records for FY 2012-13 had already being in process and will get finalized as early as possible. However,

the Cost Accounting record and Cost Audit Report for FY 2011-12 has been finalised and Cost Audit Report submitted by Cost Auditor is put up to Board of Directors vide Agenda No. 196/CC/528 dated 7th October, 2014. PSPCL will submit the report as soon as it receives."

PSPCL has not supplied the station-wise/function-wise figures for FY 2015-16. Further, Regulation 44 of the PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 states as under:

***"Special Provisions** During the period, the PSEB remains an integrated utility, the Commission may waive any of the provisions of these Regulations in any matter if, in the opinion of the Commission, it is impracticable or inexpedient to proceed as per these Regulations. In such a situation, after recording its reasons, the Commission may adopt any other approach which is reasonable and is consistent with the overall approach of these Regulations."*

PSPCL has submitted in the ARR petition that it is one of the "Successor Companies" of the erstwhile Punjab State Electricity Board (Board) duly constituted under the Companies Act, 1956 on 16.04.2010 after restructuring of the Board by Govt. of Punjab vide Notification No. 1/9/08-EB(PR)/196 dated 16.04.2010, under the "Punjab Power Sector Reform Transfer Scheme". As per the transfer scheme, the erstwhile Punjab State Electricity Board (the predecessor) has been unbundled into two companies i.e. POWERCOM and TRANSCO. The POWERCOM has been named as Punjab State Power Corporation Limited and TRANSCO has been named as Punjab State Transmission Corporation Limited. As per the transfer scheme, the Govt. of Punjab has segregated the "Transmission Business of erstwhile Punjab State Electricity Board, concerning the transmission of electricity and the State Load Dispatch Center (SLDC) function. Hence, PSPCL is left with the Distribution, Generation and allied activities of the erstwhile PSEB. As per the PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005, [Regulation – 1(3)(k)], PSPCL is considered as an integrated utility since it is currently engaged in multiple functions, namely, Generation, Trading and Distribution of electricity. Now, since PSPCL is an integrated utility engaged in multiple functions of Generation, Trading and Distribution of electricity, it is impracticable to proceed as per PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005, in the matter of determination of station-wise/function-wise expenditure prudently and as such, in view of provisions of Regulation 44 of the ibid Regulations, the Commission decides to determine the station-wise/function-wise expenditure of PSPCL for FY 2015-16 on the same methodology as adopted by the Commission in its earlier Tariff Orders.

………………

………………

As regards the directions of Hon'ble APTEL on the issue of non-segregation of cost of Generation from Distribution, the Commission has extensively discussed the issue in para 7.6 (reproduced above) and the matter rests at that at this point of time.

The same issue was also taken up in Petition No. 56 of 2014 (suo-motu) for making compliance of the directions of Hon'ble APTEL passed in Appeal Nos. 245, 176, 191 and 237 of 2012. That Petition was similarly disposed of, so far as this issue is concerned. The petition is disposed of accordingly."

2.10.5 For expeditious processing of ARR for FY 2016-17, the Commission vide its letter no. 7200 dated 12.10.2015, asked PSPCL to submit information along with the ARR petition, on various points including audited details of costs/figures separately for Generation (Plant wise), Wheeling and Retail Supply businesses for FY 2012-13, FY 2013-14, FY 2014-15 and projections for FY 2015-16 & FY 2016-17, so that the Commission could determine the Generation Tariff (Plant wise Fixed/Capacity Charges and Energy Charges), Wheeling Charges and Retail Supply Charges separately.

PSPCL while filing its ARR and Determination of Tariff Petition for FY 2016-17, submitted that the information of segregation of costs amongst various functions as per audited accounts of FY 2012-13 has already been submitted by it vide letter No. 5423/TR-5/662 dated 13.11.2014. PSPCL has claimed generation incentive of ₹130.86 crore for FY 2012-13.

On the basis of project wise/plant wise fixed costs submitted by PSPCL vide letter no. 920/24/A-45 dated 27.10.2014, and letter no. 54/56 dated 16.01.2015, the Commission after prudent check, has determined the incentive, based upon actual plant availability, as per PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005, as under. The actual plant availability of all Thermal Generating Stations as intimated by PSPCL in the ARR for FY 2012-13 has been certified by Chief Engineer/SLDC, PSTCL, Patiala, as intimated by Financial Advisor, PSTCL, Patiala vide letter no. 1461 dated 06.05.2016 and letter no. 273 dated 24.05.2016. The project wise/plant wise costs intimated by PSPCL and the costs determined by the Commission are detailed at Annexure-V, Volume-II. The generation incentive has been determined as under:

Sr. No.	Generating Station	Annual Fixed Cost for FY 2012-13 (₹crore)	Actual Plant Availability (%)	Normative Plant Availability (%)	Incentive (₹crore)
I	**II**	**III**	**IV**	**V**	**VI=(III*IV/V)-III**
1.	GNDTP	310.71	87.37	85.00	8.66
2.	GGSSTP	522.81	92.11	85.00	43.73
3.	GHTP	565.81	93.84	85.00	58.84
4.	**Total incentive**				**111.23**

The Commission approves generation incentive of ₹111.23 crore for FY 2012-13, as determined above.

The effect of this is reflected at Sr. No. 14 of Table 2.16.

2.11 Employee Cost

2.11.1 In the ARR Petition for FY 2012-13, the PSPCL projected employee cost of ₹3,834.72 crore against which the Commission approved a sum of ₹3340.97 crore in the Tariff Order for FY 2012-13.

2.11.2 In the ARR Petition for FY 2013-14, PSPCL revised the claim of employee cost to ₹4049.22 crore for FY 2012-13. The Commission approved employee cost of ₹3536.59 crore in the review of FY 2012-13 in Tariff Order for FY 2013-14.

2.11.3 In the ARR Petition for FY 2016-17, PSPCL has revised the claim of employee cost to ₹3868.40 crore, net of capitalization of ₹111.23 crore for FY 2012-13 based on Audited Annual Accounts of the PSPCL. The claim is also inclusive of ₹1343.05 (353.09+989.96) crore on account of terminal benefits and ₹183.62 crore as BBMB share. In reply to deficiency letter of the Commission, PSPCL vide letter No.1124/CC/DTR/Dy.CAO/246/Vol.I- Deficiency dated 17.12.2015 has clarified that only ₹1299.55 crore relate to terminal benefits and ₹210.07 crore pertain to payment of arrears of pay. PSPCL has, therefore, claimed ₹2175.16 (3868.40–1299.55-210.07- 183.62) crore as 'Other Employee Cost'.

2.11.4 The provisions of Regulation 28(3) of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 provide for determination of employee cost as under:

- Terminal benefits including BBMB share on actual basis.
- Increase in other employee expenses limited to average increase in Wholesale Price Index.
- Exceptional increase in employee cost on account of pay revision etc. to be considered separately by the Commission.

As per above Regulations, terminal benefits, BBMB and arrears on account of pay revised share of expenditure are to be allowed on actual basis.

The Commission, therefore, approves ₹1299.55 crore terminal benefits, ₹183.62 crore as BBMB share of expenditure and ₹210.07 crore as pay arrears on actual basis.

2.11.5 PSERC vide notification dated 17.09.2012 has amended the PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005. Regulation 28 (2) (a) of the amended regulations provides as under:

'O&M expenses as approved by the Commission for the year 2011-12 (true-up) shall be considered as base O&M expenses for determination of O&M expenses for subsequent years'.

The 'other employee cost' of the PSPCL for FY 2011-12 in Tariff Order FY 2014-15 was approved at ₹1760.37 crore. Besides ₹338.70 crore were approved as impact of pay revision. Thus, total 'Other Employee Cost' was approved at ₹2099.07 (1760.37+338.70) crore. As per Regulations, increase in 'other employee cost' is to be limited to average Wholesale Price Index (WPI) on the base employee cost approved for FY 2011-12. By applying WPI increase @7.36% on the base 'other employee cost' of ₹2099.07 crore approved for FY 2011-12 in the Tariff Order of FY 2014-15, the 'Other Employee Cost' works out to ₹2253.56 (2099.07*107.36%) crore for FY 2012-13 as against the claim of ₹2175.16 crore of PSPCL. In view of Hon'ble APTEL judgment dated 30.03.2015 in Review Petition No.6 of 2015, wherein Hon'ble APTEL held that "*actual costs need to be considered"*, the Commission vide its Order dated 14.10.2015 decided that *"the Judgments of Hon'ble APTEL, in so far as Employee Cost for FY 2012-13, 2013-14, 2014-15 etc. of PSPCL and PSTCL is concerned, shall be implemented during true-up exercise of ARRs for these years after applying prudence check".*

As such, the Commission approves actual 'Other Employee Cost' of ₹2175.16, crore based on Audited Annual Accounts for FY 2012-13.

Therefore, the Commission approves total employee cost of ₹3868.40 (1299.55+183.62+210.07+2175.16) crore to PSPCL for FY 2012-13 based on Audited Annual Accounts.

2.12 Repair & Maintenance (R&M) Expenses

2.12.1 In the ARR Petition for FY 2012-13, the PSPCL projected R&M expenses at ₹562.15 crore against which the Commission approved ₹457.49 crore.

2.12.2 In the ARR Petition for FY 2013-14, PSPCL revised R&M expenses to ₹464.46 crore against which the Commission approved ₹539.82 crore as R&M expenses for FY 2012-13.

2.12.3 In the ARR Petition for FY 2016-17, PSPCL has claimed an amount of ₹504.15 crore which includes R&M expenses of ₹12.14 crore claimed for asset addition during FY 2012-13. As per Audited Annual Accounts for FY 2012-13, the net R&M expenses are ₹359.06 crore (net of capitalization of ₹3.86 crore), including operating expenses of ₹17.07 crore reflected in Cost of Generation of Power.

2.12.4 Regulation 28 (5) (a) of the PSERC Tariff Regulations, 2005 amended on 17.09.2012 provides for adjusting base O&M expenses approved by the Commission for FY 2011-12 in proportion to increase in Whole Sale Price Index (all Commodities) to determine O&M expenses for subsequent year. The WPI for FY 2012-13 is 7.36% which is adopted for purposes of calculation of R&M expenses.

2.12.5 R&M expenses of ₹320.67 crore were approved for FY 2011-12 in Tariff Order for FY 2014-15 on actual basis as per the Audited Annual Accounts for FY 2011-12. After applying increase in WPI of 7.36% for FY 2012-13, the R&M expenses for FY 2012-13 works out to ₹344.27 crore for Generation and Distribution business, which are considered as base R&M expenses.

2.12.6 In the ARR for FY 2016-17, PSPCL has submitted capitalization of assets worth ₹1935.47 crore during FY 2012-13 based on Audited Annual Accounts. These are being taken for calculating R&M expenses for FY 2012-13. Since details regarding commissioning/ capitalization of the assets added during FY 2012-13 are not available in the accounts as well as the ARR of the utility, R&M expenses for these assets are being considered assuming that these assets remained in service for six months on an average during FY 2012-13. Average percentage rate of R&M expenses of ₹344.27 crore for assets of ₹39215.89 crore as on 01.04.2012 work out to 0.88% (344.27/39215.89x100) for PSPCL. By applying the average rate of 0.88% on addition of assets of ₹1935.47 crore for half year, the R&M expenses for the fixed assets added during the year work out to ₹8.52 crore. Thus, R&M expenses for FY 2012-13 for PSPCL work out to ₹352.79 (344.27+8.52) crore against R&M expenses of ₹359.06 crore as per Audited Annual Accounts for FY 2012-13.

The Commission approves R&M expenses of ₹352.79 crore for FY 2012-13 to PSPCL for Generation and Distribution business.

2.13 Administrative and General (A&G) Expenses

2.13.1 In the ARR Petition for FY 2012-13, the PSPCL projected A&G expenses at ₹111.45

crore against which the Commission approved ₹101.42 crore in the Tariff Order for FY 2012-13.

2.13.2 In the ARR Petition for FY 2013-14, PSPCL revised the A&G expenses for FY 2012-13 to ₹110.23 crore against which the Commission approved ₹133.06 crore as A&G expenses for FY 2012-13 in the Tariff Order for FY 2013-14.

2.13.3 In the ARR Petition for FY 2016-17, PSPCL has claimed an amount of ₹124.78 crore as A&G expenses on normative basis which includes A&G expenses of ₹2.79 crore on assets addition during the year and ₹8.83 crore on account of license fee and ARR fee for determination of tariff.

2.13.4 As per the Audited Annual Accounts for FY 2012-13, the net A&G expenses are ₹112.73 crore net of capitalization of ₹20.00 crore.

2.13.5 Regulation 28 (5) (a) of the PSERC Tariff Regulations, 2005 provides for adjusting base O&M expenses approved by the Commission for FY 2011-12 in proportion to increase in Whole Sale Price Index (all Commodities) to determine O&M expenses for subsequent year. The Commission approved A&G expenses of ₹97.12 crore for FY 2011-12 in the Tariff Order of FY 2014-15 on actual basis as per the Audited Annual Accounts for FY 2011-12. The WPI for FY 2012-13 is determined at 7.36% which is adopted for purposes of working the A&G expenses. After allowing WPI increase of 7.36% for FY 2012-13, the base A&G expenses for FY 2012-13 work out to ₹104.27 (97.12*107.36%) crore.

2.13.6 In the ARR Petition for FY 2016-17, PSPCL has submitted capitalization of assets worth ₹1935.47 crore during FY 2012-13 based on Audited Annual Accounts. These are being taken for calculating A&G expenses for FY 2012-13. Since details regarding commissioning/ capitalization of the assets added during FY 2012-13 are not available, A&G expenses for these assets are being considered assuming that these assets remained in service for six months on an average during FY 2012-13. Average percentage rate of A&G expenses of ₹104.27 crore for assets of ₹39215.89 crore as on 01.04.2012 works out to 0.27% (104.27/39215.89x100) for PSPCL. By applying the average rate of 0.27% on addition of assets of ₹1935.47 crore for half year, the A&G expenses for the fixed assets added during the year work out to ₹2.61 (0.27%*1935.47/2) crore. Thus, allowable A&G expenses for FY 2012-13 for PSPCL work out to ₹106.88 (104.27+2.61) crore. By adding ₹8.83 crore claimed by PSPCL on account of licence fee and ARR fee, the total A&G expenses for FY 2012-13 work out to ₹115.71 (106.88+8.83) crore against A&G expenses of ₹112.73 crore as per Audited Annual Accounts for FY 2012-13.

The Commission approves A&G expenses of ₹112.73 crore as per Audited Annual Accounts for FY 2012-13 for PSPCL.

2.13.7 In the foregoing paras, O&M (Employee cost, R&M and A&G) expenses have been approved wherein share of BBMB expenditure on actual basis as claimed by PSPCL in the ARR has been allowed. In petition no. 251/GT/2013 filed by BBMB before Central Electricity Regulatory Commission (CERC) for approval of Tariff of its generating stations and transmission systems, CERC vide its Order dated 12.11.2015 has allowed O&M expenses in respect of transmission assets for the period 2009-14. On the basis of information provided by PSPCL vide letter no. 155/CC/DTR/Dy.CAO/246/Vol-I dated 09.02.2016 regarding transmission assets, O&M expenses for FY 2012-13 payable in view of CERC order dated 12.11.2015 have been worked out. CERC in its order has determined ₹13228.77 lac as transmission charges for Bhakra and Beas projects. Based on information provided by PSPCL, the O&M expenses for Bhakra and Beas are segregated as ₹8686.01 lac and ₹4542.76 lac respectively. Further, CERC vide Order dated 21.03.2016 has determined the Tariff for generating stations of BBMB. CERC determined O&M expenses of ₹5792.93 lacs for Bhakra, ₹4909.75 lacs for Dehar and ₹1987.25 lacs for Pong Power Plant. Accordingly, share of PSPCL in O&M expenses of BBMB on account of transmission assets and generating stations allowable vis-à-vis already allowed is determined as under:

Table 2.9: O&M expenses of BBMB as per CERC's orders

Sr. No.	Particulars	Bhakra Trans.		Beas Trans.		Bhakra Power		Dehar power		Pong Power plant	
		%	₹ lac	%	₹ lac	%	₹ lac	%	₹ lac	%	₹ lac
1.	O&M expenses (CERC)		8686.01		4542.76		5792.93		4909.75		1987.25
2.	Less RVPNL Share	15.22	1322.01	23.80	1081.18	15.22	881.68	20.00	981.95	58.50	1162.54
3.	Balance		7364.00		3461.58		4911.25		3927.80		824.71
4.	PSPCL share	51.80	3814.55	28.72	994.17	51.80	2544.03	51.80	2034.60	51.80	427.20
5.	Allowable O&M expenses	₹9814.55 lac									
6.	Expenses already allowed	₹21242.00 lac (Employee cost =18362.00 + R&M expenses=2657.00 + A&G expenses=223.00)									
7.	Excess Allowed	₹11427.45 lac									

From above table, it is evident that ₹114.27 crore are recoverable from O&M expenses of PSPCL for FY 2012-13. Therefore, O&M expenses of ₹4219.65 (3868.40+352.79+112.73-114.27) crore are approved to PSPCL for FY 2012-13.

Besides above, in view of CERC Orders dated 12.11.2015 and 21.03.2016, the recoverable amount for previous years, i.e. FY 2009-10, FY 2010-11 and FY 2011-12, for which true up exercise has already been carried out, is ₹7631.75

lac, ₹12693.24 lac and ₹13343.77 lac respectively as per details in Table 2.9 (A).

Table 2.9 (A): O&M expenses of BBMB for FY 2009-10, FY 2010-11 and FY 2011-12

(₹ lac)

Sr. No.	Particulars	Bhakra Trans.		Beas Trans.		Bhakra Power		Dehar power		Pong Power plant	
		% age	Amount	% age	Amount	% age	Amount	% age	Amount	% age	Amount
A.	**FY 2009-10**										
1.	O&M expenses (CERC)		7350.69		3844.17		4450.41		3396.11		1298.04
2.	Less RVPNL Share	15.22	1118.78	23.80	914.91	15.22	677.35	20.00	679.22	58.50	759.35
3.	Balance		6231.91		2929.26		3773.06		2716.89		538.69
4.	PSPCL share	51.80	3228.13	28.72	841.28	51.80	1954.45	51.80	1407.35	51.80	279.04
5.	Allowable O&M expenses	7710.25									
6.	Expenses already allowed	15342.00 (Employee cost =6355.00 + R&M expenses=8683.00 + A&G expenses=304.00)									
7.	Excess Allowed	7631.75									
B.	**FY 2010-11**										
1.	O&M expenses (CERC)		7771.11		4063.72		5081.2		3017.59		1589.58
2.	Less RVPNL Share	15.22	1182.76	23.80	967.17	15.22	773.36	20.00	603.52	58.50	929.90
3.	Balance		6588.35		3096.55		4307.84		2414.07		659.68
4.	PSPCL share	51.80	3412.77	28.72	889.33	51.80	2231.46	51.80	1250.49	51.80	341.71
5.	Allowable O&M expenses	8125.76									
6.	Expenses already allowed	20819.00 (Employee cost =8000.00 + R&M expenses=12528.00 + A&G expenses=291.00)									
7.	Excess Allowed	12693.24									
C.	**FY 2011-12**										
1.	O&M expenses (CERC)		8215.85		4296.49		4931.79		3620.24		1757.45
2.	Less RVPNL Share	15.22	1250.45	23.80	1022.56	15.22	750.62	20.00	724.05	58.50	1028.11
3.	Balance		6965.40		3273.93		4181.17		2896.19		729.34
4.	PSPCL share	51.80	3608.08	28.72	940.27	51.80	2165.85	51.80	1500.23	51.80	377.80
5.	Allowable O&M expenses	8592.23									
6.	Expenses already allowed	21936.00 (Employee cost =19200.00 + R&M expenses=2571.00 + A&G expenses=165.00)									
7.	Excess Allowed	13343.77									

From above table, it is evident that the total recoverable amount for these years is ₹33668.76 lac, say ₹336.69 crore which is reflected in Table 2.16.

2.14 Depreciation Charges

2.14.1 In the ARR Petition for FY 2012-13, PSPCL projected depreciation charges of ₹770.32 crore against which the Commission approved depreciation charges of ₹768.00 crore. In the ARR Petition of FY 2013-14, PSPCL had revised its claim for depreciation charges to ₹758.47 crore against which the Commission approved depreciation charges of ₹768.00 crore for FY 2012-13.

2.14.2 In the ARR Petition for FY 2016-17, PSPCL has claimed ₹796.32 crore (net of capitalization of ₹1.50 crore) as depreciation charges. A perusal of the ARR Petition reveals that based on sub-head wise details of assets given in Volume-II of the ARR, claim of PSPCL of depreciation works out to ₹714.83 crore. In reply to a query raised by the Commission in the deficiency letter, PSPCL vide its letter No.1124/ CC/ DTR/ Dy.CAO/246/Vol.I-Deficiency dated 17.12.2015, referring to Note12 (A) (vi) of the Audited Annual Accounts, explained that the difference is due to withdrawal of depreciation by a unit in one accounting period and the addition of the same by other unit in different accounting period. Further, on examination of the information, the Commission observed that the depreciation on the assets which has already been overcharged has also been claimed by PSPCL. It has also been observed that in some asset sub-heads, PSPCL's claim of depreciation is not in line with the rates specified by CERC. The issue was again taken up with PSPCL vide Commission's letter no.11929-30 dated 18.02.2016, in response to which, PSPCL vide letter no. 249/CC/DTR/Dy.CAO/246/Vol-I dated 26.02.2016 furnished revised information showing sub-head wise details of assets and claim of depreciation charges. Accordingly, the Commission has re-determined the depreciation for FY 2012-13, which works out to ₹685.86 crore as detailed below:

Table 2.10: Depreciation Charges for FY 2012-13

(₹crore)

Sr. No.	Item	Claim of PSPCL as per Revised Sub Head wise details	Depreciation charges approved by the Commission
1.	Land & land rights	0.00	0.00
2.	Buildings	40.90	40.80
3.	Hydraulic Works	211.56	208.63
4.	Other Civil Works	3.68	3.08
5.	Plant & Machinery	230.66	207.73
6.	Lines, Cables, Networks etc.	224.78	222.59
7.	Vehicles	0.16	-0.09
8.	Furniture & Fixtures	0.51	0.51
9.	Office Equipments	4.19	4.11
10.	**Total**	**716.44**	**687.36**
11.	Less Capitalization	1.50	1.50
12.	**Net Amount**	**714.94**	**685.86**

As discussed in Para 3.13.4 of PSERC Tariff Order FY 2015-16 for PSPCL, the company vide its memo no. 11/A&R/A-44 dated 08.01.2015 intimated that "*the amount received till date or to be received in future on account of consumers' contribution, grants and subsidies towards cost of assets be treated as deferred income, accounted for as reserve, in the first instance and apportioned to P&L @ 5% of the balances outstanding under consumers' contribution, grants and subsidies* *towards cost of assets at the year end with effect from 01.04.2013* ".

As per Note-3 of Audited Annual Accounts for FY 2012-13 of the company, there were capital assets of ₹743.48 crore created out of Consumer Contribution, Grants and Subsidies as on 31.03.2013. Accordingly, the Commission reduces an amount of ₹37.17 crore, i.e. 5% of ₹743.48 crore from ₹685.86 crore of depreciation charges for FY 2012-13.

The Commission approves depreciation charges of ₹648.69 (685.86-37.17) crore for FY 2012-13.

2.15 Interest and Finance Charges

2.15.1 In the ARR Petition for FY 2012-13, PSPCL claimed Interest and Finance Charges of ₹2571.68 crore (net) against which the Commission approved amount of ₹1580.35 crore for FY 2012-13. In the ARR Petition for FY 2013-14, PSPCL had revised the claim of Interest and Finance charges for FY 2012-13 to ₹2587.24 crore and the Commission had approved the Interest and Finance charges of ₹1760.58 crore for PSPCL for FY 2012-13.

2.15.2 In the ARR Petition for FY 2016-17, PSPCL has claimed the Interest and Finance charges of ₹2429.79 crore for FY 2012-13 based on Audited Annual Accounts, as detailed in Table 2.11.

Table 2.11: Interest & Finance Charges claimed by PSPCL for FY 2012-13

(₹crore)

Sr. No.	Description	Interest as depicted in ARR Petition
I	II	III
1.	Interest on Institutional Loans	894.54
2.	Interest on GoP Loans	23.27
3.	Interest on Short term Loans	1340.55
4.	Interest on GPF	181.18
5.	Guarantee fees	155.95
6.	Interest to Consumers	126.22
7.	Other Bank Interest/Charges	3.73
8.	**Total**	2725.44
9.	Less: Capitalization	295.65
10.	**Net Interest and Finance Charges**	**2429.79**

The Interest and Finance charges allowable to PSPCL are discussed in the ensuing paragraphs.

2.15.3 **Investment Plan**

The Commission in its Tariff Order for FY 2012-13 approved an Investment Plan of ₹2800.00 crore against projected capital expenditure of ₹3286.19 crore. In the ARR

Petition for FY 2013-14, the Commission approved the capital investment of ₹1300.00 crore against ₹1860.00 crore claimed by PSPCL.

In ARR Petition for FY 2016-17, PSPCL has submitted an investment plan of ₹1630.23 crore for FY 2012-13. As per Audited Annual Account, PSPCL has received consumer contribution, grants and subsidies of ₹366.43 (374.43-8.00) crore during FY 2012-13. Accordingly, actual loan requirement for the level of investment works out to ₹1263.80 (1630.23-366.43) crore.

However, PSPCL has claimed ₹675.06 crore as loan (other than WCL, GP Fund and GoP loans) in the ARR Petition for FY 2015-16 based on Audited Annual Accounts. The Commission in Table 3.12 of Tariff Order for FY 2014-15 had approved closing balance of ₹7535.82 crore as loans as on 31.03.2012 (other than WCL, GP Fund and GoP loans). Considering the opening balance of ₹7535.82 crore for FY 2012-13, the interest on loans (other than WCL, GP Fund and GoP) works out to ₹851.23 crore in Table 2.12.

Table 2.12: Interest on Loans (Other than WCL and GoP Loans) for FY 2012-13

(₹crore)

Sr. No.	Particulars	Loans as on April 01, 2012	Receipt of Loans during FY 2012-13	Repayment of Loans during FY 2012-13	Loans as on March 31, 2013	Amount of Interest
I	II	III	IV	V	VI	VII
1.	As per data furnished in ARR Petition (other than WCL,GPF and GoP Loans)	7916.16	675.06	794.46	7796.76	894.54
2.	Approved by the Commission (other than WCL, GP Fund and GoP Loans)	7535.82	675.06	794.46	7416.42	851.23

2.15.4 Interest on GoP Loans

In the ARR Petition for 2016-17, PSPCL has claimed ₹23.27 crore as interest on account of GoP loans for FY 2012-13. As discussed in para 3.15.5 of Tariff Order of PSPCL for FY 2014-15 and para 4.14.3 of Tariff Order for FY 2015-16, there are no GoP loans outstanding against the utility and consequently no interest liability on account of GoP loans. **Accordingly, claim of interest of ₹23.27 crore is not allowed.**

2.15.5 Interest on General Provident Fund (GPF)

PSPCL has claimed interest of ₹181.18 crore on GPF accumulations based on Audited Annual Accounts for FY 2012-13.

The Interest of ₹181.18 crore on GP Fund, being a statutory payment, is allowed as claimed by PSPCL for FY 2012-13.

2.15.6 **Finance Charges**

PSPCL has claimed finance charge of ₹155.95 crore which includes guarantee fees based on Audited Annual Accounts for FY 2012-13.

The Commission approves the finance charges of ₹155.95 crore based on Audited Annual Accounts for FY 2012-13.

2.15.7 **Interest on Consumer Security Deposits**

In ARR Petition for FY 2016-17, PSPCL has claimed ₹126.22 crore towards interest on consumer security deposits on the basis of Audited Annual Accounts for FY 2012-13.

The Commission allows the interest of ₹126.22 crore on Consumer Security Deposits based on Audited Annual Accounts of FY 2012-13.

2.15.8 **Capitalization of Interest Charges**

In ARR Petition for FY 2016-17, PSPCL has claimed ₹295.65 crore towards capitalization of interest charges based on Audited Annual Accounts for FY 2012-13.

The Commission, as per past practice, approves capitalization of interest of ₹295.65 crore for FY 2012-13 based on Audited Annual Accounts.

2.15.9 **Interest on Working Capital**

In the Tariff Order for FY 2012-13, the Commission approved working capital of ₹1896.06 crore with interest cost of ₹246.49 crore. In the Tariff Order for FY 2013-14, the Commission approved interest on working capital as ₹383.04 crore.

The Commission has determined the working capital requirement in accordance with PSERC Tariff Regulations. Regulation 30 of these Regulations states as under:-

"30. WORKING CAPITAL AND INTEREST RATE ON WORKING CAPITAL

……

3. Working capital of an integrated utility will be the sum of two months requirement for fuel cost and one month for meeting the following:

i. *Power purchase cost.*
ii. *Employees cost.*
iii. *Administration & General expenses,*
iv. *R&M expenses.*

v. Maintenance spares as per CERC norms.

4. The rate of interest on working capital shall be equal to the short term Prime Lending Rate of State Bank of India of the relevant year. The interest on working capital shall be payable on normative basis notwithstanding that the generating company / licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on the normative figures.*"*

PSERC Tariff Regulations have further been amended vide amendment dated 17.09.2012 as under:-

"Regulation 30- Working Capital & Interest rate on Working Capital Regulation 30 shall be substituted as under:-

……..

(4) Working capital for a company performing generation, distribution and trading functions shall be the sum of the following:

(i) Fuel Cost for two months

(ii) Operation and Maintenance expenses for one month

(iii) Receivables for two months

(iv) Maintenance spares @15% of O&M expenses

Less

Consumer Security Deposit

(5) The rate of interest on working capital shall be equal to the actual rate of interest paid/ payable on loans by the licensee (s) or the State Bank of India Advance Rate as on April 1 of the relevant year, whichever is lower. The interest on working capital shall be payable on normative basis notwithstanding that the licensee (s) has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on the normative figures."

By applying the SBI advance rate of interest @14.75% upto 16.09.2012 and average weighted rate of interest from 17.09.2012 to 31.03.2013 @11.28%, the interest on working capital is worked out to ₹318.36 crore. The details of working capital requirement as per Regulation 30 and allowable interest thereon are depicted in Table 2.13.

Table 2.13: Interest on Working Capital Requirement for FY 2012-13

(₹crore)

Sr. No	Particulars	Amount
I	**II**	**III**
A Interest on WCL upto 16.09.2012		
1.	Two months Fuel Cost	648.96
2.	One month power purchase	598.00
3.	Operation and Maintenance expenses for one month	351.64
4.	Maintenance Spares @15% of O&M expenses	632.95
5.	**Working Capital requirement (1+2+3+4)**	**2231.55**
6.	SBI Advance Rate of interest	14.75%
7.	Interest on Working Capital Loan (for 169 days)	152.40
B Interest on WCL from 17.09.2012 to 31.03.2013		
1.	Two months Fuel Cost	648.96
2.	Operation and Maintenance expenses for one month	351.64
3.	Receivables for two months	3198.65
4.	Maintenance Spares @15% of O&M expenses	632.95
5.	Total (1+2+3+4)	4832.20
6.	Less consumer security deposit	2092.40
7.	**Total Working Capital requirement (5-6)**	**2739.80**
8.	Interest rate (calculated on weighted average)	11.28%
9.	**Interest on WCL (for 196 days)**	**165.96**

Total interest on working capital works out to ₹318.36 (152.40+165.96) crore.

The Commission, accordingly, approves interest of ₹318.36 crore on Working Capital Requirement for FY 2012-13.

In view of above, the interest and finance charges are approved as in Table 2.14.

Table 2.14: Interest and Finance Charges

(₹crore)

Sr. No.	Particulars	Loans as on April 01, 2012	Receipt of Loans during FY 2012-13	Re-payment of Loans during FY 2012-13	Loans as on March 31, 2013	Interest Approved by Commission
I	**II**	**III**	**IV**	**V**	**VI**	**VII**
1.	Approved by the Commission (Other than WCL and GoP Loans	7535.82	675.06	794.46	7416.42	851.23
2.	Interest on GPF					181.18
3.	Finance Charges					155.95
4.	Interest on Consumer Security Deposits					126.22
5.	**Gross Interest and Finance Charges**					**1314.58**
6.	Less: Capitalization					295.65
7.	**Net Interest and Finance Charges (7-8)**					**1018.93**
8.	Interest on Working Capital					318.36
9.	**Total Interest and Finance charges**					**1337.29**

The Commission, accordingly, approves the Interest and Finance charges of ₹1337.29 crore for PSPCL for FY 2012-13.

2.16 Return on Equity (RoE)

2.16.1 In the ARR and Tariff Petition for FY 2012-13, PSPCL claimed the Return on Equity of ₹607.55 crore against which the Commission had approved RoE of ₹405.73 crore.

2.16.2 In the ARR and Tariff Petition for FY 2013-14, PSPCL had revised its claimed of RoE to ₹607.55 crore for FY 2012-13, which was further revised to ₹942.62 crore as per the Transfer Scheme notified by the GoP against which the Commission approved RoE of ₹942.62 crore.

2.16.3 In the ARR and Tariff Petition for FY 2016-17, PSPCL has claimed RoE of ₹942.62 crore @ 15.5% on Govt. equity holding of ₹6081.43 crore.

2.16.4 In accordance with the PSERC Tariff Regulations, the Commission allows RoE of ₹942.62 crore @15.5% on the equity of ₹6081.43 crore.

The Commission, thus, approves RoE of ₹942.62 crore to PSPCL for FY 2012-13.

2.17 Subsidy payable by GoP

As per Audited Annual Accounts for FY 2012-13, total subsidy of ₹5225.82 crore has been booked by the PSPCL. However, GoP paid subsidy of ₹5059.39 crore during FY 2012-13 to PSPCL. The subsidy payable by GoP is trued up as under:

AP Consumption: The Commission has considered AP consumption at 9886 MU, on which revenue @418 paise per unit works out to ₹4132.35 crore. The amount of revenue from AP consumption after adding expenses of ₹128.34 crore on account of fuel cost adjustment for FY 2012-13 is worked out as ₹4260.69 crore. As per Audited Annual Accounts, PSPCL has received ₹12.24 crore revenue from AP consumers. As such, ₹4248.45 (4260.69-12.24) crore is payable by GoP as subsidy to PSPCL. Besides, as discussed in para 3.15.1 of Tariff Order FY 2013-14, ₹178.82 crore representing balance three installments of subsidy on account of waiving off the outstanding electricity bills against Tubewell consumers in view of GoP memo. No. 11/68/2010-EB2/4175 dated 16.12.2011. Thus, ₹4436.27 (4248.45+178.82+9.00) crore (inclusive of meter rentals of ₹9.00 crore) was payable by GoP as AP subsidy.

Scheduled Caste (SC) Domestic Supply (DS) Consumers: The Commission notes that as per the decision of GoP, Scheduled Caste DS consumers with a connected load up to 1000 watts were to be given free power up to 200 units per month. PSPCL has claimed subsidy of ₹585.91 crore inclusive of meter rentals of ₹18.16 crore.

Non-SC Below Poverty Line (BPL) DS Consumers: GoP also decided to give free supply of power up to 200 units per month to Non SC BPL DS consumers with connected load up to 1000 watts. PSPCL has claimed subsidy of ₹31.48 crore, inclusive of meter rentals of ₹1.33 crore.

Besides, subsidy of ₹2.17 crore for waiver of bills of DS consumers of flood effected villages is also payable by GoP to PSPCL.

Interest on delayed payment of subsidy:

The GoP has paid subsidy due to PSPCL in FY 2012-13 in staggered installments. The Commission observed that there was delay in payment of subsidy to PSPCL in FY 2012-13. With a view to compensating PSPCL on this account, the Commission levies interest on the delayed payment of subsidy @11.28% (effective rate of interest on loans) which works out to ₹14.81 crore.

Accordingly, the subsidy payable for FY 2012-13, inclusive of interest on delayed payment of subsidy, has been determined by the Commission at ₹5070.64 (4436.27+585.91+31.48+2.17+14.81) crore against which GoP had paid subsidy of ₹5059.39 crore. As such, there is shortfall of ₹11.25 (5070.64-5059.39) crore of subsidy during FY 2012-13. This has been carried forward to para 9.4.

2.18 Prior Period Expenses

2.18.1 In its ARR Petition for FY 2016-17, PSPCL has claimed net amount of prior period expenses of ₹43.25 crore, which represents prior period income of ₹36.26 crore and prior period expenses of ₹79.51 crore, pertaining to the previous years but effected during FY 2012-13.

2.18.2 Prior period income of ₹36.26 crore is consisting of sale of power of ₹1.76 crore, fuel relating gains of ₹3.86 crore, excess provision for depreciation of ₹7.05 crore, excess provision for Interest and Finance charges of ₹8.93 crore, other excess provision of ₹1.10 crore and other income of ₹13.56 crore.

Prior Period Income of ₹29.21 crore consisting of sale of power (₹1.76 crore), fuel relating gains (₹3.86 crore), Interest and Finance charges (₹8.93 crore), 'other excess provision' (₹1.10 crore) and 'other income' (₹13.56 crore) are approved based on the Audited Annual Accounts of PSPCL. Excess provision for depreciation is not considered as the depreciation charges have been calculated/re-determined by the Commission.

2.18.3 Prior period expenses of ₹79.51 are consisting of purchase of power of ₹48.15 crore, operating expenses of ₹1.02 crore, employee cost of ₹9.20 crore, depreciation un-provided in previous years of ₹20.86 crore, Interest and Finance charges of ₹0.19 crore, Administrative and General expenses of ₹0.14 crore and freight other purchase related expenses of (-) ₹0.04 crore.

Prior Period Expenses of ₹58.66 crore consisting of purchase of power (₹48.15 crore), Interest and Finance charges (₹0.19 crore), Employee Cost (₹9.20 crore), Administrative and General expenses (₹0.14 crore), Operating Expenses (₹1.02 crore) and freight and other purchase related expenses (₹-0.04 crore) are approved based on the Audited Annual Accounts of PSPCL. Excess provision for depreciation is not considered as the depreciation charges have been calculated/re-determined by the Commission.

As such, net Prior Period expenses of ₹29.45 (58.66-29.21) crore are allowed.

Accordingly, the Commission approves net Prior Period expenses of ₹29.45 crore for FY 2012-13.

2.19 Other Debits and extraordinary items

The Audited Annual Accounts of the PSPCL for FY 2012-13 show 'other debits and extraordinary items' as ₹18.81 crore.

Therefore, the Commission allows other debits and extraordinary items of ₹18.81 crore for FY 2012-13 on this account.

2.20 Transmission Charges payable to PSTCL

The Commission in its Tariff Order of PSTCL for FY 2012-13 determined ₹830.01 crore as the Transmission charges payable to PSTCL by PSPCL. As per Audited Annual Accounts for FY 2012-13, PSPCL has paid ₹830.01 crore as Transmission Charges. The Commission has re-determined the Transmission charges at ₹712.67 crore for FY 2012-13 (trued up), in the Tariff Order of PSTCL for FY 2016-17. **Accordingly, ₹712.67 crore is allowed as Transmission Charges for FY 2012-13.**

2.21 Non-Tariff Income

2.21.1 In the ARR and Tariff Petition for FY 2012-13, PSPCL projected Non-Tariff Income of ₹700.07 crore against which the Commission had approved ₹1068.72 crore. In the ARR for FY 2013-14, PSPCL revised the Non-Tariff Income to ₹866.76 crore against which the Commission had approved ₹1005.30 crore for FY 2012-13 in the Tariff Order for FY 2013-14.

2.21.2 In ARR & Tariff Petition for FY 2016-17, PSPCL has projected Non-Tariff Income of

₹826.88 crore based on Audited Annual Accounts for FY 2012-13. This excludes an amount of ₹199.42 crore on account of late payment surcharge and ₹51.88 crore on account of rebate for timely payment for power purchase. In the petition, PSPCL has prayed that the late payment surcharge should be not treated as part of the Non-Tariff Income as PSPCL's working capital requirements are being determined as per norms and there is no compensation to the PSPCL on account of interest accrued on delayed payments against bills issued and including the Late Payment Surcharge in Non-Tariff/ Other Income adversely impacts the cash flow position of the PSPCL. The Commission observes that receipts on account of Late Payment Surcharge are to be treated as Non-Tariff Income as per Regulation 34 of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005. Moreover, interest on working capital is allowed to the utility on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on normative basis. So the plea of the utility not to treat the late payment surcharge as part of the Non-Tariff Income finds no merit. PSPCL has also pleaded that rebate for timely payment of power purchase may not be considered in the Non Tariff Income. PSPCL has also stated that the Non-Tariff Income of ₹826.88 crore does not include the meter rent and service charges of ₹19.00 crore of DS consumers and ₹9.00 crore of AP consumers received through the subsidy from the Government of Punjab.

The Commission also observes that subsidy of ₹9.00 crore for AP consumers and ₹19.00 crore for SC & Non-SC BPL DS consumers has been received from GoP on account of meter rentals which also forms part of Non-Tariff Income for FY 2012-13.

In view of above, the Non-Tariff Income works out to ₹1106.18 (826.88 + 199.42 + 51.88 + 9.00 + 19.00) crore

The Commission, accordingly, approves Non-Tariff Income of ₹1106.18 crore for FY 2012-13.

2.22 Charges Payable to GoP on account of power from Ranjit Sagar Dam (RSD)

In the ARR of FY 2012-13, PSPCL had claimed ₹10.50 crore on account of charges payable to GoP for its share of power from RSD towards 3% share of the revenue received by it from sale of power produced from RSD, as maintenance charges as well as charges for remaining works of RSD which were to be deposited in the Punjab treasury. The Commission allowed ₹10.50 crore in the Tariff Order for FY 2012-13 on this account. Further, the Commission retained its decision in review for FY 2012-13 in the Tariff Order for FY 2013-14.

In the ARR for FY 2016-17, PSPCL has not claimed any amount payable to GoP under this head. **As such, no amount is approved on this account.**

2.23 Revenue from sale of power

The Commission approved the Revenue from existing tariff at ₹16003.96 crore for FY 2012-13 in the Tariff Order for FY 2012-13. In the review, the revenue from sale of power was approved for FY 2012-13 at ₹19329.38 crore in Tariff Order for FY 2013-14.

As per ARR Petition for FY 2016-17, PSPCL has submitted net revenue from sale of power at ₹18725.62 crore.

The Commission, approves the revenue from sale of power as ₹18367.78 crore for energy sales of 35741 MU for FY 2012-13 as detailed in Table 2.15.

Table 2.15: Revenue from Sale of Power for FY 2012-13

(₹crore)

Sr. No.	Description	Actual as per Audited Annual Accounts		As approved by the Commission	
		Energy Sale (MU)	Revenue (₹crore)	Energy Sale (MU)	Revenue including MMC and FCA (₹crore)
I	II	III	IV	V	VII
1.	Domestic				
a)	SC/DS and BPL/ DS subsidy				600.07
b)	Other DS				3996.92
	Sub-total	9504	4545.82	9504	4596.99
2.	Non-Residential Supply	2790	1647.66	2790	1774.10
3.	Public Lighting	148	103.22	148	103.76
4.	Industrial Consumers				
a)	Small Power	903	432.31	903	466.07
b)	Medium Supply	1834	985.36	1834	1048.04
c)	Large Supply	9563	5350.45	9563	5386.68
5.	Bulk Supply & Grid Supply HT & LT	570	320.77	570	321.06
6.	Railway Traction	135	71.45	135	71.45
7.	Common Pool	309	134.97	309	134.97
8.	Outside State	160	16.7	99	16.70
9a	AP Metered				12.24
9b	AP Unmetered				4248.45
	Total AP	10794	4618.51	9886	4260.69
10.	Add: Recovery for theft of power/Malpractices and Misc. charges		545.02		233.63
11.	Less surcharge/incentive		-46.62		-46.36
12.	**Total**	**36711**	**18725.62**	**35741**	**18367.78**

2.24 True up of ARR for FY 2012-13

In view of the above analysis, the trued up revenue requirement for FY 2012-13 is as per details given in Table 2.16.

Table 2.16: Revenue Requirement for FY 2012-13

(₹crore)

Sr. No.	Items of Expenses	Approved in the Tariff Order for FY 2012-13	Proposed by PSPCL in RE	Approved in Review	Claimed in ARR based on Audited Annual Accounts	Finally approved by the Commission
I	II	III	IV	V	VI	VII
1.	Cost of Fuel	3824.34	4318.14	4092.95	3865.76	3893.76
2.	Cost of power purchase	5717.04	7417.73	7074.88	7219.09	7176.03
3.	Employee Cost	3340.97	4049.22	3536.59	3868.40	3868.40
4.	R & M expenses	457.49	464.46	539.82	504.15	352.79
5.	A & G expenses	101.42	110.23	133.06	124.78	112.73
6.	Recoverable O&M expenses on account of BBMB as per CERC Orders dated 12.11.2015 & 21.03.2016					(-)114.27
7.	Depreciation	768.00	758.47	768.00	796.32	648.69
8.	Interest & Finance charges	1580.35	2587.24	1760.58	2429.79	1337.29
9.	Return on Equity	405.73	607.55	942.62	942.62	942.62
10.	Transmission and SLDC charges payable to PSTCL	830.01	830.01	830.01	830.01	712.67
11.	Net Prior Period income/ expenses				43.25	29.45
12.	Other Debits and Extra ordinary Items				18.81	18.81
13.	Disincentive on account of higher T&D losses					(-)152.22
14.	Incentive on account of higher availability of thermal generating station					111.23
15.	Royalty charges payable to GoP on power from RSD	10.50	0.00	10.50	0.00	0.00
16.	**Total Revenue Requirement**	**17035.85**	**21143.05**	**19689.01**	**20642.98**	**18937.98**
17.	Less: Non-Tariff Income	1068.72	866.76	1005.3	826.88	1106.18
18.	**Net Revenue Requirement**	**15967.13**	**20276.29**	**18683.71**	**19816.10**	**17831.80**
19.	Revenue from existing tariff	16003.96	13729.48	19329.38	18725.64	18367.78
20.	Tariff compensation from GoP		5427.31	--		
21.	Gap (Surplus(+)/ Deficit(-)) for FY 2012-13	(+) 36.83		(+) 645.67	(-) 1090.46	(+) 535.98
22.	Recoverable / surplus amount on account of O&M expenses of BBMB upto FY 2011-12					(+) 336.69
23.	Gap (deficit) upto FY 2011-12					(-) 1946.31
24.	**Gap (Surplus(+)/ Deficit(-)) upto FY 2012-13**					**(-) 1073.64**

The true up for FY 2012-13 indicates a revenue gap (deficit) of ₹1073.64 crore as determined above, which has been carried over to Table 3.16.

Chapter 3
True up for FY 2013-14

3.1 Background

The Commission approved the ARR and Tariff for FY 2013-14 in its Tariff Order dated 10.04.2013, which was based on the costs and revenues estimated by the Punjab State Power Corporation Limited (PSPCL). PSPCL had furnished revised estimates for FY 2013-14 during the determination of ARR and Tariff for FY 2014-15, in which there were major differences in certain items of costs as well as projected revenues both in the revised estimates furnished by PSPCL and the approvals granted by the Commission. The Commission, in its Tariff Order of FY 2014-15, reviewed its earlier approvals and re-determined the same based on the revised estimates made available by PSPCL. PSPCL, in its ARR Petition for FY 2015-16, prayed that the truing up of the costs and revenue for FY 2013-14 may be undertaken by the Commission after the finalization of the Audited Annual Accounts of the year. As per provisions under Tariff Regulations, true up can be undertaken only after the Audited Annual Accounts are made available. As such, the Commission decided to undertake the true up for FY 2013-14 along with the ARR Petition of PSPCL for FY 2016-17, when the Audited Annual Accounts for FY 2013-14 were likely to be made available.

In the ARR for FY 2016-17, PSPCL furnished the Audited Annual Accounts for FY 2013-14, and submitted that the CAG Audit Report for FY 2013-14 is still awaited and the same will be made available well before the finalization of the Tariff Order for FY 2016-17. PSPCL, vide its letter no. 248 dated 26.02.2016 submitted the CAG Audit Report for FY 2013-14 along with management reply. The Audited Annual Accounts furnished by PSPCL for FY 2013-14 did not contain the audited figures of energy sales, generation and power purchase. PSPCL in the ARR for FY 2016-17 submitted that from FY 2011-12 onwards, the figures of energy sales, generation, power purchase and T&D losses etc. have been made a part of the Directors' Report in the audited balance sheets of the respective years. As discussed in para 2.1, the Commission decides to take the energy sales, generation and power purchase figures, as submitted by PSPCL in the ARR for FY 2016-17, into consideration, for true up of FY 2013-14.

The figures supplied by PSPCL vary in parts with the figures taken into account in the review for FY 2013-14 by the Commission. This Chapter contains a final true up of FY 2013-14, based on energy sales, generation and power purchase figures, as submitted by PSPCL in the ARR for FY 2016-17.

3.2 Energy Demand (Sales)

3.2.1 The sales projected by PSPCL during the determination of ARR for FY 2013-14, sales approved by the Commission in the Tariff Order of FY 2013-14, revised estimates furnished by PSPCL during determination of ARR of FY 2014-15, sales approved by the Commission in review and sales figures now given by PSPCL are summarized in Table 3.1

Table 3.1: Energy Sales – FY 2013-14

(MU)

Sr. No.	Category	Projected by PSPCL during determination of ARR FY 2013-14	Approved by the Commission in T.O. FY 2013-14	Revised Estimates by PSPCL during determination of ARR FY 2014-15	Approved by the Commission in Review	Energy Sales as in ARR of FY 2016-17	Now approved by the Commission
I	II	III	IV	V	VI	VII	VIII
1.	Domestic	10452	10452	10413	10413	10559	10559
2.	Non-Residential	3218	3218	2982	2981	3016	3016
3.	Small Power	972	972	932	932	907	907
4.	Medium Supply	1953	1953	1916	1915	1908	1908
5.	Large Supply	9956	9957	9574	9513	9807	9807
6.	Public Lighting	143	143	166	166	170	170
7.	Bulk Supply	622	623	592	592	604	604
8.	Railway Traction	145	143	134	134	144	144
9.	**Total metered Sales (within the State)**	**27461**	**27461**	**26709**	**26646**	**27115**	**27115**
10.	Common Pool	304	304	289	289	303	303
11.	Outside State sales	117	53	153	76	242	174
12.	**Total metered Sales (9+10+11)**	**27882**	**27818**	**27151**	**27011**	**27660**	**27592**
13.	AP consumption	12029	11221	11034	9726	10232	9191
14.	**Total Sales (12+13)**	**39911**	**39039**	**38185**	**36737**	**37892**	**36783**

PSPCL has furnished the total sales at 37892 MU for FY 2013-14 as per ARR for FY 2016-17, which are as per column VII of Table 3.1.

3.2.2 Metered Sales

The Commission estimates sales for FY 2013-14 on the basis of sales figures supplied by PSPCL in the ARR for FY 2016-17 and in view of the submissions made by PSPCL, as brought out in para 3.1. The Commission, thus, approves metered sales within the State at 27115 MU.

Further, PSPCL has submitted 242 MU of energy sales under the head “Outside State sale”, which consist of 121 MU of sales to other States through power exchange, 53 MU as royalty of Himachal Pradesh (HP) in Shanan and 68 MU as free share of HP from RSD. The Commission considers the Outside State sale of 174 MU (242-68) only as per practice followed in past Tariff Orders. The free share of HP from RSD has been taken into account while determining net generation from PSPCL’s own hydel generating stations. Further, the Commission considers common pool sale of 303 MU on the basis of figures as given in the ARR of FY 2016-17.

Total metered sales now approved by the Commission are 27592 MU as shown in column VIII, Sr. No. 12 of Table 3.1.

3.2.3 AP Consumption

PSPCL in its ARR for FY 2013-14, projected the AP consumption as 12029 MU and the Commission, in its Tariff Order for FY 2013-14, approved AP consumption of 11221 MU after applying an adhoc increase of 5% over the consumption of 10687 MU approved by the Commission for FY 2012-13 (review) in the Tariff Order for FY 2013-14. In the ARR petition for FY 2014-15, PSPCL had revised the estimate of AP consumption to 11034 MU for FY 2013-14. The Commission, in the review of FY 2013-14 carried out in the Tariff Order for FY 2014-15, approved the AP consumption of 9726 MU for FY 2013-14 on the basis of energy pumped during April, 2013 to December, 2013 and on proportionate basis for the period from January, 2014 to March, 2014. PSPCL has now submitted the energy sales to AP category as 10232 MU, in the ARR for FY 2016-17, PSPCL in the ARR for FY 2016-17 has submitted as under:

i) PSPCL has already been complying with the directions of the Commission with effect from October, 2010 and data has been supplied on a monthly basis.

ii) PSPCL has submitted the AP consumption based on sample meters. In the Tariff Orders for FY 2012-13 and FY 2013-14, based on the methodology adopted for AP consumption, the Commission directed PSPCL to increase sample size of AP consumers to 10%. As on March, 2013, sample size of AP meters is 111235 number i.e. 9.17%. Further, PSPCL has also strived hard to achieve the directive of the Commission to restrict the percentage of faulty meters to 10% of the total installed.

iii) The Commission in the Tariff Order for FY 2013-14 has changed methodology for AP consumption. The Commission has been disallowing the actual sales for AP consumption on the grounds of change in methodology for calculating AP consumption since Tariff Order for FY 2013-14. Further, PSPCL is in close compliance to most of the directives of the Commission regarding the implementation of metering to Agriculture consumers.

iv) The disapproval of AP sales ultimately results in huge disallowance in the power purchase cost. It is only the sixth year of PSPCL's functioning as a corporate entity. However, the ongoing legacy of disallowances in AP sales as prevalent in the erstwhile PSEB era are still being continued for PSPCL. PSPCL believes that the whole agenda for introducing the transfer scheme and carrying out the reform process through unbundling was to bring in more transparencies and accountability in the subsequently formed entities. It is, therefore, essential that such newly created entities be provided with the necessary handholding support so that they have enough funds to meet the stipulated targets.

v) Since its incorporation, PSPCL is aggressively pursuing the directives issued by the Commission within the overall budgetary constraints. The financial constraints are largely on account of the huge disallowances in actual expenses. The Electricity Act, 2003 suggests that the SERCs should take the public interest into consideration while approving the tariff of the utilities. PSPCL has prayed to the Commission to balance the public interest vis-à-vis the financial viability of the utility in the long-term interest of the consumers.

vi) Continuation of such disallowance regime may lead PSPCL to the same financial crisis as prevalent in erstwhile PSEB. PSPCL has submitted that the National Tariff Policy suggests that in case the performance of the utilities is below the desired levels, then a suitable trajectory should be suggested by the Commission to bring the performance to the desired levels. In this case, PSPCL being a newly incorporated entity, has prayed that a suitable time frame be provided to it, for meeting the desired performance levels and only then impose any disallowances/penalties, if required.

vii) In the true-up for FY 2013-14, the actual AP consumption is slightly more than sample meters consumption approved by the Commission. The principle once adopted in Tariff Order cannot be altered during truing up proceedings. AP consumption has been taken based on sample meters as AP consumption based on pumped energy is not a trusted method of taking the consumption.

Further, the computation of AP consumption on pumped energy involves assumptions with respect to losses of agriculture feeders and computation of AP consumption on mixed load feeders and any unreasonable assumption shall affect the consumption on mixed load feeders and any unreasonable assumption shall affect the consumption pattern adversely to PSPCL.

It is already a proven fact that for working out final output on the basis of reverse computation only is not the prudent method of computation. This principle of calculation for AP consumption is not being applied by any of the SERCs. There is hardly any state except one or two which has 100% metering of Agriculture consumers.

viii) The criteria of calculating AP consumption as adopted by the Commission based on pumped energy is also not correct due to the reasons that AP consumption of Kandi Area mixed feeders taken as 30% of the total consumption, whereas PSPCL has calculated the same as 45% of the total consumption. PSPCL has supplied detailed calculations to this effect to the Commission vide its letter no. 2944 dated 23.12.2013.

ix) The Commission had assumed the losses of AP feeders by deducting 2.5% losses of transmission level and 15% of the distribution losses as sub-transmission level losses, which is not based on the facts. All new AP connections and shifting of connections are on HVDS line only and therefore losses on AP feeders are nowhere more than 6-10%.

PSPCL has prayed that in light of the above, the AP sales as submitted in the Petition be approved.

The submissions of PSPCL regarding AP consumption for FY 2013-14 are similar to those as made for FY 2012-13, and the matter has already been discussed in detail in para 2.2.3 of this Tariff Order. As such, the Commission decides to estimate AP consumption on the basis of pumped energy data for FY 2013-14, supplied by PSPCL in the ARR for FY 2016-17.

Further, the Commission in para 3.2.2 of the Tariff Order for FY 2015-16 observed as under:

“.............from April, 2014 to December, 2014, PSPCL has claimed 482.11 MU on average basis on account of defective meters or some other reasons. On validation of this claim at few grid sub-stations, it has been found that average energy has been booked on adhoc basis against agriculture feeders by declaring healthy meters as defective without any report of competent agency on record. The matter needs

further investigation before taking a final decision............".

The matter was further investigated and it was found that PSPCL has booked 373.45 MU on average basis during FY 2013-14 and 517.26 MU during FY 2014-15. On an average, PSPCL booked pumped energy on average basis to about 140 feeders each month during FY 2013-14 and 158 feeders during FY 2014-15. A random checking of the data and status of working of meters/ metering equipment of 60 no. such 11 kV AP feeders fed from 12 no. 220/66 kV grid sub-stations was carried out by an officer of the Commission, with prior intimation to PSPCL/PSTCL, with the request to instruct the concerned officers/officials to remain present during inspection and also make available all the relevant data/record to the inspecting officer.

The inspecting officer, in the presence of the PSPCL/PSTCL officers/officials, checked the status of the meters/metering equipment and inspected the relevant record of the grid substations to cross verify the reasons attributed for booking pumped energy on average basis by declaring some feeder meters as non functional in the monthly pumped energy data submitted to the Commission. The statements of the officers/officials were also recorded enunciating the reasons for booking pumped energy on averages basis on some AP feeders. After detailed analysis, following discrepancies were noticed:

i) In 30 cases (50%), the meters were found in order but still average units were booked on arbitrary basis.

ii) Only in 10 cases, genuine technical reasons for non-recording of correct energy by grid meters were found justified but the average units were booked on adhoc basis.

iii) In 2 cases, double multiplication factor was used to calculate pumped energy.

iv) In one case, the load of the feeder was shifted to another AP feeder but still average units were booked although no load was fed from that AP feeder.

v) In one case, it was found that UPS load was shifted on AP feeder and pumped energy was shown as that of AP feeder.

vi) In 10 cases, various technical reasons, like blowing off fuse or load shifting etc. were reported by the staff for booking average energy but the same could not be substantiated from the grid sub-stations record.

It was observed in the above mentioned 60 feeders that 35.08 LU excess pumped energy was booked against 101.23 LU pumped energy claimed on average basis (34.66%) during FY 2013-14. Similarly, during FY 2014-15, 288.04 LU excess energy was booked against 785.95 LU pumped energy claimed on average basis (34.64%).

In most cases, average units were booked to AP feeders to keep 11 kV bus bar losses at the grid sub-stations below 1%.

After considering all the relevant record made available and statements of the staff recorded during inspection, a detailed report was prepared and a copy of the same was sent to PSPCL vide letter no. 4335/36/ PSERC/DTJ-118 dated 04.08.2015, with the request to offer comments, if any, by 18.08.2015. Failing to solicit any response from PSPCL, reminders dated 25.08.2015 and 04.09.2015 were sent but PSPCL preferred not to respond to any of these communications. The comments received from PSTCL vide letter no. 7826 dated 19.08.2015 were taken in to account. After detailed examination of the matter, the Commission decided to reduce the pumped energy booked on average basis by 34.66% during FY 2013-14. To curb the practice of booking extra pumped energy arbitrarily by showing AP feeder meters defective/non-functional without any evidence on record, the Commission issued detailed directions to PSPCL and PSTCL vide letter no. 7313 dated 15.10.2015 and letter no. 7312 dated 15.10.2015 respectively.

PSPCL submitted comments on the findings of the validation report vide CE/ARR&TR letter no. 2527 dated 19.10.2015 but no documentary evidence in support of the claims for booking pumped energy on average basis as directed by the Commission vide letter dated 15.10.2015 was supplied. The Commission again directed PSPCL to supply necessary evidence within 15 days vide letter no. 8798 dated 30.11.2015, followed by reminder vide letter no. 10742 dated 15.01.2016. The Commission again directed PSPCL to supply necessary evidences within 15 days vide letter no. 8798 dated 30.11.2015 followed reminders vide letter nos. 9679 dated 22.12.2015 and 10742 dated 15.01.2016. PSPCL vide Chief Engineer/ARR & TR letter no. 2080 dated 23.02.2016 submitted feeder wise reply along with supporting documents.

From the scrutiny of the documents submitted by PSPCL, it has been observed that feeder wise comments are the same as were offered by PSPCL vide letter no. 2527 dated 19.10.2015 and also documentary evidences are not in accordance with the directions of the Commission. The reply submitted by PSPCL and the documentary evidences have not been found satisfactory and accordingly the Commission decided to reduce Pumped Energy booked on average basis during FY 2013-14 by 34.66%.

In view of the above, the Commission has estimated the AP consumption as 9191 MU during FY 2013-14, on the basis of energy pumped data supplied by PSPCL, as worked out in Table 3.2.

Table 3.2: AP Consumption for FY 2013-14

(MU)

Sr. No.	Description	Energy
(i)	Energy pumped during April, 2013 to March, 2014 in case of 3-phase 3-wire AP feeders	9991.97
(ii)	Energy pumped during April, 2013 to March, 2014 in case of 3-phase 4-wire AP feeders	71.08 [a]
(iii)	Energy pumped during April, 2013 to March, 2014 in case of Kandi area feeders feeding AP load	426.34 [b]
(iv)	Reduction in pumped energy booked on average basis @ 34.66% of 373.45	129.44
(v)	Total energy pumped during FY 203-14 for AP supply {(i)+ (ii)+ (iii)-(iv)}	10359.95
(vi)	Less losses @12.217%[c] (17-(2.5+15% of 15.22)) MU {(v)x12.217%}	1265.67 [c]
(vii)	Net AP consumption for FY 2013-14 {(v) - (vi)}	9094.28
(viii)	AP consumption for load of 88.22 [d] MW running on Urban Feeders [not included above at Sr. No.(vii)] {(vii)x 88.22/8300.74[e]}	96.65
(ix)	**Total AP consumption for FY 2013-14 {(vii)+(viii)}**	**9190.93**

(a) Calculated by multiplying the number of 3-phase 4-wire AP feeders for each month with AP consumption per feeder for that month in case of 3-phase 3-wire AP feeders.

(b) Calculated by assuming the AP load on Kandi area feeders feeding AP load as 30%.

(c) The loss @12.217% (11kV and below) for FY 2013-14 has been computed from Tariff Order for FY 2013-14.

(d) As per data supplied by PSPCL in the ARR for FY 2016-17 (Format 1B).

(e) Total Load running on 3-phase 3-wire, 3 phase 4-wire and Kandi Area mixed feeders is 8300.74 MW ending March, 2014 as per data supplied by PSPCL in the ARR for FY 2016-17 (Format 1B).

Thus, the Commission approves the AP Consumption of 9190.93 MU (say 9191 MU) for FY 2013-14.

3.3 Transmission and Distribution Losses (T&D Losses)

PSPCL in its ARR Petition for FY 2013-14, projected the Transmission and Distribution (T&D) losses of 16.50%. The Commission however, fixed the T&D losses at 17% for FY 2013-14 in its Tariff Order for FY 2013-14.

PSPCL, in its ARR Petition for FY 2014-15, projected the T&D losses at 16.44% for FY 2013-14. However, the Commission decided to retain T&D losses at 17% as fixed in the Tariff Order of FY 2013-14.

PSPCL, in its ARR for FY 2016-17, has submitted that the value of T&D losses of 16.89% for FY 2013-14 has been arrived at in accordance with the actual energy sales, own generation and energy purchase. The actual loss is lower than approved loss level of 17%, with an over achievement to the extent of 0.11%, in comparison to the target given by the Commission for the year. PSPCL has further submitted that the Commission approved the transmission loss of 2.5% for PSTCL for FY 2013-14 in revised estimates. Accordingly, PSPCL has achieved the distribution loss (66kV and below) of 15%, as against the approved target of 15.22% in revised estimates.

PSPCL has submitted that it is making concerted efforts to reduce and control the losses and is already recognized at par with some of the efficient utilities in the country. The loss reduction achieved is because of various loss reduction measures initiated by PSPCL. This is an indication of the significant technical and operational efficiency efforts initiated by PSPCL to reduce losses in the LT networks/consumer categories. PSPCL has further submitted that an analysis of the methodology for consideration of actual losses in the last Tariff Order for PSPCL suggests that the Commission disallows the sales pertaining to AP consumption and adds such disallowed sales to the T&D losses. The combined impact of disallowance in AP consumption and T&D losses being higher (after reworking by the Commission) is passed on as an ultimate disallowance in the power purchase cost.

PSPCL has further submitted that the Commission has fixed the trajectory of reduction of T&D losses considering the AP consumption on the basis of sample meter readings. However, the approach of approving the T&D losses based on AP pumped energy consumption is contrary to the Commission's trajectory of reduction in T&D losses, as without revising the trajectory, the same has proved detrimental to PSPCL.

The Commission in para 3.2.3 of the Tariff Order, has determined and approved AP consumption as 9191 MU for FY 2013-14. As brought in para 2.2.3 and para 3.2.3 of the Tariff Order, the Commission has determined the AP consumption on the basis of energy pumped to the AP consumers, as the AP consumption projected by PSPCL on the basis of sample meters has not been found to be correct. The determination of AP consumption by either methodology should not have any bearing on T&D losses, if determination of AP consumption is correct. The endeavour of the Commission has always been to determine the AP consumption as accurately as possible and near to actual. As such, the contention of PSPCL in this regard cannot be accepted in any imagination.

Keeping the overall T&D loss level of 17% as approved for FY 2013-14 in the Tariff Order for FY 2013-14 and based on the approved transmission loss of 2.5% for PSTCL for FY 2013-14 in the Tariff Order for PSTCL for FY 2016-17, the targeted distribution loss (66 kV and below) for PSPCL for FY 2013-14 has been worked out as 15.22%, which the Commission approves.

3.4 PSEB'S Own Generation

3.4.1 **Thermal Generation:** The station-wise generation projected by PSPCL during the determination of ARR by the Commission for FY 2013-14, generation approved by the Commission in the Tariff Order, revised estimates furnished by PSPCL during determination of ARR of FY 2014-15, generation approved by the Commission in the review, figures now supplied by PSPCL in the ARR for FY 2016-17 and generation now approved by the Commission are given in Table 3.3.

Table 3.3: Thermal Generation – FY 2013-14

(MU)

Sr. No.	Thermal Station	Projected by PSPCL during determination of ARR FY 2013-14		Approved by the Commission in T.O. FY 2013-14		Revised Estimates by PSPCL during determination of ARR FY 2014-15		Approved by the Commission in Review		Generation as submitted by PSPCL in ARR of FY 2016-17		Now approved by the Commission	
		Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net	Gross	Net
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV
1.	GNDTP	3018	2686	3077	2739	1853	1646	1853	1649	1635	1452	1635	1455
2.	GGSSTP	9300	8509	9865	9026	8473	7755	8473	7753	8006	7330	8006	7325
3.	GHTP	7238	6623	7724	7067	6807	6236	6807	6228	6665	6117	6665	6098
	Total	**19556**	**17818**	**20666**	**18832**	**17133**	**15637**	**17133**	**15630**	**16306**	**14900**	**16306**	**14878**

Plant-wise generation figures supplied by PSPCL in the ARR for FY 2016-17 and the generation figures validated by the Commission have been taken into account.

Accordingly, the Commission approves gross thermal generation for FY 2013-14 at 16306 MU.

Auxiliary Consumption

The auxiliary consumption projected by PSPCL during determination of ARR by the Commission for FY 2013-14, auxiliary consumption approved by the Commission in the Tariff Order, revised estimates furnished during determination of ARR of FY 2013-14, auxiliary consumption approved by the Commission in the review, auxiliary consumption figures supplied by PSPCL with the ARR for FY 2016-17 and auxiliary consumption now approved by the Commission are given in Table 3.4.

Table 3.4: Auxiliary Consumption – FY 2013-14

Sr. No.	Thermal Station	Projected by PSPCL during determination of ARR FY 2013-14	Approved by the Commission in T.O. FY 2013-14	Revised Estimates by PSPCL during determination of ARR FY 2014-15	Approved by the Commission in Review	Submitted in ARR of FY 2016-17	Now approved by the Commission
I	II	III	IV	V	VI	VII	VIII
1.	GNDTP	11.00%	11.00%	April 13-Dec.13 (11.44%) Jan. 14-Mar.14 (11.21%)	11.00%	11.19%	11.00%
2.	GGSSTP	8.50%	8.50%	April 13-Dec.13 (8.46%) Jan. 14-Mar.14 (8.50%)	8.50%	8.44%	8.50%
3.	GHTP	8.50%	8.50%	April 13-Dec.13 (8.34%) Jan. 14-Mar.14 (8.50%)	8.50%	8.21%	8.50%

It is observed that actual auxiliary consumption now reported by PSPCL is marginally higher for GNDTP and lower for GGSSTP and GHTP, than the approved levels. The Commission observes that the auxiliary consumption of GGSSTP and GHTP has been approved on normative basis.

PSPCL in the ARR for FY 2016-17 has submitted that GNDTP is an old generating station and all four units have already outlived their useful life of 25 years. PSPCL has also submitted that R&M activities have been undertaken in Unit-IV. PSPCL has further submitted that R&M activities were also undertaken in the neighbouring state of Haryana wherein two agencies i.e. Alstom and BHEL were involved for the R&M of 110 MW Panipat Units-1 and 2. It needs to be appreciated that BHEL had not taken any guarantee of the performance results, post completion of the R&M activities of the units. Therefore, even after the R&M initiatives, the performance of these units have not been in line with the normative limits being approved by the Commission. It needs to be appreciated that technology constraints in 110MW units, make it really difficult even for the Original Equipment Manufacturers (OEMs) to commit any guaranteed performance for the units. As such, the auxiliary consumption remains more or less constant for the generating units. However, the auxiliary consumption for GNDTP appears to be slightly higher i.e. 11.19%, when compared to the Commission's approved figure of 11.00%.

PSPCL has also submitted the references from other SERCs Orders and also reference of APTEL judgement dated 18.10.2012 in the matter, and has prayed for allowing higher auxiliary consumption.

The submissions made by PSPCL regarding auxiliary consumption of GNDTP for FY 2013-14 are similar to the submissions made for FY 2012-13 in para 2.4.1 of this Tariff Order, and complete matter has already been discussed in para 2.4.1. Further, in the Tariff order for FY 2013-14, the Commission had adopted the CERC norms for assessment of net generation for GGSSTP and GHTP, and considered the various issues and submissions regarding the auxiliary energy consumption of GNDTP units in para 5.4.1 of the Tariff Order for FY 2013-14, and accordingly fixed the auxiliary energy consumption for FY 2013-14 at 11%, 8.50% and 8.50% for GNDTP, GGSSTP and GHTP respectively.

In view of the above, the Commission approves the auxiliary consumption of 11.00%, 8.50% and 8.50% for GNDTP, GGSSTP and GHTP respectively.

The net thermal generation on this basis works out to 14878 MU as shown in column XIV of Table 3.3.

The Commission further observes that PSPCL has not been able to achieve gross and net thermal generation originally approved in the Tariff Order for FY 2013-14. PSPCL in the ARR Petition for FY 2016-17 has submitted that the generating plants are operating as part of integrated grid and abide by the rules and regulations framed by CERC and PSERC, to ensure the safety of the grid. PSPCL has to follow the instructions from Punjab State Load Despatch Centre (PSLDC) to manage the frequency-load balance. In FY 2013-14, PSPCL suffered loss of generation to the tune of 852 MU, 1979 MU and 1273 MU from GNDTP, GGSSTP and GHTP respectively, because of backing down of its generation on instructions received from PSLDC, even though it was available for generation. PSPCL has prayed to consider the loss of generation due to backing down instructions of PSLDC for assessing the performance of generating plants. The matter is discussed further in para 3.10.

3.4.2 **Hydel Generation:** The station-wise generation submitted by PSPCL to the Commission during determination of ARR for FY 2013-14, generation approved by the Commission in the Tariff Order, revised estimates furnished by PSPCL during determination of ARR of FY 2014-15, generation approved by the Commission in review and generation figures now furnished by PSPCL and those accepted by the Commission are given in Table 3.5.

Table 3.5: Hydel Generation – FY 2013-14

(MU)

Sr. No.	Station	Projected by PSPCL during determination of ARR FY 2013-14	Approved by the Commission in T.O. FY 2013-14	RE by PSPCL in ARR FY 2014-15	Approved by the Commission in Review	Generation figures submitted by PSPCL in ARR FY 2016-17	Now approved by the Commission
I	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**
1.	Shanan	514.08	542	368	368	356	356
2.	UBDC Stage I	160.39	152	365	365	195	195
	UBDC Stage II	187.18	195			167	167
3.	RSD	1511.17	1578	1700	1700	1576	1576
4.	MHP	1204.49	1204	1215	1215	1247	1247
5.	ASHP	714.35	708	739	739	735	735
6.	Micro hydel	9.06	9	11	11	11	11
7.	**Total own generation (Gross)**	**4300.72**	**4388**	**4398**	**4398**	**4287#**	**4287**
8.	Auxiliary consumption and Transformation losses	41.35	36	36	36	36	35*
9.	HP share in RSD (free)	117.43	73	78	78	-	68**
10.	Less HP Royalty in Shanan			53			
11.	**Total own generation (Net)**	**4141.94**	**4279**	**4231**	**4284**	**4251**	**4184**
12.	**PSPCL share from BBMB**						
(a)	PSPCL share (Net)	4073.82	4074	4418	4418	4377	4377
(b)	Common Pool share (Net)	303.80	304	289	289	303	303
13.	**Share from BBMB (Net)**	**4377.62**	**4378**	**4707**	**4707**	**4680**	**4680**
14.	**Total hydro (Net) (Own + BBMB)**	**8519.56**	**8657**	**8938**	**8991**	**8931**	**8864**

 # Against 4286 wrongly calculated in the ARR.

**Transformation losses @0.5% (21 MU), auxiliary consumption @0.5% for RSD generation of 1576 MU and UBDC stage -1 generation of 195 MU (having static exciters) and @0.2% for others (14 MU).*

*** HP share in RSD (68 MU) as intimated by PSPCL in the ARR.*

The actual gross hydel generation from PSPCL's own hydel stations for FY 2013-14 is 4287 MU and the Commission approves the same. While calculating the net generation, PSPCL has not deducted the free HP share in RSD. In line with the methodology being followed in such sales, the Commission has worked out net hydel generation by deducting free HP share in RSD (68 MU) and auxiliary consumption and transformation losses (35 MU). Net hydel generation for FY 2013-14, thus works out to 4184 MU. The actual net availability from BBMB is 4680 MU, including common pool share, which the Commission accepts.

The Commission, therefore, approves net hydel generation for FY 2013-14 at 4184 MU from PSPCL's own generating stations and 4680 MU as net share from BBMB as shown in Table 3.5.

3.5 Power Purchase

The Commission in its Tariff Order of FY 2013-14 approved net power purchase of 19473 MU (net). During determination of ARR of FY 2014-15, PSPCL furnished revised estimates for power purchase of 20042 MU (net). But, in review, the Commission determined the net power purchase of 19566 MU. PSPCL has now submitted power purchase during FY 2013-14 as 21650 MU (net), in the ARR for FY 2016-17. This matter is further discussed in para 3.8.

3.6 Energy Balance

3.6.1 The details of energy requirement and availability for FY 2013-14 approved by the Commission in review in the Tariff Order of FY 2014-15 and figures now furnished by PSPCL in the ARR are given in Table 3.6. The energy balance, including T&D losses along with sales and availability now approved by the Commission is depicted in column VI of Table 3.6.

Table 3.6: Energy Balance – FY 2013-14

(MU)

Sr. No.	Particulars	Approved by the Commission in T.O. FY 2014-15	As per PSPCL in ARR FY 2016-17	Now approved by the Commission	Sales & actual T&D losses as per approved energy available
I	II	III	IV	V	VI
A) Energy Requirement					
1.	Metered Sales	26646	27115	27115	27115
2.	Sales to Agriculture Pumpsets	9726	10232	9191	9191
3.	Total Sales within the State	**36372**	**37347**	**36306**	**36306**
4.	Loss percentage	17.00%	16.89%	17.00%	19.17%
5.	T&D losses	7450	7588	7436	8609
6.	Sales to Common pool consumers	289	303	303	303
7.	Outside State Sales	76	272*	174	174
8.	**Total requirement**	**44187**	**45480**	**44219**	**45392**
B) Energy Available					
9.	Own generation (Ex-bus)				
10.	Thermal	15630	14900	14878	14878
11.	Hydro (Including share from BBMB and common pool consumers	9091	8930	8864	8864
12.	Purchase (net)	19566	21650	21650	21650
13.	**Total Available**	**44187**	**45480**	**45392**	**45392**

**Including HP Royalty in Shanan and free HP share in RSD.*

3.6.2 The total energy available with PSPCL works out to 45392 MU (net), considering all purchases and own generation (net). With this energy available, the Commission works out T&D losses as 19.17%. The difference of 1173 MU (net) between energy requirement and energy availability is owing to under-achievement of T&D loss target as discussed in para 3.3 and depicted in column V & VI of Table 3.6. Higher T&D loss over and above the level approved by the Commission has resulted in increased net power purchase to the extent of 1173 (8609-7436) MU. The matter is further discussed in para 3.9.

The Commission approves the total energy requirement for FY 2013-14 at 44219 MU after retaining T&D losses at 17%.

3.7 Fuel Cost

3.7.1 In its Tariff Order for FY 2013-14, the Commission approved the fuel cost as ₹4440.20 crore for a gross thermal generation of 20666 (gross) MU. In review, this cost was revised to ₹4093.59 crore for approved gross generation of 17133 MU. Details of approved fuel cost for FY 2013-14, in the Tariff Order for FY 2013-14 and in the Tariff Order for FY 2014-15 in review are given in Table 3.7.

Table 3.7: Fuel Cost – FY 2013-14

Sr. No.	Station	As per T.O. FY 2013-14		As per Review in T.O. FY 2014-15	
		Gross Generation (MU)	Fuel Cost (₹crore)	Gross Generation (MU)	Fuel Cost (₹crore)
I	II	III	IV	V	VI
1.	GNDTP	3077	718.48	1853	460.23
2.	GGSSTP	9865	2046.96	8473	2125.52
3.	GHTP	7724	1674.76	6807	1507.84
	Total	**20666**	**4440.20**	**17133**	**4093.59**

3.7.2 PSPCL in its ARR for FY 2016-17 has indicated the actual fuel cost for FY 2013-14 for a gross generation of 16306 MU as ₹3918.22 crore, whereas in the Audited Annual Accounts of PSPCL for FY 2013-14, the total generation expenses are ₹3945.02 crore.

PSPCL has submitted that it has considered the cost of ₹26.34 crore under the heads of Cost of Water, Lubricants & Consumable stores and Station supplies in the R&M expenses, in accordance with the philosophy adopted by the Commission in previous orders.

In the Audited Annual Accounts of PSPCL for FY 2013-14, the total generation expenses comprise of ₹3841.87 crore for coal and oil consumption, ₹32.63 crore for other fuel related costs, ₹44.17 crore for fuel related losses and ₹26.34 crore for other operating expenses, such as cost of water, lubricants, consumable stores and station supplies. Out of these, ₹26.34 crore booked towards other operating expenses do not form part of the fuel cost and are being considered under Repair and Maintenance Expenses in para 3.12. Thus, the net fuel cost for FY 2013-14 as per Audited Annual Accounts is taken as ₹3918.68 (3945.02-26.34) crore.

3.7.3 The actual fuel cost intimated by PSPCL for FY 2013-14 in its ARR for FY 2016-17 for a gross thermal generation of 16306 MU is based on calorific value and price of coal / oil as given in Table 3.7A.

Table 3.7A: Calorific Value and Price of Coal and Oil as submitted by PSPCL for FY 2013-14

Station	As considered by PSPCL				
	Calorific value of coal (kCal/kg)	Calorific Value of Oil (kCal/lt)	Price of Oil (₹/KL)	Price of coal excluding transit loss (₹/MT)	Transit loss
I	II	III	IV	V	VI
GNDTP	4144.71	9400.00	51782.08	3604.41	2.72%
GGSSTP	4100.00	9700.00	47916.29	4060.63	(-) 0.01%
GHTP	4068.00	9500.00	49485.00	3651.12	0.94%

3.7.4 Fuel cost being a major item of expense, the Commission thought it prudent to get the same validated. The finally accepted values are indicated in Table 3.7B.

Table 3.7B: Calorific Value and Price of Coal and Oil as accepted by the Commission for FY 2013-14

Sr. No.	Station	As accepted by the Commission				
		Gross Calorific value of coal (kCal/kg)	Calorific Value of Oil (kCal/lt)	Price of Oil (₹/KL)	Price of coal excluding transit loss (₹MT)	Transit loss
I	II	III	IV	V	VI	VII
1.	GNDTP	4144.86	9486.00	51777.20	3604.34	2.72%
2.	GGSSTP	4115.00	9679.35	47916.37	4060.29	(-) 0.01%
3.	GHTP	4069.31	9832.17	49485.45	3651.56	0.94%

3.7.5 As discussed in para 2.7.5, in view of the Commission's Order dated 08.10.2012 in Petition No. 42 of 2012 (suo-motu) in the matter of Fuel Audit of various Thermal Plants of Punjab State Power Corporation Limited, the Commission determined the values of GCV of coal as given under column III of Table 3.7 (B).

3.7.6 **Station Heat Rate (SHR)**

Regarding Station Heat Rate (SHR), PSPCL has intimated in the ARR for FY 2016-17, the SHR for GNDTP as 2760 kCal/kWh, for GGSSTP as 2575 kCal/kWh and for GHTP as 2396 kCal/kWh.

With regard to deviation in technical parameters, PSPCL has submitted that the Hon'ble APTEL in various judgements has advised the relaxation of norms required to be done based on their actual performance and also in the context of old generating stations. PSPCL in its ARR has submitted excerpts from orders of Hon'ble APTEL in case of Appeal Nos. 42 & 43 of 2008, in the matter of Haryana Power Generation Company Limited v/s Haryana Electricity Regulatory Commission, Appeal Nos. 86 & 87 of 2007, in the matter of by Maharashtra State Power Generation Company Limited v/s Mahrashtra Electricity Regulatory Commission and Appeal No. 129 of 2006, in the matter of Gujarat State Electricity Company Limited v/s Gujarat Electricity Regulatory Commission. PSPCL has prayed that the technical performance of its stations at relaxed levels be allowed.

Regulation 20 of PSERC Tariff Regulations specifies that while determining the cost of generation of each thermal/gas/hydro electric generating station located within the State, the Commission shall be guided as far as feasible, by the principles and methodologies of CERC, as amended from time to time. Further, Regulation 37 of PSERC Tariff Regulations specifies that the components of generation tariff shall be as laid down in the CERC Tariff Regulations.

The Commission while processing the ARR of PSPCL for FY 2013-14, has allowed the Gross Station Heat Rate for all units of GHTP at 2500 kCal/kWh. As discussed in para 2.7.6 of this Tariff Order and 2.7.5 of the Tariff Order for FY 2014-15, the Commission has approved the SHR for units III and IV of GHTP at 2428 kCal/kWh, in view of provisions in CERC (Terms and conditions of Tariff) Regulations, 2009.

For Units I & II of GHTP as well as for GGSSTP and GNDTP, the Commission decides to allow the SHR as allowed earlier in the Tariff Order for FY 2013-14.

3.7.7 **Price and calorific value of coal and oil**

The Commission has now approved revised gross thermal generation of 16306 MU (1635 MU for GNDTP, 8006 MU for GGSSTP and 6665 MU for GHTP) as discussed in para 3.4.1. The fuel cost for different thermal stations corresponding to generation now approved has been worked out, based on the parameters/ norms adopted by the Commission in its Tariff Order for FY 2013-14, except for SHR in respect of units III and IV of GHTP, which has been considered as 2428 kCal/kWh, as discussed in para 3.7.6 above, and the GCV of coal as discussed in para 3.7.4. Price and calorific value of coal and oil have been taken as validated and accepted by the Commission.

3.7.8 **Transit Loss**

PSPCL in the ARR for FY 2016-17, has submitted that coal transit loss in case of GNDTP, is higher than the as approved by the Commission. However, transit loss is negative in case of GGSSTP. PSPCL has reiterated the same reasons for coal transit loss for FY 2013-14, as submitted for FY 2012-13, and the matter has already been discussed in para 2.7.8 of this Tariff Order.

In case of PANEM coal, no transit loss has been allowed by the Commission, while arriving at fuel cost, as prices according to the contract are on F.O.R. destination basis. In case of coal other than PANEM coal, transit loss at actual, subject to a maximum of 1.00% has been allowed by the Commission, as approved in the Tariff Order for FY 2013-14. The quantities of PANEM coal have been taken as validated by the Commission.

3.7.9 **Specific Oil Consumption**

PSPCL has submitted specific oil consumption at GNDTP, GGSSTP and GHTP as 1.58, 0.72 and 0.32 ml/kWh respectively for FY 2013-14. However, the Commission has adopted CERC norms for specific oil consumption as in the case of other performance parameters of thermal plants and the Commission approves 1.0 ml/kWh specific oil consumption for GNDTP, GGSSTP and GHTP, as approved in the Tariff Order for FY 2013-14.

3.7.10 On the above basis, fuel cost for FY 2013-14 for different thermal generating stations corresponding to actual generation is determined in Table 3.8.

Table 3.8: Approved Fuel Cost FY 2013-14

Sr. No.	Item	Derivation	Unit	GNDTP	GGSSTP	GHTP (Unit I & II)	GHTP (Unit III & IV)	Total
I	II	III	IV	V	VI	VII	VIII	IX
1.	Generation	A	MU	1635	8006	2924*	3741*	**16306**
2.	Heat Rate	B	kCal/kWh	2825	2500	2500	2428	
3.	Specific oil consumption	C	ml/kWh	1.00	1.00	1.00	1.00	
4.	Calorific value of oil	D	kCal/litre	9486.00	9679.35	9832.17	9832.17	
5.	Calorific value of coal	E	kCal/kg	4144.86	4115.00	4069.31	4069.31	
6.	Overall heat	F = (A x B)	Gcal	4618875	20015000	7310000	9083148	
7.	Heat from oil	G = (A x C x D) / 1000	Gcal	15510	77493	28749	36782	
8.	Heat from coal	H = (F-G)	Gcal	4603365	19937507	7281251	9046366	
9.	Oil consumption	I=(Gx1000)/D	KL	1635	8006	2924	3741	
10.	Transit loss of coal	J	(%)	1.00	-0.01	0.94	0.94	
11.	Coal consumption excluding transit loss	K=(H*1000)/E	MT	1110620	4845081	1789309	2223071	
12.	Quantity of PANEM coal	L	MT	755700	2537325	1149763#	1471021#	
13.	Quantity of coal other than PANEM coal	M=K-L	MT	354920	2307756	639546	752050	
14.	Quantity of coal other than PANEM coal including transit loss	N=M/(1-J/100)	MT	358505	2307525	645615	759186	
15.	Total quantity of coal required	O=N+L	MT	1114205	4844850	1795378	2230207	
16.	Price of oil	P	₹/KL	51777.20	47916.37	49485.45	49485.45	
17.	Price of coal	Q	₹/MT	3604.34	4060.29	3651.56	3651.56	
18.	Total cost of oil	R=P x I / 10^7	₹crore	8.47	38.36	14.47	18.51	79.81
19.	Total cost of coal	S=O x Q/10^7	₹crore	401.60	1967.15	655.59	814.37	3838.71
20.	**Total Fuel cost**	**T=R+S**	**₹crore**	**410.07**	**2005.51**	**670.06**	**832.88**	**3918.52**
21.	**Per unit Cost**	**U=T*10/A**	**₹/kWh**	**2.51**	**2.51**	**2.29**	**2.23**	**2.40**

** As intimated by PSPCL in the ARR*
 # Worked out on proportionate basis in proportion to generation.

The Commission, thus, approves the fuel cost at ₹3918.52 crore for gross generation of 16306 MU for FY 2013-14.

3.8 Power Purchase Cost

3.8.1 The Commission, in its Tariff Order for FY 2013-14, approved the power purchase cost of ₹7818.98 crore, comprising of ₹7468.41 crore for purchase of 20337 MU (gross), ₹250.57 crore payable to NHPC towards water usage charges for generation of electricity, along with license fee, in respect of Salal, Uri, Dulhasti and Sewa-II hydel generating stations failing in the State of J&K and ₹100.00 crore provisionally to meet the shortfall in RPO compliance through purchase of RE power from outside the State of Punjab and new projects coming up in the State of Punjab or through purchase of RECs. In review, the Commission revised the power purchase cost to ₹7204.24 crore, comprising of ₹6960.46 crore for purchase of 20142 MU (gross), ₹116.78 crore as water uses charges payable to NHPC and ₹127.00 crore for purchase of power from RE Sources/RECs for RPO compliance. While approving ₹127.00 crore for purchase of power from RE sources/RECs, an amount of ₹14.00 crore was disallowed from the demand of ₹141.00 crore projected by PSPCL in the ARR for FY 2014-15. The Commission had noted in para 5.9.4 of the Tariff Order for FY 2014-15 that four Micro-Hydel Plants of PSPCL at Daudhar, Nidampur, Rohti and Thuhi (Total capacity 3.9 MW) are non-functional since long and another 18 (2x9) MW MHP Stage-II project in district Hoshiarpur has been delayed considerably, otherwise, these projects were likely to have contributed renewal energy to the tune of 90 MU annually, and accordingly decided to disallow ₹14.00 crore.

3.8.2 The gross power purchase for FY 2013-14 now reported by PSPCL is 22340.44 MU (gross), including short term power purchase of 3461.44 MU and unscheduled interchange (UI) of (-)55.05 MU and intra-State open access UI import of 48.20 MU. The net power purchase after accounting for actual external losses of 3.09% is 21649.60 MU. The actual cost of power purchase for FY 2013-14 as per ARR for FY 2016-17 is ₹8379.38 crore, which includes ₹157.19 crore as previous year adjustment made during FY 2013-14, ₹0.15 crore paid to Mercados (consultant), ₹72.50 crore for purchase of RECs for FY 2013-14 and ₹729.78 crore PGCIL charges.

PSPCL has submitted that there is an increase in actual power purchase cost by ₹1175.14 crore over the approved power purchase cost by the Commission for FY 2013-14. This increase is mainly attributable to the increase in price of power from Central Generating Stations (CGS) and other sources due to the revision of tariffs for CGS plants, in accordance with the revised regulations issued by CERC for the period from FY 2009-10 to FY 2013-14. PSPCL has requested to consider it as Force Majeure events, as the same are beyond the control of PSPCL.

3.8.3 The Power purchase cost as per Audited Annual Accounts for FY 2013-14 is also ₹8379.38 crore, excluding transmission and SLDC charges of ₹1269.64 paid to PSTCL, but are inclusive of ₹729.78 crore wheeling charges paid to PGCIL and ₹72.50 crore for purchase of RECs.

3.8.4 The Commission observes that as per previous practice, requirement of power purchase at the time of review is taken based only on the energy balance as determined in the Tariff Order for the relevant year and approved accordingly. However, at the time of true up, the actual quantum of power purchased has been allowed since it has been procured by PSPCL and supplied to the consumers of different categories.

3.8.5 The Commission, in the Tariff Order FY 2013-14, has approved purchase of 280.22 MU of power from traders at the average rate of 396.68 paise/unit for FY 2013-14. PSPCL in its ARR Petition for FY 2016-17 has shown short term power purchase of 3461.44 MU at an average rate of 370.13 paise/unit, during FY 2013-14, which is within the rate approved by the Commission in the Tariff Order for FY 2013-14.

3.8.6 PSPCL in its ARR for FY 2016-17 has shown expenditure of ₹0.15 crore as payment made to Mercadoz for consultancy assignment, under the Power Purchase expenses head. Such expenses do not form part of the Power Purchase expenses, and is being further discussed under A&G Expenses in para 3.13.

3.8.7 PSPCL in its ARR for FY 2016-17 has shown an amount of ₹157.19 crore as previous year adjustment, under the Power Purchase expenses head. On a query by the Commission vide letter no.12699 dated 14.03.2016, PSPCL vide its letter no. 408/CC/DTR/Dy. CAO/246/Vol.-1 dated 29.03.2016 has submitted the details of ₹157.19 crore of previous payment made during FY 2013-14. As per the practice followed in the past, the prior period expenses are not chargeable under the head Power Purchase. The prior period expenditure of ₹157.19 crore is further discussed in para 3.19.

3.8.8 On a query of the Commission, PSPCL vide letter no. 1124 dated 17.12.2015 (point no. 8 (Technical)) and letter no.246 dated 26.02.2016 submitted that ₹3.82 crore has been paid on account of additional charges for deviation/ additional UI charges during FY 2013-14. Further, PSPCL vide ibid letter also intimated that no interest on delayed payment to UI account has been paid during FY 2013-14. The Commission decides not to allow ₹3.82 crore leviable/paid as additional charges for Deviation/ additional UI charges under CERC's Deviation Settlement Mechanism/UI Regulations.

3.8.9 The Commission in its Tariff order for FY 2013-14 approved ₹100.00 crore for purchase of power from RE resources/Renewable Energy Certificates (RECs). In the review for FY 2013-14, as carried out in the Tariff Order for FY 2014-15, the Commission had disallowed ₹14.00 crore from the demand of ₹141.00 crore projected by PSPCL in the ARR for FY 2014-15, due to reasons as brought out in para 5.9.4 of the Tariff Order for FY 2014-15 and in para 3.8.1 of this Tariff Order, and had approved ₹127.00 crore for purchase of power from RE sources/RECs for RPO compliance. PSPCL in its ARR for FY 2016-17 has intimated that it has purchased RECs of ₹72.50 crore for compliance of Renewal Purchase Obligation. The Commission notes that the position regarding four Micro-Hydel plants of PSPCL and MHP Stage-II project is the same as discussed in para 5.9.4 of the Tariff Order for FY 2014-15 and as such disallows ₹14.00 crore from the power purchase cost on this account.

Accordingly, the Commission approves cost of ₹8204.22 (8379.38 - 0.15 - 157.19 - 3.82 - 14.00) crore for net power purchase of 21649.60 MU (gross power purchase of 22340.44 MU).

3.9 Disincentive on account of higher T&D losses

As discussed in para 3.6.2, PSPCL has under-achieved the T&D loss level vis-a-vis the target approved by the Commission. As per the PSERC Tariff Regulations, the entire loss on account of under-achievement of T&D losses vis-a-vis the target set by the Commission is to be borne by the licensee. As brought out in the afore-mentioned para, T&D loss level higher than that approved by the Commission has resulted in increase in power purchase to the extent of 1173 MU (net), the pro-rata cost of which based on power purchase cost approved in para 3.8, works out to ₹444.51 (8204.22x1173/21649.60) crore.

The Commission, therefore, determines an amount of ₹444.51 crore as disincentive on account of higher T&D losses and disallows the same.

The effect of this is reflected at Sr. No. 13(c) of Table 3.16.

3.10 Incentive/disincentive on account of higher/lower availability of thermal generating stations

3.10.1 PSPCL in the ARR Petition for FY 2016-17, submitted that the generating plants are operating as part of integrated grid and abide by the rules and regulations framed by CERC and PSERC, and to ensure the safety of the grid, PSPCL has to follow the instructions from Punjab State load Dispatch Centre (PSLDC) to manage the frequency-load balance. In FY 2013-14, PSPCL suffered loss of generation because of backing down of its generation on instructions received from PSLDC even though it was available for generation. PSPCL has requested to consider the loss of generation due to backing down instructions of PSLDC for assessing the performance of generating plants. PSPCL has submitted the stations wise detail of loss of generation due to backing down instructions from SLDC, as under:

Sr. No.	Thermal Generating Station	Gross Generation approved in TO for FY 2013-14 (MU)	Actual Gross Generation as per the accounts for FY 2013-14 (MU)	Loss of Generation due to backing down instructions from SLDC (MU)	Total Gross Generation including loss of generation due to backing down (MU)
1.	GNDTP	3077	1635	852	2488
2.	GGSSTP	9865	8006	1979	9985
3.	GHTP	7724	6665	1273	7938
	Total	**20666**	**16306**	**4104**	**20410**

The details of unit wise generation and Plant Availability Factor (PAF) in respect of GNDTP, GGSSTP and GHTP for FY 2013-14 have been given by PSPCL in the ARR for FY 2016-17, as under:

Plant	Unit	Gross Generation (MU)	PAF (%)
GNDTP	Unit 1	628	85.60
	Unit 2	544	97.64
	Unit 3	463	71.85
	Unit 4	0	0.00
	Total	**1635**	**84.64**
GGSSTP	Unit 1	1228	84.66
	Unit 2	1264	88.22
	Unit 3	1461	97.75
	Unit 4	1393	90.46
	Unit 5	1446	94.49
	Unit 6	1214	83.46
	Total	**8006**	**89.84**
GHTP	Unit 1	1449	99.27
	Unit 2	1475	98.43
	Unit 3	1871	96.66
	Unit 4	1869	95.33
	Total	**6665**	**97.30**

PSPCL has submitted that it has achieved higher plant availability than the normative target of 85% for GNDTP, GGSSTP and GHTP and claimed generation incentive of ₹112.04 crore for FY 2013-14.

3.10.2 PSPCL has prayed that the generation incentive be determined on the basis of PSERC Tariff Regulations, 2005, in conformity to the CERC Tariff Regulations, as mentioned in the PSERC Regulations. The submissions made by PSPCL in this regard for FY 2013-14 are similar to the submissions made for FY 2012-13, as brought out in para 2.10.2 of this Tariff Order. The Commission has determined the generation incentive for FY 2012-13 as brought out in para 2.10.3, 2.10.4 and 2.10.5 of the Tariff Order.

3.10.3 For expeditious processing of ARR for FY 2016-17, the Commission vide its letter no. 7200 dated 12.10.2015 asked PSPCL to submit information along with the ARR petition, on various points including audited details of costs/figures separately for Generation (Plant wise), Wheeling and Retail Supply businesses for FY 2012-13, FY 2013-14, FY 2014-15 and projections for FY 2015-16 & FY 2016-17, so that the Commission could determine the Generation Tariff (Plant wise Fixed/Capacity Charges and Energy Charges), Wheeling Charges and Retail Supply Charges separately.

PSPCL while filing its ARR and Determination of Tariff Petition for FY 2016-17, submitted that the information of segregation of costs amongst various functions as per audited accounts of FY 2013-14 will be supplied after the approval/adoption in AGM. On the basis of project wise/plant wise fixed costs submitted by PSPCL vide letter no. 543 dated 16.04.2016, the Commission after prudent check, has determined the incentive, based upon actual plant availability, as per PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005, as under. The actual plant availability of all Thermal Generating Stations as intimated by PSPCL in the ARR for FY 2016-17 has been certified by Chief Engineer/SLDC, PSTCL, Patiala, as intimated by Financial Advisor PSTCL vide letter no. 1461 dated 06.05.2016 and letter no. 273 dated 24.05.2016. The project wise/plant wise costs intimated by PSPCL and the costs determined by the Commission are detailed at Annexure-V, Volume-II. The generation incentive has been determined as under:

Sr. No.	Generating Station	Annual Fixed Cost for FY 2013-14 (₹ crore)	Actual Plant Availability (as intimated by PSPCL in the ARR for FY 2016-17) (%)	Normative Plant Availability (%)	Incentive (₹ crore)
I	**II**	**III**	**IV**	**V**	**VI=(III*IV/V)-III**
1.	GNDTP	306.61	84.64	85.00	(-)01.30
2.	GGSSTP	532.97	89.84	85.00	30.35
3.	GHTP	531.16	97.30	85.00	76.86
4.	**Total incentive**				**105.91**

The Commission approves generation incentive of ₹105.91 crore for FY 2013-14, as determined above.

The effect of this is reflected at Sr. No. 13(d) of Table 3.16.

3.11 Employee Cost

3.11.1 In the ARR Petition for FY 2013-14, the PSPCL had projected employee cost of ₹4370.34 crore against which the Commission approved a sum of ₹3797.85 crore in the Tariff Order for FY 2013-14.

3.11.2 In the ARR Petition for FY 2014-15, PSPCL had revised the claim of employee cost to ₹4306.93 crore for FY 2013-14. The Commission approved employee cost of

₹4281.20 crore in the review of FY 2013-14 in Tariff Order for FY 2014-15.

3.11.3 In the ARR Petition for FY 2016-17, PSPCL has revised the claim of employee cost to ₹4010.07 crore, net of capitalization of ₹132.36 crore for FY 2013-14 based on Audited Annual Accounts of the PSPCL. The claim is also inclusive of ₹1495.61 (372.80+1122.81) crore on account of terminal benefits and ₹205.48 crore as BBMB share. In reply to deficiency letter of the Commission, PSPCL vide letter dated 18.12.2015 has clarified that only ₹1452.69 crore are related to terminal benefits. As such, other employee cost works out to ₹2351.90 (4010.07-1452.69 -205.48) crore.

3.11.4 The provisions of Regulation 28(3) of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 provide for determination of employee cost as under:

- O&M expenses as approved by the Commission for the year 2011-12 (trued up) shall be considered as base O&M expenses for determination of O&M expenses for subsequent years.
- Terminal benefits including BBMB share on actual basis.
- Increase in 'other employee cost' limited to average increase in Wholesale Price Index on base expenses of FY 2011-12.
- Exceptional increase in employee cost on account of pay revision etc. to be considered separately by the Commission.

As per above Regulation, terminal benefits and BBMB share of expenditure are to be allowed on actual basis.

In view of above, terminal benefits amounting to ₹1452.69 crore and BBMB share of expenditure amounting to ₹205.48 crore are approved on actual basis as per Audited Annual Accounts of the Company for FY 2013-14.

3.11.5 The 'other employee cost' of the PSPCL for FY 2011-12 has been approved at ₹2099.07 crore. As per statistics available at Office of the Economic Adviser, Government of India, Ministry of Commerce and Industry, Wholesale Price Index (All Commodities) of 156.13 for FY 2011-12 has increased to 177.64 for FY 2013-14, thereby accounting for 13.78%{(177.64-156.13)/156.13*100} increase in WPI. As per Regulations, increase in 'other employee cost' is to be limited to average Wholesale Price Index (WPI) on the base 'other employee cost' approved for FY 2011-12. By applying WPI increase @13.78% on ₹2099.07 crore approved for the base year FY 2011-12, the 'other employee cost' works out to ₹2388.32 crore for FY 2013-14, as against the claim of ₹2351.90 crore of PSPCL. As per Regulation 28(3)(a)(ii), increase in all expenses of employee cost other than BBMB and terminal benefits is required to be limited to increase in WPI(all commodities). In view of Hon'ble APTEL judgment dated 30.03.2015, in Review Petition No.6 of 2015, wherein Hon'ble APTEL held that "*actual costs need to be considered*", the Commission vide its Order dated 14.10.2015 decided that "*the Judgments of Hon'ble APTEL, in so far as Employee Cost for FY 2012-13, 2013-14, 2014-15 etc. of PSPCL and PSTCL is concerned, shall be implemented during true-up exercise of ARRs for theses years after applying prudence check*". **As such, the Commission approves 'other employee cost' of ₹2351.90 crore based on Audited Annual Accounts.**

The Commission, therefore, approves total employee cost of ₹4010.07 (1452.69+205.48+2351.90) crore to PSPCL for FY 2013-14.

3.12 Repair & Maintenance (R&M) Expenses

3.12.1 In the ARR Petition for FY 2013-14, the PSPCL had projected R&M expenses at ₹504.11 crore against which the Commission approved ₹595.39 crore.

3.12.2 In the ARR Petition for FY 2014-15, PSPCL had revised the claim of R&M expenses to ₹408.10 crore against which the Commission approved ₹382.59 crore as R&M expenses for FY 2013-14.

3.12.3 In the ARR Petition for FY 2016-17, PSPCL has claimed an amount of ₹543.43 crore which includes R&M expenses of ₹9.15 crore claimed for asset addition during the year for FY 2013-14. As per Audited Annual Accounts for FY 2013-14 the net R&M expenses are ₹418.13 crore (net of capitalization of ₹3.31 crore) including operating expenses of ₹26.34 crore reflected in Cost of Generation of Power.

3.12.4 Regulation 28 (5) (a) of the PSERC Tariff Regulations, 2005 amended on 17.09.2012 provides for adjusting base O&M expenses approved by the Commission for FY 2011-12 in proportion to increase in Whole Sale Price Index (all Commodities) to determine O&M expenses for subsequent year. As per statistics available at Office of the Economic Adviser, Government of India, Ministry of Commerce and Industry, Wholesale Price Index (All Commodities) of 156.13 for FY 2011-12 has increased to 177.64 for FY 2013-14 thereby accounting for 13.78% {(177.64-156.13)/156.13*100} increase in WPI. The Commission in Tariff Order 2014-15 approved R&M expenses of ₹320.67 crore for FY 2011-12 on Gross Fixed Assets of ₹39215.89 crore. The Gross Fixed Assets as on 01.04.2013 are to the tune of ₹41151.36 crore. Therefore, base R&M expenses for FY 2013-14 work out to ₹336.50 (320.67 / 39215.89 x 41151.36) crore. As mentioned above, there was WPI increase of 13.78% for FY 2013-14. By applying WPI increase @13.78% on the base R&M expenses of ₹336.50 crore, the R&M expenses works out to ₹382.87 (₹336.50 x 113.78 / 100) crore for FY 2013-14.

3.12.5 In the ARR for FY 2016-17, PSPCL has submitted capitalization of assets worth ₹1409.72 crore during FY 2013-14. These are being taken for calculating allowable R&M expenses for FY 2013-14. Since details regarding commissioning/ capitalization of the assets added during FY 2013-14 are not available in the accounts as well as the ARR of the utility, R&M expenses for these assets are being considered assuming that these assets remained in service for six months on an average during FY 2013-14. Average percentage rate of R&M expenses of ₹382.87 crore for assets of ₹41151.36 crore as on 01.04.2013 works out to 0.93% (382.87/41151.36x100) for PSPCL. By applying the average rate of 0.93% on addition of assets of ₹1409.72 crore for half year, the R&M expenses for the fixed assets added during the year work out to ₹6.56 crore. Thus, allowable R&M expenses for FY 2013-14 for PSPCL work out to ₹389.43 (382.87+6.56) crore against R&M expenses of ₹418.13 crore as per Audited Annual Accounts for FY 2013-14.

The Commission, therefore, approves R&M expenses of ₹389.43 crore for FY 2013-14 to PSPCL.

3.13 Administrative and General (A&G) Expenses

3.13.1 In the ARR Petition for FY 2013-14, the PSPCL had projected A&G expenses at ₹119.60 crore against which the Commission approved ₹136.89 crore in the Tariff Order for FY 2013-14.

3.13.2 In the ARR Petition for FY 2014-15, PSPCL had revised the A&G expenses for FY 2013-14 to ₹161.06 crore against which the Commission approved ₹126.75 crore as A&G expenses for FY 2013-14 in the Tariff Order for FY 2014-15.

3.13.3 In the ARR Petition for FY 2016-17, PSPCL has claimed an amount of ₹159.35 crore as A&G expenses based on Audited Annual Accounts for FY 2013-14 which included ₹10.81 crore on account of license fee and ARR fee for determination of tariff. In addition to above, ₹0.15 crore paid to M/s Mercados shown under power purchase cost are to be considered in A&G expenses. Thus, the total claim of PSPCL amounts to ₹159.50 crore.

3.13.4 In reply to deficiency letter, PSPCL has informed that out of ₹100.82 crore appearing under sub-head “Other” in the A&G expenses for FY 2013-14, ₹25.00 crore related to donations made towards Cancer and Drug Addiction Treatment and Infrastructure Fund and ₹5.00 crore towards Punjab Ancient Historical Monuments, Archeological Sites and Cultural Heritage Maintenance Board. As the Commission is allowing A&G

expenses as per PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005, so amount of ₹30.00 crore claimed by PSPCL as donations made towards Cancer and Drug Addiction Treatment Infrastructure Fund and Punjab Ancient Historical Monuments, Archeological Sites and Cultural Heritage Maintenance Board should be meted out of profit earned by PSPCL and not passed on to the consumers.

3.13.5 Regulation 28 (5) (a) of the PSERC Tariff Regulations, 2005 amended on 17.09.2012 provides for adjusting base O&M expenses approved by the Commission for FY 2011-12 in proportion to increase in Whole Sale Price Index (all Commodities) to determine O&M expenses for subsequent year. As per statistics available with office of the Economic Adviser, Government of India, Ministry of Commerce and Industry, Wholesale Price Index (All Commodities) of 156.13 for FY 2011-12 has increased to 177.64 for FY 2013-14, thereby accounting for 13.78% {(177.64-156.13)/156.13*100} increase in WPI. The Commission in Tariff Order for 2014-15 approved A&G expenses of ₹97.12 crore for FY 2011-12 on Gross Fixed Assets of ₹39215.89 crore. The Gross Fixed Assets as on 01.04.2013 are to the tune of ₹41151.36 crore. Therefore, base A&G expenses for FY 2013-14 work out to ₹101.91 (97.12 / 39215.89 x 41151.36) crore. As mentioned above, there was WPI increase of 13.78% for FY 2013-14. By applying WPI increase @13.78% on the base A&G expenses of ₹101.91 crore, the A&G expenses works out to ₹115.95 (101.91 x 113.78 / 100) crore for FY 2013-14.

3.13.6 In the ARR Petition for FY 2016-17, PSPCL has submitted capitalization of assets worth ₹1409.72 crore during FY 2013-14. These are being taken for calculating allowable A&G expenses for FY 2013-14. Since details regarding commissioning/ capitalization of the assets added during FY 2013-14 are not available in the accounts as well as the ARR Petition of the utility, A&G expenses for these assets are being considered assuming that these assets remained in service for six months on an average during FY 2013-14. Average percentage rate of A&G expenses of ₹115.95 crore for assets of ₹41151.36 crore as on 01.04.2013 works out to 0.28% (115.95/41151.36*100) for PSPCL. By applying the average rate of 0.28% on addition of assets of ₹1409.72 crore for half year, the base A&G expenses for the fixed assets added during the year work out to ₹1.97 crore. Thus, A&G expenses for FY 2013-14 for PSPCL work out to ₹117.92(115.95+1.97) crore. After adding ₹10.81 crore on account of license and ARR fee, the allowable A&G expenses work out to ₹128.73(117.92+10.81) crore against A&G expenses of ₹129.50 crore exclusive of ₹30.00 crore on account of donations made towards Cancer and Drug Addiction

Treatment and Punjab Ancient Historical Monuments, Archeological Sites and Cultural Heritage Maintenance Board as per Audited Annual Accounts for FY 2013-14.

The Commission approves A&G expenses of ₹128.73 crore for FY 2013-14 for PSPCL.

3.14 In the foregoing paras, O&M (Employee cost, R&M and A&G) expenses have been approved wherein share of BBMB expenditure on actual basis as claimed by PSPCL in the ARR has been allowed. In petition no. 251/GT/2013 filed by BBMB before Central Electricity Regulatory Commission (CERC) for approval of Tariff of its generating stations and transmission system, CERC vide its Order dated 12.11.2015 has approved O&M expenses in respect of transmission assets for the period 2009-14. On the basis of information provided by PSPCL vide letter no. 155/CC/DTR/Dy.CAO/246/Vol-I dated 09.02.2016 regarding transmission system, O&M expenses for FY 2012-13 payable in view of CERC order dated 12.11.2015 have been worked out. CERC in its order determined ₹13984.95 lac as transmission charges for Bhakra and Beas projects. Based on information provided by PSPCL, the O&M expenses for Bhakra and Beas are segregated as ₹9182.59 lac and ₹4802.36 lac respectively. CERC vide Order dated 21.03.2016 also determined the Tariff for generating stations of BBMB. Further, CERC determined ₹6697.67 lacs for Bhakra, ₹5138.68 lacs for Dehar and ₹2454.79 lacs for Pong Dam generating stations. Accordingly, share of PSPCL in O&M expenses of BBMB on account of transmission system and generation stations allowable vis-à-vis already allowed is determined as under:

Table 3.9: O&M expenses of BBMB as per CERC's orders

(₹ lacs)

Sr. No	Particulars	Bhakra Trans. System		Beas Trans. System		Bhakra Power House		Dehar Power Plant		Pong Power Plant	
		%	₹ lacs	%	₹ lacs	%	₹ lacs	%	₹ lacs	%	₹ lacs
1.	O&M expenses (CERC)		9182.59		4802.36		6697.67		5138.68		2454.79
2.	Less RVPNL Share	15.22	1397.59	23.80	1142.96	15.22	1019.39	20.00	1027.74	58.50	1436.05
3.	Balance		7785.00		3659.40		5678.28		4110.94		1018.74
4.	PSPCL share	51.80	4032.63	28.72	1050.98	51.80	2941.35	51.80	2129.47	51.80	527.71
5.	Allowable O&M expenses	10682.14									
6.	Expenses already allowed by the Commission	23483.00 (Employee cost =20548+R&M expenses=2790+A&G expenses=145)									
7.	Excess Allowed by the Commission	12800.86									

From above table, it is evident that ₹128.01 crore are recoverable by PSPCL from BBMB on account of excess payment of O&M expenses (Transmission and Generating Stations) for FY 2013-14. Therefore, O&M expenses of ₹4400.22 (4010.07+389.43+128.73-128.01) crore are approved to PSPCL for FY 2013-14.

3.15 Depreciation Charges

3.15.1 In the ARR Petition for FY 2013-14, PSPCL projected depreciation charges of ₹814.45 crore against which the Commission approved depreciation charges of ₹813.20 crore.

3.15.2 In the ARR Petition of FY 2014-15, PSPCL had revised its claim for depreciation charges to ₹813.59 crore against which the Commission approved depreciation charges of ₹701.37 crore for FY 2013-14.

3.15.3 In the ARR Petition for FY 2016-17, PSPCL has claimed ₹877.14 crore (net of capitalization of ₹0.33 crore) as depreciation charges against ₹22173.64 crore of Gross Fixed Assets (net of land and land rights) as per Audited Annual Accounts. A perusal of the ARR Petition reveals that based on sub-head wise details of assets given in ARR, claim of PSPCL of depreciation works out to ₹918.95 crore net of capitalization of ₹0.33 crore. In note12 (a)(vi) of the Audited Annual Accounts, PSPCL has explained that the difference in the claim as per note no.28 and the depreciation charges during the year in that note is due to withdrawal of depreciation by a unit in one accounting period and the addition of the same by other unit in different accounting period. Further, on examination of the information, the Commission observed that the depreciation on the assets which has already been overcharged has also been claimed by the PSPCL. It has also been observed that in case of some asset sub- heads, PSPCL's claim of depreciation is not in line with the rates specified by CERC. The issue was again taken up with PSPCL vide Commission's letter no.11929-30 dated 18.02.2016 in response to which PSPCL vide memo. No. 249/CC/DTR/Dy.CAO/246/Vol.I dated 26.02.2016 furnished revised information showing sub-head wise detail of assets and claim of depreciation charges. Accordingly, the Commission has re-determined the depreciation for FY 2013-14, which works out to ₹868.61 crore as detailed below:

Table 3.10: Depreciation Charges for FY 2013-14

(₹crore)

Sr. No.	Item	Depreciation charges claimed by PSPCL as per revised subhead wise details	Depreciation charges approved by the Commission
1.	Land & land rights	00.00	00.00
2.	Buildings	42.09	40.14
3.	Hydraulic Works	209.51	209.49
4.	Other Civil Works	3.15	1.56
5.	Plant & Machinery	376.85	342.22
6.	Lines, Cables, Networks etc.	264.68	264.68
7.	Vehicles	0.69	0.69
8.	Furniture & Fixtures	0.69	0.69
9.	Office Equipments	21.62	9.47
10.	**Total**	**919.28**	**868.94**
11.	Less Capitalization	0.33	0.33
12.	**Net Amount**	**918.95**	**868.61**

As discussed in Para 3.13.4 of Tariff Order for FY 2015-16 for PSPCL, the company vide its memo no. 11/A&R/A-44 dated 08.01.2015 intimated that "*the amount received till date or to be received in future on account of consumers' contribution, grants and subsidies towards cost of assets be treated as deferred income, accounted for as reserve, in the first instance and apportioned to P&L @ 5% of the balances outstanding under consumers' contribution, grants and subsidies towards cost of assets at the year end with effect from 01.04.2013* ".

As per above policy, PSPCL has transferred an amount of ₹56.20 crore from consumer contribution and credited to Non Tariff Income as per Note - 22 of the Audited Annual Accounts for FY 2013-14 of the company. As such, no amount on this account has been reduced from depreciation charges for FY 2013-14.

The Commission approves the depreciation charges of ₹868.61 crore for FY 2013-14.

3.16 Interest and Finance Charges

3.16.1 In the ARR Petition for FY 2013-14, PSPCL claimed Interest and Finance Charges of ₹2656.86 crore against which the Commission approved an amount of ₹1767.18 crore for FY 2013-14. In the ARR Petition for FY 2014-15, PSPCL had revised the Interest and Finance charges for FY 2013-14 to ₹2508.50 crore against which the Commission had approved the Interest and Finance charges of ₹1932.27 crore for PSPCL for FY 2013-14.

3.16.2 In the ARR Petition for FY 2016-17, PSPCL has claimed the Interest and Finance charges of ₹2381.95 crore for FY 2013-14 based on Audited Annual Accounts, as detailed in Table 3.11.

Table 3.11: Interest & Finance Charges claimed by PSPCL for FY 2013-14

(₹crore)

Sr. No.	Description	Interest as depicted in ARR Petition
I	**II**	**III**
1.	Interest on Institutional Loans	923.04
2.	Interest on RBI Bonds	23.27
3.	Interest on Short term Loans	1386.69
4.	Interest on GPF	188.26
5.	Guarantee fees	40.12
6.	Interest on Consumers security Deposits	143.50
7.	Other Bank Interest/Charges	4.36
8.	Total	2709.24
9.	Less: Capitalization	327.29
10.	**Net Interest and Finance Charges**	**2381.95**

The Interest and Finance charges allowable to PSPCL are discussed in the ensuing paragraphs.

3.16.3 **Investment Plan**

The Commission in the Tariff Order for FY 2013-14 approved an Investment Plan of ₹1450.00 crore against projected capital expenditure of ₹2200.00 crore. In the ARR Petition for FY 2014-15, the Commission approved the capital investment of ₹1450.00 crore against revised estimates of ₹1950.57 crore claimed by PSPCL.

In ARR Petition for FY 2016-17, PSPCL has submitted an investment plan of ₹1776.96 crore based on Audited Annual Accounts for FY 2013-14. Further, PSPCL has received consumer contribution, grants and subsidies of ₹321.60 crore during FY 2013-14. Accordingly, actual loan requirement for the level of investment works out to ₹1455.36 (1776.96-321.60) crore.

However, PSPCL has claimed ₹1172.39 crore as Institutional Loans (other than WCL, GP Fund and GoP loans) in the ARR Petition for FY 2016-17, based on Audited Annual Accounts. Out of this loan, ₹13.50 crore relates to R-APDRP Schemes- Part A, which is to be converted into grants, once the establishment of required system is achieved and verified by an independent agency appointed by the Ministry of Power. The Commission has observed that no interest is being paid by PSPCL while interest liability is being provisioned in the books of PSPCL. The Commission, therefore, decides to disallow amount of loan of ₹13.50 crore and approves loan amount of ₹1158.89 (1172.39-13.50) crore for the purpose of determination of ARR. The Commission in Table 2.12 of this Tariff Order has approved closing balance of ₹7416.42 crore as loans as on 31.03.2013 (other than WCL, GP Fund, R-APDRP Scheme Part-A and GoP loans). Considering the opening balance of ₹7416.42 crore for FY 2013-14, the interest on loans (other than WCL, GP Fund, R-APDRP Scheme- Part A and GoP) works out to ₹877.85 crore in Table 3.12.

Table 3.12: Interest on Loans (Other than WCL and GoP Loans) for FY 2013-14

(₹crore)

Sr. No.	Particulars	Loans as on April 01, 2013	Receipt of Loans during FY 2013-14	Repayment of Loans during FY 2013-14	Loans as on March 31, 2014	Amount of Interest
I	II	III	IV	V	VI	VII
1.	As per data furnished in ARR Petition (other than WCL and GoP Loans)	7796.76	1172.39	951.45	8017.70	923.04
2.	Approved by the Commission (other than WCL, GP Fund, GoP Loans and R- APDRP-A Scheme)	7416.42	1158.89	951.45	7623.86	877.85

3.16.4 Interest on GoP Loans

In the ARR Petition for 2016-17, PSPCL has claimed ₹23.27 crore as interest on account of GoP loans for FY 2013-14. As discussed in para 3.15.5 of Tariff Order of PSPCL for FY 2014-15 and para 4.14.3 of Tariff Order for FY 2015-16, there are no GoP loans outstanding against the utility and consequently no interest liability on account of GoP loans. Accordingly, claim of interest of ₹23.27 crore is not allowed.

3.16.5 Interest on General Provident Fund (GPF)

PSPCL has claimed interest of ₹188.26 crore on GPF accumulations based on Audited Annual Accounts for FY 2013-14. Interest of ₹188.26 crore on GP Fund, being a statutory payment, is allowed as claimed by PSPCL for FY 2013-14.

3.16.6 Finance Charges

PSPCL has claimed Finance Charge of ₹40.12 crore which includes guarantee fees based on Audited Annual Accounts for FY 2013-14. Accordingly, the Commission approves the Finance Charges of ₹40.12 crore based on Audited Annual Accounts for FY 2013-14.

3.16.7 Interest on Consumer Security Deposits

In ARR Petition for FY 2016-17, PSPCL has claimed ₹143.50 crore towards interest on consumer security deposits on the basis of Audited Annual Accounts for FY 2013-14. The Commission allows the interest of ₹143.50 crore on Consumer Security Deposits based on Audited Annual Accounts of FY 2013-14.

3.16.8 **Capitalization of Interest Charges**

In ARR Petition for FY 2016-17, PSPCL has claimed ₹327.29 crore towards capitalization of interest charges based on Audited Annual Accounts for FY 2013-14. The Commission, as per past practice, approves capitalization of interest of ₹327.29 crore for FY 2013-14 based on Audited Annual Accounts.

3.16.9 **Interest on Working Capital**

In the Tariff Order for FY 2013-14, the Commission approved working capital of ₹3540.91 crore with interest cost of ₹397.99 crore. In the Tariff Order for FY 2014-15, the Commission approved interest of ₹336.14 crore on working capital of ₹2990.60 crore.

The Commission has determined the working capital requirement in accordance with Regulation 30 of PSERC Tariff Regulations. The details of working capital requirement and allowable interest thereon are depicted in Table 3.13.

Table 3.13: Interest on Working Capital Requirement for FY 2013-14

(₹crore)

Sr. No	Particulars	Amount
I	II	III
1.	Fuel Cost for two months	653.09
2.	Operation and Maintenance expenses for one month	366.69
3.	Receivables for two months	3488.82
4.	Maintenance Spares @15% of O&M expenses	660.03
5.	Less: Consumer security deposit	2320.28
6.	Total working capital requirement	2848.35
7.	Interest rate (calculated on weighted average)	11.46%
8.	**Interest on Working Capital Loan**	**326.42**

The Commission, accordingly, approves interest of ₹326.42 crore on Working Capital Requirement for FY 2013-14.

In view of above, the interest and Finance Charges are approved as under:

Table 3.14: Interest and Finance Charges for FY 2013-14

(₹crore)

Sr. No.	Particulars	Loans as on April 01, 2013	Receipt of Loans during FY 2013-14	Re-payment of Loans during FY 2013-14	Loans as on March 31, 2014	Interest Approved by Commission
I	II	III	IV	V	VI	VII
1.	Approved by the Commission (Other than WCL and GoP Loans	7416.42	1158.89	951.45	7623.86	877.85
2.	GoP Loans					-
3.	Interest on GPF					188.26
4.	Finance Charges					40.12
5.	Interest on Consumer Security Deposits					143.50
6.	Gross Interest and Finance Charges					1249.73
7.	Less: Capitalization					327.29
8.	Net Interest and Finance Charges (7-8)					922.44
9.	Interest on Working Capital					326.42
10.	**Total Interest**					**1248.86**

The Commission, accordingly, approves the interest and finance charges of ₹1248.86 crore for PSPCL for FY 2013-14.

3.17 Return on Equity

3.17.1 In the ARR and Tariff Petition for FY 2013-14, PSPCL claimed the Return on Equity of ₹607.55 crore which was further revised to ₹1411.50 crore against which the Commission had approved RoE of ₹942.62 crore.

3.17.2 In the ARR and Tariff Petition for FY 2014-15, PSPCL had revised its claim of RoE to ₹942.62 crore for FY 2013-14 against which the Commission approved RoE of ₹942.62 crore as per the Transfer Scheme notified by the GoP.

3.17.3 In the ARR and Tariff Petition for FY 2016-17, PSPCL has claimed RoE of ₹942.62 crore @ 15.5% on Govt. equity holding of ₹6081.43 crore.

CAG in its Audit Report for FY 2013-14 has pointed out that in the Punjab Power Sector Reforms Transfer Scheme, 2010, consumers contribution, grants and subsidies amounting to ₹3402.37 crore were wrongly converted as capital of the State Government in PSPCL which has resulted in overstatement of Share Capital by ₹3402.37 crore and understatement of Reserve & Surplus, Consumer Contribution, grants & subsidies by ₹3402.37 crore.

As discussed in para 3.15.3 and para 4.16.2 of Tariff Order FY 2015-16, the Tariff Order for FY 2013-14 in which the Commission allowed RoE on the enhanced equity was challenged by some consumers before the Hon'ble APTEL in Appeal Nos. 142

and 168 of 2013. The Hon'ble APTEL decided in favor of the appellants vide its judgment dated 17.12.2014. PSPCL appealed before the Hon'ble Supreme Court against this judgment and the Hon'ble Supreme Court vide its order dated 27.03.2015 has stayed the judgment of Hon'ble APTEL dated 17.12.2014 and the case is pending before the Hon'ble Supreme Court.

3.17.4 In view of the above, the Commission allows RoE of ₹942.62 crore @15.5% on the equity of ₹6081.43 crore.

The Commission, thus, approves RoE of ₹942.62 crore to PSPCL for FY 2013-14.

3.18 Subsidy payable by GoP

As per Audited Annual Accounts for FY 2013-14, total subsidy of ₹4695.61 crore has been booked by the PSPCL. However, GoP paid subsidy of ₹4815.00 crore during FY 2013-14 to PSPCL. The subsidy payable by GoP is trued up as under:

AP Consumption: The Commission has considered AP consumption at 9191 MU on which revenue @425 paise per unit works out to ₹3906.18 crore. The amount of revenue from AP consumption after adding expenses of ₹94.17 crore on account of fuel cost adjustment for FY 2013-14 is worked out as ₹4000.35 crore. As per Audited Annual Accounts, PSPCL has received ₹1.82 crore revenue from AP consumers. Expenses of ₹9.00 crore on account of meter rent are also payable. Thus, ₹4007.53 crore (4000.35-1.82+9.00) was payable by GoP as AP subsidy.

Scheduled Castes (SC) Domestic Supply (DS) Consumers: The Commission notes that as per the decision of GoP Scheduled Castes DS consumers with a connected load up to 1000 watts were to be given free power up to 200 units per month. PSPCL has claimed subsidy of ₹803.08 crore inclusive of meter rentals of ₹20.09 crore and the same is allowed.

Non-SC Below Poverty Line (BPL) DS Consumers: GoP has also decided to give free supply of power up to 200 units per month to Non SC BPL DS consumers with connected load up to 1,000 watts. PSPCL has claimed subsidy of ₹54.40 crore inclusive of meter rentals of ₹1.72 crore and the same is allowed.

Interest on delayed payment of subsidy:

The GoP has paid subsidy due to PSPCL in FY 2013-14 in staggered installments. The Commission observed that there was delay in payment of subsidy to PSPCL in FY 2013-14. With a view to compensating PSPCL on this account, the Commission levies interest on the delayed payment of subsidy @11.46% (effective rate of interest on loans as per the ARR of PSPCL) which works out to ₹23.38 crore.

Accordingly, the subsidy payable for FY 2013-14, inclusive of interest on delayed payment of subsidy, has been determined by the Commission at ₹4888.39 (4007.53+803.08+54.40+23.38) crore against which GoP had paid subsidy of ₹4815.00 crore. As such, there is shortfall of ₹73.39 (4888.39-4815.00) crore of subsidy during FY 2013-14. This has been carried forward to para 9.4 of this Tariff Order.

3.19 Prior Period Expenses

3.19.1 In its ARR Petition for FY 2016-17, PSPCL has claimed net amount of prior period expenses of ₹5.03 crore, which represents prior period income of ₹95.77 crore and prior period expenses of ₹100.80 crore pertaining to the previous years but effected during FY 2013-14. Besides, it has been pointed out in para 3.8.7 of this Tariff Order that ₹157.19 crore shown under power purchase cost are actually prior period expenses. As such, prior period expenses are worked out as ₹257.99 crore.

3.19.2 Prior period income of ₹95.77 crore is consisting of sale of power of ₹43.05 crore, excess provision for depreciation of ₹2.66 crore, excess provision for Interest and Finance charges of ₹20.32 crore, other excess provision of ₹3.86 crore, other income of ₹24.19 crore, excess provision of ₹1.96 crore of Income Tax and interest income of prior period of ₹0.27.

Prior Period Income of ₹93.11 crore consisting of sale of power (₹43.05 crore), Interest and Finance charges (₹20.32 crore), 'other excess provision' (₹3.86 crore), interest income for prior period (₹-0.27 crore), excess provision of income tax (₹1.96 crore) and 'other income' (₹24.19 crore) are approved based on the Audited Annual Accounts of PSPCL. Excess provision for depreciation is not considered as the depreciation charges have been calculated/re-determined by the Commission.

3.19.3 Prior period expenses of ₹257.99 crore are consisting of operating expenses of ₹0.77 crore, employee costs of ₹5.29 crore, depreciation not-provided in previous years of ₹59.36 crore, Interest & Finance charges of ₹35.26 crore, administrative expenses of ₹0.12 crore and power purchase cost of ₹157.19 crore.

Prior Period Expenses of ₹198.63 crore consisting of Interest and Finance charges (₹35.26 crore), Employee Cost (₹5.29 crore), A&G Expenses (₹0.12 crore), Operating Expenses (₹0.77 crore) and Power Purchase Cost (₹157.19 crore) are approved based on the Audited Annual Accounts of PSPCL. Excess provision for depreciation is not considered as the depreciation charges have been calculated/re-determined by the Commission.

As such, Net Prior Period expenses of ₹105.52 (198.63-93.11) crore are allowed.

Accordingly, the Commission approves Net Prior Period Expenses of ₹105.52 crore for FY 2013-14.

3.20 Other Debits and extraordinary items

The Audited Annual Accounts of the PSPCL for FY 2013-14 show 'other debits and extraordinary items' at ₹25.18 crore.

Therefore, the Commission allows other debits and extraordinary items of ₹25.18 crore for FY 2013-14 on this account.

3.21 Transmission Charges payable to PSTCL

The Commission in its Tariff Order of PSTCL for FY 2013-14 determined ₹1269.40 crore as the Transmission charges payable to PSTCL by PSPCL. As per Audited Annual Accounts for FY 2013-14, PSPCL has paid ₹1269.64 crore as Transmission Charges. The Commission has re-determined Transmission Charges of ₹828.49 crore for FY 2013-14, which are allowed.

3.22 Non-Tariff Income

3.22.1 In the ARR Petition for FY 2013-14, PSPCL projected Non Tariff Income of ₹906.36 crore against which the Commission had approved ₹779.57 crore. In the ARR Petition for FY 2014-15, PSPCL revised the Non Tariff Income to ₹779.58 crore, against which the Commission had approved ₹1041.52 crore for FY 2013-14 in the Tariff Order for FY 2014-15.

3.22.2 In the ARR and Tariff Petition for FY 2016-17, PSPCL has projected Non-Tariff Income of ₹899.86 crore, including depreciation charges of ₹56.20 crore on account of consumer contribution based on Audited Annual Accounts for FY 2013-14. This excludes an amount of ₹238.89 crore on account of Late Payment Surcharge and ₹89.94 crore on account of rebate for timely payment for power purchase. In the ARR petition, PSPCL has prayed that the late payment surcharge be not treated as part of the Non-Tariff Income as PSPCL's working capital requirements are being determined as per norms and there is no compensation to the PSPCL on account of interest accrued on delayed payments against bills issued and including the Late Payment Surcharge in Non-Tariff/ Other Income adversely impacts the cash flow position of the PSPCL. The Commission has observed that receipts on account of Late Payment Surcharge are to be treated as Non-Tariff Income as per Regulation 34 of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005. Moreover, interest on working capital is allowed to the utility on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on normative basis. So, the plea of the utility not to treat the late payment surcharge as part of the Non-Tariff Income finds no merit.

3.22.3 PSPCL has also stated that the Non Tariff Income of ₹899.86 crore does not include the meter rent and service charges of ₹21.81 crore of DS consumers and ₹9.00 crore of AP consumers received through the subsidy from the Government of Punjab. PSPCL has also not included ₹89.94 crore on account of rebate for timely payment for power purchase in the Non-Tariff Income whereas these charges are required to be taken as Non-Tariff Income.

The Commission also observes that subsidy of ₹9.00 crore for AP consumers and ₹21.81 crore for SC & Non-SC/BPL DS consumers has been received from GoP on account of rentals which also forms part of Non-Tariff Income for FY 2013-14.

As such, the Non-Tariff Income works out to ₹1259.50 (899.86 + 238.89 + 89.94 + 9.00 + 21.81) crore.

The Commission accordingly, approves Non-Tariff Income of ₹1259.50 crore for FY 2013-14.

3.23 Charges payable to GoP on account of Power from Ranjit Sagar Dam (RSD)

In the ARR Petition for FY 2013-14, PSPCL did not claim any expenditure on account of charges payable to GoP for its share of power from RSD towards 3% share of the revenue received by it from sale of power generated at RSD. However, the Commission approved an amount of ₹10.50 crore on this account for FY 2013-14.

In the ARR Petition for FY 2014-15, PSPCL had claimed ₹31.44 crore as charges payable to GoP which were approved by the Commission.

In the ARR Petition for FY 2016-17, PSPCL has claimed ₹5.00 crore as charges payable to GoP on power from RSD.

The Commission approves ₹5.00 crore on this account as claimed by PSPCL.

3.24 Disallowance due to non-achievement of milestone as set out in the directives issued by the Commission.

The Commission during review of FY 2013-14 in Tariff Order for FY 2014-15 observed that various directives issued to PSPCL to improve consumer services and enhance the performance of the utility as part of its various Tariff Orders, have not been implemented by PSPCL. The Commission had been issuing directive to PSPCL since FY 2012-13 to ensure completion of the job of shifting of meters outside consumer premises as per the target date. Due to the failure of PSPCL to achieve the target, the Commission, while taking a serious view, again directed PSPCL in the TO for FY 2013-14 to accomplish the job as per revised target. On account of repeated failure of PSPCL to achieve the target for shifting of meters outside the consumer premises, a onetime disallowance of ₹10.00 crore was made. Similarly, PSPCL was directed to achieve energy saving target of 250 MU during FY 2013-14 through implementation of various energy efficiency and DSM measures. However, PSPCL could achieve only a energy saving of 90 MU and thus, a disallowance of ₹72.27 crore on power purchase was made. A disallowance of ₹5.00 crore was made on account of non achievement of 100% metering as required under Section 55 of the Electricity Act, 2003. The repeated directives issued to PSPCL for increasing productivity of existing manpower viz implementation of PwC Report on manpower and functional reorganization of Distribution set-up, were not implemented and a disallowance of ₹20.00 crore was made during FY 2013-14. The Commission, therefore, decided to impose a disallowance totalling to ₹107.27 crore during the review of FY 2013-14 on PSPCL.

In the ARR for FY 2016-17, PSPCL has not submitted any update on the implementation of various milestones as set out by the Commission for FY 2013-14 and **accordingly, the disallowance of ₹107.27 crore made during review of FY 2013-14 in Tariff Order for FY 2014-15 on PSPCL is retained by the Commission.**

3.25 Revenue from sale of power

The Commission approved the Revenue from existing tariff at ₹19992.73 crore for FY 2013-14 in the Tariff Order for FY 2013-14. In the review, the revenue from sale of power was approved for FY 2013-14 at ₹20895.25 crore in the Tariff Order for FY 2014-15.

As per ARR Petition for FY 2016-17, PSPCL has intimated revenue from sale of power at ₹20465.18 crore, being actuals as per accounts.

The Commission, approves the revenue from sale of power as ₹20625.53 crore for FY 2013-14 as detailed in Table 3.15.

Table 3.15: Revenue from Sale of Power for FY 2013-14

(₹crore)

Sr. No.	Description	Actual as per Audited Annual Accounts		As approved by the Commission	
		Energy Sale (MU)	Revenue (₹crore)	Energy Sale (MU)	Revenue including MMC and FCA (₹crore)
I	II	III	IV	V	VII
1.	Domestic				
a)	SC/DS and BPL/DS subsidy				835.67
b)	Other DS				4485.55
	Sub-total	10559.20	5260.35	10559	5321.22
2.	Non Residential Supply	3016.41	1942.09	3016	2099.77
3.	Public Lighting	170.21	122.63	170	122.84
4.	Industrial Consumers				
a)	Small Power	906.53	510.09	907	547.63
b)	Medium Supply	1907.95	1166.04	1908	1240.68
c)	Large Supply	9807.05	6299.89	9807	6331.93
5.	Bulk Supply & HT & LT	603.95	380.46	604	384.85
6.	Railway Traction	143.45	81.33	144	81.33
7.	Common Pool	303.00	131.46	303	131.46
8.	Outside State	242.01	44.12	174	44.12
9a.	AP Metered				1.82
9b.	AP Unmetered				3998.53
	Total AP	10232.06	3839.96	9191	4000.35
10.	Add: Recovery for theft of power/ Malpractices and Misc. charges		801.26		433.70
11.	Less: Surcharge/Incentive		(-)114.50		(-)114.35
12.	**Grand Total**		**20465.18**	**36783**	**20625.53**

3.26 True up of ARR for FY 2013-14

In view of the above analysis, the trued up revenue requirement for FY 2013-14 is as per details given in Table 3.16.

Table 3.16: Revenue Requirement for FY 2013-14

(₹crore)

Sr. No.	Items of Expenses	Approved in the Tariff Order for FY 2013-14	Proposed by PSPCL in RE	Approved in RE	PSPCL claimed based on Audited Annual Accounts	Finally approved by the Commission
I	II	III	IV	V	VI	VII
1.	Cost of Fuel	4440.20	4511.13	4093.59	3918.22	3918.52
2.	Cost of power purchase	7818.98	7705.40	7204.24	8379.38	8204.22
3.	Employee Cost	3797.85	4306.93	4281.20	4010.07	4010.07
4.	R & M expenses	595.39	408.10	382.59	543.43	389.43
5.	A & G expenses	136.89	161.06	126.75	159.35	128.73
6.	Recoverable O&M expenses on account of BBMB as per CERC orders dated 12.11.2015 & 21.03.2016					(-)128.01
7.	Depreciation	813.20	813.59	701.37	877.14	868.61
8.	Interest & Finance charges	1767.18	2508.50	1932.27	2381.95	1248.86
9.	Return on Equity	942.62	942.62	942.62	942.62	942.62
10.	Provision for DSM fund	0.00	37.74	0.00	---	
11.	Transmission and SLDC charges payable to PSTCL	1269.64	1269.64	1269.64	1269.64	828.49
12.	RSD charges payable to GoP	10.50	31.44	31.44	5.00	5.00
13(a)	Net Prior Period income/ expenses	---	---		5.03	105.52
13(b)	Other Debits and Extra ordinary Items	---	---		25.18	25.18
13(c)	Disincentive on account of higher T&D loses	---	---			(-)444.51
13(d)	Incentive on account of higher availability of Thermal Generating Station	---	---			105.91
14.	**Total Revenue Requirement**	**21592.45**	**22696.15**	**20965.71**	**22517.01**	**20208.64**
15.	Less: Non Tariff Income	779.57	779.58	1041.52	899.86	1259.50
16.	Less: disallowances due to non achievement of milestones	---	---	107.27	---	107.27
17.	**Net Revenue Requirement**	**20812.88**	**21916.57**	**19924.19**	**21617.15**	**18841.87**
18.	Revenue from existing tariff	19992.73	21133.89	20895.25	20465.18	20625.53
19.	Less: on account of rebate to various consumer categories	103.63	---	107.17	---	---
20.	**Net revenue from existing tariff**	**19889.10**	**21133.89**	**20788.08**	**20465.18**	**20625.53**
21.	**Gap (Surplus) for FY 2013-14**	**(-)923.78**	**(-)782.68**	**(+)971.16**	**(-)1151.97**	**(+)1783.66**
22.	**Adjustment of the impact of Commission's orders dated 07.01.2013 and 28.03.2013 (recovery)**					**(+)151.77**
23.	**Gap (Surplus) (+)/ Deficit(-)) upto FY 2012-13**					**(-)1073.64**
24.	**Gap (Surplus) (+)/ Deficit(-)) upto FY 2013-14**					**(+)861.79**

The true up for FY 2013-14 indicates a revenue surplus of ₹861.79 crore as determined above, which has been carried over to Table 5.22.

Chapter 4
True up for FY 2014-15

4.1 Background

The Commission approved the ARR and Tariff for FY 2014-15 in its Tariff Order dated 22.08.2014, which was based on the costs and revenues estimated by the Punjab State Power Corporation Limited (PSPCL). PSPCL had furnished revised estimates for FY 2014-15 during the determination of ARR and Tariff for FY 2015-16. The Commission, in its Tariff Order of FY 2015-16, reviewed its earlier approvals and re-determined the same based on the revised estimates made available by PSPCL.

4.2 True up for FY 2014-15

PSPCL in the ARR for FY 2016-17, has submitted that the audit of accounts for FY 2014-15 is under process. The true up of costs and revenue for FY 2014-15 will be submitted as soon as the audited accounts for FY 2014-15 are available. PSPCL in its ARR for FY 2016-17, has prayed that the truing up of costs and revenue for FY 2014-15 may be undertaken by the Commission after the finalization of the Audited Annual Accounts for the year.

As per provision under Tariff Regulations, true up can be undertaken only after the Audited Annual Accounts are made available. Hence, the Commission decides to undertake the true up for FY 2014-15 along with ARR petition of PSPCL for FY 2017-18, when Audited Annual Accounts for FY 2014-15 are likely to be made available by PSPCL to the Commission.

Chapter 5
Review for FY 2015-16

5.1 Background

PSPCL, in its petition relating to Review for FY 2015-16, has estimated the energy sales, operating parameters, generation, expenditure for generation & distribution and revenue for FY 2015-16, based on actual energy sales, generation, expenditure and revenue for the first half (April, 2015 to September, 2015) of FY 2015-16 and estimated performance for the remaining part of the year, and has provided the revised estimates of energy sales, generation, expenditure and revenue for FY 2015-16.

The performance of FY 2015-16 (revised estimate) is compared with the ARR for FY 2015-16 approved in the Tariff Order dated 05.05.2015 for FY 2015-16.

The Commission has analyzed the energy sales, energy generation and components of expenditure and revenue in the Review for FY 2015-16 in this chapter.

5.2 Energy Demand (Sales)

5.2.1 Metered Energy Sales

The Commission in the Tariff Order for FY 2015-16 approved metered energy sales within the State at 32570 MU against 31726.36 MU projected by PSPCL in the ARR for FY 2015-16.

PSPCL has estimated energy sales of metered categories for FY 2015-16 on the basis of actuals for the first six months (April, 2015 to September, 2015) and by applying category-wise half-yearly 3 year compounded annual growth rate (CAGR) of second half of the period from FY 2011-12 to FY 2014-15, to the corresponding provisional category-wise energy sales in the second half of FY 2014-15.

The Commission vide letter no. 478 dated 18.04.2016 sought from PSPCL the actual energy sales to different consumer categories from October, 2015 to March, 2016. PSPCL vide its letter no. 550/CC/DTR/Dy.CAO/246-Vol.-II dated 29.04.2016 has submitted the provisional category wise energy sales for FY 2015-16, as detailed in Table 5.1.

Table 5.1: Metered Energy Sales for FY 2015-16 submitted by PSPCL

(MU)

Sr. No.	Category	Energy Sales during 1st half of FY 2015-16	Energy Sales during 2nd half of FY 2015-16	Energy Sales during FY 2015-16 (III+IV)
I	**II**	**III**	**IV**	**V**
1.	Domestic	6658.45	5407.95	12066.40
2.	Non-Residential	1867.57	1613.49	3481.06
3.	Small Power	482.79	472.01	954.80
4.	Medium Supply	1037.46	1078.42	2115.88
5.	Large Supply	5046.76	5002.36	10049.12
6.	Public Lighting	86.04	98.80	184.84
7.	Bulk Supply	325.76	323.26	649.02
8.	Railway Traction	87.06	78.27	165.33
9.	**Total Metered sales**	**15591.89**	**14074.56**	**29666.45**

The Commission has retained sales to common pool consumers at 311 MU as projected by PSPCL in the ARR. PSPCL has projected in the ARR Outside State sale during FY 2015-16 as 143 MU, comprising of 53 MU of HP royalty in Shanan and 90 MU as HP share (free) in RSD. However, the Commission considers the Outside State sale as 53 MU and Common Pool sale as 311 MU. The HP share (free) in RSD has been taken into consideration while working net generation from PSPCL's own hydel generating stations, in para 5.5.2.

The metered energy sales projected by PSPCL during determination of ARR for FY 2015-16, approved by the Commission in the Tariff Order for FY 2015-16, the revised estimates furnished by PSPCL and energy sales now approved by the Commission for FY 2015-16 are given in Table 5.2.

Table 5.2: Metered Energy Sales approved for FY 2015-16

(MU)

i	Category	Projected by PSPCL in ARR for FY 2015-16	Approved by the Commission in T.O. for FY 2015-16	Revised Estimates of PSPCL in ARR for FY 2016-17	Provisional Energy Sales for FY 2015-16*	Now approved by the Commission
I	**II**	**III**	**IV**	**V**	**VI**	**VII**
1.	Domestic	12515.67	12816	12393	12066.40	12066.40
2.	Non-Residential	3468.21	3553	3467	3481.06	3481.06
3.	Small Power	947.27	949	926	954.80	954.80
4.	Medium Supply	1991.86	1991	2120	2115.88	2115.88
5.	Large Supply	11783.76	12245	10826	10049.12	10049.12
6.	Public Lighting	203.41	201	185	184.84	184.84
7.	Bulk Supply	663.63	664	663	649.02	649.02
8.	Railway Traction	152.56	151	161	165.33	165.33
9.	**Total Metered sales within the State**	**31726.36**	**32570**	**30741**	**29666.45**	**29666.45**
10.	Common Pool sale	312.00	312	311	311.00	311.00
11.	Outside State sale	54.00	54	143	143.00	53.00
12.	**Total sales (9+10+11)**	**32092.36**	**32936**	**31195**	**30120.45**	**30030.45**

* submitted by PSPCL vide letter no. 550/CC/DTR/Dy.CAO/246-Vol.-II dated 29.04.2016

Accordingly, the metered sales of 29666.45 MU (say 29666 MU) within the State, Common Pool sale of 311 MU and Outside State sale as 53 MU are now approved by the Commission as per details shown in Table 5.2.

5.2.2 **AP Consumption**

5.2.2.1 As against 11374 MU AP consumption projected by PSPCL in its ARR of 2015-16, the Commission, in its Tariff Order for FY 2015-16, approved AP consumption of 10264 MU for FY 2015-16. The Commission, in the Tariff Order for FY 2015-16, observed that there is no uniform pattern of increase/decrease in AP consumption during the period from FY 2010-11 to FY 2014-15. In FY 2012-13 and FY 2014-15, AP consumption was more as compared to respective previous years, where as in FY 2011-12 and FY 2013-14, AP consumption was less as compared to respective previous years. Further, the increase/decrease in AP consumption was not uniform. The Commission also observed that there was an unusual increase in AP consumption in FY 2014-15 as compared to FY 2013-14, because FY 2014-15 was relatively a dry year. Keeping in view that there was no fixed pattern of increase/decrease in AP consumption from FY 2010-11 and FY 2014-15, the Commission approved the AP consumption at 10264 MU for FY 2015-16, as fixed for FY 2014-15 in review, in the Tariff Order for FY 2015-16. Further, the Commission decided to revisit the AP consumption for FY 2015-16, while undertaking Review/ True-Up for FY 2015-16.

5.2.2.2 In ARR for FY 2016-17, PSPCL submitted that the actual AP consumption of first 6 months (April, 2015 to September, 2015) is 8572 MU. PSPCL further submitted that for the next six months (October, 2015 to March, 2016), AP sale has been estimated by increasing actual sale of second half of FY 2014-15 (i.e. 2445 MU) by 5%, which comes out to 2567 MU. PSPCL further submitted that the AP consumption has been enhanced at the rate of 5% as per principles adopted in past and restricted the same as per CAGR, since the approach adopted by the Commission in Tariff Order of FY 2015-16 cannot be relied upon as the AP consumption is dependent upon many factors, such as (i) Motor size, which has increased over the years in the State of Punjab due to receding of water levels, (ii) Increase in number of tubewells leading to increase in total agriculture load, and (iii) Due to metrological factors.

PSPCL submitted the revised estimates of AP consumption for FY 2015-16 as 11140 MU. Further, the AP consumption has been taken based on sample meters, as AP consumption based on pumped energy is not a trusted method of taking the consumption. The computation of AP consumption on pumped energy involves assumptions with respect to losses of AP feeders and contribution of AP consumption on mixed load feeders and any unreasonable assumption shall affect the consumption pattern adversely to PSPCL. Further, there is hardly any State which has 100% metering of Agriculture consumers. Furthermore, the criteria of calculating AP consumption as adopted by the Commission based on pumped energy is also not correct due to following reasons:

i. The Commission is wrongly taking AP consumption of Kandi area mixed feeders as 30% of the total consumption whereas PSPCL has calculated the same as 45% of the total consumption. PSPCL has supplied detailed calculations to this effect to the Commission vide its Memo No. 2944/ CC/ DTR-121/Vol.11/TR-II dated 23.12.2013.

ii. The Commission had assumed the losses of AP feeders by deducting 2.5% losses of transmission level and 15% of the distribution losses as sub-transmission level losses, which is not based on the facts. All new AP connections and shifting of connections are on HVDS line only and therefore losses on AP feeders are nowhere more than 6-10%.

PSPCL has further submitted that the escalation of 5% for projections of AP consumption is quite justified as the same is always subjected to true up.

On a query by the Commission, PSPCL vide its letter no. 550 dated 29.04.2016, has initiated AP consumption for first half and second half of FY 2015-16 as 8572.46 MU and 2952.87 MU respectively, and thus a total of 11525.33 MU during FY 2015-16.

5.2.2.3 The Commission estimated the AP consumption for FY 2012-13 (Review) in the Tariff for FY 2013-14 on the basis of energy pumped for AP supply. Further, the Commission, in the Tariff order for FY 2014-15, estimated the AP consumption for FY 2010-11 (True up), FY 2011-12 (True up), and FY 2013-14 (Review), in paras 2.2.3, 3.2.3 and 5.2.2 respectively, on the basis of energy pumped for AP supply. Also, the Commission, in the Tariff order for FY 2015-16, estimated the AP consumption for FY 2014-15 (Review) in para 3.2.2 on the basis of energy pumped for AP supply. The Commission, in paras 2.2.3 and 3.2.3, considered the submissions made by PSPCL in the ARR for FY 2016-17 and decided to estimate AP consumption for FY 2012-13 (True up) and FY 2013-14 (True up) on the basis of pumped energy. The submissions made now while projecting review of AP consumption for FY 2015-16 (as brought out above) are similar to those made in para 2.2.3 and para 3.2.3 for true up of FY 2012-13 and FY 2013-14 respectively. The Commission, therefore, continuing the same methodology, decides to estimate the AP consumption during

FY 2015-16 (Review) on the basis of energy pumped for AP supply.

PSPCL has submitted the month wise data of energy pumped for AP supply upto September, 2015 in the ARR for FY 2016-17. Further, PSPCL vide CE/ARR&TR e-mail dated 16.03.2016, submitted the data of energy pumped for AP supply for the months of October, 2015, November, 2015 & December, 2015. Also, PSPCL submitted the revised AP pumped energy data from June, 2015 to December, 2015 stating that in the month of May, 2015, the name of DS S/U Division, Sunam was changed to DS S/U Division, Sunam (Lehragaga). But due to error, the same was not changed in the division wise abstract sheet of pumped energy data, resulting in non-summation of pumped energy of DS S/U Division, Sunam in division wise abstract sheet from June, 2015 to December, 2015.

As brought out in para 3.2.3 of the Tariff Order, a random checking of 60 No. AP feeders fed from 12 No. Grid Sub-stations of PSPCL/PSTCL was carried out and excess pumped energy booked on average basis by showing grid meters as non-functional, to the tune of 34.66% during FY 2013-14 and 34.64% during FY 2014-15 was detected. Thereafter, pumped energy data of 5 number AP feeders fed from 220 KV Sub-station, Ajitwal for FY 2014-15 and FY 2015-16 was checked on 30.11.2015, and the detailed report was sent to PSPCL and PSTCL vide letters dated 05.01.2016, for comments. After considering the comments of PSPCL/PSTCL, the excess pumped energy booked on average basis at 220 kV Sub-station, Ajitwal by showing its feeder meters as defective/non-functional was re-worked out and found to be 70.58% during FY 2014-15 and 22.96% during FY 2015-16. Thus, the excess pumped energy booked on average basis for FY 2014-15 has been re-calculated as 43.20%. Since investigation of some more feeders is required to be carried out for FY 2015-16 in the near future, so the average of excess pumped energy booked on average basis during FY 2013-14 and FY 2014-15 i.e. 42.39% has been considered for reduction of the pumped energy booked on average basis during FY 2015-16, subject to further investigation and true up.

In view of the above, the Commission has estimated AP consumption during FY 2015-16 as 10537 MU, as worked out in Table 5.3.

Table 5.3: AP Consumption for FY 2015-16

(MU)

Sr. No.	Description	Energy
(i)	Energy pumped during April, 2015 to December, 2015 in case of 3-phase 3-wire AP feeders	10432.69
(ii)	Energy pumped during April, 2015 to December, 2015 in case of 3-phase 4-wire AP feeders	6.63 [a]
(iii)	Energy pumped during April, 2015 to December, 2015 in case of Kandi area mixed feeders feeding AP load	443.14 [b]
(iv)	Reduction in pumped energy booked on average basis @ 42.39% (of 292.13 MU booked on average basis)	123.83
(v)	Total energy pumped during April, 2015 to December, 2015 for AP supply {(i)+ (ii)+ (iii)-(iv)}	10758.62
(vi)	Estimated energy pumped for AP supply from January, 2016 to March, 2016	963.95 [c]
(vii)	Total estimated energy pumped for AP supply during FY 2015-16 {(v)+ (vi)}	11722.57
(viii)	Less losses @10.97% (15.50-(2.5+15% of 13.51)) MU {(vii) x10.97%}	1285.97 [d]
(ix)	Net estimated AP consumption for FY 2015-16 {(vii) - (viii)}	10436.60
(x)	AP consumption estimated for load of 85.80[e] MW running on Urban Feeders [not included at Sr. No.(ix) above] {(ix)x 85.80/8947.94[e]}	100.07
(xi)	**Total AP consumption estimated for FY 2015-16 {(ix)+ (x)}**	**10536.67**

(a) Calculated by multiplying the number of 3-phase 4-wire AP feeders for each month with AP consumption per feeder for that month in case of 3-phase 3-wire AP feeders.
(b) Calculated by assuming the AP load on Kandi area mixed feeders feeding AP load as 30%.
(c) Calculated by multiplying the total energy pumped (as worked out at Sr. No. (v)) with 8.96% (average of the percentages of AP consumption during the last three months to the first nine months of FY 2012-13, FY 2013-14 and FY 2014-15).
(d) The loss @10.97% (11 kV and below) for FY 2015-16 has been computed from para 5.4.
(e) AP load running on 3-phase 3-wire, 3-phase 4-wire and Kandi Area mixed feeders is 8947.94 MW and load of AP metered connections (running on urban feeders) is 85.80 MW ending March, 2016, as submitted by PSPCL in the ARR for FY 2016-17 (Format 1-D).

Thus, the Commission approves the AP Consumption of 10536.67 MU (say 10537 MU) for FY 2015-16, against 11140 MU projected by PSPCL.

5.2.3 Total Energy Sales for FY 2015-16

The total energy sales as per Revised Estimates (RE) projected by PSPCL in its ARR Petition and now approved by the Commission for FY 2015-16 are given in Table 5.4.

Table 5.4: Total Energy Sales for FY 2015-16

(MU)

Sr. No.	Particulars	Energy sales (RE) by PSPCL for FY 2015-16 in the ARR for FY 2016-17	Energy Sales for FY 2015-16*	Energy sales approved by the Commission for FY 2015-16
I	**II**	**III**	**IV**	**V**
1.	Metered sales	30741	29666.45	29666
2.	AP consumption	11140	11525.33	10537
3.	Total sales within State	**41881**	**41191.78**	**40203**
4.	Common pool sale	311	311.00	311
5.	Outside State sale	143	143.00	53
6.	**Total**	**42335**	**41645.78**	**40567**

* submitted by PSPCL vide letter no. 550/CC/DTR/Dy.CAO/246-Vol.-II dated 29.04.2016

The Commission approves the total energy sales at 40567 MU for FY 2015-16.

5.3 Transmission and Distribution Losses (T&D Losses)

In its ARR petition for FY 2015-16, PSPCL had projected Transmission and Distribution losses at 16% for FY 2015-16. The Commission fixed the T&D losses at 15.50% for FY 2015-16 in the Tariff Order for FY 2015-16, after considering the submissions made by PSPCL in the ARR for FY 2015-16 and AP consumption approved by the Commission for FY 2015-16. In the ARR petition for FY 2016-17, PSPCL has projected T&D losses at 15.50% for FY 2015-16.

PSPCL has submitted in the ARR for FY 2016-17 that it has worked out the T&D losses occurring in its network on the basis of revised estimates of sales and power purchase for FY 2015-16 and projections for FY 2016-17. PSPCL has submitted that driven by the targets and directives given by the Commission, PSPCL is making concerted efforts to reduce and control the losses and is already recognized at par with some of the efficient utilities of the Country. PSPCL has prayed that the T&D loss level of 15.50%, as projected for FY 2015-16, be approved for the purpose of determination of ARR.

The Commission in the Tariff Order for FY 2015-16, has fixed the T&D losses for FY 2015-16 at 15.50%. Further, PSPCL in the ARR, has also prayed to approved the T&D loss level at 15.50%. Keeping in view, the T&D Loss level approved in the Tariff Order for FY 2015-16 and PSPCL submissions, the Commission, therefore, decides to retain T&D losses at 15.50%, as fixed by the Commission for FY 2015-16 in the Tariff Order for that year.

Keeping the overall T&D loss level of 15.50% as approved for FY 2015-16 in the Tariff Order for that year and based on the provisionally approved

transmission loss of 2.5% for PSTCL for FY 2015-16 in the Tariff Order for PSTCL for FY 2016-17, the target distribution loss (66kV and below) for PSPCL for FY 2015-16 works out to 13.51% (refer Table 5.5), which the Commission approves. The Commission will revisit the distribution loss of PSPCL while undertaking the True up for FY 2015-16.

5.4 Energy Requirement

5.4.1 The total energy requirement to meet the demand of the system is the sum of estimated metered sales including Common Pool and Outside State sales, estimated AP consumption and T&D losses. The total energy requirement for FY 2015-16 projected in the ARR for FY 2015-16, approved by the Commission in the Tariff Order, revised estimates furnished by PSPCL in the ARR for FY 2016-17 and now approved by the Commission are given in Table 5.5.

Table 5.5: Energy Requirement for FY 2015-16

(MU)

Sr. No.	Particulars	Projected by PSPCL in ARR for FY 2015-16	Approved by the Commission in T.O. for FY 2015-16	Revised Estimates by PSPCL for FY 2015-16 in ARR for FY 2016-17	Now approved by the Commission for FY 2015-16
I	II	III	IV	V	VI
1.	Metered sales within the State	31726	32570	30741	29666
2.	AP consumption	11374	10264	11140	10537
3.	**Total sales within the State (1+2)**	**43100**	**42834**	**41881**	**40203**
4.	Common pool sale	312	312	311	311
5.	Outside State sale	54	54	143	53
6.	**Total sales (3+4+5)**	**43466**	**43200**	**42335**	**40567**
7(a).	T&D losses on Sr.No.3 (%)	16.00%	15.50%	15.50%	15.50%
7(b).	T&D losses on Sr. No.3	8210	7857	7682	7375
8.	**Total energy input required [6+7(b)]**	**51676**	**51057**	**50017**	**47942**
9.	**Energy at transmission periphery to be sold within the State (8-4-5)**		**50691**		**47578**
10(a).	Transmission loss (%)		2.50%		2.50%
10(b).	Transmission loss		1267		1189
11.	Energy available to PSPCL (9-10 (b) – Sales at 132kV and above level *)		48626		45800
12(a).	Distribution loss (7(b)-10(b))		6590		6186
12(b).	Distribution loss (%)		13.55%		13.51%
13.	**Energy available for sale to consumers within the State** [11-12 (a) **+** Sales at 132kV and above level *]		**42834**		**40203**

** 798 MU (estimated sale projected by PSPCL in ARR for FY 2015-16) and 589 MU (revised estimated sale projected by PSPCL in ARR for FY 2016-17).*

5.4.2 The revised energy requirement for FY 2015-16 with T&D losses of 15.50% is determined as 47942 MU, which has to be met from PSPCL's own generation (thermal and hydel), including share from BBMB, purchase from Central Generating Stations and other sources.

5.5 PSPCL's own generation

5.5.1 Thermal Generation

PSPCL, in the ARR for FY 2016-17, estimated the revised gross generation of GNDTP, GGSSTP and GHTP for FY 2015-16 based on actual (provisional) generation of the respective plants up to September, 2015 and estimating the generation for the second half of FY 2015-16 on the basis of planned and forced outages of the respective plants.

PSPCL submitted actual gross generation from April, 2015 to September, 2015 and projections from October, 2015 to March, 2016, in the ARR for FY 2016-17. The Commission vide letter no. 478 dated 18.04.2016 sought from PSPCL, the actual energy generated from PSPCL's own Thermal Generating Stations during FY 2015-16. PSPCL vide its letter no. 523/CC/DTR/Dy.CAO/246-Vol.-II dated 26.04.2016 has submitted the actual energy generated from PSPCL's own Thermal Generating Stations during FY 2015-16. The actual generation figures for first half of FY 2015-16 and projected generation figures for second half of FY 2015-16 submitted by PSPCL in the ARR, and actual generation figures for FY 2015-16 submitted by PSPCL vide letter no. 523 dated 26.02.2016 are summarized in Table 5.6.

Table 5.6: Thermal Generation (Gross) for FY 2015-16

(MU)

Sr. No.	Station	Actual gross generation from April, 2015 to Sept., 2015*	Projected gross generation from Oct., 2015 to Mar., 2016 *	RE for FY 2015-16* (III+IV)	Actual gross generation from Apr., 2015 to Mar., 2016 **
I	II	III	IV	V	VI
1.	GNDTP	625.45	958.00	1583.45	918.30
2.	GGSSTP	2777.77	3382.00	6159.77	3959.00
3.	GHTP	2109.99	2452.00	4561.99	3134.83
4.	**Total**	**5513.21**	**6792.00**	**12305.21**	**8012.13**

** submitted by PSPCL in the ARR for FY 2016-17.*
***. submitted by PSPCL vide its letter no. 523 dated 26.04.2016.*

PSPCL has submitted in the ARR petition for FY 2016-17 that

(i) Power availability from its own thermal generating stations i.e. GNDTP, GGSSTP, and GHTP for FY 2015-16 has been projected on the basis of various parameters, such as plant load factor, gross generation and auxiliary consumption.

(ii) The provisional plant availability factor during 1st Half (H1) of FY 2015-16 for GNDTP, GGSSTP and GHTP was 89.24%, 92.39% and 87.23% respectively. PSPCL has further submitted that the actual availability of GNDTP during FY 2015-16 has been estimated based on schedule of operation for the period. The actual plant availability for GNDTP for H1 of FY 2015-16 has been considered for effective capacity in operation. Unit 4 of GNDTP was available on 27.09.2014 (CoD) after completion of its R&M. The plant availability of GNDTP has been considered for second half (H2) of FY 2015-16 based on the maintenance/overhauling schedule.

(iii) The plant availability of GHTP and GGSSTP for second half of FY 2015-16 are based on the provisional plant availability figures attained till H1 of FY 2015-16 and the planned maintenance schedule. Plant availability of GNDTP, GGSSTP and GHTP for H1 of FY 2015-16 is above 85%. PSPCL has estimated Plant availability of GNDTP, GGSSTP and GHTP for H2 of FY 2015-16 also, as above 85%.

In view of the above, the Commission approves thermal generation of 8012.13 MU as intimated by PSPCL vide letter no. 523 dated 26.04.2016.

Auxiliary Consumption and Net Generation

The plant-wise auxiliary energy consumption projected by PSPCL during determination of ARR for FY 2015-16, auxiliary energy consumption approved by the Commission in the Tariff Order for FY 2015-16, the revised figures projected by PSPCL in the ARR petition for FY 2016-17, and now approved by the Commission are given in Table 5.7.

Table 5.7: Auxiliary Energy Consumption for FY 2015-16

Sr. No.	Station	Projected by PSPCL in ARR for FY 2015-16	Approved by the Commission in T.O. for FY 2015-16	RE by PSPCL in ARR for FY 2016-17	Now approved by the Commission
I	II	III	IV	V	VI
1.	GNDTP	11.00%	11.00%	April, 15-Sep., 15 (11.28%) Oct., 15-Mar., 16 (11.00%)	11.00%
2.	GGSSTP	8.50%	8.50%	April, 15-Sep., 15 (8.79%) Oct., 15-Mar., 16 (8.50%)	8.50%
3.	GHTP	8.50%	8.50%	April, 15-Sep., 15 (8.89%) Oct., 15-Mar., 16 (8.50%)	8.50%

PSPCL has submitted that Hon'ble APTEL in its Judgment dated 18.10.2012 held as follows:

"…It appears to us that the Commission is not oblivious of the provisions of the Central Electricity Regulatory Commission Regulations. It is established that the Central Electricity Regulatory Commission Tariff Regulations, 2009 has provided ***auxiliary consumption at 12%****. If the circumstances applicable to Tanda Stations are applicable to and are not different from GNDTP units then there will be not too much of rationale in deviation from the Central Electricity Regulatory Commission norms." (emphasis added)*

PSPCL has submitted that from the above reference it can be seen that the norm for auxiliary consumption for GDNTP station of 110 MW/120 MW unit sets should be benchmarked with that applicable for Tanda station at 12% in accordance with the provisions of the State Regulations as linked with the CERC norms. PSPCL has further submitted that in the petition it has considered auxiliary consumption at 11% for convenience of computation as considered by the Commission in past Tariff Orders. PSPCL has prayed the Commission to approve the auxiliary consumption for GNDTP at 12% as per norms applicable to Tanda Central Generating Station.

The Hon'ble APTEL vide its order dated 18.10.2012 in Appeal Nos. 7, 46 and 122 of 2011 had remanded back to the Commission various issues, including Auxiliary Consumption in respect of GNDTP station, for passing appropriate order. The Commission in its compliance order dated 07.01.2013 in Petition No. 57 of 2012 (sou-motu), compositely determined auxiliary consumption for all four units of GNDTP at 11%. The Commission in its review order dated 28.03.2013 in Petition No. 10 of 2013 did not allow further relief to PSPCL in the matter of auxiliary consumption of GNDTP. PSPCL filed an appeal (No. 174 of 2013) with the Hon'ble APTEL against Commission's order dated 28.03.2013. The order in the matter of Appeal No. 174 of 2013 has been pronounced by the Hon'ble APTEL on 22.04.2015 and found no infirmity in the order of the Commission regarding fixing of 11% auxiliary consumption for GNDTP. This issue has also been discussed in para 2.4.1 and 3.4.1 of this Tariff Order.

In the Tariff Order for FY 2015-16, the Commission had adopted the CERC norms for assessment of net generation for GGSSTP and GHTP, and considered the various issues and submissions regarding the auxiliary energy consumption of GNDTP units in para 4.4.1 of the Tariff Order for FY 2015-16, and accordingly fixed the auxiliary energy consumption for FY 2015-16 at 11%, 8.50% and 8.50% for GNDTP, GGSSTP and GHTP respectively.

The Commission, therefore, approves auxiliary consumption for GNDTP,

GGSSTP and GHTP at the level already approved in the Tariff Order for FY 2015-16 i.e. at 11%, 8.50% and 8.50% respectively.

The station-wise generation projected by PSPCL during determination of ARR for FY 2015-16, generation approved by the Commission in its Tariff Order for that year, revised estimates supplied by PSPCL in the ARR for FY 2016-17, subsequent information supplied by PSPCL and the generation now approved by the Commission are given in Table 5.8.

Table 5.8: Thermal Generation for FY 2015-16

(MU)

Sr. No.	Station	Projected by PSPCL in ARR for FY 2015-16		Approved by the Commission in T.O. for FY 2015-16		Revised Estimates as per ARR for FY 2016-17		Actual Generation during FY 2015-16* (as per Col. VI of Table 5.6)	Now approved by the Commission	
		Gross	Net	Gross	Net	Gross	Net	Gross	Gross	Net
I	II	III	IV	V	VI	VII	VIII	IX	X	XI
1.	GNDTP	2646	2355	2708	2410	1583.45	1407.52	918.30	918.30	817.29
2.	GGSSTP	8600	7869	9249	8463	6159.77	5628.06	3959.00	3959.00	3622.48
3.	GHTP	7195	6583	7336	6712	4561.99	4165.92	3134.83	3134.83	2868.37
4.	**Total**	**18441**	**16807**	**19293**	**17585**	**12305.21**	**11201.50**	**8012.13**	**8012.13**	**7308.14**

** submitted by PSPCL vide its letter no. 523 dated 26.04.2016.*

The Commission approves gross and net thermal generation for FY 2015-16 at 8012.13 MU and 7308.14 MU (say 7308 MU) respectively.

5.5.2 **Hydel Generation**

PSPCL, in the ARR petition for FY 2015-16, projected the net hydel generation including BBMB share at 8554 MU for FY 2015-16. The Commission, in its Tariff Order for FY 2015-16, approved the net hydel generation including BBMB share at 8855 MU. PSPCL, in its ARR petition for FY 2016-17, has submitted the revised net hydel generation at 9205 MU for FY 2015-16.

PSPCL has submitted in the ARR for FY 2016-17 that the availability from hydel plants for FY 2015-16 has been re-estimated on the basis of the actual generation during the first half of FY 2015-16 and the revised generation target estimated for the respective hydel plants for the second half of FY 2015-16. The availability projection for second half of FY 2015-16 are based upon last three years average for FY 2012-13 to FY 2014-15 for the corresponding months.

The Commission vide letter no. 478 dated 18.04.2016 sought from PSPCL, the actual energy generated from different Hydel Stations of PSPCL during FY 2015-16. PSPCL vide its letter no. 523/CC/DTR/Dy.CAO/246-Vol.-II dated 26.04.2016 has submitted the actual energy generated from PSPCL's own Hydel Generating Stations during FY 2015-16. The actual generation figures for first half of FY 2015-16 and projected generation figures for second half of FY 2015-16 submitted by PSPCL in the ARR and actual generation figures for FY 2015-16 submitted by PSPCL vide letter no. 523 dated 26.02.2016, are summarized in Table 5.9.

Table 5.9: Hydel Generation for FY 2015-16

(MU)

Sr. No.	Station	Actual gross generation from Apr., 2015 to Sept., 2015*	Projected gross generation from October, 2015 to Mar., 2016*	RE for FY 2015-16* (III+IV)	Actual Gross Generation from Apr., 2015 to Mar., 2016**
I	**II**	**III**	**IV**	**V**	**VI**
1.	Shanan	402	107	509	532.62
2.	UBDC	226	150	376	308.26
3.	RSD	1524	482	2006	1958.27
4.	MHP	448	593	1041	1169.45
5.	ASHP	421	286	707	668.53
6.	Micro Hydel	4	2	6	6.00*
7.	**Gross own hydro**	**3025**	**1620**	**4645**	**4643.13**

** submitted by PSPCL in the ARR for FY 2016-17.*
*** submitted by PSPCL vide its letter no 523 dated 26.04.2016.*

The Commission has worked out net hydel generation for FY 2015-16 by deducting the auxiliary consumption, transformation losses and free HP share in RSD as indicated in Table 5.10. HP royalty in Shanan has not been deducted from the gross hydel generation as the same has been considered as Outside State sale in para 5.2.1, since some revenue is earned from this sale.

The total availability of station-wise hydel generation as projected by PSPCL in the ARR for FY 2015-16, generation approved by the Commission in the Tariff Order for FY 2015-16, the revised estimates submitted by PSPCL in the ARR for FY 2016-17, subsequent information submitted by PSPCL and the generation now approved by the Commission are given in Table 5.10.

Table 5.10: Hydel Generation for FY 2015-16

(MU)

Sr. No.	Station	Projected by PSPCL in ARR for FY 2015-16	Approved by the Commission in T.O. for FY 2015-16	Actual Generation during FY 2015-16 (as per Col. VI of Table 5.9)	Now Approved by the Commission
I	II	III	IV	V	VI
1.	Shanan	525	437	532.62	532.62
2.	(a) UBDC Stage I	185	161	120.00*	120.00
	(b) UBDC Stage II	184	164	188.26*	188.26
3.	RSD	1523	1644	1958.27	1958.27
4.	MHP	1067	1409	1169.45	1169.45
5.	ASHP	720	727	668.53	668.53
6.	Micro Hydel	9	8	6.00	6
7.	**Total own generation (Gross)**	**4213**	**4550**	**4643.13**	**4643.13**
8.	Less Auxiliary consumption and transformation loss	12	38	26#	38.74**
9.	Less HP share in RSD	66	76		90***
10.	**Total own generation (Net) (7-8-9)**	**4135**	**4436**	**4617.13**	**4514.39**
11.	**PSPCL share from BBMB**				
(a)	PSPCL share excluding common pool share (Net)	4107	4107	4275#	4275
(b)	Add Common pool share	312	312	311#	311
12.	**Net share from BBMB**	**4419**	**4419**	**4586**	**4586**
13.	**Total hydro availability (Net) (Own+BBMB) (10+12)**	**8554**	**8855**	**9203.13**	**9100.39**

** UBDC Stage-I 120.00, UBDC Stage-II 188.26, calculated on pro-rata basis as per generation of H1, submitted by PSPCL in the ARR.*

***Transformation loss @0.5% (23.22 MU), Auxiliary consumption @0.5% for RSD generation of 1958.27 MU and UBDC stage-I generation of 120.00 MU (having static exciters) and @0.2% for others (15.52 MU).*

**** HP share in RSD 90 MU intimated by PSPCL in Volume-II of ARR for FY 2016-17.*

 # As projected in the ARR for FY 2016-17.

The Commission, thus, approves revised hydel generation for FY 2015-16 at 4514.39 MU (say 4514 MU) (net) from own hydel stations and 4586 MU (net) as share from BBMB, as shown in Table 5.10.

5.5.3 The net availability of thermal and hydel generation approved for FY 2015-16 is depicted in Table 5.11.

Table 5.11: Net availability of Thermal and Hydel Generation approved for FY 2015-16

(MU)

Sr. No.	Thermal and Hydel Generation	Net Generation
I	II	III
1.	Thermal	7308
2.	Hydel	
(a)	Own generation	4514
(b)	Share from BBMB (including Common Pool share)	4586
(c)	Total Hydel (Own + BBMB)	9100
3.	**Total (Thermal + Hydel) availability**	**16408**

5.6 Power Purchase

To meet the energy requirement, PSPCL had projected power purchase at 26314 MU (net) in the ARR for FY 2015-16. The Commission, in its Tariff Order for FY 2015-16, approved power purchase at 24617 MU (net) for FY 2015-16. PSPCL has now furnished revised estimates of power purchase for FY 2015-16 at 29610 MU (net) in its ARR petition for FY 2016-17. The approved total energy requirement during FY 2015-16 including Common Pool sale and Outside State sale and T&D losses are determined as 47942 MU as discussed in para 5.4. The energy available from PSPCL's own generating stations including its share from BBMB is 16408 MU (7308 MU of thermal generation and 9100 MU of hydel generation including share from BBMB) as approved in para 5.5. The balance energy requirement works out to 31534 MU (net), which has to be met through purchases from Central Generating Stations and other sources.

The Commission, therefore, approves the revised power purchase at 31534 MU (net) for FY 2015-16.

The matter is further discussed in para 5.9.

5.7 Energy Balance

Details of energy requirement and energy availability projected by PSPCL in its ARR petition for FY 2015-16, approved by the Commission in its Tariff Order for FY 2015-16, revised estimates supplied by PSPCL in the ARR petition for FY 2016-17 and now approved by the Commission are given in Table 5.12.

Table 5.12: Energy Balance for FY 2015-16

(MU)

Sr. No.	Particulars	Projected by PSPCL in ARR for FY 2015-16	Approved by the Commission in Tariff Order for FY 2015-16	Revised Estimates by PSPCL in ARR for FY 2016-17	Now approved by the Commission
I	II	III	IV	V	VI
(A)	**Energy Requirement**				
1.	Metered Sales	31726	32570	30741	29666
2.	Sales to Agriculture	11374	10264	11140	10537
3.	**Total Sales within the State**	**43100**	**42834**	**41881**	**40203**
4.	T&D Losses (%)	16.00%	15.50%	15.50%	15.50%
5.	T & D Losses	8210	7857	7682	7375
6.	Sale to Common Pool consumers	312	312	311	311
7.	Outside State Sale	54	54	143	53
8.	**Total Requirement**	**51676**	**51057**	**50017**	**47942**
(B)					
9.	Own generation (Ex-bus)				
(a)	Thermal	16807	17585	11202	7308
(b)	Hydel	4135	4436	4619	4514
10.	Share from BBMB (incl. share of common pool consumers)	4419	4419	4586	4586
11.	Purchase (net)	26315	24617	29610	31534
12.	**Total Availability**	**51676**	**51057**	**50017**	**47942**

5.8 Fuel Cost

5.8.1 PSPCL in the ARR petition for FY 2015-16 had projected fuel cost of ₹5360.10 crore for gross generation of 18441 MU. The Commission, in the Tariff Order for FY 2015-16, approved fuel cost of ₹5160.21 crore for gross thermal generation of 19293 MU. PSPCL, in the ARR petition for FY 2016-17, has revised the estimates of fuel cost to ₹4357.94 crore for gross thermal generation of 12305 MU, based on calorific value and price of coal/oil, transit loss of coal, station heat rate of thermal generating stations and specific oil consumption for FY 2015-16, as given in Table 5.13.

Table 5.13: Calorific Value and Price of Coal & Oil, Transit loss of coal, Specific Oil consumption and Station Heat Rate as submitted by PSPCL for FY 2015-16

Sr. No.	Station	Period	As submitted by PSPCL						
			Gross Calorific value of coal (kCal/kg)	Calorific Value of Oil (kCal/lt)	Price of Oil (₹/ KL)	Price of coal excluding transit loss (₹/MT)	Transit Loss (%)	Station Heat Rate (kCal/ kWh)	Specific Oil Consumption (ml/kWh)
I	II	III	IV	V	VI	VII	VIII	IX	X
1.	GNDTP	H1	4041	9400	45751.99	4621.02	1.04	2815	2.17
	GNDTP	H2	4050	9400	48039.59	4852.07	1.50	2800	1.50
2.	GGSSTP	H1	4071	9700	38468.02	5175.88	0.07	2879	1.14
	GGSSTP	H2	3900	9700	40391.42	5387.20	1.00	2699	0.80
3.	GHTP	H1	4139	9500	44439.00	5148.76	0.27	2551	0.89
	GHTP	H2	3925	9500	46660.95	5405.88	1.00	2438	0.50

H1: April, 2015 to September, 2015 & H2: October, 2015 to March, 2016.

5.8.2 With regard to various performance parameters PSPCL has submitted as under:

A. **Station Heat Rate (SHR)**

(i) For GNDTP, the Commission has approved SHR of 2750 kCal/kWh for FY 2015-16 based on CERC norms for Tanda TPS (after its R&M), as specified in CERC Tariff Regulations, 2014. PSPCL has achieved the SHR of 2815 kCal/kWh for H1 of FY 2015-16. PSPCL has considered the SHR of 2800 kCal/kWh for H2 of FY 2015-16, in line with SHR of H1.

(ii) For GHTP, the Commission has approved different SHR as 2450 kCal/kWh for Units I & II and 2428 kCal/kWh for Units III & IV. The approach adopted by the Commission for stipulating SHR for Units is not prudent. The SHR needs to be assessed station wise as some energy from a particular unit, such as FO tank heating is used for common services of GHTP units. Also, the SHR increases with aging of the units and is prone to increase during the backing down of units. Accordingly, PSPCL has considered the heat rate of 2438 kCal/kWh for H2 of FY 2015-16. PSPCL has prayed the Commission to consider SHR of 2438 kCal/kWh for all the units of GHTP.

(iii) For GGSSTP, the Commission has approved the SHR of 2450 kCal/kWh based on CERC norms specified in CERC Tariff Regulations, 2014. The actual SHR achieved in H1 of FY 2015-16 is 2879 kCal/kWh, which is higher than the approved figure. Considering the actual performance of Stations, PSPCL has considered the SHR of 2699 kCal/kWh for H2 of FY 2015-16.

B. **Price of Coal and Oil**

(i) For GNDTP, the price of coal has drastically increased from FY 2014-15 to H1 of FY 2015-16. Coal was available at a rate of ₹3896/MT during FY 2014-15. However, the price has increased to ₹4621/MT during H1 of FY 2015-16. The prime reason being the unavailability of coal from PSPCL's captive coal mine and the quality of coal supplied by CIL in place of captive coal mine was poor. In addition to the above, CIL has also charged ₹800/MT as commitment charges. It has been estimated by PSPCL that the price of coal might further increase in the future and therefore an escalation of 5% has been considered over price of H1, for estimating price of coal for H2. Similar methodology has been adopted for pricing of oil.

(ii) For GGSSTP and GHTP, PSPCL has submitted that since PSPCL's captive coal mine was not available in FY 2015-16, coal prices for both GGSSTP and GHTP have increased significantly due to usage of imported coal as well as CIL coal. The quality of coal supplied by CIL was poor and in addition, CIL has also charged ₹800/MT as commitment charges. This trend is to continue in second half of FY 2015-16 and therefore the prices for H2 of 2015-16 have been computed on the basis of H1 of FY 2015-16. The price of oil has been considered by escalating 5% over price of oil for H1 of FY 2015-16.

C. **Transit Loss of Coal**

PSPCL has submitted that the coal transit losses are inconsistent for all the three plants. Further, the coal transit losses are not within the control of PSPCL and attributable to the following reasons:

(i) Calibration of measuring instruments: - Weighing of coal at two different locations having different calibration of weighing machines leads to an error more than permissible limits.

(ii) The transit loss occurs because of seasonal variation during the transportation of the coal, which changes the moisture content of the coal during the transportation.

(iii) The transportation of coal happens through open wagons. As soon as, the goods are loaded on the wagon, it becomes owner's risk and railways disown the responsibility. Coal is subject to pilferages at all halts, which is beyond the control of PSPCL.

(iv) During unloading, small quantities of coal get stuck at the edges of the transport wagons due to moisture and remain undelivered to the plant, contributing to transit losses.

As such, PSPCL has considered the actual transit loss for H1 of FY 2015-16 and normative transit losses of 1.5% for GNDTP and 1% for GHTP and GGSSTP for H2 of FY 2015-16.

D. **Imported Coal Blinding for GGSSTP and GHTP**

PSPCL has submitted that as there is very less quantity of coal (almost nil) available from captive coal mine of PSPCL during FY 2015-16 and therefore, significant quantity of imported coal is being used for generation at GGSSTP and GHTP, as the Commission has allowed use of imported coal in the Tariff Order for FY 2015-16. As per decision of the Hon'ble Supreme Court, all coal blocks were cancelled in the country. This has resulted in more quantity of coal from CIL and also imported coal being sourced by PSPCL to run its generating stations. To meet required generation, PSPCL has to arrange the additional supplies of coal. For such additional coal supplies, PSPCL has considered the option of importing of coal.

5.8.3 PSPCL has quoted various judgments of Hon'ble APTEL for allowing the technical performance of thermal generating stations at relaxed levels. However, the Commission finds no justification/reason to deviate from the norms/ parameters considered for working out fuel cost for FY 2015-16, in the Tariff Order for that year.

5.8.4 Fuel cost being a major item of expense, the Commission thought it prudent to get the same validated. The calorific value of oil & coal, the price of oil & coal and transit loss of coal validated by the Commission are indicated in Table 5.14. The Commission had decided in the Tariff Order for FY 2015-16 to adopt the GCV of received coal as per CERC Tariff Regulations, 2014, for working out the fuel cost. The calorific value (GCV) as shown under column III of Table 5.14 is the calorific value of received coal. The validated values are based on data from April, 2015 to September, 2015.

Table 5.14: Calorific Value and Price of Coal & Oil and Transit loss of coal as validated by the Commission for FY 2015-16

Sr. No.	Station	As validated by the Commission				
		Calorific value of received coal (kCal/kg)	Calorific Value of Oil (kCal/lt)	Price of Oil (₹/KL)	Price of coal (₹/MT) (Excluding Transit Loss)	Transit Loss
I	II	III	IV	V	VI	VII
1.	GNDTP	4247.90	9896.65	45751.99	4619.61	1.04%
2.	GGSSTP	4290.56	9768.19	38467.07	5176.48	0.06%
3.	GHTP	4235.75	9875.83	44438.50	5158.98	0.31%

5.8.5 The Commission has taken the quantity of Imported plus PANEM/Captive Mine coal as submitted by PSPCL. The price of coal and corresponding calorific values given in the ARR petition of PSPCL and those validated by the Commission [Table 5.14] are weighted average values of coal for the months from April, 2015 to September, 2015, including Imported and PANEM/Captive Mine coal.

In the ARR of PSPCL for FY 2015-16, the Commission has considered the projection of PSPCL for use of imported coal at GGSSTP and GHTP in view of uncertain supplies from PANEM and Monnet. The Commission has given certain directions in para 4.7.6 of the Tariff Order in the matter of arranging alternative coal/imported coal for FY 2015-16, for its own thermal generating stations. Now, PSPCL has projected requirement of imported coal for FY 2015-16, in the ARR for FY 2016-17. The directions issued by the Commission in para 4.7.6 of the Tariff Order for FY 2015-16, in the matter of imported coal, are again reiterated.

5.8.6 The gross generation considered by the Commission for the estimation of fuel cost for FY 2015-16 is 8012.13 MU. The fuel cost for different thermal generating stations corresponding to generation, now approved by the Commission, has been worked out, based on the parameters adopted by the Commission in the Tariff Order for FY 2015-16. Table 5.15 details the fuel cost based on calorific value & price of coal & oil as mentioned in Table 5.14.

5.8.7 No transit loss has been allowed for Imported and PANEM/Captive Mine coal, while arriving at fuel cost, as prices according to the contract are on F.O.R. destination basis. In the case of coal other than Imported and PANEM/Captive Mine coal, the Commission approves the transit loss (for domestic coal) for all the thermal generating stations of PSPCL as per actual, subject to a maximum of 1.0%, for FY 2015-16, as approved in the Tariff Order for FY 2015-16. However, no such loss is permissible in case same is priced on FOR destination basis.

Table 5.15: Fuel Cost for FY 2015-16

Sr. No.	Item	Derivation	Unit	GNDTP	GGSSTP	GHTP (Units I & II)	GHTP (Units III & IV)	Total
I	II	III	IV	V	VII	VIII	VIII	IX
1.	Generation	A	MU	918.30	3959.00	1246.80*	1888.03*	**8012.13**
2.	Heat Rate	B	Kcal/kWh	2750	2450	2450	2428	
3.	Specific Oil consumption	C	ml/kWh	0.5	0.5	0.5	0.5	
4.	Calorific value of oil	D	kcal/litre	9896.65	9768.19	9875.83	9875.83	
5.	Calorific value of coal	E	kcal/kg	4247.90	4290.56	4235.75	4235.75	
6.	Overall heat	F=(AxB)	Gcal	2525325	9699550	3054660	4584137	
7.	Heat from oil	G=(AxCxD)/1000	Gcal	4544	19336	6157	9323	
8.	Heat from coal	H=(F-G)	Gcal	2520781	9680214	3048503	4574814	
9.	Oil consumption	I=(Gx1000)/D	KL	459	1979	623	944	
10.	Transit loss of Coal	J	(%)	1	1	1	1	
11.	Total coal consumption excluding transit loss	K=(H*1000)/E	MT	593418	2256166	719708	1080048	
12.	Quantity of PANAM/Captive Mine coal and Imported coal	L	MT	12603	334208	113530#	171918#	
13.	Quantity of coal other than PANAM/Captive Mine coal and Imported coal, excluding transit loss	M=K-L	MT	580815	1921958	606178	908130	
14.	Quantity of coal other than PANAM/Captive Mine coal and Imported coal, including transit loss	N=M/(1-J/100)	MT	586682	1941372	612301	917303	
15.	Total quantity of coal required	O=L+N	MT	599285	2275580	725831	1089221	
16.	Price of oil	P	₹/KL	45751.99	38467.07	44438.50	44438.50	
17.	Price of coal	Q	₹//MT	4619.61	5176.48	5158.98	5158.98	
18.	Total cost of oil	R=P x I / 10^7	₹ crore	2.10	7.61	2.77	4.19	16.67
19.	Total cost of coal	S=O x Q / 10^7	₹ crore	276.85	1177.95	374.45	561.93	2391.18
20.	**Total Fuel cost**	**T=R+S**	**₹ crore**	**278.95**	**1185.56**	**377.22**	**566.12**	**2407.85**
21.	**Per Unit Cost**	**U=T *10 / A**	**₹ / kWh**	**3.04**	**2.99**	**3.03**	**3.00**	**3.01**

** calculated on pro-rata basis as per generation of H1, submitted by PSPCL in the ARR.*
 # Worked out on proportionate basis in proportion to generation.

The Commission, therefore, approves the revised fuel cost at ₹2407.85 crore for gross thermal generation of 8012.13 MU.

5.9 Power Purchase Cost

5.9.1 The Commission, in the Tariff Order for FY 2015-16, approved the power purchase cost of ₹11147.06 crore for purchase of 25181 MU (gross), which includes the cost of RE power and RECs for RPO compliance. PSPCL, in its ARR petition for FY 2016-17, has given revised estimates of ₹12184.50 crore, inclusive of inter-state transmission charges (payable to PGCIL) of ₹875.50 crore, ₹256.80 crore for purchase of RECs for FY 2015-16 and ₹234.53 crore as previous payments made during 2015-16. The revised estimates do not include Transmission Charges payable to PSTCL, which have been claimed separately by PSPCL.

PSPCL has submitted that in order to optimize the cost of power procured, it has scheduled its procurement on the merit order principles. The load profiles during various seasons, technical constraints and avoidable costs after giving due consideration to contractual obligations have been considered for deciding the procurement/generation schedule. The power purchase expenses as determined through such optimal merit order dispatch after due consideration for contractual obligations and technical constraints have been proposed by PSPCL for approval. In addition to availability from own thermal and hydro generating stations, PSPCL is procuring power from Central Generating Stations, PTC, NVVNL, IPPs in the State of Punjab and other sources, to meet its energy requirement. PSPCL has submitted the following assumption for energy projections for second half of FY 2015-16:

a) Projected energy from all existing Central Hydro Generating and BBMB stations for FY 2015-16 (H2) has been based upon the average of the energy for the last three years i.e. 2012-13 (H2) to 2014-15 (H2).

b) Royalty to HP from Shanan and Share of HP from RSD for FY 2015-16 (H2) has been taken as the same %age of Gross Generation for the corresponding period of previous year.

c) Projected energy from all existing Central Thermal & Nuclear Generating stations for FY 2015-16 (H2) have been taken same as the actual energy for the previous year i.e. 2014-15 (H2).

d) Projected energy from Own Thermal and Hydro stations of PSPCL for FY 2015-16 (H2) has been taken same as the Generation Targets provided by plants based on CEA targets.

e) Inter State Transmission losses for FY 2015-16 (H2) have been taken same %age of actual grid losses to the gross power import for FY 2014-15 (H2).

f) Energy to be supplied under banking has been considered as per the agreements already executed between the parties till Sept., 2015 and has been taken same for the next year also.

g) Projected Energy from the NEW projects has been calculated in accordance to the CEA regulations/Designed Energy as mentioned in the PPA. The commissioning schedule has been taken as per the commitments received from concerned generating company/concerned authority and energy availability has been projected accordingly, in spite of the slippages in the commissioning, as no firm schedule is available.

h) In case of IPPs in the State of Punjab, the energy availability has been projected by PSPCL based on date of commissioning, availability based on stabilization period and normative plant load factor.

i) The State of Punjab receives fixed allocated share from Central Generating Stations (CGSs) based on its allocation from respective stations. Moreover, Punjab also receives a quantum of power from the unallocated share in various CGSs at different intervals during a year. Furthermore, State of Punjab is also purchasing power from Independent Power Producers (IPPs) including Talwandi Sabo, Rajpura TPS (NPL), Goindwal Sahib, etc.The projected energy from all Central Thermal Generating stations with allocated share to PSPCL for FY 2015-16 (H2) has been taken same as the energy for the previous year i.e. FY 2014-15, and from Central Hydro Generating Stations with allocated share to PSPCL for FY 2015-16 (H2) the projected energy has been based upon the average of the energy for the last three years i.e. FY 2012-13 to FY 2014-15.

PSPCL has submitted that it shall have surplus energy available from tied up sources from central generating stations and the upcoming IPPs in the State of Punjab. In order to manage demand and maintain energy balance, the surplus energy during second half of FY 2015-16 has been proposed to be surrendered by PSPCL. Surrendering has been proposed as per Merit Order of power purchase from existing thermal and gas generating stations. Merit Order is based upon the variable rates of September, 2015 for H2 of FY 2015-16. The surplus power available from IPPs in the State of Punjab has also been proposed to be surrendered as per Merit Order schedule. After surrender of energy, only variable charges have been reduced and fixed/other charges have been assumed the same.

5.9.2 As discussed in para 5.6, the requirement of 31534 MU (net) is to be met through purchase from central generating stations and other sources. The transmission loss external to PSTCL system has to be added to arrive at the quantum of gross energy to be purchased. The Commission in the Tariff Order for FY 2015-16 has considered external losses of 2.24% as proposed by PSPCL. PSPCL has projected the overall weighted average external losses at 2.14%. The Commission provisionally approves the external losses at 2.14%, as projected by PSPCL for FY 2015-16, subject to true up. After adding 2.14% external losses, the gross energy required to be purchased works out to be 32224 MU (31534 MU + external losses of 690 MU).

5.9.3 PSPCL in the ARR for FY 2016-17, has shown power purchase of 19734.78 MU at a total cost of ₹7461.11 crore for the first half of FY 2015-16, including ₹214.51 crore of previous payments made during 2014-15 and ₹437.75 crore inter-state transmission charges (payable to PGCIL). The power purchase cost for first half of FY 2015-16 has been taken by PSPCL on actual basis, except the water usage charges for NHPC stations of Salal, Uri, Uri-II, Dulhasti and Sewa-II. These charges have been assumed the same by PSPCL as actually paid for the first half of FY 2014-15, as the bills for 2015 are yet to be received by PSPCL.

The Commission provisionally approves ₹7246.60 crore for power purchase of 19734.78 MU for the first half of FY 2015-16. The amount of ₹214.51 crore relating to previous payments made during FY 2015-16 has been separately dealt in para 5.20 (Prior Period Expenses).

5.9.4 PSPCL has projected power purchase of 10352.25 MU at a total cost of ₹4723.39 crore during 2nd half of FY 2014-15, inclusive of inter-state transmission charges (payable to PGCIL) of ₹437.75 crore, ₹256.80 crore for purchase of RECs for FY 2014-15 and ₹20.02 crore as previous payments to be made during FY 2015-16. The assumptions made by PSPCL for projection of power purchase cost for second half of FY 2015-16 are:

(a) Variable charges for all plants supplying power under long term contracts have been assumed the same as actual for the month of September, 2015.

(b) AFC for existing central sector plants has been assumed the same as in first half of FY 2015-16. As the Fixed Charges (FC) for Central Sector plants depend upon the AFC, percentage share and plant availability factor, these have been assumed same as that in H1 period. Under title of “Other’ Charges”, water usage charges for NHPC stations are assumed same as for H1 period. The per unit rate of water charges for Salal, Uri, Dulhasti, Sewa-II & Uri-II plants have been calculated on the basis of rates for corresponding period of previous year i.e. FY 2014-15. The water charges for each of these plants have been calculated by taking actual energy of H1 period of FY 2015-16.

(c) PGCIL charges have been assumed the same as actually billed during first half of FY 2015-16.

(d) Cost of banking has been assumed the same as that for first half of FY 2015-16 i.e. 360 paise/unit and open access charges for banking (export) have been assumed at 24 paise/unit.

(e) Rate of energy from Tala HEP has been taken as 202 paise/unit, as that of September, 2015.

(f) Rate of energy from Malana-II HEP has been taken as 253.33 paise/unit as the same as that of September, 2015. Fixed Charges have been considered the same as that of first half of FY 2015-16.

(g) For Sasan UMPP, variable charges of 114.97 paise/unit and fixed charges of 16.41 paise/unit, the same as that of September, 2015 have been considered.

(h) For Mundra UMPP, 143.24 paise/unit is the variable rate for the month of September, 2015. For second half of FY 2015-16, variable rate of 143.24 paise/unit has been assumed. Fixed charges have been assumed to be same as that of first half of FY 2015-16.

(i) For Pragati Bawana, variable charges of 291.90 paise/unit, same as that of September, 2015 and fixed charges same as that of H1 period of FY 2015-16, have been considered.

(j) Energy rates of NRSE power and power through NVVNL have been assumed same as average rate of first half of FY 2015-16.

(k) For IPPs in Punjab

  (i) For NPL, variable rate of 205.60 paise/unit and fixed charges of 146.35 paise/unit have been considered for second half of FY 2015-16. The fixed cost of ₹721.19 crore has been considered by PSPCL for total generation of 4927.82 MU (without surrender) for second half of FY 2015-16. (As intimated by PSPCL vide letter no. 1124 dated 17.12.2015)

  (ii) For TSPL, variable rate of 258.84 paise/unit and fixed charges of 135.19 paise/unit have been considered for second half of FY 2015-16. The fixed cost of ₹485.93 crore has been considered by PSPCL for total generation of 3594.41 MU (without surrender) for second half of FY 2015-16. (As intimated by PSPCL vide letter no. 1124 dated 17.12.2015)

(l) The surplus energy during second half of FY 2015-16 has been proposed to be surrendered. Surrendering has been proposed to be as per Merit Order of power purchase from existing thermal and gas generating stations. Merit Order is based upon the variable rates of September, 2015. After surrender of energy, only variable charges have been reduced and fixed/other charges have been assumed same.

5.9.5 PSPCL vide its letter no. 1124 dated 17.12.2015 has submitted that it will have 5171 MU surplus power during 2nd half of FY 2015-16, which is likely to be surrendered by PSPCL from the tied up sources from Central Generating Stations and other sources. The Commission further notes that fixed/capacity charges have to be paid by PSPCL for power to be surrendered out of the allocated share.

5.9.6 The amount of ₹20.02 crore mentioned as previous payments to be made during FY 2015-16 has not been considered and the same will be considered at the time of true up for FY 2015-16. Further, ₹256.80 crore projected for purchase of RECs for FY 2014-15, have been discussed in the subsequent paras.

5.9.7 The Commission provisionally approves the purchase of power 12489.22 MU (32224-19734.78) at a total cost of ₹5017.14 crore, by adding ₹570.57 crore, the cost of additional 2136.37 MU to be purchased (for the sake of energy balance) at the average variable rate of power surrendered from Thermal Generating Stations i.e. 267 paise/unit, in the total cost of power purchase of ₹4446.57 crore (4723.39 - 20.02 - 256.80) for purchase of 10352.25 MU for the 2nd half of FY 2015-16, as projected by PSPCL in the ARR.

Therefore, the total power purchase cost for FY 2015-16 works out to ₹12263.74 (7246.60 + 5017.14) crore for purchase of 32224 MU (gross), which the Commission provisionally approves.

5.9.8 The Commission notes that as per the information submitted by PSPCL vide Memo No. 540/ISB-428 dated 26.05.2016, power from renewable sources of energy (RE Power) purchased in FY 2015-16 upto the month of March, 2016 is 1469.66 MU [1083.18 MU (Non-Solar) + 386.48 MU (Solar)]. After making compliance of RPO shortfall for FY 2014-15 allowed to be carried forward by the Commission vide its Order dated 28.07.2015 in petition no.38 of 2015 to be complied with by 31.12.2015 i.e. 774.25 MU [772.57 MU (Non-Solar) + 1.68 MU (Solar)], the net RE Power purchased during FY 2015-16 works out to be 695.41 MU [310.61 MU (Non-Solar) + 384.80 MU (Solar)]. Considering the input energy available to PSPCL for consumption in its area of distribution of electricity as 46389 MU (45800 MU + 589 MU) for FY 2015-16 and the specified RPO as 3.90% (Non-Solar) & 1.0% (Solar), the

RPO for FY 2015-16 comes to 2273.06 MU [1809.17 MU (Non-Solar) + 463.89 MU (Solar)]. Thus, the shortfall in RPO compliance for FY 2015-16 is estimated to be 1577.65 MU [1498.56 MU (Non-Solar) + 79.09 MU (Solar)].

5.9.9 In the Tariff Order for FY 2015-16, the Commission had provisionally approved the amount of ₹741.48 crore which included the cost of power from renewable sources of energy and RECs to be purchased for RPO compliance. Now PSPCL has proposed the amount of ₹758.94 crore towards purchase of long term RE Power purchase within Punjab and ₹256.80 crore for purchase of RECs to comply with the shortfall in RPO compliance during FY 2015-16. The Commission notes that four Micro-Hydel Plants of PSPCL at Daudhar, Nidampur, Rohti and Thuhi (total capacity 3.9 MW) are non-functional since long and another 18 (2x9) MW MHP Stage-II project in district Hoshiarpur has been delayed considerably and yet not commissioned. These projects, otherwise, were likely to have contributed renewable energy to the tune of 90 MU annually. In view of this, the Commission disallows ₹14.00 crore (approx.) required for purchasing Non-Solar RECs at the Floor Price of ₹1500 per REC in lieu of non-availability of the said energy. **Accordingly, the Commission provisionally approves the amount of ₹758.94 crore for purchase of power from renewable sources of energy and ₹242.80 crore for meeting shortfall in RPO through purchase of RECs/RE Power subject to PSPCL seeking approval to carry forward the shortfall in previous year's RPO compliance to FY 2016-17 and the Commission granting the same. PSPCL shall endeavour to comply with the shortfall in RPO through purchase of power from renewable sources of energy outside the State of Punjab and new projects coming up in the State of Punjab or RECs in case of non-availability of such power. However, PSPCL is directed to make a judicious choice between the options of procuring power from (i) conventional sources with purchase of RECs, (ii) renewable sources of energy at APPC with purchase of RECs, (iii) renewable sources of energy at tariff other than APPC, whichever is economical, so as to safeguard consumer interest.**

The Commission, therefore, approves the revised power purchase cost of ₹12506.54 crore, comprising of ₹12263.74 crore for now determined power purchase of 32224 MU (gross) and ₹242.80 crore for purchase of power from RE Sources/RECs.

5.10 Employee Cost

5.10.1 In the ARR Petition for FY 2015-16, the PSPCL projected employee cost of ₹5480.61 crore against which the Commission approved a sum of ₹4540.81 crore in the Tariff

Order for FY 2015-16.

5.10.2 In the ARR Petition for FY 2016-17, PSPCL has revised the claim of employee cost to ₹4788.69 crore, net of capitalization of ₹204.37 crore for FY 2015-16. The claim is also inclusive of ₹1870.98 (₹351.16 crore of terminal benefits & ₹1519.82 crore of pension payments) crore on account of terminal benefits and ₹252.48 crore as BBMB share. As per clarification in Vol.-II of the ARR, ₹40.11 crore pertaining to LTC, encashment of earned leave & staff welfare expenses are not related to terminal benefits. As such, the terminal benefits work out to ₹1830.87 (1870.98-40.11) crore. The amount of 'other employee cost' claimed by PSPCL, thus, works out to ₹2705.34 (4788.69 – 1830.87 – 252.48) crore.

5.10.3 The provisions of Regulation 28(3) of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 as amended from time to time provide for determination of employee cost as under:

- Terminal benefits including BBMB share on actual basis.
- Increase in 'other employee expenses' limited to average increase in Wholesale Price Index & Consumer Price Index on approved base expenses of FY 2011-12.
- Exceptional increase in employee cost on account of pay revision etc. to be considered separately by the Commission.

As per above Regulation, terminal benefits and BBMB share of expenditure are to be allowed on actual basis.

The Commission approves terminal benefits and BBMB expenses at ₹1830.87 crore and ₹252.48 crore respectively as claimed by PSPCL for FY 2015-16.

5.10.4 As per Regulations, increase in 'other employee cost' is to be limited to average Wholesale Price Index (WPI) in subsequent years on the base employee cost approved for FY 2011-12. The other employee cost in the true up for FY 2011-12 were approved at ₹2099.07 crore in Tariff Order FY 2014-15.In accordance with Commission's Order dated 14.10.2015, amendment to PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 has been issued vide notification No. 108 dated 15.10.2015 (5th amendment) which is applicable from the date of publication dated 16.10.2015. As per this amendment, inflation factor to be used for indexing the 'other employee cost' will be combination of the Consumer Price Index (CPI) and Wholesale Price Index (WPI) of nth year and shall be calculated as (0.50*CPIn+0.50*WPIn). WPI and CPI increase for of FY 2015-16 is not available as yet. Therefore, available WPI and CPI for 10 months (up to January,

2016) are considered for FY 2015-16. WPI increase is calculated @13.47% (index of base year 2011-12 increased from 156.13 to 177.16 up to January, 2016 (177.16-156.13=21.03/156.13*100) and CPI increase is calculated @35.76% (index of base year 2011-12 increased from 194.83 to 264.50 up to January, 2016 (264.50-194.83=69.67/194.83*100). The combination of 0.50 of WPI+0.50 of CPI increase will be an increase of 24.62% (13.47+35.76/2) which is applicable from 16.10.2015. As such, other employee cost of ₹2099.07 crore of base year 2011-12 will be adjusted/increased by 13.47% increase in WPI for 198 days and with 24.62% increase in WPI and CPI for remaining 168 days of FY 2015-16. Accordingly, 'other employee cost' for 198 days works out to ₹1288.52 (2099.07 x 113.47 / 100 x 198 / 366) crore and for the remaining 168 days, 'other employee cost' works out to ₹1200.72 (2099.07 x 124.62 / 100 x 168 / 366) crore. Thus, 'other employee cost' to the tune of ₹2489.24 (1288.52 + 1200.72) crore is allowable for FY 2015-16.

The Commission, thus, approves ₹4572.59 (1830.87 + 252.48 + 2489.24) crore as employee cost in the review for FY 2015-16.

5.11 Repair & Maintenance (R&M) Expenses

5.11.1 In the ARR Petition for FY 2015-16, the PSPCL projected R&M expenses at ₹628.92 crore, against which the Commission approved ₹441.28 crore.

5.11.2 In the ARR Petition for FY 2016-17, PSPCL has revised the claim to ₹616.99 crore which includes R&M expenses of ₹17.03 crore claimed for asset addition during the year FY 2015-16.

5.11.3 Regulation 28 (5) (a) of the PSERC Tariff Regulations, 2005 amended on 17.09.2012 provides for adjusting base O&M expenses approved by the Commission for FY 2011-12 in proportion to increase in Whole Sale Price Index (all Commodities) to determine O&M expenses for subsequent year. WPI for FY 2015-16 is available for 10 months only i.e. upto January, 2016 which is adopted for determination of R&M expenses for FY 2015-16. WPI increase is calculated @13.47% (177.16 - 156.13 = 21.03 / 156.13 x 100) being increase in index of base year 2011-12 from 156.13 to 177.16 up to January, 2016. R&M expenses of ₹320.67 crore were approved on the Gross Fixed Assets of ₹39215.89 crore for FY 2011-12 in the true up in Tariff Order FY 2014-15. As per Audited Annual Accounts for FY 2013-14, there were Gross Fixed Assets of ₹42561.08 crore as on 01.04.2014. In the review for FY 2014-15 in the Tariff Order of FY 2015-16, addition in assets of ₹2174.20 crore were considered during FY 2014-15. But in the ARR for FY 2016-17, PSPCL has intimated that the actual addition in assets during FY 2014-15 is to the tune of ₹1740.27 crore which are now being taken into account. Thus, the Gross Fixed Assets as on 01.04.2015 work out to ₹44301.35 (42561.08+1740.27) crore. Base R&M expenses for FY 2015-16 on the Gross Fixed Assets of ₹44301.35 crore work out to ₹362.25 (320.67*44301.35/39215.89) crore. After applying the available WPI increase of 13.47%, the R&M expenses work out to ₹411.05 (362.25*113.47/100) crore.

5.11.4 In the ARR for FY 2016-17, PSPCL has claimed an amount of ₹17.03 crore as R&M expenses for assets added during the year 2015-16. PSPCL has proposed to capitalize assets to the extent of ₹2515.58 crore in the RE for FY 2015-16 against the proposed capital expenditure of ₹2820.75 crore. However, based on the capital expenditure actually incurred upto December, 2015, the Commission has approved the investment outlay of ₹1600.00 crore for FY 2015-16 in para 5.15.2 of this Tariff Order. Accordingly, capitalization works out to ₹1830.78 crore for FY 2015-16.

In accordance with Regulation 28(6) of PSERC, Tariff Regulations, the R&M expenses are allowable for assets added during the year on pro-rata basis from the date of commissioning of assets.

The percentage of approved R&M expenses of ₹411.05 crore vis-à-vis the opening based Gross Fixed Assets of ₹44301.35 crore work out to 0.93% (411.05/44301.35*100). The additional R&M expenses on the assets addition of ₹1830.78 crore work out to ₹8.51 (1830.78/2*0.93%) crore considering the asset addition for 6 months on an average during the year as details regarding commissioning/ capitalization of the assets added during FY 2015-16 are not available in the accounts as well as the ARRs of the utility.

The Commission approves R&M expenses of ₹419.56 (411.05+8.51) crore in the review of FY 2015-16 to PSPCL.

5.12 Administrative and General (A&G) Expenses

5.12.1 In the ARR Petition for FY 2015-16, the PSPCL projected A&G expenses at ₹191.69 crore against which the Commission approved ₹144.94 crore in the Tariff Order for FY 2015-16.

5.12.2 In the Tariff Petition for FY 2016-17, PSPCL has claimed an amount of ₹188.63 crore as A&G expenses for FY 2015-16 which includes A&G expenses of ₹4.90 crore on assets addition during the year and ₹11.31 crore on account of licence fee and ARR fee for determination of tariff.

5.12.3 Regulation 28 (5) (a) of the PSERC Tariff Regulations, 2005 amended on 17.09.2012 provides for adjusting base O&M expenses approved by the Commission for FY

2011-12 in proportion to increase in Whole Sale Price Index (all Commodities) to determine O&M expenses for subsequent year. WPI for FY 2015-16 is available for 10 months only i.e. upto January, 2016 which is adopted for determination of A&G expenses for FY 2015-16. WPI increase is calculated @13.47% (177.16-156.13=21.03/156.13*100) being increase in index of base year 2011-12 from 156.13 to 177.16 up to January, 2016. A&G expenses of ₹97.12 crore were approved on the Gross Fixed Assets of ₹39215.89 crore for FY 2011-12 in the true up in Tariff Order FY 2014-15. Base A&G expenses for FY 2015-16 on the Gross Fixed Assets of ₹44301.35 crore as on 01.04.2015 work out to ₹109.71 (97.12*44301.35/39215.89) crore. After applying the available WPI increase of 13.47%, the A&G expenses work out to ₹124.49 (109.71*113.47/100) crore.

5.12.4 In the ARR for FY 2016-17, PSPCL has claimed an amount of ₹4.90 crore as A&G expenses for assets added during the year 2015-16. PSPCL has proposed to capitalize assets to the extent of ₹2515.58 crore in the RE for FY2015-16 against the proposed capital expenditure of ₹2820.75 crore. However, based on the capital expenditure actually incurred upto December, 2015, the Commission has approved the investment outlay of ₹1600 crore for FY 2015-16 in para 5.15.2 of this Tariff Order. Accordingly, capitalization works out to ₹1830.78 crore for FY 2015-16.

In accordance with Regulation 28(6) of PSERC, Tariff Regulations, the A&G expenses are allowable for assets added during the year on pro-rata basis from the date of commissioning of assets.

The percentage of approved A&G expenses of ₹124.49 crore vis-à-vis the opening based gross assets of ₹44301.35 crore works out to 0.28% (124.49/44301.35*100). The additional A&G expenses on the assets addition of ₹1830.78 crore work out to ₹2.56 (1830.78/2*0.28%) crore considering the asset addition for 6 months on an average during the year as details regarding commissioning/ capitalization of the assets added during FY 2015-16 are not available in the accounts as well as the ARRs of the utility. PSPCL has also claimed ARR and license fee of ₹11.31 crore which is also allowed.

The Commission, thus, approves A&G expenses of ₹138.36 (124.49+2.56+11.31) crore in the review of FY 2015-16 to PSPCL.

5.12.5 In the foregoing paras, O&M expenses (Employee cost, R&M expenses and A&G expenses) of ₹5130.51 (4572.59+419.56+138.36) crore have been approved wherein share of BBMB expenditure as claimed by PSPCL i.e. ₹282.58 (₹252.48 crore Employees expenses + ₹26.33 crore R&M expenses + ₹3.77 crore A&G expenses) crore in the ARR has been allowed. In petition no. 251/GT/2013 filed by BBMB before Central Electricity Regulatory Commission (CERC) for approval of Tariff of its generating stations and transmission systems, CERC vide its Order dated 12.11.2015 has allowed O&M expenses in respect of transmission assets for the period 2009-14.

CERC vide order dated 21.03.2016 also determined the Tariff for generating stations of BBMB. Based on CERC's order, the Commission determined allowable O&M expenses to BBMB for FY 2013-14 as ₹106.82 crore in Table 3.9 of this Order. CERC has not determined O&M expenses of BBMB for FY 2014-19 so far. The Commission consciously decided that allowable O&M expenses at the level determined by CERC for FY 2013-14 are to be allowed for subsequent year However, the O&M expenses determined by CERC for FY 2014-19 will be considered during review/true-up exercise. **Therefore, excess amount i.e. Rs 175.76 (282.58-106.82) crore allowed against O & M expenses of BBMB as per ARR Petition is reduced from O&M expenses allowed to PSPCL in forgoing paras.**

Thus O&M expenses of ₹4954.75 (4572.59+419.56+138.36-175.76) crore are approved to PSPCL for FY 2015-16.

5.13 Depreciation

In the ARR Petition for FY 2015-16, PSPCL projected depreciation charges of ₹1055.36 crore on assets valued at ₹26468.65 crore as on April, 2015 against which the Commission approved depreciation charges of ₹764.63 crore.

In the ARR Petition for FY 2016-17, PSPCL has revised its claim to ₹1016.72 crore as depreciation charges for FY 2015-16.

As discussed in para 3.15.3 of this Tariff Order, the Commission approved depreciation charges of ₹868.61 crore in the true up for FY 2013-14 on opening Gross Fixed Assets of ₹22173.64 crore. The true up exercise for FY 2014-15 is not being carried out due to non-availability of Audited Annual Accounts of the utility. As per Audited Annual Accounts for FY 2013-14, the Gross Fixed Assets (net of land and land rights) as on 31.03.2014 were to the tune of ₹23579.84 crore. As per ARR of FY 2016-17, the actual asset addition during FY 2014-15 was of ₹1740.27 crore. Thus, the opening balance of Gross Fixed Assets as on 01.04.2015 works out to ₹25320.11 (23579.84+1740.27) crore. Accordingly, the Commission determines depreciation charges of ₹991.87 (868.61/22173.64*25320.11) crore in the RE for FY 2015-16 on opening balance of Gross Fixed Assets (net of land and land rights) of

₹25320.11 crore as on 01.04.2015. The depreciation charges will be reviewed at the time of true up exercise for FY 2015-16.

The Commission approves the depreciation charges of ₹991.87 crore in the review for FY 2015-16.

5.14 Interest and Finance Charges

5.14.1 In the ARR Petition for FY 2015-16, PSPCL claimed Interest and Finance Charges of ₹2593.14 crore against which the Commission approved an amount of ₹1833.15 crore for FY 2015-16.

In the ARR Petition for FY 2016-17, PSPCL has claimed the Interest and Finance charges of ₹2809.19 crore for FY 2015-16 in the review.

Table 5.16: Interest & Finance Charges claimed by PSPCL for FY 2015-16

(₹crore)

Sr. No.	Description	Interest as depicted in ARR Petition
I	II	III
1.	Interest on Institutional Loans	1099.39
2.	Interest on RBI Bonds	2.00
3.	Interest on Short term Loans	1650.71
4.	Interest on GPF	160.59
5.	Guarantee fees	59.05
6.	Interest to Consumers	190.00
7.	Other Interest/Charges	7.45
8.	Total	3169.19
9.	Less: Capitalization	360.00
10.	Net Interest and Finance Charges	2809.19

The Interest and Finance charges allowable to PSPCL are discussed in the ensuing paragraphs.

5.14.2 **Investment Plan**

The Commission in its Tariff Order for FY 2015-16 approved an Investment Plan of ₹2000.00 crore against projected capital expenditure of ₹3328.00 crore for FY 2015-16. In ARR Petition for FY 2016-17, PSPCL has revised investment plan/capital expenditure to ₹2820.75 crore as summarized below:

Table 5.17: Summary of Capital expenditure planned by PSPCL

Sr. No	Particulars	FY 2015-16 (RE)
I	II	III
(a)	Generation	360.25
(b)	Sub-Transmission and Associated Projects	480.00
(c)	Distribution	1978.50
(d)	Miscellaneous works	2.00
	Total	**2820.75**

The Utility has submitted that capital expenditure is planned on Generation activities mainly for the R&M activities and on Transmission & Distribution activities for improvement projects for network up to 66 kV, construction of new sub stations and mini grid substations along with associated Transmission lines. The Commission has reviewed the capital expenditure planned by utility for FY 2015-16 for different functions of Generation, Transmission and Distribution.

(a) Generation

For FY 2015-16, PSPCL has proposed expenditure of ₹360.25 crore on major schemes namely, R&M of BBMB Power House, Bhakra left bank & Dehar PH, R&M of Shahpur Kandi, Mukerian and other Hydel projects (155.00 crore), R&M of GNDTP, GHTP and GGSSTP (₹195.00 crore). Other miscellaneous works (₹10.25 crore).

(b) Sub-Transmission

PSPCL has also submitted that capital expenditure of ₹480.00 crore has been planned for network capacity addition, improvement projects for network up to 66 kV, construction of new substations and mini grid substations along with associated transmission lines during FY 2015-16.

(c) Distribution

PSPCL has proposed capital expenditure amounting to ₹1978.50 crore. The utility has further submitted that distribution function requires regular capital expenditure for network capacity addition and system improvement works. The improvement in net-work will lead to reduction of distribution losses in the net-work. The major schemes include normal development works of ₹770.00 crore, shifting of meters (DSM measures) of ₹200.00 crore, release of tubewell connection of ₹240.00 crore, works relating to APDRP-II Part-A & Part-B ₹710.00 crore and other miscellaneous works amounting to ₹58.50 crore.

In the revised capital investment plan of ₹2820.75 crore, PSPCL has proposed capitalization of assets of ₹2515.58 crore. However, keeping actual capital expenditure of ₹993.38 crore upto December, 2015 in view, the Commission approves ₹1600.00 crore for investment for FY 2015-16 and capitalization of assets of ₹1830.78 crore. As per trial balance of the distribution utility, PSPCL has received Consumer Contribution, Grants and Subsidies of ₹65.50 crore upto December, 2015 which works out to ₹87.33 crore for full year of FY 2015-16. Accordingly, actual loan requirement for the level of investment works out to ₹1512.67 (1600.00–87.33) crore.

PSPCL has claimed ₹1099.39 crore as interest on institutional loan (other than WCL, GP Fund and GoP loans) in the ARR Petition for FY 2016-17. The Commission in para 3.16.3 of this Tariff Order has approved closing balance of loans of ₹7623.86 crore as on 31.03.2014. In its ARR for FY 2016-17, PSPCL has submitted revised loan requirement of ₹1777.40 crore and repayments of ₹1133.94 crore during FY 2014-15. Therefore, the opening balances of ₹8267.32 (7623.86 + 1777.40 - 1133.94) crore as on 01.04.2015 have been considered for calculating interest on long term loans for FY 2015-16 in Table 5.18:

Table 5.18: Interest on Loans (Other than WCL and GoP Loans) for FY 2015-16

(₹crore)

Sr. No.	Particulars	Loans as on April 01, 2015	Receipt of Loans during FY 2015-16	Repayment of Loans during FY 2015-16	Loans as on March 31, 2016	Amount of Interest
I	II	III	IV	V	VI	VII
1.	As per data furnished in ARR Petition (other than WCL and GoP Loans)	8665.45	2518.75	1227.85	9956.35	1099.39
2.	Approved by the Commission (other than WCL, GP Fund and GoP Loans)	8267.32	1512.67	1227.85	8552.14	992.98

5.14.3 **Interest on RBI Bonds**

In the ARR Petition of 2016-17, PSPCL has claimed ₹2.00 crore as interest on account of RBI Bonds. Accordingly, claim of interest of ₹2.00 crore is allowed.

5.14.4 **Interest on General Provident Fund (GPF)**

PSPCL has claimed interest of ₹160.59 crore on GPF accumulations for FY 2015-16. Therefore, the Interest of ₹160.59 crore on GP Fund, being a statutory payment, is allowed as claimed by PSPCL for FY 2015-16.

5.14.5 **Finance Charges**

PSPCL has claimed finance charge of ₹59.05 crore as guarantee fees on loan amount of ₹2518.75 crore. The Commission has approved loan amount of ₹1512.67 crore. Accordingly, **the Commission approves the finance charges of ₹35.46 (59.05/2518.75*1512.67) crore.**

5.14.6 **Interest on Consumer Security Deposits**

In ARR Petition for FY 2016-17, PSPCL has claimed ₹190.00 crore towards interest on consumer security deposits for FY 2015-16.

Accordingly, the Commission allows the interest of ₹190.00 crore on Consumer Security Deposits for FY 2015-16 as claimed by PSPCL.

5.14.7 **Capitalization of Interest Charges**

In ARR Petition for FY 2016-17, PSPCL has claimed ₹360.00 crore towards capitalization of interest charges. The Commission determines the capitalization of interest at ₹29.91 crore in the ratio of closing balance of works in progress to the total expenditure.

The Commission, accordingly, approves capitalization of interest of ₹29.91 crore for FY 2015-16.

5.14.8 **Interest on Working Capital**

In the Tariff Order for FY 2015-16, the Commission approved working capital of ₹3829.75 crore with interest cost of ₹448.46 crore.

The Commission has determined the working capital requirement in accordance with Regulation 30 of PSERC Tariff Regulations. The details of working capital requirement and allowable interest thereon are depicted in Table 5.19.

Table 5.19: Interest on Working Capital Requirement for FY 2015-16

(₹crore)

Sr. No	Particulars	Amount
I	II	III
1.	Fuel Cost for two months	401.31
2.	Operation and Maintenance expenses for one month	412.90
3.	Receivables for two months	3834.35
4.	Maintenance Spares @15% of O&M expenses	743.21
5.	Less: Consumer security deposit	2654.70
6.	Total working capital requirement	2737.07
7.	Interest rate (calculated on weighted average)	11.54%
8.	**Interest on Working Capital Loan**	**315.86**

The Commission, accordingly, approves interest of ₹315.86 crore on Working Capital Requirements for FY 2015-16.

In view of above, the interest and finance charges are approved as detailed in Table 5.20.

Table 5.20: Interest and Finance Charges for FY 2015-16

(₹ crore)

Sr. No.	Particulars	Loans as on April 01, 2015	Receipt of Loans during FY 2015-16	Re-payment of Loans during FY 2015-16	Loans as on March 31, 2016	Interest Approved by Commission
I	II	III	IV	V	VI	VII
1.	Approved by the Commission (Other than WCL and GoP Loans	8267.32	1512.67	1227.85	8552.14	992.98
2.	Interest on RBI bonds					2.00
3.	Interest on GPF					160.59
4.	Finance Charges					35.46
5.	Interest on Consumer Security Deposits					190.00
6.	**Gross Interest and Finance Charges**					**1381.03**
7.	Less: Capitalization					29.91
8.	**Net Interest and Finance Charges (7-8)**					**1351.12**
9.	Interest on Working Capital					315.86
10.	**Total Interest**					**1666.98**

The Commission, accordingly, approves the Interest and Finance charges of ₹1666.98 crore for PSPCL for FY 2015-16.

5.15 Return on Equity

5.15.1 In the ARR and Tariff Petition for FY 2015-16, PSPCL claimed the Return on Equity of ₹942.62 crore against which the Commission had approved RoE of ₹942.62 crore.

5.15.2 In the ARR and Tariff Petition for FY 2016-17, PSPCL has claimed RoE of ₹942.62 crore @ 15.5% on Govt. equity holding of ₹6081.43 crore.

5.15.3 As stated in para 3.17.3 of this Tariff Order and in accordance with the PSERC Tariff Regulations, the Commission allows RoE of ₹942.62 crore @15.5% on the equity of ₹6081.43 crore.

The Commission, thus, approves RoE of ₹942.62 crore to PSPCL for FY 2015-16.

5.16 Transmission Charges payable to PSTCL

The Commission in its Tariff Order of PSTCL for FY 2016-17 determined ₹1131.72 crore as the Transmission charges payable to PSTCL by PSPCL for FY 2015-16. **Accordingly, this amount is being included in the ARR of PSPCL for FY 2015-16 as Transmission charges.**

5.17 Non Tariff Income

5.17.1 In the ARR Petition for FY 2015-16, PSPCL projected Non Tariff Income of ₹997.57 crore against which the Commission had approved ₹964.30 crore.

5.17.2 In the ARR Petition for FY 2016-17, PSPCL has revised Non-Tariff Income to ₹806.33 crore for FY 2015-16 which includes ₹80.43 crore on account of other income transferred from depreciation on consumer contribution as clarified by PSPCL in its reply to deficiency letter of the Commission. This excludes an amount of ₹103.78 crore on account of late payment surcharge and ₹75.00 crore on account of rebate for timely payment for power purchase. In the Petition, PSPCL has prayed that the late payment surcharge be not treated as part of the Non Tariff Income as PSPCL's working capital requirement are being determined as per norms and there is no compensation to the PSPCL on account of interest accrued on delayed payments against bills issued and including the Late Payment Surcharge in Non Tariff/ Other Income adversely impacts the cash flow position of the PSPCL. The Commission observes that receipts on account of Late Payment Surcharge are to be treated as Non Tariff Income as per Regulation 34 of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005. Moreover, interest on working capital is allowed to the utility on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on normative basis. So the plea of the utility not to treat the late payment surcharge as part of the Non Tariff Income finds no merit.

PSPCL has also not included ₹75.00 crore on account of rebate for timely payment for power purchase in the Non-Tariff Income whereas these charges are required to be taken as Non Tariff Income. As such, the Non Tariff Income works out to ₹985.11 (806.33 + 103.78 + 75.00) crore

The Commission accordingly, approves Non Tariff Income of ₹985.11 crore for FY 2015-16.

5.18 Charges payable to GoP on power from RSD

In the ARR Petition for FY 2016-17, PSPCL has claimed royalty charges of ₹20.20 crore payable to Government of Punjab on power from RSD**, which are allowed as claimed.**

5.19 Demand Side Management (DSM) Fund

In the Tariff Order for FY 2015-16, the Commission provisionally approved an amount of ₹10.00 crore as claimed by PSPCL, for implementation of various DSM

Programme in accordance with the provisions of DSM Regulations, during FY 2015-16 PSPCL was directed to create a separate DSM Fund and to use the amount exclusively for achieving the objectives of DSM Regulations. The Commission also directed PSPCL to achieve energy saving of 500 MUs during FY 2015-16. The target was subject to revision after submission of the load/market survey of consumers carried out by TERI. However, no load/market survey indicating energy saving potential of different segments of consumers has been submitted by PSPCL.

PSPCL has submitted in the ARR Petition that it is difficult for the utility to implement Demand Side Management measures for which help of technical expert in the field and active participation of consumers, is required. No utilization of DSM fund during FY 2015-16 has been reported by PSPCL and accordingly, **the Commission has not considered any amount for DSM Fund for FY 2015-16.**

5.20 Prior Period Expenses

Under the head of Power Purchase Cost, PSPCL has claimed ₹214.51 crore relating to previous payments made during first half of FY 2015-16. As this amount relates to prior period, as such, **the Commission provisionally allows ₹214.51 crore as prior period expenses made during first half of FY 2015-16.**

5.21 Subsidy payable by GoP

In the ARR Petition for FY 2016-17, PSPCL has claimed subsidy of ₹6092.20 crore. However, GoP paid subsidy of ₹4847.00 crore during FY 2015-16 to PSPCL. The subsidy payable by GoP is as under:

AP Consumption: The Commission has considered AP consumption at 10536.67 MU on which revenue @ 458 paise per unit works out to ₹4825.79 crore. The amount of subsidy on account of fuel cost adjustment for FY 2015-16 payable by GoP is ₹28.11 crore. Thus, ₹4862.90 crore (inclusive of meter rentals of ₹9.00 crore) was payable by GoP as AP subsidy.

Scheduled Castes (SC) Domestic Supply (DS) Consumers: The Commission notes that as per the decision of GoP Scheduled Castes DS consumers with a connected load up to 1,000 watts were to be given free power up to 200 units per month. PSPCL has claimed subsidy of ₹869.41 crore inclusive of meter rentals of ₹13.70 crore.

Non-SC Below Poverty Line (BPL) DS Consumers: GoP has also decided to give free supply of power up to 200 units per month to Non SC BPL DS consumers with connected load up to 1,000 watts. PSPCL has claimed subsidy of ₹67.41 crore inclusive of meter rentals of ₹1.18 crore.

Free supply to Dairy farming, Fish farming (exclusive), Goat farming and Pig farming: GoP has decided to provide subsidy to these categories for which PSPCL vide Memo. No. 629/CC/DTR/Dy.CAO/246/Vol-II dated 13.05.2016 has claimed subsidy of ₹0.53 crore for FY 2015-16.

Interest on delayed payment of subsidy:

The GoP has paid subsidy payable to PSPCL in FY 2015-16 in staggered installments. The Commission observed that there was delay in payment of subsidy to PSPCL in FY 2015-16. With a view to compensating PSPCL on this account, the Commission levies interest on the delayed payment of subsidy @11.54% (effective rate of interest on loans) which works out to ₹72.55 crore.

Accordingly, the subsidy payable for FY 2015-16, inclusive of interest on delayed payment of subsidy, has been determined by the Commission at ₹5872.80 (4862.90 + 869.41 + 67.41 + 0.53 + 72.55) crore against which GoP had paid subsidy of ₹4847.00 crore. As such, there is shortfall of ₹1025.80 (5872.80 - 4847.00) crore of subsidy during FY 2015-16. This has been carried forward to para 9.4 of this Tariff Order.

5.22 Rebate to Consumer catered at higher voltages, financial impact of T&D tariff and rebate due to increased metered sales

5.22.1 Rebate to Consumer catered at higher voltages and financial impact of ToD Tariff

In the Tariff Order for FY 2015-16, the Commission provisionally approved the financial impact of High Voltage Rebate and ToD Tariff as ₹152.26 crore and ₹146.87 crore respectively. PSPCL in its ARR for FY 2016-17 has projected the revenue impact of High Voltage Rebate and ToD Tariff as ₹299.13 crore for FY 2015-16. **The Commission provisionally approves the financial impact of High Voltage Rebate and ToD Tariff as ₹299.13 crore for FY 2015-16, as projected by PSPCL.** The revenue from Tariff has accordingly been reduced to this extent. The actual impact on revenue will be adjusted at the time of true up. **PSPCL is directed to submit complete detail of financial impact of High Voltage Rebate, ToD Rebate and ToD Surcharge and income from PLEC (separately) at the time of true up of FY 2015-16.**

5.22.2 Rebate due to increased metered sales

In the Tariff Order for FY 2014-15, the Commission approved rebate of ₹1.00/kWh (or kVAh) on category wise tariff for all categories, except Street Lighting and AP categories, for any consumption during FY 2014-15 exceeding the consumption worked out as detailed in the Tariff Order for FY 2014-15. Further, the Commission provisionally approved ₹271.13 crore on account of impact on revenue for grant of rebate of ₹1.00/kWh (or kVAh) on category wise tariffs for consuming more power than threshold limit, as projected by PSPCL in the ARR for FY 2015-16. PSPCL in the ARR for FY 2016-17 has projected the financial impact of rebate due to increased metered sales at the same level as approved by the Commission for FY 2014-15 in the Tariff Order for FY 2015-16 i.e. ₹271.13 crore. **The Commission provisionally approves the financial impact of rebate due to increased metered sales at ₹271.13 crore, as submitted by PSPCL in its ARR for FY 2016-17. The revenue from Tariff has accordingly been reduced to this extent. The actual impact on revenue will be adjusted at the time of true up. PSPCL is directed to submit complete detail of financial impact of rebate due to increased metered sales, at the time of true up of FY 2015-16.**

5.23 Revenue from sale of power

5.23.1 The Commission approved the Revenue from existing tariff at ₹25160.48 crore for FY 2015-16 in the Tariff Order for FY 2015-16.

As per ARR Petition for FY 2016-17, PSPCL has submitted revenue from sale of power at ₹23871.16 crore.

The Commission, approves the revenue from sale of power as ₹23006.12 crore for energy sales of 40567.12 MU for FY 2015-16 as detailed in Table 5.21.

Table 5.21: Revenue from Sale of Power for FY 2015-16

Sr. No.	Description	As per ARR of PSPCL		As approved by the Commission		
		Energy Sale (MU)	Revenue (₹crore)	Energy Sale (MU)	Tariff Rate (Paise/Unit)	Revenue (₹crore)
I	II	III	IV	V	VI	VII
1.	Domestic	12393.27	6568.43	12066.40		6395.19
2.	Non-Residential Supply	3467.20	2312.62	3481.06		2321.86
3.	Public Lighting	185.13	123.85	184.84	669	123.65
4.	Industrial Consumers					
a)	Small Power	925.71	541.54	954.80	585	558.56
b)	Medium Supply	2119.65	1352.33	2115.88	638	1349.93
c)	Large Supply	10825.99	7015.24	10049.12	646	6491.73
5.	Bulk Supply & Grid Supply	663.06	426.34	649.02		417.32
6.	Railway Traction	161.33	108.90	165.33	675	111.60
7.	Common Pool	310.79	145.14	311.00		145.23
8.	Outside State	142.54	-	53.00		8.75
9.	AP	11139.77	5102.02	10536.67	458	4825.79
10.	Add: PLEC & MMC		744.99			744.99
11.	Grand total	42334.44	24441.42			23494.60
12.	Less HV, ToD rebate & PLEC adjustment		299.13			299.13
13.	Less rebate due to increased metered sales		271.13			271.13
14.	**Net Revenue**	**42334.44**	**23871.16**	**40567.12**		**22924.34**
15.	Add revenue recoverable on account of FCA for 1st quarter of FY 2015-16 levied by PSPCL with effect from 1.04.2015 to 30.06.2015					24.12
16.	Add revenue recoverable on account of FCA for 2nd quarter of FY 2015-16 levied by PSPCL with effect from 01.07.2015 to 30.09.2015					51.37
17.	Add revenue recoverable on account of FCA for 3rd quarter of FY 2015-16 levied by PSPCL with effect from 01.10.2015 to 31.12.2015					6.29
18.	**Grand Total**					**23006.12**

5.24 Revenue requirement for FY 2015-16

A summary of the Aggregate Revenue Requirement of PSPCL for FY 2015-16 as discussed in the preceding paragraphs is given in the Table 5.22.

Table 5.22: Revenue Requirement for FY 2015-16

(₹crore)

Sr. No.	Items of Expenses	Approved in the Tariff Order for FY 2015-16	Proposed by PSPCL in the Review	Approved in the Review
I	II	III	IV	V
1.	Cost of Fuel	5160.21	4357.94	2407.85
2.	Cost of power purchase	11147.06	12184.50	12506.54
3.	Employee Cost	4540.81	4788.69	4572.59
4.	R & M expenses	441.28	616.99	419.56
5.	A & G expenses	144.94	188.63	138.36
6.	Recoverable O&M expenses on account of BBMB as per CERC orders dated 12.11.2015 and 21.03.2016.			(-)175.76
7.	Depreciation	764.63	1016.72	991.87
8.	Interest & Finance charges	1833.15	2809.19	1666.98
9.	Return on Equity	942.62	942.62	942.62
10.	Transmission and SLDC charges payable to PSTCL	967.62	954.45	1131.72
11.	RSD charges payable to GoP	-	20.20	20.20
12.	Provision for DSM	10.00	-	-
13.	Prior period expenses			214.51
14.	**Total Revenue Requirement**	**25952.32**	**27879.93**	**24837.04**
15.	Less: Non Tariff Income	964.30	806.33	985.11
16.	**Net Revenue Requirement**	**24988.02**	**27073.60**	**23851.93**
17.	Revenue from existing tariff	25160.48	23871.16*	23006.12*
18.	Less impact of rebate at higher voltages and ToD Tariff (152.26+146.87=299.13)	299.13		
19.	Net revenue from existing tariff	**24861.35**	**23871.16**	**23006.12**
20.	**Gap (Surplus(+)/ Deficit(-) for FY 2015-16**	**(-)126.67**	**(-)3202.44**	**(-)845.81**
21.	**Gap (Surplus)(+) / deficit(-) upto FY 2013-14**			**(+)861.79**
22.	**Gap(Surplus)(+) / deficit(-) for FY 2014-15 in RE as per Tariff Order FY 2015-16**			**(+)231.31**
23.	**Gap (Surplus)(+) / deficit (-) upto FY 2015-16**			**(+)247.29**

* *Includes impact of rebate at higher voltages and ToD Tariff of ₹299.13 crore, as discussed in Table 5.21.*

The surplus of ₹247.29 crore for FY 2015-16 (RE) as determined above has been carried over to Table 6.30.

Chapter 6
Annual Revenue Requirement
For FY 2016-17

6.1 Energy Demand (Sales)

6.1.1 Metered Energy Sales

PSPCL has projected the metered energy sales for FY 2016-17 based on category-wise 3 years Compounded Annual Growth Rate (CAGR) from FY 2011-12 to FY 2014-15. The category-wise 3 year CAGR has been applied on the revised estimates of metered energy sales of respective categories for FY 2015-16, to arrive at the category-wise metered energy sales projections for FY 2016-17. The details of PSPCL's provisional metered energy sales for FY 2014-15, revised estimates of metered energy sales for FY 2015-16 (RE) and projections for FY 2016-17, as submitted by PSPCL in the ARR, are given in Table 6.1.

Table 6.1: Energy Sales of Metered Categories for FY 2014-15 (Provisional), FY 2015-16 (RE) and FY 2016-17 (Projections) as per ARR Petition for FY 2016-17

Metered Energy Sales						
Sr. No.	**Category**	**FY 2014-15 (Provisional) (MU)**	**FY 2015-16 (RE) (MU)**	**FY 2016-17 (Proj.) (MU)**	**YoY Growth (FY 2015-16)**	**YoY Growth (FY 2016-17)**
1.	Domestic	11483.25	12393.27	13528.62	7.92%	9.16%
2.	Commercial	3265.89	3467.20	3699.27	6.16%	6.69%
3.	Industrial Supply					
a	*Small Power*	914.83	925.71	936.60	1.22%	1.18%
b	*Medium Supply*	2008.43	2119.65	2189.61	5.54%	3.30%
c	*Large Supply*	11097.17	10825.99	11611.47	-2.44%	7.26%
4.	Public Lighting	183.29	185.13	202.53	1.01%	9.40%
5.	Bulk Supply	639.37	663.06	697.18	3.70%	5.15%
6.	Railway Traction	152.48	161.33	166.79	5.81%	3.38%
7.	**Total Metered Sales**	**29744.41**	**30741.34**	**33032.07**	**3.35%**	**7.45%**

The Commission accepts the metered energy sales as projected by PSPCL in the ARR for FY 2016-17, instead of metered energy sales worked out by applying 3 years CAGR from FY 2011-12 to 2014-15 on energy sales approved by the Commission for FY 2015-16 in review, as per past practice, as there is likelihood of increase in the metered energy sales during FY 2016-17 in view of sufficient generation capacity available with PSPCL to meet the energy demand during whole of the year. The 3 years CAGR submitted by PSPCL for FY 2011-12 to FY 2014-15, energy sales projected by PSPCL for FY 2016-17 in the ARR and the energy sales approved by the Commission for FY 2016-17 are given in Table 6.2.

Table 6.2: 3 Year CAGR submitted by PSPCL, Metered Energy Sales within the State projected by PSPCL & Metered Energy Sales within the State approved by the Commission for FY 2016-17

Sr. No.	Category	Energy Sales during FY 2011-12 (Actual) (MU)	Energy Sales during FY 2014-15 (Provisional) (MU)	3 year CAGR submitted by PSPCL (FY 2011-12 to FY 2014-15	Energy Sales projected by PSPCL for FY 2016-17	Energy Sales approved by the Commission
I	II	III	IV	V	VI	VII
1.	Domestic	8828	11483.25	9.16%	13528.62	13528.62
2.	Non-Residential	2689	3265.89	6.69%	3699.27	3699.27
3.	Small Power	883	914.83	1.18%	936.60	936.60
4.	Medium Supply	1822	2008.43	3.30%	2189.61	2189.61
5.	Large Supply	8994	11097.17	7.26%	11611.47	11611.47
6.	Public Lighting	140	183.29	9.40%	202.53	202.53
7.	Bulk Supply	550	639.37	5.15%	697.18	697.18
8.	Railway Traction	138	152.48	3.38%	166.79	166.79
9.	**Total metered sales (within the State)**	**24044**	**29744.71**		**33032.07**	**33032.07**

The Commission, thus, approves metered energy sales within the state as 33032.07 MU as projected by PSPCL, which are as per column VII of Table 6.2.

6.1.2 Energy Sales to Common Pool Consumers and Outside State Sale

PSPCL has projected energy sale to Common Pool consumers and Outside State energy sale for FY 2016-17 as below:

Category	FY 2015-16 (RE) (MU)	FY 2016-17 (Projections) (MU)
I	II	III
Common Pool Consumers	311	312
Outside State Sale	143	121

PSPCL has submitted that the energy sale to Common Pool consumers for FY 2016-17 has been projected based on the actual figures of energy sale to Common Pool consumers for FY 2014-15 and envisaged changes due to other provisions.

Further, PSPCL has submitted 121 MU of energy sales under the head Outside State Sale, which consist of 53 MU as royalty of Himachal Pradesh (HP) in Shanan and 68

MU as free share of HP in RSD. The Commission considers the Outside State Sale of 53 MU only as per the practice being followed in past Tariff Orders. The free share of HP in RSD has been taken into account while determining net generation from PSPCL's own hydel generating stations. Further, the Commission accepts the Common Pool sale of 312 MU as projected by PSPCL.

The Commission approves the Outside State sale at 53 MU and the energy sale of 312 MU to Common Pool consumers for FY 2016-17.

The total metered energy sales for FY 2016-17 projected by PSPCL and approved by the Commission are given in Table 6.3.

Table 6.3: Metered Energy Sales for FY 2016-17

(MU)

Sr. No.	Category	Projected by PSPCL for FY 2016-17	Approved by the Commission
I	**II**	**III**	**IV**
1.	Domestic	13528.62	13528.62
2.	Non-Residential	3699.27	3699.27
3.	Small Power	936.60	936.60
4.	Medium Supply	2189.61	2189.61
5.	Large Supply	11611.47	11611.47
6.	Public Lighting	202.53	202.53
7.	Bulk Supply	697.18	697.18
8.	Railway Traction	166.79	166.79
9.	**Total Metered Sales**	**33032.07**	**33032.07**
10.	Common Pool	312.00	312.00
11.	Outside State sale	121.00	53.00
12.	**Total Sales**	**33465.07**	**33397.07**

The Commission, thus, approves metered sales at 33397.07 MU (say 33397 MU) against 33465.07 MU projected by PSPCL.

6.1.3 AP Consumption

PSPCL has projected AP consumption at 11697 MU for FY 2016-17 by applying growth of 5% over revised estimates of AP consumption of 11140 MU projected for FY 2015-16 (RE) in the ARR.

The Commission notes that PSPCL in its ARR for FY 2016-17 has projected total number of AP consumers at the end of FY 2015-16 and at the end of FY 2016-17 as 1260860 and 1286510 respectively. Thus, addition of 25650 AP consumers has been projected during FY 2016-17 by PSPCL in its ARR for FY 2016-17. However, as per AP Policy issued by the Government of Punjab for FY 2015-16 vide letter No.1/33/08-EB(PR)/816 dated 10.12.2015, target for release of 1.65 lac new tubewell connections by 31.12.2016 has been fixed. PSPCL vide its letter No.2156 dated 05.04.2016 has intimated the month-wise connections released during January, 2016, February, 2016 and March, 2016 and targets for release of AP connections from April, 2016 to December, 2016. In view of the target for release of 1.65 lac new tubewell connections to be released by PSPCL by 31.12.2016, the AP consumption during FY 2016-17 is likely to be more than as projected by PSPCL in its ARR for FY 2016-17. The Commission, therefore, decides to estimate the AP consumption for FY 2016-17 by applying 7.50% increase (adhoc) over AP consumption of 10537 MU approved by the Commission for FY 2015-16 in para 5.2.2 of this Tariff Order. Thus, AP consumption for FY 2016-17 works out to 11327 MU. This will be reviewed on the basis of revised estimates in the next Tariff Order.

The Commission, thus, approves the AP consumption at 11327 MU for FY 2016-17 against 11697 MU projected by PSPCL.

6.1.4 **Total Energy Demand (Sales)**

The total metered energy sales, AP consumption, Common Pool and Outside State energy sales projected by PSPCL and as approved by the Commission for FY 2016-17 are given in Table 6.4.

Table 6.4: Total Energy Sales for FY 2016-17

(MU)

Sr. No.	Category	Projected by PSPCL for FY 2016-17	Approved by the Commission
I	**II**	**III**	**IV**
1.	Total Metered sales	33032	33032
2.	AP Consumption	11697	11327
3.	**Total sales within the State (1+2)**	**44729**	**44359**
4.	Common Pool	312	312
5.	Outside State sale	121	53
6.	**Total sales**	**45162**	**44724**

The Commission, thus, approves total energy sales to different categories of consumers at 44724 MU, including Common Pool and Outside State energy sales.

6.2 Transmission and Distribution Losses (T&D Losses)

PSPCL has submitted that T&D losses for FY 2016-17 have been projected after considering the expected improvement in the system as a result of planned capital works for distribution loss reduction programs. It has further been submitted that driven by targets and directives given by the Commission, PSPCL is making concerted efforts is reduce and control the losses, and is already recognized at par with some of the efficient utilities in the country. PSPCL in the ARR for FY 2016-17 has prayed to approve T&D loss level for FY 2016-17 at 15.00%.

The Govt. of Punjab adopted Ujwal Discom Assurance Yojana (UDAY) Scheme on 4th March, 2016 through a Tripartite Memorandum of Understating (MoU) between Ministry of Power, Govt. of India, Govt. of Punjab and PSPCL. The Commission vide its letter no. 12561 dated 09.03.2016 asked PSPCL to submit revised ARR FY 2016-17, after incorporating the impact of UDAY scheme on various elements/figures of ARR. PSPCL vide its letter no. 481/CC/DTR/Dy.CAO/246/Vol.I dated 12.04.2016 submitted the revised figures after incorporating the impact of UDAY scheme on the ARR for FY 2016-17. PSPCL has submitted that as per MoU, PSPCL has to achieve the target T&D loss of 14.50% for FY 2016-17, which is lower than that submitted in the original ARR petition. **The Commission, therefore, fixes T&D loss target for FY 2016-17 at 14.50%.**

The Commission is of the view that the losses are to be separately considered and approved for PSTCL and PSPCL. Since PSTCL is still in the process of installing intra-state boundary metering and could not provide the required data to estimate losses for PSTCL system separately, the Commission decides to stipulate only overall target T&D losses, with segregation into transmission loss for PSTCL system and distribution loss for PSPCL system within the overall target, pending final adjustment between PSTCL and PSPCL based on actual data at a later stage.

Keeping the overall T&D loss level of 14.50% as the target set for FY 2016-17 and based on the provisionally approved Transmission Loss of 2.50% for PSTCL for FY 2016-17 in the Tariff Order for PSTCL for FY 2016-17, the target Distribution Loss (66 kV and below system) of PSPCL for FY 2016-17 works out to 12.43% (as depicted in Table 6.5), which the Commission approves provisionally. The Commission will revisit the Distribution Loss of PSPCL while undertaking Review/True up for FY 2016-17.

6.3 Energy Requirement

The total energy requirement is the sum of estimated energy sales including Common Pool and Outside State sales and T&D losses. The projected energy sales, T&D losses and energy requirement as reported by PSPCL and as approved by the Commission for FY 2016-17 are given in Table 6.5.

Table 6.5: Energy Requirement for FY 2016-17

(MU)

Sr. No.	Category	Projected by PSPCL for FY 2016-17 in the ARR	Submitted by PSPCL vide letter no. 246 dated 12.04.2016	Approved by the Commission
I	**II**	**III**	**IV**	**V**
1.	Metered sales within the State	33032	33032	33032
2.	AP Consumption	11697	11697	11327
3.	**Total sales within the State (1+2)**	**44729**	**44729**	**44359**
4.	Common Pool sales	312	312	312
5.	Outside State sale	121	121	53
6.	**Total sales (3+4+5)**	**45162**	**45162**	**44724**
7(a)	T&D losses on Sr. No. 3 (%)	15.00%	14.50%	14.50%
7(b)	T&D losses on Sr. No. 3	7893	7586**	7523
8.	**Total energy input required [6+7(b)]**	**53055**	**52748**	**52247**
9.	**Energy at Transmission periphery to be sold within the State (8-4-5)**			**51882**
10(a)	Transmission Loss (%) on Sr. No. 9			2.50%
10(b)	Transmission Loss on Sr. No. 9			1297
11.	Energy available to PSPCL [9-10(b)-482*]			50103
12(a)	Distribution Loss			6226
12(b)	Distribution Loss (%)			12.43%
13.	**Energy available for Sale to consumers within the State [11-12(a)+482*]**			**44359**

**Energy sale at 220/132 kV voltage level.*
*** Against 7583, wrongly shown by PSPCL.*

6.4 PSPCL's own Generation

6.4.1 Thermal Generation

PSPCL has projected gross thermal generation for FY 2016-17 at 2082 MU for GNDTP, 8400 MU for GGSSTP and 6443 MU for GHTP.

Plant Availability

- The plant availability of GNDTP for FY 2016-17 has been projected at 90.89%, based on annual overhauling schedule. The annual overhauling of units II & IV has been planned for 30 days each.
- The plant availability of GGSSTP for FY 2016-17 has been projected at 91.10%, based on annual maintenance/overhauling/capital maintenance schedule. The maintenance/overhauling has been planned for unit-II for 28 days, unit-III for 40 days and unit-V for 40 days.
- The plant availability for GHTP for FY 2016-17 has been projected at 92.33% based on capital overhauling schedule. The overhauling has been planned for

unit-II and unit-III for 45 days each.

PSPCL in the ARR has submitted that its generating plants are operating as part of integrated grid and abide by the rules and regulations framed by CERC and PSERC to ensure the safety of the grid. In view of this, to manage the frequency-load balance, PSPCL has to follow the instructions from Punjab State Load Despatch Centre (PSLDC). In FY 2012-13 and FY 2013-14, PSPCL has suffered loss of generation because of backing down of generation on instructions received from PSLDC, even though it was available for generation. Further, PSPCL has surplus energy available from tied up sources from central generating stations and IPPs in the State. PSPCL has to surrender the excess energy, to manage demand and maintain energy balance. The Commission in the Tariff Orders for FY 2014-15 and FY 2015-16 directed PSPCL that the surrendering of energy should be as per merit order dispatch from all the thermal generating stations, including PSPCL's own thermal generating stations. In the present scenario, the estimation of generation from PSPCL's own thermal generating stations on the basis of plant availability will not give correct estimation. As such, **the Commission approves the gross thermal generation from PSPCL's own thermal plants, as approved for FY 2015-16 in review (para 5.5.1), as shown in Table 6.6.**

Table 6.6: Gross Thermal Generation for FY 2016-17

(MU)

Sr. No.	Station	Approved generation
I	**II**	**III**
1.	GNDTP	918.30
2.	GGSSTP	3959.00
3.	GHTP	3134.83
4.	**Total**	**8012.13**

Performance Parameters

PSERC Tariff Regulations provide that for determining the cost of generation of each generating station, the Commission shall be guided, as far as feasible, by the principles and methodology of CERC, as amended from time to time. This approach has been adopted consistently by the Commission in its Tariff Orders from FY 2005-06 onwards. CERC vide its notification no. L-1/144/2013/CERC dated 21.02.2014 has notified Terms and Conditions of Tariff Regulations, 2014 for electricity tariff for the five year period beginning from 01.04.2014, wherein operating norms for thermal plants have also been specified. The Commission followed these norms for FY 2014-15 and FY 2015-16 in the Tariff Orders for FY 2014-15 and FY 2015-16. The Commission decides to follow these norms for FY 2016-17 also. CERC, has, however, not specified any norms for 110/120 MW units and the Commission had, in the case of GNDTP, adopted the norms specified for Tanda Thermal Power Generating Station of NTPC, which has 4 units of 110 MW each. The Commission notes that units I, II, III and IV of GNDTP have achieved commercial operation on 31.05.2007, 19.01.2006, 07.12.2012 and 27.09.2014 respectively, after completion of renovation and modernization. The individual performance parameters have been further discussed, later in this chapter.

Auxiliary Consumption and Net Generation

PSPCL in the ARR for FY 2016-17 has submitted Plant wise auxiliary energy consumption for FY 2016-17 as 11.00%, 8.50% and 8.50% for GNDTP, GGSSTP and GHTP respectively. PSPCL has further submitted and prayed to approve auxiliary consumption for GNDTP as 12%. PSPCL has made similar submissions that have been made for review of FY 2015-16. The matter has been discussed in para 5.5.1 of this Tariff Order. **As such, the Commission approves auxiliary consumption for GNDTP, GGSSTP and GHTP as 11%, 8.50% and 8.50% respectively, as projected by PSPCL in the ARR.**

Auxiliary consumption and net generation from the three thermal generating stations, as projected by PSPCL and as approved by the Commission for FY 2016-17 are given in Table 6.7.

Table 6.7: Generation and Auxiliary Consumption for Thermal Plants for FY 2016-17

(MU)

Sr. No.	Station	Projected by PSPCL			Approved by the Commission		
		Gross generation	Auxiliary consumption	Net generation	Gross generation	Auxiliary consumption	Net generation
I	II	III	IV	V	VI	VII	VIII
1.	GNDTP	2082	229 11.00%	1853	918.30	101.01 11.00%	817.29
2.	GGSSTP	8400	714 8.50%	7686	3959.00	336.52 8.50%	3622.48
3.	GHTP	6443	548 8.50%	5895	3134.83	266.46 8.50%	2868.37
4.	**Total**	**16925**	**1491**	**15434**	**8012.13**	**703.99**	**7308.14**

Net thermal generation approved by the Commission for FY 2016-17 is 7308.14 MU (say 7308 MU), as projected by PSPCL.

6.4.2 **Hydel Generation**

In the ARR petition for FY 2016-17, PSPCL has projected hydel generation for FY 2016-17 from its own stations, based on average of last three years i.e. during FY

2012-13, FY 2013-14 and FY 2014-15. The Commission decides to consider the hydel generation as projected by PSPCL. The generation projected by PSPCL and the generation approved by the Commission are given in Table 6.8.

Table 6.8: Own Hydel Generation for FY 2016-17

(MU)

Sr. No.	Station	Generation projected by PSPCL for FY 2016-17	Generation approved by the Commission
I	**II**	**III**	**IV**
1.	Shanan	518	518
2.	UBDC	369	369
3.	RSD	1515	1515
4.	MHP	1133*	1133*
5.	ASHP	720	720
6.	Micro Hydel	6	6
7.	**Total own hydel generation (gross)**	**4261**	**4261**

** Includes 83 MU of MHP Stage-II.*

The Commission approves estimated gross generation of 4261 MU from PSPCL's own hydel stations. The Commission also approves PSPCL's share (net) from BBMB at 4178 MU and Common Pool share at 312 MU as projected by PSPCL for FY 2016-17. The total hydel generation approved by the Commission is depicted in Table 6.9.

Table 6.9: Total Hydel Generation for FY 2016-17

(MU)

Sr. No.	Station	Projected by PSPCL for FY 2016-17	Approved by the Commission
I	**II**	**III**	**IV**
1.	Shanan	518	518
2.	UBDC Stage 1	154*	154
3.	UBDC Stage 2	215*	215
4.	RSD	1515	1515
5.	MHP	1133	1133
6.	ASHP	720	720
7.	Micro hydel	6	6
8.	**Total own generation (Gross)**	**4261**	**4261**
9.	Auxiliary consumption and transformation loss	10	35**
10.	HP share in RSD		68
11.	**Total own generation (Net)**	**4251**	**4158**
12.	**PSPCL share from BBMB**		
(a)	PSPCL share (Net)	4178	4178
(b)	Common pool share (Net)	312	312
13.	**Total from BBMB (Net)**	**4490**	**4490**
14.	**Total hydro (Net) (Own + BBMB)**	**8741**	**8648**

** On pro-rata basis, against 149 MU & 209 MU of generation of UBDC Stage-1 & UBDC Stage-2 respectively shown by PSPCL in the ARR.*

***Transformation losses @0.5% (21 MU), auxiliary consumption @0.5% for RSD generation of 1515 MU and UBDC stage-1 generation of 154 MU (having static exciters) and @0.2% for others (14 MU).*

The Commission, thus, approves net hydel generation of 8648 MU for FY 2016-17, against 8741 MU projected by PSPCL.

6.4.3 Total availability of energy from PSPCL's own stations and share from BBMB

The approved net generation from own thermal and hydel stations of PSPCL and share from BBMB is given in Table 6.10.

Table 6.10: Net Own Generation and share from BBMB for FY 2016-17

(MU)

Sr. No.	Station	Energy available (ex-bus)
I	**II**	**III**
1.	Thermal stations	7308
2.	Hydel stations	4158
3.	Share from BBMB (including 312 MU share of Common Pool consumers)	4490
4.	**Total availability**	**15956**

The Commission approves the total energy availability from PSPCL's own generating stations (thermal and hydel), including share from BBMB, as 15956 MU.

6.5 Purchase of Power

The total energy required to meet the demand during FY 2016-17 including Common Pool and Outside State sales is 52247 MU as discussed in para 6.3. The energy available from own generating stations of PSPCL including its share from BBMB is 15956 MU as approved in para 6.4.

The balance energy requirement of 36291 MU (net) has to be met through purchase from Central Generating Stations and other sources. This is against a requirement of 28573 MU (net) projected by PSPCL for FY 2016-17.

6.6 Energy Balance

The energy balance, which takes into account the approved energy sales to different categories of consumers, T&D losses and energy availability, is given in Table 6.11.

Table 6.11: Energy Balance for FY 2016-17

(MU)

Sr. No.	Particulars	Projected by PSPCL for FY 2016-17in the ARR	Submitted by PSPCL vide letter no. 246 dated 12.04.2016	Approved by the Commission
I	II	III		IV
A) Energy Requirement				
1.	Metered Sales	33032	33032	33032
2.	AP Consumption	11697	11697	11327
3.	**Total Sales within the State**	**44729**	**44729**	**44359**
4.	T & D Losses (%) on Sr. No. 3	15.00%	14.50%	14.50%
5.	T & D losses on Sr. No. 3	7893	7586	7523
6.	Sales to Common pool consumers	312	312	312
7.	Outside State Sale	121	121	53
8.	**Total Requirement**	**53055**	**52748**	**52247**
B) Energy Available				
9.	Own generation (Ex-bus)			
(a)	Thermal	15434	15434	7308
(b)	Hydro	4251	4251	4158
10.	Share from BBMB (including share of Common Pool consumers)	4490	4490	4490
11.	Purchase (net)	28880	28573	36291
12.	**Total Availability**	**53055**	**52748**	**52247**

6.7 Fuel Cost

6.7.1 Fuel Cost projected by PSPCL

PSPCL has projected fuel cost of ₹5804.62 crore for a total gross generation of 16925 MU during FY 2016-17 based on operational and cost parameters as detailed in Table 6.12.

Table 6.12: Operation and Cost Parameters projected by PSPCL for FY 2016-17

Sr. No.	Station	PLF (%)	Station heat rate (kCal/kWh)	Transit loss of coal (%)	Coal price excluding transit loss (₹/MT)	Calorific value of coal (kCal/Kg)	Price of oil (₹/kL)	Specific oil consumption (ml/kWh)	Calorific value of oil (kCal/lt)
I	II	III	IV	V	VI	VIII	IX	X	XI
1.	GNDTP	51.67	2800.00	1.50	4946.55	4050	52843.55	1.50	9400
2.	GGSSTP	76.10	2661.70	1.00	5117.15	3900	40603.72	1.00	9700
3.	GHTP	79.95	2438.25	1.00	5197.62	3925	48994.00	0.50	9500

6.7.2 With regard to various performance parameters, PSPCL has submitted as under:

A. Station Heat Rate (SHR)

(i) For GNDTP, the Commission has approved SHR of 2750 kCal/kWh for FY

2015-16 based on CERC norms for Tanda TPS (after its R&M), as specified in CERC Tariff Regulations, 2014. PSPCL has achieved the SHR of 2815 kCal/kWh for first half (H1) of FY 2015-16. In order to maintain the SHR as per CERC norms, PSPCL has considered the SHR of 2800 kcal/kWh for FY 2016-17.

(ii) For GGSSTP, the Commission has approved the SHR of 2450 kCal/kWh based on CERC norms specified in CERC Tariff Regulations, 2014. The actual SHR achieved in H1 of FY 2015-16 at 2879 kCal/ kWh is quite higher than the approved figure. Considering the actual performance of Stations, PSPCL has considered the SHR of 2662 kCal/kWh for FY 2016-17.

(iii) For GHTP, the Commission has approved different SHR as 2450 kCal/kWh for Units I & II and 2428 kCal/kWh for Units III & IV. PSPCL has submitted that the approach adopted by the Commission for stipulating SHR for Units is not prudent. The SHR needs to be assessed station-wise as some energy from a particular unit, such as FO tank heating, is used for common services of GHTP units. Also, the SHR increases with aging of the units and is prone to increase during the backing down of units. Accordingly, PSPCL has considered the SHR of 2438 kCal/kWh for FY 2016-17. PSPCL has prayed the Commission to consider SHR of 2438 kCal/kWh for GHTP station as a whole.

B. Price of Coal and Oil

PSPCL has submitted that price of coal has drastically increased for GNDTP from FY 2014-15 to first half (H1) of FY 2015-16. Coal was available at a rate of ₹3896/ MT during FY 2014-15. However, the price has increased to ₹4621/MT during H1 of FY 2015-16. The prime reason being the unavailability of coal from PSPCL's captive coal mine and the quality of coal supplied by CIL in place of captive coal mine was poor. In addition to the above, CIL has also charged ₹800/MT as commitment charges. PSPCL has further submitted that the price of coal might further increase in future and therefore an escalation of 5% has been considered over price of H1 of FY 2015-16 for estimating price of second half (H2) of FY 2015-16. Similar methodology has been adopted for pricing of oil. PSPCL has further submitted that during FY 2016-17, it is expected that 50% of the coal will be available through its captive coal mine and therefore the pricing of coal for FY 2016-17 has been done accordingly. Price of oil has been escalated by 10% over FY 2015-16 estimates.

Further, since PSPCL's captive coal mine was not available in FY 2015-16, coal prices for both GGSSTP and GHTP have increased significantly due to usage of imported coal as well as CIL coal. The quality of CIL coal was poor and moreover, CIL has charged ₹800/MT as commitment charges. PSPCL has expected the captive coal mine to be available in FY 2016-17 and therefore, projected a reduction in coal price during this period as compared to FY 2015-16. A nominal increase in oil prices has been considered over H2 of FY 2015-16 for projecting price of oil for FY 2016-17.

Any variation in fuel price and GCV is pass through as per the recovery of energy and capacity charges provided in Fuel Cost Adjustment in line with PSERC (Conduct of Business) Regulations, 2005 as amended from time to time.

C. Transit Loss of Coal

PSPCL has submitted that it has been observed from past trends that the coal transit losses are inconsistent for all the three plants. The coal transit losses are not within the control of PSPCL and attributable to the following reasons:

(i) Calibration of measuring instruments:- Weighing of coal at two different locations having different calibration of weighing machines leads to an error more than permissible limits.

(ii) The transit loss occurs because of seasonal variation during the transportation of the coal, which changes the moisture content of the coal during transportation.

(iii) The transportation of coal happens through open wagons. As soon as, the goods are loaded on the wagon, it becomes owner's risk and railways disown the responsibility. Coal is subject to pilferages at all halts, which is beyond the control of Railways.

(iv) During unloading, small quantities of coal get stuck at the edges of the transport wagons due to moisture and remain undelivered to the plant, contributing to transit losses.

(v) PSPCL has considered the normative transit losses of 1.5% for GNDTP and 1% for GHTP and GGSSTP for estimating the fuel cost.

6.7.3 **Imported Coal Blending for GGSSTP and GHTP**

PSPCL has submitted that as very less quantity of coal (almost Nil) was available from PSPCL captive coal mine and therefore at present significant amount of imported coal is being used for generation at GGSSTP and GHTP. The Commission has allowed use of imported coal as per para 4.7.4 of Tariff Order for FY 2015-16. In line with the decision of the Hon'ble Supreme Court, all coal blocks were cancelled in the country. This has resulted in more quantity of coal from CIL and also imported coal being sourced by PSPCL to run its generating stations. To meet the required generation, PSPCL has to arrange the additional coal supplies. For such additional coal supply, PSPCL has considered the option of importing the coal.

6.7.4 With regard to deviation in technical parameters, PSPCL has quoted various judgments of the Hon'ble APTEL, in the ARR for FY 2016-17.

6.7.5 **Fuel Cost approved by the Commission**

Gross Generation

The gross generation of thermal plants for FY 2016-17 has been discussed in para 6.4.1 and summarized in Table 6.7.

Imported Coal blending for GGSSTP & GHTP

PSPCL has submitted in the ARR that very less quantity of coal (almost Nil) was available from PSPCL's captive coal mine and therefore presently significant amount of imported coal is being used for generation at GGSSTP and GHTP, as the Commission has allowed use of imported coal as per para 4.7.4 of Tariff Order for FY 2015-16. In line with the decision of Hon'ble Supreme Court, all coal blocks were cancelled. This has resulted in more quantity of coal from CIL and also imported coal being sourced by PSPCL to run its generating stations.

The Commission has observed that the cost of imported coal may be considerably higher than the Indian coal even after accounting for higher GCV of imported coal. The Commission directs PSPCL to explore various options of arranging the shortfall in coal, if any, in availability of coal from the tied up sources for its own thermal generating stations and should arrange the coal from alternative domestic sources, and imported coal should be procured in most economical manner, if at all the need for the same arises and submit the details of the same at the time of review/true up of FY 2016-17. PSPCL should also keep in view the availability of surplus power from various sources as projected in the ARR and ensure that the power is surrendered strictly as per merit order principle. PSPCL may take into consideration any variation in fuel cost, including on account of coal from alternative domestic sources/imported coal, while working out FCA.

Station Heat Rate

CERC has laid down norms of gross SHR for coal based thermal stations as given in Table 6.13.

Table 6.13: CERC Norms for Gross Station Heat Rate

Sr. No.	Capacity of Unit / Name of Plant	SHR norms (kCal/kWh)
I	II	III
1.	200/210/250 MW Sets	2450
2.	500 MW Sets (Sub-critical)	2375
3.	Talcher Thermal Power Station	2850
4.	Tanda Thermal Power Station	2750

On the above basis, the Commission approves SHR at 2450 kCal/kWh for GGSSTP and for GHTP Units I & II. After analysis of the issue of SHR for units III and IV of GHTP in paras 2.7.5 and 3.7.5 of the Tariff Order for FY 2014-15, the Commission determined and decided to approve SHR of 2428 kCal/kWh for units III and IV of GHTP for FY 2010-11 (True up), FY 2011-12(True up), FY 2013-14 (Review) and FY 2014-15 (Projections), in the Tariff Order for FY 2014-15. Further, the Commission approved the SHR of 2428 kCal/kWh for Units III and IV of GHTP for FY 2014-15 (Review) and FY 2015-16 (Projections), in the Tariff Order for FY 2015-16. Further, the Commission approved the SHR of 2428 kCal/ kWh for Units III and IV of GHTP for FY 2012-13 (True up), FY 2013-14 (True up) and FY 2015-16 (Review) in paras 2.7.6, 3.7.6 and 5.8 of this Tariff Order. The Commission decides to allow SHR for GHTP Units III & IV at 2428 kCal/kWh for FY 2016-17 also, since same formulation has been specified by CERC in its Tariff Regulations, 2014, as specified in its Tariff Regulations, 2009. As CERC has not specified any norms for 110/120 MW units, the Commission decides to allow SHR of 2750 kCal/kWh for GNDTP units based on CERC norms for Tanda TPS (after its R&M), as specified in CERC Tariff Regulations, 2014.

Coal Transit Loss

PSPCL in its ARR for FY 2016-17 has projected transit loss of coal for FY 2016-17 at 1.50% for GNDTP and 1.00% for GGSSTP & GHTP.

The Commission in its Tariff Order for FY 2012-13, after considering the whole issue of transit loss, decided to cap the maximum transit loss of coal at 1.0% for FY 2013-14 & onwards.

CERC, in its Tariff regulations, 2014, has specified the transit loss of 0.2% for pit-head thermal generating stations and 0.8% for non pit-head thermal generating stations.

In view of the above, the Commission approves the transit loss (for domestic coal) for all the thermal generating stations of PSPCL as per actual, subject to a maximum of 1.0%, for FY 2016-17. However, no such loss is permissible in case same is priced on FOR destination basis.

Price and Calorific Value of Coal and Oil

Fuel cost being a major item of expense, the actual calorific value & price of coal & oil and transit loss of coal for the first six months of FY 2015-16 were validated and the results are given in Table 6.14.

Table 6.14: Validated Calorific Value/Price of Coal and Oil and Transit Loss of Coal for FY 2015-16 (H1)

Sr. No.	Station	Gross calorific value of coal as received (kCal/kg)	Calorific Value of Oil (kCal/lt)	Price of Oil (₹/kL)	Price of coal (₹/MT) (Excluding Transit Loss)	Transit Loss (%)
I	II	III	IV	V	VI	VII
1.	GNDTP	4247.90	9896.65	45751.99	4619.61	1.04
2.	GGSSTP	4290.56	9768.19	38467.07	5176.48	(-)0.06
3.	GHTP	4235.75	9875.83	44438.50	5158.98	0.31

PSPCL has submitted that it expects 50% of coal from Pachwara Captive Mine to be available during FY 2016-17. Therefore, in working out the fuel cost for FY 2016-17, the Commission has considered the price and calorific value of oil & coal as validated for first six months of FY 2015-16, as given in Table 6.14. CERC in its Tariff Regulations, 2014 has considered the gross calorific value of coal as received, for working out the energy charges (fuel cost) in respect of coal based thermal stations. The Commission accordingly decides to consider the gross calorific value of received coal for working out the fuel cost for FY 2016-17. The figures of gross calorific value of coal as given in column III of Table 6.14 are gross calorific values of coal as received, as validated by the Commission for the period from April, 2015 to September, 2015. The price and calorific value of coal indicated above are the weighted average values of coal.

Specific oil consumption

PSPCL has projected specific oil consumption at GNDTP, GGSSTP and GHTP as 1.50, 1.00 and 0.50 ml/kWh respectively.

The Commission has adopted CERC norms for specific oil consumption as in the case of other performance parameters of thermal plants. As per CERC Tariff Regulations, effective from 01.04.2014, the Commission approves 0.5 ml/kWh specific oil consumption for GNDTP, GGSSTP and GHTP.

Table 6.15: Fuel Cost (Coal and Oil) for FY 2016-17

Sr. No.	Item	Derivation	Unit	GNDTP	GGSSTP	GHTP Units I & II	GHTP Units III & IV	Total
I	II	III	IV	V	VI	VII	VIII	IX
1.	Generation	A	MU	918.30	3959.00	1246.80	1888.03	**8012.13**
2.	Heat Rate	B	kcal/kWh	2750	2450	2450	2428	
3.	Specific Oil consumption	C	ml/kWh	0.5	0.5	0.5	0.5	
4.	Calorific value of oil	D	kcal/litre	9896.65	9768.19	9875.83	9875.83	
5.	Calorific value of coal	E	kcal/kg	4247.90	4290.56	4235.75	4235.75	
6.	Overall heat	F = (A x B)	Gcal	2525325	9699550	3054660	4584137	
7.	Heat from oil	G = (A x C x D) / 1000	Gcal	4544	19336	6157	9323	
8.	Heat from coal	H = (F-G)	Gcal	2520781	9680214	3048503	4574814	
9.	Oil consumption	I=(Gx1000)/D	KL	459	1979	623	944	
10.	Transit loss of Coal	J	(%)	1	1	1	1	
11.	Total coal consumption excluding transit loss	K=(Hx1000)/E	MT	593418	2256166	719708	1080048	
12.	Quantity of Captive Mine coal and Imported coal	L	MT	315839*	1346060*	386508*	585289*	
13.	Quantity of coal other than Captive Mine coal and Imported coal, excluding transit loss	M=K-L	MT	277579	910106	333200	494759	
14.	Quantity of coal other than Captive Mine coal and Imported coal, including transit loss	N=M/(1-J/100)	MT	280383	919299	336566	499757	
15.	Total quantity of coal required	O=L+N	MT	596222	2265359	723074	1085046	
16.	Price of oil	P	₹/KL	45751.99	38467.07	44438.50	44438.50	
17.	Price of coal	Q	₹/MT	4619.61	5176.48	5158.98	5158.98	
18.	Total cost of oil	$R=P \times I / 10^7$	₹crore	2.10	7.61	2.77	4.19	16.67
19.	Total cost of coal	$S=O \times Q/10^7$	₹crore	275.43	1172.66	373.03	559.77	2380.89
20.	**Total Fuel cost**	**T=R+S**	**₹crore**	**277.53**	**1180.27**	**375.80**	**563.96**	**2397.56**
21.	**Per Unit Cost**	**U=Tx10/A**	**₹/kWh**	**3.02**	**2.98**	**3.01**	**2.99**	**2.99**

* Quantity of Captive Mine coal and Imported coal as projected by PSPCL in the ARR has been re-worked out in proportion to generation as projected in the ARR and as estimated by the Commission.

Based on the generation and operational parameters approved by the Commission, cost of fuel for FY 2016-17 works out to ₹2397.56 crore for thermal generation of 8012.13 MU (gross) as detailed in Table 6.15, which the Commission approves.

6.8 Power Purchase

6.8.1 **Projection by PSPCL:** PSPCL has projected power purchase cost of ₹13527.45 crore (excluding intra state transmission charges payable to PSTCL) for purchase of 29329.11 MU (gross) during FY 2016-17. PSPCL vide letter no. 481 dated 12.04.2016 has revised power purchase cost to ₹13370 crore (excluding intra state transmission charges payable to PSTCL) for purchase of 29025.14 MU (gross) during FY 2016-17. PSPCL has submitted that the power purchase cost has been reduced by ₹157.46 crore due to revision of T&D loss target from 15% to 14.50%. PSPCL has further submitted that the net banking arrangement with HPSEB, UPCL, J&K and other traders has been revised to 1902.87 MU (to be returned back by PSPCL at transmission periphery) instead of 1592.50 MU (to be returned back by PSPCL at transmission periphery) as mentioned in the ARR. The receipt through net banking would increase to ₹719.63 crore from ₹562.17 crore as mentioned in the original petition. As such, there would be a saving of ₹157.46 crore.

PSPCL has submitted in the ARR and Tariff Petition that in order to optimize the cost of power procured, PSPCL has scheduled its power procurement from various central generating stations and IPPs on the merit order principles. PSPCL has submitted that in the merit order process, sources of power have been considered in ascending merit order of variable cost. Sources of power with the lowest variable cost/unit have been scheduled to be procured first (base load) and those with the highest cost/unit at last (peak load). Sources with equal merit order have been considered together in proportion to their available capacity. The power purchase expenses as determined through such optimal order dispatch after due consideration for contractual obligations, technical constraints and load profiles during various seasons, have been proposed for approval. PSPCL has further submitted that it receives fixed allocation from central generating stations based on its allocation from respective stations. Moreover, the State also receives a quantum of power from the unallocated share in various central generating stations at different intervals during a year. Further, PSPCL has also proposed to purchase power from Independent Power Producers (IPPs) including Talwandi Sabo TPS, Rajpura TPS, Goindwal Sahib TPS etc.

The following new power plants as given in Table 6.16 have also been considered by PSPCL for assessing energy availability during FY 2016-17. PSPCL has submitted that the commissioning schedule has been taken as per the commitments received from concerned generating company/concerned authority and energy availability has been projected accordingly in-spite of slippages in the commissioning, as no firm schedule is available.

Table 6.16: Details of New Power Plants

Sr. No.	Name of the Plant	Plant Capacity (MW)	PSPCL share gross (MW)	Commissioning Schedule
1.	Kishan Ganga HEP (NTPC)	3x110 = 300 MW	33	September, 2016 (Unit-1) October, 2016 (Unit-2) November, 2016 (Unit-3)
2.	Talwandi Sabo TPS (Sterlite)	3x660 = 1980 MW	1980	Unit-1 already commissioned December, 2015 (Unit-2) April, 2016 (Unit-3)
3.	Goindwal Sahib TPS (GVK)	2x270 = 540 MW	540	April, 2016 (Unit-1 & 2)
4.	Mukerian Hydel Project Stage-II	9x2 = 18 MW	18	April, 2016
	Total		**2571 MW**	

PSPCL has submitted that projected energy from all Central Thermal and Nuclear Generating Stations with allocated share to PSPCL for FY 2016-17 has been taken the same as the energy for the previous year i.e. FY 2014-15, and from Central Hydro Generating Stations, the allocated share to PSPCL has been based upon the average of the energy for the last three years i.e. FY 2012-13 to FY 2014-15. In case of new projects in the central sector, projected energy has been calculated in accordance with the CEA regulations/designed energy as mentioned in the PPAs. In case of upcoming private power plants in the State, the energy availability has been projected based on the date of commissioning, availability based on stabilization period and normative plant load factor. The projections in respect of Talwandi Sabo TPS and Goindwal Sahib TPS are based on availability of 65% and PLF of 80%. The projections in respect of Rajpura TPS are based on availability of 100% and PLF of 85%. These assumptions have been made keeping in view the performance of the plants during FY 2015-16 and also keeping in view the technology used by various plants and other parameters applicable to these plants.

PSPCL has further submitted that it shall be having surplus energy available from tied up sources from central generating stations and upcoming IPPs in the State. In order to manage demand and maintain energy balance, the surplus energy has been surrendered. Surrender of energy has been done as per the merit order of power purchase from the existing thermal and gas plants. The merit order has been based upon the projected variable rates assumed for FY 2016-17. After surrender of energy, only variable charges have been reduced and fixed / other charges have been assumed the same. PSPCL, in the ARR for FY 2016-17, has submitted that 18124 MU shall be surrendered during FY 2016-17.

The projections regarding energy availability, energy scheduled and energy surrendered from various sources, made by PSPCL in the ARR, are as given in Table 6.17.

Table 6.17: Details of projections of energy availability, energy scheduled and energy surrendered as per ARR for FY 2016-17

(MU)

Sr. No.	Name of Thermal Generating Station	Energy availability/ entitlement for purchase (gross)	Energy scheduled (gross)	Energy surrendered (gross)
1.	Anta (G/F)	142.00	0.00	142.00
2.	Anta (R/F)	0.36	0.00	0.36
3.	Anta (L/F)	0.00	0.00	0.00
4.	Auraiya (G/F)	126.74	0.00	126.74
5.	Auraiya (R/F)	2.03	0.00	2.03
6.	Auraiya (L/F)	0.00	0.00	0.00
7.	Dadri Gas (G/F)	283.38	0.00	283.38
8.	Dadri Gas (R/F)	4.30	0.00	4.30
9.	Dadri Gas (L/F)	0.01	0.00	0.01
10.	Singrauli	1470.28	1470.28	0.00
11.	Rihand-I	727.95	727.95	0.00
12.	Rihand-II	699.34	699.34	0.00
13.	Rihand- III	570.61	570.61	0.00
14.	Unchahar-I	174.04	0.00	174.04
15.	Unchahar-II	326.53	7.49	319.04
16.	Unchahar-III	97.05	0.00	97.05
17.	Farakka (ER)	129.12	0.00	129.12
18.	Kahalgaon-I (ER)	260.15	0.00	260.15
19.	Kahalgaon-II (ER)	758.66	0.00	758.66
20.	NCTPS- 2C (DADRI II)	52.17	0.00	52.17
21.	IGSTPS Jhajjar (NTPC JV)	27.34	0.00	27.34
22.	Durgapur (DVC)	768.36	768.36	0.00
23.	Pragati- III Gas plant (Bawana) (PPCL)	131.46	0.00	131.46
24.	Mundra (UMPP) (CGPL)	2838.60	2838.60	0.00
25.	Sasan (UMPP) (RPL)	4206.04	4206.04	0.00
26.	Talwandi Sabo TPS (Sterlite)	12904.53	3536.90	9367.63
27.	NPL Rajpura TPS (L&T)	9828.72	7364.69	2464.03
28.	Goindwal Sahib TPS (GVK)	3784.32	0.00	3784.32
Total		**40314.09**	**22190.26**	**18123.83**

PSPCL has further submitted that as per the current estimates being projected in the ARR, there is no deficit for short term power procurement and in case any requirement is assessed, it will be procured on day to day basis. Thus, no separate short term power procurement plan for FY 2015-16 has been prepared.

The quantum of power purchase projected by PSPCL from various plants for FY 2016-17 is given under column III of Table 6.22, which the Commission provisionally approves. The approval of power purchase is subject to approval of PPAs by the Commission.

However, there may be increase in demand/consumption of various categories of consumers than as projected in the ARR on account of various steps taken by PSPCL, as advised by the Commission in the Tariff Order for FY 2014-15. Further, for the purpose of energy/power purchase balance, the Commission has considered scheduling of power out of power proposed to be surrendered by PSPCL in the ARR. The actual impact of surrendering of power by PSPCL will be considered at the time of review/true up, for which PSPCL shall make detailed submissions along with reasons thereof, to the satisfaction of the Commission.

6.8.2 **Requirement of Energy through Purchase:** As discussed in para 6.5, the energy requirement of 36291 MU (net) has to be met through purchase from Central Generating Stations and other sources. The transmission loss external to PSTCL system has to be added to arrive at the total quantum of energy to be purchased**.**

6.8.3 **Transmission Loss external to PSTCL System:** For net purchase of 28879.97 MU, PSPCL, in the ARR for FY 2016-17, has shown gross power purchase of 29329.11 MU, after adding external transmission loss of 2.29%.

The Commission has also considered the external loss at 2.29% as considered by PSPCL. The gross energy to be purchased, thus, works out to 37142 MU (36291 MU + external transmission loss of 851 MU).

6.8.4 **Entitlement from Central Generating Stations:** PSPCL meets its demand of power by procurement from Central Generating Stations and other external sources, apart from State's own Generation. Major sources from which PSPCL procures power are Central Generating Stations viz NTPC, NHPC, NPC, SJVNL, THDC, DVC, Co-generation/NRSE Plants, Banking Arrangements, Traders and IPPs. PSPCL has submitted that in order to optimize the cost of power procured, PSPCL has scheduled its power procurement from various Central Generating Stations (CGSs) and other sources on the merit order principles. It has considered the load profile during various seasons, technical constraints and avoidable cost after giving due consideration to contractual obligations, for deciding the procurement/generation schedule. Source of power with the lowest per unit variable cost has been scheduled to be procured first (base load) and those with highest per unit cost at last (peak load). Sources with equal merit order have been considered together in proportion to their available capacity.

PSPCL has submitted the projections for energy availability from different Central Hydel Generating Stations based on the average of the actual energy purchased by PSPCL during the last three years i.e. FY 2012-13, FY 2013-14 and FY 2014-15. For NPC generating stations PSPCL has projected the plant wise energy availability as `the same as actual for FY 2014-15. In case of NTPC generating stations, comparison has been made of the actual energy purchased by PSPCL during FY 2014-15 with plant-wise figures projected by PSPCL in the ARR. The Commission observed that PSPCL has projected less power purchase than firm allocation from many thermal generating stations of NTPC and other thermal generating stations in the Central and State sector. PSPCL in its ARR for FY 2016-17 has submitted that power has been scheduled on merit order principle and excess power available than the requirement has been proposed to be surrendered. The Commission, as such, approves the power purchase from NTPC, NHPC, NPC and other generating stations in the Central and State sector as projected by PSPCL in the ARR.

Based on above, the details of plant capacity, firm allocation, entitlement of power, power purchase proposed in the ARR by PSPCL and power purchase approved by the Commission from NTPC, NHPC and NPC stations are shown in Table 6.18, Table 6.19 and Table 6.20 respectively.

Table 6.18: Power Purchase from Thermal Generating Stations of NTPC for FY 2016-17

Sr. No.	Source	Capacity	Firm allocation to PSPCL		Entitlement of Power projected by PSPCL for FY 2016-17		Power Purchase and share projected by PSPCL for FY 2016-17 (after surrender as per Merit Order)		Power purchase and Share approved by the Commission for FY 2016-17	
		(MW)	(%)	(MW)	(MU)	(%)	(MU)	(%)	(MU)	(%)
I	II	III	IV	V	VI	VII	VIII	IX	X	XI
NTPC										
1.	Anta	419	11.69	48.98	142.35	11.69	0.00	13.76	0.00	13.76
2.	Auraiya	663	12.52	83.01	128.78	12.52	0.00	13.95	0.00	13.95
3.	Dadri	830	15.90	131.97	287.70	15.90	0.00	16.86	0.00	16.86
4.	Singrauli	2000	10.00	200.00	1470.28	10.00	1470.28	11.37	1470.28	11.37
5.	Rihand-I	1000	11.00	110.00	727.95	11.00	727.95	12.36	727.95	12.36
6.	Rihand-II	1000	10.20	102.00	699.34	10.20	699.34	11.63	699.34	11.63
7.	Rihand- III	1000	8.27	82.70	570.61	8.27	570.61	14.34	570.61	14.34
8.	Unchahar-I	420	8.57	35.99	174.04	8.57	0.00	9.05	0.00	9.05
9.	Unchahar-II	420	14.28	59.98	326.53	14.28	0.00	15.78	0.00	15.78
10.	Unchahar-III	210	8.10	17.01	97.05	8.10	0.00	9.58	0.00	9.58
11.	Farakka (ER)	1600	1.39	22.24	129.12	1.39	0.00	1.39	0.00	1.39
12.	Kahalgaon-I (ER)	840	6.07	50.99	260.15	6.07	0.00	6.07	0.00	6.07
13.	Kahalgaon-II(ER)	1500	8.02	120.30	758.66	8.02	0.00	8.02	0.00	8.02
14.	NCTPS- 2C (DADRI II)	980	un-allocated Share		52.17	un-allocated Share	0.00	1.02	0.00	1.02
15.	IGSTPS Jhajjar (NTPC JV)	1500			27.34		0.00	0.79	0.00	0.79
16.	**Total (NTPC)**				**5852.07**		**3468.18**		**3468.18**	

Table 6.19: Power Purchase from Hydel Generating Stations of NHPC & NTPC for FY 2016-17

Sr. No.	Source	Capacity	Firm allocation to PSPCL		Power Purchase projected by PSPCL for FY 2016-17		Power purchase approved by the Commission for FY 2016-17	
		(MW)	(%)	(MW)	(MU)	(%)	(MU)	(%)
I	II	III	IV	V	VI	VII	VIII	IX
NHPC								
1.	Bairasuil	180	46.50	83.70	325.10	46.50	325.10	46.50
2.	Salal	690	26.60	183.54	892.81	26.60	892.81	26.60
3.	Tanakpur	94	17.93	16.85	59.53	17.93	59.53	17.93
4.	Chamera-I	540	10.20	55.08	253.03	10.20	253.03	10.20
5.	Chamera-II	300	10.00	30.00	191.42	12.46	191.42	12.46
6.	Chamera-III*	231	7.86	18.15	104.69	14.93	104.69	9.95
7.	Uri	480	13.75	66.00	384.68	13.75	384.68	13.75
8.	Uri – II*	240	8.13	19.52	101.04	18.23	101.04	9.12
9.	Dhauliganga	280	10.00	28.00	88.12	12.07	88.12	12.07
10.	Dulhasti	390	8.28	32.29	230.16	10.35	230.16	10.35
11.	SEWA-II	120	8.33	10.00	57.41	10.40	57.41	10.40
12.	Parbati – III*	520	7.86	40.87	71.81	20.95	71.81	10.47
13.	Kishan Ganga**	-	-	-	50.63	-	50.63	-
NTPC								
14.	Koldam**	800	7.72	61.76	431.66	11.59	431.66	11.59
15.	**Total**				**3242.09**		**3242.09**	

** Allocation not available for FY 2012-13.*
***Past generation data not available being new stations. Figures taken as projected in the ARR.*

Table 6.20: Power Purchase from NPC stations for FY 2016-17

Sr. No.	Source	Capacity	Firm allocation to PSPCL		Power Purchase projected by PSPCL for FY 2016-17	Power purchase & share approved by the Commission for FY 2016-17
		(MW)	(%)	(MW)	(MU)	(MU)
I	II	III	IV	V	VI	VII
NPC						
1.	NAPP	440	11.59	51.00	421.65	421.65
2.	RAPP 3&4	440	22.73	100.01	760.43	760.43
3.	RAPP 5&6	440	10.41	45.80	384.03	384.03
4.	**Total**				**1566.11**	**1566.11**

6.8.5 Cost of Power Purchase

(a) Central Generating Stations (CGSs)

PSPCL in the ARR petition for FY 2015-16 has submitted that since its power procurement plan is based on merit order principle, capacity charges payable on the basis of allocated share and contractual obligations have been considered inspite of the fact that power procurement from various sources has been regulated on the basis of load demand vis-a vis per unit variable cost from the generating sources. PSPCL has further submitted that Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for the period 2014-19 have been notified on 21.02.2014. CERC has not issued Tariff Orders for CGSs for the period 2014-19. As such, the capacity charges for CGSs have been considered as per orders for the period 2009-14 issued by CERC for the respective stations. PSPCL has further submitted that as per CERC Tariff Regulations, the generating company or the transmission licensee are allowed to recover the shortfall or refund the excess Annual Fixed Charges on account of Return on Equity due to change in applicable Minimum Alternate/ Corporate Income Tax Rate of the respective financial year directly without making any application before CERC. Further, Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, shall be trued up by CERC alongwith the tariff petition filed for the next tariff period. Accordingly, revised AFCs as calculated by various central sector generators and charged in their bills for FY 2012-13, FY 2013-14, FY 2014-15 and FY 2015-16 have been considered. AFC for FY 2016-17 for various plants have been assumed same by PSPCL as applicable in FY 2015-16.

Thermal Stations of NTPC

Fixed Cost

As per CERC Tariff Regulations for the period 2014-19, fixed cost is payable in proportion to the share allocation of PSPCL in each of the Central Generating Stations and the Commission has accepted this principle.

CERC has not issued Tariff Orders for the period 2014-19 for all NTPC stations. As such, the Commission has considered the Annual Fixed Charges (AFC) in case of NTPC stations as per AFC shown in the bills for the month of September, 2015.

Variable Cost

PSPCL has considered variable charges for existing NTPC plants at 5% higher than those in the month of September, 2015.

The Commission has considered variable charges for FY 2016-17 as per NTPC bills for September, 2015 for different stations.

Hydel Stations of NHPC & NTPC

Fixed Cost

CERC Tariff Regulations for the period 2014-19 provide that fixed cost is payable in proportion to the share allocation of PSPCL in each of the Central Generating Stations and the Commission has accepted this principle. Further, as per CERC Tariff Regulations for the period 2014-19, the capacity charge is payable inclusive of incentive and Free Energy for Home State, and as such capacity charge is to be worked out in proportion to the actual Plant Availability Factor achieved and also after taking into consideration Free Energy for Home State (12% in case of Bairasuil, Salal, Tanakpur, Chamera-I, Chamera-II, Uri, Dhauli Ganga, Dulhasti & Parbati-III and 13% in case of Chamera-III, Sewa-II & Uri-II). The actual Plant Availability Factor achieved by different NHPC stations during FY 2012-13, FY 2013-14 and FY 2014-15 and Normative Plant Availability Factor as per CERC Tariff Regulations is given in Table 6.21.

Table 6.21: Actual Plant Availability Factor and Normative Plant Availability Factor of NHPC stations

Sr. No.	Station	Plant Availability Factor during FY 2012-13	Plant Availability Factor during FY 2013-14	Plant Availability Factor during FY 2014-15	Average Plant Availability Factor	Normative Plant Availability Factor
		%	%	%	%	%
1.	Bairasuil	98.281	93.349	100.449	97.360	90.00
2.	Salal	65.792	67.615	67.985	67.131	60.00
3.	Tanakpur	64.639	53.913	57.955	58.836	55.00
4.	Chamera-I	97.772	97.392	100.09	98.418	90.00
5.	Chamera-II	96.739	97.448	100.67	98.286	90.00
6.	Chamera-III*	94.594	88.644	102.529	95.256	85.00
7.	Uri	80.749	73.005	100.16	84.638	70.00
8.	Dhauli Ganga	93.761	21.064	68.741	61.189	90.00
9.	Dulhasti	85.427	94.078	101.215	93.573	90.00
10.	Sewa-II	81.898	97.184	101.086	93.389	85.00
11.	URI-II*		77.709		77.709	55.00
12.	Parbati-III**		53.825	38.363	46.094	68.00

** PAF not available for FY 2012-13 & FY 2014-15.*
*** PAF not available for FY 2012-13.*

In case of NHPC stations, AFC has been considered by the Commission as per NHPC bills for September, 2015 for different stations.

PSPCL has not considered any fixed charges for new plant i.e. Kishanganga of NHPC and has considered only variable charges.

For Koldam HEP of NTPC, AFC and fixed charges have been provisionally approved as projected by PSPL in the ARR.

Variable Cost

PSPCL has calculated fixed charges and variable charges for existing NHPC plants as per applicable Annual Fixed Charges for FY 2015-16.

The Commission has considered variable charges for different hydel stations of NHPC and Koldam of NTPC, as projected by PSPCL in the ARR.

In case of Kishanganga of NHPC (new station), PSPCL has assumed the energy charges as 492.18 paise/Unit, which the Commission provisionally approves.

Under the title of 'other charges', PSPCL has assumed the water usage charges for NHPC stations as per unit rate of water charges for FY 2014-15, as the bills for FY 2015-16 are still to be received by PSPCL, which the Commission provisionally approves.

NPC Stations

PSPCL has considered variable charges for existing NPC stations at 5% higher than those in the month of September, 2015.

The Commission has considered variable charges for FY 2016-17 as per NPC bills for September, 2015 for different stations.

(b) Long-term Power Purchase from New and Renewable Sources of Energy (NRSE) within the State

Quantum and rate of Long-term power purchase from NRSE are provisionally approved as per PSPCL's projections in the ARR petition for FY 2016-17.

(c) Power Purchase from other Central Sector Power Plants

(i) Hydel Stations

The energy entitlement and allocation from Nathpa Jhakri (SJVNL), Rampur (SJVNL), Tehri (THDC) and Koteshwar (THDC) have been taken as projected by PSPCL in the ARR petition for FY 2016-17.

For Nathpa Jhakri (SJVNL), Rampur (SJVNL), Tehri (THDC) and Koteshwar (THDC), the annual fixed charges and variable charges have been considered as projected by PSPCL in the ARR for FY 2016-17.

(ii) Thermal Stations

PSPCL in its ARR for FY 2016-17 has shown the availability of power from Durgapur (DVC) as 768.36 MU, which the Commission provisionally approves.

For Durgapur TPS (DVC), PSPCL has considered the annual fixed charges as claimed by the generator in the bill for September, 2015, as the final tariff order for the period 2014-19 is yet to be issued by CERC, which the Commission provisionally approves. PSPCL has assumed the variable charges to be 5% higher than those actually billed for September, 2015 i.e. 206.33 paise/unit. The Commission has considered the variable charges for FY 2016-17 as per bill for September, 2015 i.e. 196.50 paise/unit.

(d) Power Purchase and Sale under Banking

PSPCL has submitted that under the new accounting procedure implemented from 1st April, 2009, only net of import/export of power under banking arrangement is being accounted for, in power purchase. PSPCL in the ARR for FY 2016-17, has projected to import 1348.01 MU (gross) (1317.10 MU (net)) and to export 2909.60 MU (gross) under banking arrangements, during FY 2016-17. As such, net power sale under banking arrangements has been submitted as 1561.59 MU (gross) (1592.50 MU (net)). PSPCL in the ARR, has considered the rate/cost under banking as 360.00 paise/unit. PSPCL has not proposed any amount for the open access charges for Banked Energy.

PSPCL vide letter no. 481 dated 12.04.2016 has revised the net sale of power under banking to 1865.56 MU (gross) (1902.87 MU (net)) against 1561.59 MU (gross) (1592.50 MU (net)) as submitted in the ARR. The Commission provisionally accepts the net power sale under banking from HPSEB Ltd., UPCL, J&K and Banking through traders, as 1865.56 MU (gross), submitted by PSPCL vide letter no. 481 dated 12.04.2016. PSPCL has also revised the rate/cost under banking as 385.74 paise/unit, which the Commission provisionally approves.

(e) Power Purchase from Traders and IPPs (Long Term Power)

(i) Hydel Stations

Quantum of power purchase from Mallana-II HEP (PTC) and Tala HEP (PTC) has been provisionally approved as projected by PSPCL in the ARR.

PSPCL in its ARR for FY 2016-17 has projected the power purchase cost from Mallana-II HEP (PTC) as ₹116.73 crore comprising fixed cost as ₹65.39 crore and variable cost of ₹51.34 crore for purchase of 193.26 MU. Further, PSPCL has projected the variable cost as 265.65 paise/unit for FY 2016-17 by escalating the variable cost for FY 2015-16 (H2) by 5%. The Commission provisionally approves the fixed cost as ₹65.39 crore as projected by PSPCL in the ARR and the variable charges as 253.33 paise/unit for FY 2016-17 as per variable cost for FY 2015-16 (H2). The Commission provisionally approves the aforementioned cost of power purchase from Malana-II HEP subject to determination/approval of Annual Fixed Cost (AFC) for FY 2016-17 in petition no. 74 of 2015 filed by Everest Power Private Limited.

For Tala HEP (PTC), PSPCL has assumed variable charges as 212.10 paise/unit by escalating the variable cost for FY 2015-16 (H2) by 5%. The Commission has considered variable charges for FY 2016-17 as per bills for September, 2015 i.e. 202.00 paise/Unit.

(ii) Thermal Stations

PSPCL in its ARR for FY 2016-17 has shown the availability of power from Pragati-III Gas Plant Bawana (PPCL), Mundra UMPP (CGPL) and Sasan UMPP (RPL) as 131.46 MU, 2838.60 MU & 4206.04 MU respectively. PSPCL has projected power purchase from from Pragati-III Gas Plant Bawana (PPCL) as Nil. Further, the Commission provisionally approves the power purchase from Mundra UMPP (CGPL) and Sasan UMPP (RPL) as 2838.60 MU and 4206.04 MU respectively, as projected by PSPCL in the ARR.

Quantum of power purchase from NVVNL Bundled Power (NTPC Thermal Power+Solar Power) has been provisionally approved as projected by PSPCL in the ARR.

For Pragati-III Gas Plant Bawana (PPCL), PSPCL has assumed annual fixed charges on the basis of normative availability, which the Commission provisionally approves.

For Mundra UMPP (CGPL), PSPCL has projected the fixed charges as 90.46 paise/unit calculated as per PPA on the basis of normative availability of 80%, which the Commission provisionally approves. PSPCL has assumed the variable charges to be 5% higher than those actually billed in September, 2015. The Commission has considered variable charges for FY 2016-17 as per bill for September, 2015 i.e. 143.24 paise/Unit.

For Sasan UMPP (RPL), PSPCL has considered fixed charges as 17.22 paise/unit calculated as per PPA on the basis of normative availability of 80.00%, which the Commission provisionally approves. PSPCL has assumed the variable charges as 120.72 paise/unit. However, the Commission provisionally approves variable charges as 114.97 paise per unit, as per bill for September, 2015.

For NVVNL Bundled Power (NTPC Thermal Power + Solar Power), PSPCL has projected in the ARR the variable charges to be 5% higher than the rate of power purchase during FY 2015-16 from this source. The Commission has considered variable charges for FY 2016-17 as per rate for first half of FY 2015-16 i.e. 506.92 paise/Unit.

(iii) IPPs within the State

PSPCL in its ARR for FY 2016-17 has projected the availability of power from

Talwandi Sabo TPS (TSPL), Rajpura TPS (NPL) and Goindwal Sahib TPS (GVK) as 12904.53 MU, 9828.72 MU and 3784.32 MU respectively based on 65% availability & PLF of 80% for Talwandi Sabo TPS & Goindwal Sahib TPS and for Rajpura TPS as 100% availability & PLF of 85%. PSPCL has further submitted that the power from these plants will be scheduled on merit order principle and the power purchase from Talwandi Sabo TPS, Rajpura TPS and Goindwal Sahib TPS has been projected as 3536.90 MU, 7364.69 MU and Nil respectively.

On a query by the Commission, PSPCL vide its letter no.4784 dated 30.06.2016 intimated that the 3rd unit of Talwandi Sabo TPS has not been commissioned yet and the same is expected to achieve CoD by the 2nd week of August, 2016. PSPCL further intimated that Goindwal Sahib TPS (GVK) has declared CoD of both units on 06.04.2016 and 16.04.2016 respectively and their availability has not been declared by Goindwal Sahib TPS from 22.04.2016 due to non-availability of Coal. The Commission has accordingly assessed the generation from 3rd unit of TSPL w.e.f. 08.08.2016 (by considering that CoD of 3rd unit of TSPL will be declared from 2nd week of August, 2016) and from 1st August, 2016 in case of Goindwal Sahib TPS units (considering that Coal will be available to both units of Goindwal Sahib TPS from 01.08.2016 onwards).

In view of submissions made by PSPCL, the Commission provisionally approves the power purchase from Talwandi Sabo TPS, Rajpura TPS and Goindwal Sahib TPS as 3236.27 MU, 7364.69 MU and Nil respectively.

In the ARR petition, PSPCL has projected the variable cost considering the variable charges as 215.88 paise per unit for Rajpura TPS (NPL) and 271.78 paise per unit for Talwandi Sabo TPS (TSPL), based on the variable charges of September, 2015, escalated by 5%. The fixed cost for the Rajpura TPS and Talwandi Sabo TPS has been projected by PSPCL based on the fixed charges as ₹1500.85 crore and ₹1712.43 crore. The Commission notes that the said fixed costs have been worked out on the basis of fixed charges as ₹1.527 per unit for Rajpura TPS and ₹1.327 per unit for Talwandi Sabo TPS as per Schedule 11 of the respective PPAs. For Goindwal Sahib TPS, the fixed cost has been projected by PSPCL as ₹620.63 crore, assuming 164 paise per unit as fixed charge, assuming 80% availability. The variable cost has not been calculated by PSPCL in case of GVK units stating that no power purchase from the project is envisaged. However, the variable charges have been assumed as 266 paise per unit by PSPCL.

The Commission provisionally approves the fixed cost in case of Rajpura TPS as projected by PSPCL for FY 2016-17. In case of Talwandi Sabo TPS, the fixed cost projected by PSPCL in the ARR has been proportionately reduced as per expected date of commissioning of 3rd Unit of Talwandi Sabo TPS as discussed above. In case of Goindwal Sahib TPS, fixed charges have been proportionately reduced from as submitted by PSPCL in the ARR in view of discussion in above paras. Further, this fixed cost (in case of GVK) is subject to true up in terms of the capital cost of the project to be determined by the Commission on filing of petition in this regard by the generator.

The variable charges for Talwandi Sabo TPS and Rajpura TPS are provisionally approved at the rates as projected by PSPCL for second half for FY 2015-16. Further, the variable cost for Goindwal Sahib TPS shall be trued up in terms of Commission's Order dated 01.02.2016 in petition no. 65 of 2013 and petition no. 33 of 2015 filed by GVK Power (Goindwal Sahib) Ltd., wherein it has been held that the petitioner shall be paid the weighted average cost of coal received by the thermal power plants of PSPCL from Coal India Ltd. and its subsidiaries in a particular month, alongwith the actual transportation charges paid by the petitioner to the Indian Railways for transporting the coal to the project from the port/mine in case of imported/domestic coal as the case may be or the actual cost of coal procured by the petitioner, whichever is less. The Commission further held that this arrangement is purely temporary and the petitioner will arrange the long term linkage of coal at the earliest or successfully bid for a mine in the bidding to be conducted by Govt. of India in near future.

(f) Power Purchase and Sale from Traders (Short-Term)

PSPCL in the ARR has projected power purchase of 29329.11 MU (gross) from Central Generating Stations and other sources. Further, vide letter no. 481 dated 12.04.2016, PSPCL has revised the power purchase to 29025.14 MU (gross) from Central Generating Stations and other sources. PSPCL has not projected any short-term power purchase in the ARR. PSPCL has rather submitted that it shall have surplus energy available from tied up sources from Central Generating Stations and other sources, during FY 2016-17.

The gross power purchase requirement as worked out under para 6.8.3 is 37142 MU. As such, PSPCL has to schedule 8417.49 MU out of power proposed to be surrendered in the ARR by PSPCL. The Commission has worked out the cost of 8417.49 MU of power at the average variable rate of surrendered power (worked out on the rates approved by the Commission), for power purchase balance purpose only, since fixed/capacity charges have to be paid for the allocated share in any case.

The quantum and rate of purchase of power approved by the Commission above is only for the purpose of power purchase and energy balance. **PSPCL need to carefully plan the best course available to deal with the surplus power i.e. whether it should or should not be scheduled or it should be sold in the market, after assessing its day to day requirement. The surrendering of power should be strictly as per merit order dispatch from all the thermal generating stations, including its own thermal generating stations. While considering merit order dispatch from IPPs within the State, PSPCL should consider the variable cost with domestic coal, if sufficient quantity of domestic coal is available with the IPPs for the power to be scheduled. The inter-state transmission losses be also kept in view while surrendering power as per merit order dispatch. Further, any sale of surplus power by PSPCL shall be done at the best possible rate. The endeavour of PSPCL should be to reduce the burden of fixed charges on the consumers of the State.**

PSPCL has not submitted any requirement of short term power purchase for FY 2016-17 in the ARR for FY 2016-17. Further, PSPCL filed a petition (No. 13 of 2016) for approval under Section 86 (1) (b) of the Electricity Act, 2003, for the Power Procurement Plan on Short Term basis for the year 2016-17. The Commission in its order dated 04.05.2016 in the matter of petition no. 13 of 2016 has observed and decided as under:

"The Commission has carefully gone through the submissions made by PSPCL. PSPCL vide its letter dated 25.04.2016 has submitted that as per assurance given by Ministry of Coal/CIL, GOI in the meeting held on 22.04.2016, power scenario has been reworked out and there remains no gap between the demand and availability of power for the period from June to September, 2016.

In view of the submissions of PSPCL that with the revised working of availability, there is no gap between demand and supply, the prayer of PSPCL does not survive and renders the Petition infructuous.

However, in case of any exigency, PSPCL may go for purchase of short-term power in a judicious and economical manner and also resort to Demand Side Management Practices to maintain its commercial viability".

The Commission reiterates that PSPCL needs to purchase power in a judicious & economical manner and also resort to Demand Side Management practices

to maintain its commercial viability.

(g) Inter-State Transmission Charges

PSPCL has submitted in the ARR Petition that long term inter-state transmission charges recovered by PGCIL, are being charged as per Point of Connection (PoC) methodology w.e.f. 01.07.2011. PSPCL has further submitted that from 01.04.2013, CERC has been notifying slab rates of transmission charges valid for 3 months and PGCIL charges for FY 2016-17 have been worked out based upon the applicable PoC slab rates of FY 2014-15. PSPCL has worked out PGCIL charges as ₹919.28 crore for FY 2016-17, which the Commission provisionally approves.

Based on the above, the cost of power purchase for FY 2016-17 has been worked out as ₹14697.41 crore for purchase of 37142 MU as detailed in Table 6.22.

Table 6.22: Power Purchase cost for FY 2016-17

Sr. No.	Source	Power Purchase (After Surrender) (MU)	AFC (₹ crore)	PSPCL share (%)	Rate of VC (paise /unit)	FC (₹ crore)	VC (₹ crore)	Other Charges (₹ crore)	Total (₹ crore) (VII+VIII+ IX)
I	II	III	IV	V	VI	VII	VIII	IX	X
I	**NTPC**								
1.	Anta (G/F)	0.00	202.65	13.76	341.30	27.88	0.00		27.88
2.	Anta (R/F)	0.00			812.30		0.00		-
3.	Anta (L/F)	0.00			930.50		0.00		-
4.	Auraiya (G/F)	0.00	243.13	13.95	401.80	33.92	0.00		33.92
5.	Auraiya (R/F)	0.00			1,038.30		0.00		-
6.	Auraiya (L/F)	0.00			1,127.00		0.00		-
7.	Dadri Gas (G/F)	0.00	312.72	16.86	386.60	52.72	0.00		52.72
8.	Dadri Gas (R/F)	0.00			792.90		0.00		-
9.	Dadri Gas (L/F)	0.00			1,113.40		0.00		-
10.	Singrauli	1,470.28	726.42	11.37	139.90	82.59	205.69		288.28
11.	Rihand-I	727.95	527.94	12.36	162.10	65.25	118.00		183.25
12.	Rihand-II	699.34	627.09	11.63	174.10	72.93	121.76		194.69
13.	Rihand- III	570.61	884.20	14.34	162.30	126.79	92.61		219.40
14.	Unchahar-I	0.00	236.42	9.05	279.30	21.40	0.00		21.40
15.	Unchahar-II	0.00	248.00	15.78	279.30	39.13	0.00		39.13
16.	Unchahar-III	0.00	192.55	9.58	279.30	18.45	0.00		18.45
17.	Farakka (ER)	0.00	866.22	1.39	339.60	12.04	0.00		12.04
18.	Kahalgaon-I (ER)	0.00	524.48	6.07	306.70	31.84	0.00		31.84
19.	Kahalgaon-II (ER)	0.00	1,215.71	8.02	291.80	97.50	0.00		97.50
20.	NCTPS- 2C (DADRI II)	0.00	1,070.50	1.02	378.10	10.92	0.00		10.92
21.	IGSTPS Jhajjar (NTPC JV)	0.00	1,764.61	0.79	396.70	13.94	0.00		13.94
22.	Koldam HEP	431.66	815.62	11.59	277.62	62.05	119.84		181.89
	Sub Total (NTPC)	**3899.84**				**769.35**	**657.90**	**0**	**1427.25**

Sr. No.	Source	Power Purchase (After Surrender) (MU)	AFC (₹ crore)	PSPCL share (%)	Rate of VC (paise /unit)	FC (₹ crore)	VC (₹ crore)	Other Charges (₹ crore)	Total (₹ crore) (VII+VIII+ IX)
I	II	III	IV	V	VI	VII	VIII	IX	X
II	**NHPC**								
23.	Bairasiul	325.10	126.23	46.50	92.97	36.08	30.22		66.30
24.	Salal	892.81	282.76	26.60	52.65	47.81	47.01	97.32	192.14
25.	Tanakpur	59.53	90.57	17.93	114.95	8.40	6.84		15.24
26.	Chamera-I	253.03	301.46	10.20	104.15	19.11	26.35		45.46
27.	Chamera-II	191.42	357.35	12.46	137.01	27.64	26.23		53.87
28.	Chamera-III	104.69	404.52	9.95	212.30	58.33	22.23		80.56
29.	Uri	384.68	362.14	13.75	80.49	34.21	30.96	17.31	82.48
30.	Uri-II	101.04	338.75	9.12	175.34	50.15	17.72	8.69	76.56
31.	Dhauli Ganga	88.12	286.70	12.07	145.31	13.36	12.80		26.16
32.	Dulhasti	230.16	1,020.99	10.35	307.93	62.41	70.87	11.28	144.56
33.	Sewa-II	57.41	198.90	10.40	216.42	13.06	12.42	1.09	26.57
34.	Parbati-III	71.81	382.95	10.47	317.59	31.26	22.81		54.07
35.	Kishanganga	50.63	-	-	492.18		24.92		24.92
	Subtotal (NHPC)	**2810.43**				**401.82**	**351.83**	**135.69**	**888.89**
III	**NPC**								
36.	NAPP	421.65			248.77		104.89		104.89
37.	RAPP-3 &4	760.43			278.31		211.64		211.64
38.	RAPP-5 & 6	384.03			343.88		132.06		132.06
	Subtotal (NPC)	**1566.11**					**448.59**		**448.59**
IV	**NRSE Power (Punjab)**								
39.	Long-term NRSE Power	1752.78			678.59		1189.42		1189.42
40.	Short-term NRSE Power	0.00							0.00
	Sub total (NRSE Power)	**1752.78**					**1189.42**		**1189.42**
V	**Other Central Sector**								
(i)	**Hydel Stations**								
41.	Naptha Jhakri HEP (SJVNL)	1012.34	1656.84	11.50	142.38	127.33	144.14		271.47
42.	Rampur HEP (SJVNL)	114.94	521.71	7.07	159.65	22.98	18.35		41.33
43.	Tehri HEP (THDC)	334.01	1458.24	9.06	226.65	77.32	75.70		153.02
44.	Koteswar HEP (THDC)	112.97	393.33	7.72	148.37	19.96	16.76		36.72
(ii)	**Thermal Stations**								
45.	Durgapur (DVC)	768.36	1259.98	20.00	196.50	252.00	150.98		402.98
	Sub total (Other Central sector)	**2342.62**				**499.59**	**405.93**		**905.52**
VI	**Net Banking**								
46.	Net Banking with HPSEB, UPCL, J&K and through Traders	(-)1865.56			385.74		(-)719.62		(-)719.62
47.	Open Access charges for Banking								0.00
	Sub total (Net Banking)	**(-)1865.56**					**(-)719.62**		**(-)719.62**

Sr. No.	Source	Power Purchase (After Surrender) (MU)	AFC (₹ crore)	PSPCL share (%)	Rate of VC (paise /unit)	FC (₹ crore)	VC (₹ crore)	Other Charges (₹ crore)	Total (₹ crore) (VII+VIII+ IX)
I	II	III	IV	V	VI	VII	VIII	IX	X
VII	**Traders / IPPs**								
(i)	**Hydel Stations**								
48.	Malana - II HEP (PTC)	193.26		100.00	253.33	65.39	48.96		114.35
49.	Tala - HEP (PTC)	99.77		10.00	202.00		20.15		20.15
(ii)	**Thermal Stations**								
50.	Pragati- III Gas plant (Bawana) (PPCL)	0.00	1083.03	10.00		108.30			108.30
51.	Mundra (UMPP) (CGPL)	2838.60			143.24	256.78	406.60		663.38
52.	Sasan (UMPP) (RPL)	4,206.04		15.00	114.97	72.43	483.57		556.00
53.	NVVNL Bundled Power (NTPC Thermal Power + Solar power)	279.66			506.92		141.77		141.77
(iii)	**IPPs within the State**								
54.	Talwandi Sabo TPS (Sterlite)	3236.27		100.00	258.84	1510.27	837.68		2347.95
55.	NPL Rajpura TPS (L&T)	7364.69		100.00	205.60	1500.85	1514.18		3015.03
56.	Goindwal Sahib TPS (GVK)	0.00		100.00	266.00	413.75			413.75
	Sub total (Traders/IPPs)	**18218.29**				**3927.77**	**3452.91**		**7380.68**
VIII	**Others**								
57.	**Excess power purchase for energy balance**	8417.49			268.18		2257.40		2257.40
	Sub total	**8417.49**					**2257.40**		**2257.40**
IX	**Other Charges**								
58.	**PGCIL Charges**					919.28			919.28
	Total	**37142.00**				**6517.81**	**8043.91**	**135.69**	**14697.41**

6.8.6 Cost of purchase of RE power/RECs for RPO compliance

In the ARR and Tariff Petition for FY 2016-17, PSPCL has proposed ₹1189.42 crore for long term purchase of power from renewable energy sources within the State and an additional cost of ₹170.00 crore for compliance of previous year target during FY 2016-17. The Commission has already approved ₹242.80 crore for RPO compliance shortfall ending FY 2015-16 in para 5.9 as projected by PSPCL in ARR. As such, the amount of ₹170.00 crore projected by PSPCL for compliance of previous years RPO shortfall during FY 2016-17 is not admissible, hence not allowed.

The total power purchase amount, as such, has been worked out as ₹14697.41 crore for FY 2016-17 for purchase of 37142 MU during FY 2016-17, which

includes the cost of RE power for RPO compliance, which the Commission provisionally approves. It is reiterated that the shortfall in RPO compliance, if any, should be met with through firstly by purchase of power from renewable energy sources outside the State of Punjab and new projects coming up in the State of Punjab or RECs in case of non availability of such power. However, PSPCL is directed to make a judicious choice between the options of procuring power from (i) conventional sources with purchase of RECs, (ii) renewable energy sources at APPC with purchase of RECs, (iii) renewable energy sources, whichever is economical, so as to safeguard consumer interest.

6.9 Fuel Cost Adjustment (FCA)

Any change in the fuel cost from the level approved by the Commission is to be passed on to the consumers as FCA in line with FCA formula specified in Punjab State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005. According to this stipulation, any change in fuel cost would be passed on to the consumers on quarterly basis as per Punjab State Electricity Regulatory Commission (Conduct of Business) (Second Amendment) Regulations, 2012.

6.10 Employee Cost

6.10.1 In the ARR Petition for FY 2016-17, PSPCL submitted claim of employee cost of ₹5715.97 crore (net of capitalization of ₹185.14 crore) for FY 2016-17 as detailed in Table 6.23.

Table 6.23: Employee Cost for FY 2016-17

(₹crore)

Sr. No.	Particulars	2016-17 (Proj.)
I	**II**	**III**
1.	Salaries & Allowances	
2.	Basic Pay	1172.14
3.	Overtime	10.00
4.	Dearness Allowances	1452.74
5.	Fixed medical Allowances	26.00
6.	Conveyance Allowances	36.00
7.	Other Allowances	174.00
8.	Bonus/ Generation Incentive	32.00
9.	Medical Expenses Reimbursement	35.00
10.	**Total**	**2937.88**
11.	**Terminal Benefits**	
12.	Earned Leave Encashment	141.00
13.	Gratuity (including appear)	233.00
14.	Commutation of Pension/ progressive funding for terminal benefit as per FRP	0.00
15.	Workman's compensation	0.16

Sr. No.	Particulars	2016-17 (Proj.)
I	II	III
16.	Arrear of Pay	0.00
17.	Ex-gratia	0.00
18.	Fringe Benefit Tax	0.00
19.	Progressive Funding of Terminal Benefits as per FRP	746.00
20.	**Total**	**1120.16**
21.	**Pension Payments**	
22.	Basic Pension/ Dearness Pension & Dearness allowances	1442.03
23.	Any other expense	135.94
24.	**Total**	**1577.97**
25.	**Total Expenses**	**5636.01**
26.	Less: Amount Capitalised	185.14
27.	**Net amount**	**5450.87**
28.	Add: BBMB share	265.10
29.	**Net Employee's Cost**	**5715.97**

6.10.2 In the ARR Petition for FY 2016-17, PSPCL has submitted that it has taken into consideration the following assumptions in projecting the Employee Cost for FY 2016-17.

a) Basic Pay, DA and Pension has been calculated on the basis of number of retirees and recruits.

b) 10% increase has been applied to the per retiree amount of Leave encashment and gratuity of last year and this amount has been multiplied with the number of retirees of the current year. Also the impact of delayed DA hike has been considered.

c) Expenditure of BBMB for FY 2015-16 has been increased by 20% and 5% increase has been applied for the expense of FY 2016-17.

d) The progressive funding of terminal benefits as per the FRP notified in December 2012 by GoP for terminal benefits estimated upto FY 2010-11 has been considered to be paid out in 15 annual installments in ratio of 88.64:11.36 by PSPCL and PSTCL respectively beginning from FY 2014-15. Accordingly, amount of ₹746.00 crore is estimated to be paid out during FY 2016-17.

6.10.3 The provision of amended Regulations 28 (3) of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005, provide for determination of employee cost in two parts.

- Terminal benefits including BBMB share on actual basis.
- Increase in other employee expenses limited to average increase in Wholesale Price Index (WPI) & Consumer Price Index (CPI).

6.10.4 PSPCL has projected terminal benefits of ₹2698.13 (1120.16+1577.97) crore and ₹265.10 crore as BBMB share. In Vol.-II of the ARR, PSPCL has clarified that out of ₹125.84 crore under sub-head 'any other expenses' under the head 'pension payments', ₹44.11 (0.94+1.10+42.07) crore are not related to terminal benefits. As such, the terminal benefits work out to ₹2654.02 (2698.13 - 44.11) crore. The amount of 'other employee cost' as claimed by PSPCL, thus, works out to ₹2796.85 (5715.97 - 2654.02 – 265.10) crore. PSPCL's projections of terminal benefits of ₹2654.02 crore also include ₹746.00 crore on account of progressive funding of unfunded past Terminal liability of pension and gratuity based on the Transfer Scheme issued by Government of Punjab vide notification dated 24.12.2012. The issue was discussed in para 6.9.4 of Tariff Order for FY 2014-15 as under**:**

"6.*9.4 PSPCL has projected the terminal benefits and BBMB share amounting to ₹2702.07 (1210.00+1269.43+222.64) crore. PSPCL's projections include ₹914.00 crore on account of progressive funding of unfunded past Terminal liability of pension and gratuity based on the Transfer Scheme issued by Government of Punjab vide notification dated 24.12.2012.*

The Commission observes that the terminal liability of ₹14346 crore has not been reflected in the Balance Sheet dated 16.04.2010 of erstwhile Punjab State Electricity Board as well as in the Opening Balance Sheets of the successor entities.

Sub-clause 8A of clause of Transfer Scheme dated 24.12.2012 provides that liability in respect of Pension, Gratuity and Leave Encashment of the personnel shall be a charge on the tariff which means that these expenses need to be routed through Profit and Loss account from FY 2014-15. However, debiting of such liability in Profit and Loss account is in contravention of Accounting Standard 5.

Para 16 of Accounting Standard 5 provides for debiting prior expenses in the books. However, the term 'prior period items', as defined in this Standard, refers only to income or expenses which arise in the current period as a result of errors or omissions in the preparation of the financial statements of one or more prior periods. The terminal benefit liability of PSEB cannot be termed as a 'prior period item' as it is not a result of error or omission. Even if such a liability is treated as 'prior period item' the same cannot be charged to current profit or loss as per para 19 of the Accounting Standard 5. As such, charging of prior *period Terminal Benefits liability to consumers of State is in contravention of Accounting Standard 5 notified by Ministry of Corporate Affairs, New Delhi.*

Moreover, Transfer Scheme cannot override the subordinate legislation i.e. Regulation of the Commission (in the instant case Regulation 33 of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 which mandates as under:

"33. Unfunded liability of pension and gratuity;

'With regard to unfunded past liabilities of pension and gratuity, the Commission will follow the principle of 'pay as you go'. The Commission shall not allow any other amount towards creating fund for meeting unfunded past liability of pension and gratuity.'

The Commission observes that due to aforementioned reasons, the Terminal Benefits liability as on 16.04.2010 cannot be a charge on tariff and passed on to the consumers. As such, the Commission shall only apply its Regulations while determining the Tariff.

Thus no amount is allowed on account of progressive funding of unfunded past liability of pension and gratuity to PSPCL for FY 2014-15.

After excluding an amount of ₹914.00 crore on account of progressive funding of unfunded past liabilities of pension and gratuity to PSPCL for FY 2014-15, net Terminal benefits including BBMB share works out as ₹1788.07 (2702.07-914.00) crore".

6.10.5 As discussed in para 6.9.4 of Tariff Order of PSPCL for FY 2014-15, the Commission observes that due to aforementioned reasons, the Terminal Benefit liability as on 16.04.2010 cannot be a charge on tariff and passed on to the consumers. As such, the Commission shall apply its Regulations while determining the Tariff.

6.10.6 After excluding an amount of ₹746.00 crore on account of progressive funding of unfunded past liabilities of pension and gratuity to PSPCL for FY 2016-17, net Terminal benefits works out as ₹1908.02 (2654.02-746.00) crore.

The Commission approves terminal benefits at ₹1908.02 (2654.02-746.00) crore and ₹265.10 crore as BBMB expenses for FY 2016-17.

6.10.7 As discussed in para 5.10.4 of this Tariff Order, PSERC Tariff Regulations have been amended which provides that inflation factor to be used for indexing the Employee Cost will be combination of the Consumer Price Index (CPI) and Wholesale Price

Index (WPI) of nth year and shall be calculated as 0.50*CPIn + 0.50*WPIn. WPI and CPI index for FY 2016-17 will be available next year. Therefore, the increase in WPI and CPI in FY 2015-16 over FY 2014-15 is considered for allowing increase in 'other employee cost' for FY 2016-17. The WPI and CPI index for FY 2014-15 were at 181.19 and 250.83 respectively and the WPI and CPI index for FY 2015-16 (upto January, 2016) were at 177.16 and 264.50 respectively. Thus, there was decrease in WPI index of 4.03 and increase in CPI index of 13.67 in FY 2015-16 over FY 2014-15. After adjustment of decrease/increase, the index of WPI and CPI for FY 2016-17 work out to 173.13 (177.16-4.03) and 278.17 (264.50+13.67) respectively. The base index of WPI and CPI in FY 2011-12 were at 156.13 and 194.83 respectively. Therefore, increase in WPI of 10.89% in FY 2016-17 and increase of 42.78% in CPI over the base year 2011-12. As discussed above, the 'other employee cost' will be combination of the Consumer Price Index (CPI) and Wholesale Price Index (WPI) of nth year and shall be calculated as 0.50*CPIn + 0.50*WPIn. Therefore, increase of 26.84% {(10.89+42.78)/2} in 'Other Employee Cost' is being allowed over the 'Other Employee Cost' approved for the base year of 2011-12.

The 'other employee cost' of the PSPCL for FY 2011-12 was approved at ₹2099.07 crore in the true up in the Tariff Order FY 2014-15. Accordingly, the other employee cost of PSPCL for FY 2016-17 is determined at ₹2662.46 (2099.07 x 126.84 / 100) crore.

Thus, the Commission approves a total employee cost of ₹4835.58 (1908.02 + 265.10 + 2662.46) crore to PSPCL for FY 2016-17.

6.11 Repair & Maintenance (R&M) Expenses

6.11.1 In the ARR Petition for FY 2016-17, PSPCL has claimed ₹510.19 crore for R&M expenses which includes R&M expenses of ₹19.14 crore claimed for asset addition during the year for FY 2016-17.

6.11.2 Regulation 28 (5) (a) of the PSERC Tariff Regulations, 2005 amended on 17.09.2012 provides for adjusting base O&M expenses approved by the Commission for FY 2011-12 in proportion to increase in Whole Sale Price Index (all Commodities) to determine O&M expenses for subsequent year. The WPI for FY 2016-17 will be available next year, as such the WPI available for 10 months of FY 2015-16 is adopted for purposes of calculation of R&M expenses.

6.11.3 R&M expenses of ₹320.67 crore have been approved in the true up for FY 2011-12 in Tariff Order FY 2014-15 on Gross Fixed Assets of ₹39215.89 crore. There will be Gross Fixed Assets of ₹46132.13 crore as on 01.04.2016. Accordingly the Base R&M

expenses for FY 2016-17 work out to ₹377.22 (320.67 x 46132.13 / 39215.89) crore. As discussed in para 6.11.1 of this Tariff Order, the WPI increase of 10.89% is adopted for FY 2016-17. After taking into account the WPI increase of 10.89%, the R&M expenses for FY 2016-17 work out to ₹418.30 (377.22 x 110.89 / 100) crore.

6.11.4 PSPCL has claimed ₹19.14 crore for likely asset addition during FY 2016-17. The Commission is the view that increase in R&M expenses demanded on this account cannot be allowed at this stage and will be considered at the time of review next year.

The Commission approves R&M expenses of ₹418.30 crore for FY 2016-17 to PSPCL.

6.12 Administrative and General (A&G) Expenses

6.12.1 In the Tariff Petition for FY 2016-17, PSPCL has claimed an amount of ₹177.53 crore as A&G expenses for FY 2016-17 which includes A&G expenses of ₹5.85 crore on assets addition during the year and ₹11.31 crore on account of licence fee and ARR fee for determination of tariff.

6.12.2 Regulation 28 (5) (a) of the PSERC Tariff Regulations, 2005 amended on 17.09.2012 provides for adjusting base O&M expenses approved by the Commission for FY 2011-12 in proportion to increase in Whole Sale Price Index (all Commodities) to determine O&M expenses for subsequent year. The WPI for FY 2016-17 will be available next year, as such the WPI available for 10 months of FY 2015-16 is adopted for purposes of calculation of A&G expenses.

6.12.3 A&G expenses of ₹97.12 crore have been approved in the true up for FY 2011-12 in Tariff Order FY 2014-15 on Gross Fixed Assets of ₹39215.89 crore. There will be Gross Fixed Assets of ₹46132.13 crore as on 01.04.2016. Accordingly the base A&G expenses for FY 2016-17 work out to ₹114.25 (97.12 x 46132.13 / 39215.89) crore. As discussed in para 6.11.1 of this Tariff Order, the WPI increase of 10.89% is adopted for FY 2016-17. After taking into account the WPI increase of 10.89%, the A&G expenses for FY 2016-17 work out to ₹126.69 (114.25 x 110.89 / 100) crore.

6.12.4 PSPCL has claimed ₹5.85 crore for likely asset addition during FY 2016-17. The Commission is the view that increase in A&G expenses demanded on this account cannot be allowed at this stage and will be considered at the time of review next year.

6.12.5 PSPCL also submitted that the Annual License fees and amount to be paid as Tariff filing fees for determination of ARR and Tariff Petition should also be allowed as per clause 2 (b) of the amended Regulation 28 of PSERC (Terms and Conditions for determination of Tariff) Second Amendment Regulations, 2012. Regulation 28 (2) (b) provides as under:

> ‘*Base O&M expenses (except employee cost) as above shall be adjusted according to variation in the average rate (on monthly basis) of Wholesale Price Index (all commodities) over the year to determine the O&M expenses for subsequent years.*
>
> *Provided that any expenditure on account of license fees, initial or renewal, fees for determination of tariff and audit fees shall be allowed on actual basis over and above the A&G expenses approved by the Commission’.*

6.12.6 As per above regulation, annual license fees and fees for determination of tariff is also allowable to PSPCL in addition to the A&G expenses as worked out above. The Commission decides that the annual license fees and fees for determination of tariff be allowed at the previous year’s level i.e. ₹11.31 crore. However, this shall be trued up on receipt of Audited Annual Accounts for FY 2016-17.

The Commission approves A&G expenses of ₹138.00 (126.69+11.31) crore for FY 2016-17 to PSPCL.

6.12.7 In the foregoing paras, O&M expenses (Employee cost, R&M expenses and A&G expenses) of ₹5391.88 (4835.58+418.30+138.00) crore have been approved wherein share of BBMB expenditure as claimed by PSPCL i.e. ₹297.91 (₹265.10 crore Employees cost + ₹28.70 crore R&M expenses + ₹4.11 crore A&G expenses) crore in the ARR has been allowed. In petition no. 251/GT/2013 filed by BBMB before Central Electricity Regulatory Commission (CERC) for approval of Tariff of its generating stations and transmission systems, CERC vide its Order dated 12.11.2015 has allowed O&M expenses in respect of transmission assets for the period 2009-14. CERC vide order dated 21.03.2016 also determined the Tariff for generating stations of BBMB. Based on CERC’s order, the Commission determined allowable O&M expenses to BBMB for FY 2013-14 as ₹106.82 crore in Table 3.9 of this Order. CERC has not determined O&M expenses of BBMB for FY 2014-19 so far. The Commission consciously decided that allowable O&M expenses at the level determined by CERC for FY 2013-14 are to be allowed for subsequent year However, the O&M expenses determined by CERC for FY 2014-19 will be considered during review/true-up exercise. **Therefore, excess amount i.e. ₹191.09 (297.91-106.82) crore allowed against O&M expenses of BBMB as per ARR Petition is reduced from O&M expenses allowed to PSPCL in forgoing paras.**

Thus O&M expenses of ₹5200.79 (4835.58+418.30+138.00-191.09) crore are approved to PSPCL for FY 2016-17.

6.13 Depreciation Charges

6.13.1 In the ARR Petition for FY 2016-17, PSPCL has revised its claim to ₹1157.58 crore as depreciation charges for FY 2016-17.

As discussed in para 5.13 of this Tariff Order, the Commission approved depreciation charges of ₹991.87 crore in the review for FY 2015-16 on the opening balance of Gross Fixed Assets (net of land and land rights) of ₹25320.11 crore as on 01.04.2015. There was an addition of assets of ₹1830.78 crore during FY 2015-16. As such, the opening balance as on 01.04.2016 works out to ₹27150.89 (25320.11+1830.78) crore. Accordingly, the Commission determines depreciation charges of ₹1063.59 (991.87*27150.89/25320.11) crore for FY 2016-17 on opening balance of Gross Fixed Assets (net of land and land rights) of ₹27150.89 crore as on 01.04.2016.

The Commission approves the depreciation charges of ₹1063.59 crore for FY 2016-17.

6.14 Interest and Finance Charges

6.14.1 In the ARR Petition for FY 2016-17, PSPCL has claimed the Interest and Finance charges of ₹3029.69 crore for FY 2016-17.

Table 6.24: Interest & Finance Charges claimed by PSPCL for FY 2016-17

(₹crore)

Sr. No.	Description	Interest as depicted in ARR Petition
I	II	III
1.	Interest on Institutional Loans	1327.17
2.	Interest on RBI Bonds	--
3.	Interest on Short term Loans	1726.89
4.	Interest on GPF	125.63
5.	Guarantee fees	80.00
6.	Interest to Consumers	215.00
7.	Other Interest/Charges	5.00
8.	**Total**	**3479.69**
9.	Less: Capitalization	450.00
10.	**Net Interest and Finance Charges**	**3029.69**

However, in view of the signing of MoU for implementation of UDAY Scheme by GoI, GoP and PSPCL, PSPCL has revised the amount of loan requirement, repayments of loan and the interest on loan depicting the impact of UDAY Scheme. Interest and finance charges reduced to ₹2396.82 crore out of which ₹1173.21 crore pertains to interest on institutional loans which has been considered for calculating interest on long terms loans in Table 6.26.

The Interest and Finance charges allowable to PSPCL are discussed in the ensuing paragraphs.

6.14.2 Investment Plan

In ARR Petition for FY 2016-17, PSPCL has projected investment plan/capital expenditure of ₹3183.95 as given in Table 6.25.

Table 6.25: Summary of Capital expenditure planned by PSPCL

Sr. No	Particulars	FY 2016-17
I	II	III
(a)	Generation related	478.25
(b)	Sub-Transmission and Associated Projects	550.00
(c)	Distribution works	2155.70
	Total	**3183.95**

(a) Generation

For FY 2016-17, PSPCL has proposed expenditure of ₹478.25 crore on major schemes related to Generation Projects.

(b) Sub-Transmission

PSPCL has also projected capital expenditure of ₹550.00 crore for Sub-Transmission and Associated Projects for FY 2016-17.

(c) Distribution

PSPCL has proposed capital expenditure amounting to ₹2155.70 crore for various projects like normal development works including SI schemes (₹600.00 crore), shifting of meters out of consumer premises (₹220.00 crore), providing 11 KV manual operative switch gears (₹6.10 crore), release of tubewell connections (₹145.20 crore), comprehensive T&D losses reduction plan (₹30.00 crore), works relating to APDRP-II Part-A (₹100.00 crore), APDRP-II Part-B (₹760.00 crore), IT in Distribution offices (₹12.00 crore),ME Lab.(₹2.40 crore) and Integrated Power Development Scheme (₹280.00 crore).

Against the projected capital expenditure of ₹3183.95 crore for FY 2016-17, PSPCL has projected capitalization of assets of ₹2738.35 crores. However, keeping actual capital expenditure in the previous years in view, the Commission approves ₹1600.00 crore for investment for FY 2016-17 and capitalization of assets is approved at ₹1611.76 crore. The amount of Consumer Contribution, Grants and Subsidies for FY 2016-17 is considered at the level of FY 2015-16. Accordingly, actual loan requirement for the level of investment works out to ₹1512.67 (1600.00 – 87.33) crore. After including the amount of loans of ₹2246.77 crore converted under the UDAY Scheme, the total loans worked out to ₹3759.44 (1512.67 + 2246.77) crore.

PSPCL has revised its claim to ₹1173.21 crore as interest for FY 2016-17 on institutional loan (other than WCL, GP Fund and GoP loans) in the ARR Petition for FY 2016-17. The Commission in para 5.15.2 of this Order approved closing balance as on 31.3.2016 of loans of ₹8552.14 crore. Considering the opening balance as on 01.04.2016 of ₹8552.14 crore for FY 2016-17, the interest on loans (other than WCL, GP Fund, R-APDRP Scheme Part-A and GoP) is as under:

Table 6.26: Interest on Loans (Other than WCL and GoP Loans) for FY 2016-17

(₹crore)

Sr. No.	Particulars	Loans as on April 01, 2016	Receipt of Loans during FY 2016-17	Repayment of Loans during FY 2016-17	Loans as on March 31, 2017	Amount of Interest
I	II	III	IV	V	VI	VII
1.	As per data furnished in ARR Petition (other than WCL and GoP Loans)	9956.35	5130.72	3527.23	11559.84	1173.21
2.	Approved by the Commission (other than WCL, GP Fund, R-APDRP Scheme Part-A and GoP Loans)	8552.14	3759.44	3527.23	8784.35	945.31

6.14.3 **Interest on General Provident Fund (GPF)**

PSPCL has claimed interest of ₹125.63 crore on GPF for FY 2016-17.

The Interest of ₹125.63 crore on GP Fund, being a statutory payment, is allowed as claimed by PSPCL for FY 2016-17.

6.14.4 **Finance Charges**

PSPCL has claimed finance charge of ₹80.00 crore as guarantee fees on loan amount of ₹2883.95 (5130.72 - 2246.77) crore. The Commission has approved loan amount of ₹1512.67 (3759.44 - 2246.77) crore. As such, the finance charges of ₹41.96 (80.00 x 1512.67 / 2883.95) crore are determined.

Accordingly, the Commission approves the finance charges of ₹41.96 crore for FY 2016-17.

6.14.5 Interest on Consumer Security Deposits

In ARR Petition for FY 2016-17, PSPCL has claimed ₹215.00 crore towards interest on consumer security deposits for FY 2016-17. As per 1st amendment to PSERC Supply Code 2014, interest of ₹127.13 crore on consumer security is worked out.

Accordingly, the Commission allows the interest of ₹127.13 crore on Consumer Security Deposits for FY 2016-17.

6.14.6 Capitalization of Interest Charges

In ARR Petition for FY 2016-17, PSPCL has claimed ₹450.00 crore towards capitalization of interest charges. The Commission has determined the capitalization of interest charges of ₹27.42 crore in the ratio of closing works in progress to the total capital expenditure.

The Commission, accordingly, approves capitalization of interest charges of ₹27.42 crore for FY 2016-17.

6.14.7 Interest on Working Capital

In the ARR Petition for FY 2016-17, PSPCL has submitted interest on working capital of ₹1726.89 crore for FY 2016-17.

The Commission has determined the working capital requirement in accordance with Regulation 30 of PSERC Tariff Regulations. The details of working capital requirement and allowable interest thereon are depicted in Table 6.27.

Table 6.27: Interest on Working Capital Requirement for FY 2016-17

(₹crore)

Sr. No	Particulars	Amount
I	II	III
1.	Fuel Cost for two months	399.59
2.	Operation and Maintenance expenses for one month	433.40
3.	Receivables for two months	4291.32
4.	Maintenance Spares @15% of O&M expenses	780.12
5.	Less: Consumer security deposit	2787.44
6.	Total working capital requirement	3116.99
7.	Interest rate (calculated on weighted average)	9.34%
8.	**Interest on Working Capital Loan**	**291.13**

The Commission, accordingly, approves interest of ₹291.13 crore on Working Capital Requirement for FY 2016-17.

In view of above, the interest and finance charges are approved as detailed in Table 6.28.

Table 6.28: Interest and Finance Charges for FY 2016-17

(₹crore)

Sr. No.	Particulars	Loans as on April 01, 2016	Receipt of Loans during FY 2016-17	Re-payment of Loans during FY 2016-17	Loans as on March 31, 2017	Interest Approved by Commission
I	**II**	**III**	**IV**	**V**	**VI**	**VII**
1.	Approved by the Commission (Other than WCL and GoP Loans	8552.14	3759.44	3527.23	8784.35	945.31
2.	GoP Loans					-
3.	Interest on GPF					125.63
4.	Finance Charges					41.96
5.	Interest on Consumer Security Deposits					127.13
6.	**Gross Interest and Finance Charges**					**1240.03**
7.	Less: Capitalization					27.42
8.	**Net Interest and Finance Charges**					**1212.61**
9.	Interest on Working Capital					291.13
10.	**Total Interest**					**1503.74**

The Commission, accordingly, approves the Interest and Finance charges of ₹1503.74 crore for PSPCL for FY 2016-17.

6.15 Return on Equity

6.15.1 In the ARR and Tariff Petition for FY 2016-17, PSPCL has claimed RoE of ₹942.62 crore @ 15.5% on Govt. equity holding of ₹6081.43 crore.

6.15.2 As stated in para 3.17.3 of this Tariff Order and in accordance with the PSERC Tariff Regulations, the Commission allows RoE of ₹942.62 crore @15.5% on the equity of ₹6081.43 crore.

The Commission, thus, approves RoE of ₹942.62 crore to PSPCL for FY 2016-17.

6.16 Transmission Charges payable to PSTCL

The Commission in this Tariff Order of PSTCL for FY 2016-17 has determined ₹1151.01 crore as the Transmission charges payable to PSTCL by PSPCL. Accordingly, this amount is being included in the ARR of PSPCL for FY 2016-17.

6.17 Non-Tariff Income

6.17.1 In ARR & Tariff Petition for FY 2016-17, PSPCL has projected Non-Tariff Income of

₹826.65 crore which includes ₹91.41 crore on account of other income transferred from consumer contribution as clarified by PSPCL in its reply to deficiency letter of the Commission. This excludes an amount of ₹108.97 crore on account of late payment surcharge and ₹75.00 crore on account of rebate for timely payment for power purchase. In the petition, PSPCL has prayed that the late payment surcharge be not treated as part of the Non-Tariff Income as PSPCL's working capital requirements are being determined as per norms and there is no compensation to the PSPCL on account of interest accrued on delayed payments against bills issued and including the Late Payment Surcharge in Non-Tariff/ Other Income adversely impacts the cash flow position of the PSPCL. The Commission observes that receipts on account of Late Payment Surcharge are to be treated as Non-Tariff Income as per Regulation 34 of PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005. Moreover, interest on working capital is allowed to the utility on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on normative basis. So the plea of the utility not to treat the late payment surcharge as part of the Non-Tariff Income finds no merit.

PSPCL has also not included ₹75.00 crore on account of rebate for timely payment for power purchase in the Non-Tariff Income whereas these charges are required to be taken as Non-Tariff Income. As such, the Non-Tariff Income works out to ₹1010.62 (826.65+108.97+75.00) crore.

6.17.2 PSPCL has filed a petition (No.32 of 2016) with the Commission for approval of the Commission to introduce Voluntary Disclosure Scheme (VDS) for Agriculture Pumpset (AP) consumers. During the processing of the petition, PSPCL submitted a copy of the letter dated 29.04.2016 written to Principal Secretary/Power, Government of Punjab, Chandigarh requesting for approval of the State Government to re-imburse loss in service connection charges as per Voluntary Disclosure Scheme Policy, 2016, wherein the tentative amount has been mentioned as ₹50-60 crore on account of less recovery of service connection charges @ ₹3000/- per BHP instead of ₹4500/- per BHP. In view of the details mentioned by PSPCL in the petition and in its letter dated 29.04.2016 addressed to Principal Secretary/Power, Government of Punjab, Chandigarh, the Commission has worked out the income to PSPCL from Voluntary Disclosure Scheme Policy, 2016 as ₹150.00 crore and decides to consider this amount as additional Non Tariff Income during FY 2016-17.

The Commission accordingly, approves Non-Tariff Income of ₹1160.62 (1010.62 + 150.00) crore for FY 2016-17.

6.18 Charges payable to GoP on power form RSD

In the ARR petition for FY 2016-17, PSPCL has claimed royalty charges of ₹8.26 crore payable to Government of Punjab on power from RSD for FY 2016-17, **which are allowed as claimed.**

6.19 Demand Side Management (DSM) Fund

PSPCL has proposed to create a DSM Fund for funding energy saving and Demand Side management activities for which a total amount of ₹10.00 crore has been claimed in the ARR for FY 2016-17. The Commission has observed that although PSPCL is being provided sufficient funds for carrying out DSM measures during the last few years but the licensee has failed miserably to use any amount on energy efficiency and DSM measures. PSPCL has submitted that EESL has been asked to prepare action plan and various measure to carry out DSM programme will be taken in hand after determining energy saving potential of such measures.

The Commission provisionally approves an amount of ₹10.00 crore as claimed by PSPCL for implementation of DSM Programme. This amount shall be kept in a separate DSM Fund and used exclusively for DSM Programme as per the procedures laid down in the DSM Regulations.

6.20 Rebate to consumers catered at higher voltages and Financial impact of ToD tariff

6.20.1 **Rebate to consumers catered at higher voltages**

The Commission in para 5.2 of the Tariff Order for FY 2013-14 had decided to adopt Cost of Supply Study (Methodology II) and observed in para 4.21 of the Tariff Order for FY 2013-14 that Cost to Serve at higher voltages is lesser than the Cost to Serve at lower voltages.

In the Tariff Order for FY 2014-15, the Commission decided to approve rebate of 30 paise/kVAh to consumers catered at 400/220/132 kV voltage, 25 paise/kVAh at 66/33 kV voltage, 20 paise/kVAh to DS, NRS and MS category consumers catered at 11 kV and 20 paise/kWh to AP/AP High Tech, Compost Plants/Solid Waste Management Plants for Municipalities/ Urban Local Bodies catered at 11 kV. The Commission decided to continue with the high voltage rebates as approved in the Tariff Order for FY 2014-15, during FY 2015-16 also. PSPCL in the ARR for FY 2016-17 has projected the impact of high voltage rebate, ToD Rebate and ToD tariff for adjusting PLEC at ₹ 320.00 crore, escalating by 7.45% the figure of similar items for FY 2015-16. **However, the Commission has assessed the impact of this voltage rebate at**

₹142.20 crore on the basis of energy sales data supplied by PSPCL for FY 2016-17 in its ARR and approves the same provisionally. The revenue from tariff on existing rates has accordingly been reduced to this extent. The actual revenue impact will be adjusted at the time of true up. **PSPCL is directed to submit complete details of category-wise energy sales and high voltage rebate, at the time of review/true up of FY 2016-17.**

6.20.2 **Financial impact of ToD tariff**

The Commission in the Tariff Order for FY 2013-14 had approved the proposal of PSPCL for introduction of ToD tariff for 6 months (October to March of the year) during off peak hours from 22.00 hrs to 06.00 hrs for Large Supply industrial category consumers, and approved rebate of ₹1/kWh on the normal tariff for this category. This approval was valid for FY 2013-14. PSPCL had projected a loss of ₹129.00 crore on account of this rebate, which was estimated by PSPCL to be reduced to ₹108.00 crore as a result of increase in demand by 10% during off peak period. Further, PSPCL had proposed to adjust/recover this loss from additional revenue proposed to be generated by increase in Peak Load Exemption Charges (PLEC). The Commission in the Tariff Order for FY 2013-14 approved the increase of 50% in the existing peak load exemption charges.

On persistent demand from Large Supply industrial category consumers for extension in the period of ToD tariff for the whole year, the Commission in its Order dated 28.02.2014 decided to extend the period of ToD tariff to 31.05.2014, after analyzing the issue and observing availability of surplus power with PSPCL during April and May of the year and also declarations of PSPCL and PSTCL that the power available including surplus power can flow through transmission and sub-transmission systems of PSPCL and PSTCL. The Commission in the Tariff Order for FY 2014-15 had assessed the impact of extension in the period of ToD tariff to 31.05.2014 as ₹42.00 crore.

The Commission in the Tariff Order for FY 2015-16 approved the ToD rebate @ ₹1.00/kVAh for Large Supply industrial category consumers and Medium Supply industrial category consumers from 10.00 PM to 06.00 AM (next day) for the period from 01.10.2015 to 31.03.2016, the financial impact of this rebate was worked out to ₹146.87 crore.

The Commission in para 7.2 of this Tariff Order has approved ToD tariff to Large Supply industrial category consumers and Medium Supply industrial category consumers and has approved a rebate of ₹1/kVAh during off peak hours from 10.00

PM to 06.00 AM (next day), during the period from 01.10.2016 to 31.03.2017. The Commission has decided in para 7.2 of the Tariff Order to replace PLEC with ToD tariff (surcharge) @ ₹2 per kVAh on the consumption from 06.00 PM to 10.00 PM during the period from August, 2016 to September, 2016 of FY 2016-17 for Large Supply industrial category consumers. The Commission has also decided in para 7.2 to allow ToD rebate @ ₹1 per kVAh from 10.00 PM to 06.00 PM (next day) during the period from October, 2016 to March, 2017 of FY 2016-17 to Large Supply and Medium Supply industrial categories consumers. PSPCL in the ARR for FY 2016-17 and its subsequent communication vide letter no.1229 dated 09.12.2014 has projected the financial impact of HV rebate, ToD rebate and ToD tariff for adjusting PLEC (during the period 01.10.2016 to 31.03.2017) as ₹320.00 crore. This projection has been made by PSPCL by assuming escalation of 7.45% over similar figures of FY 2015-16. The Commission approved the impact of ToD rebate and ToD tariff for adjusting PLEC as ₹146.87 in the Tariff Order for FY 2015-16. By assuming escalation of 7.45% (as projected by PSPCL), the impact of ToD rebate and ToD Tariff for adjustment of PLEC works out to ₹157.80 crore. **The total financial impact of ToD tariff during FY 2016-17, as approved in para 7.2, has been assessed by the Commission as ₹367.80 crore (including ₹157.80 crore projected by PSPCL in the ARR), which the Commission provisionally approves.** The revenue from tariff on existing rates has accordingly been reduced to this extent. The actual impact on revenue will be adjusted at the time of true up. **PSPCL is directed to submit complete details of financial impact of ToD rebate and ToD surcharge (separately) at the time of true up of FY 2016-17.**

As such, the Commission approves the total financial impact of ₹510.00 crore (142.20 + 367.80) for rebate to consumers catered at higher voltages and impact of ToD tariff.

6.21 Revenue from sale of power

6.21.1 As per ARR Petition for FY 2016-17, PSPCL has projected revenue from sale of power at ₹26121.77 crore for FY 2016-17.

The Commission, approves the revenue from sale of power as ₹25747.94 crore for energy sales of 44724.07 MU for FY 2016-17 as detailed in Table 6.29.

Table 6.29: Revenue from Sale of Power for FY 2016-17.

(₹crore)

Sr. No.	Description	As per ARR of PSPCL		As approved by the Commission		
		Energy Sale (MU)	Revenue (₹crore)	Energy Sale (MU)	Tariff Rate (Paise/Unit)	Revenue (₹crore)
I	II	III	IV	V	VI	VII
1.	Domestic	13528.62	7492.45	13528.62		7492.45
2.	Non-Residential Supply	3699.27	2481.57	3699.27		2481.57
3.	Public Lighting	202.53	135.49	202.53	669	135.49
4.	Small Power	936.60	547.91	936.60	585	547.91
5.	Medium Supply	2189.61	1396.97	2189.61	638	1396.97
6.	Large Supply	11611.47	7524.23	11611.47	646	7501.01
7.	Bulk Supply & Grid Supply	697.18	447.89	697.18		447.89
8.	Railway Traction	166.79	112.58	166.79	675	112.58
9.	Common Pool	311.68	145.55	312.00		145.55
10.	Outside State	120.51	-	53.00		8.75
11.	AP	11696.76	5357.12	11327.00	458	5187.77
12.	Add: PLEC & MMC		800.00			800.00
13.	Grand total	45161.02	26441.77	44724.07		26257.94
14.	HV Rebate and impact of ToD Tariff		320.00			510.00
15.	**Revenue from existing tariff**	**45161.02**	**26121.77**	**44724.07**		25747.94

6.22 Carrying Cost on Revenue Gap

6.22.1 True up of FY 2012-13

In the review of FY 2012-13 in Tariff Order FY 2013-14, the Commission had determined a revenue gap (surplus) of ₹645.67 crore on which carrying cost was recovered as per para 6.23.3 of Tariff Order FY 2014-15. Now, in this Tariff Order, the Commission has determined a revenue gap (surplus) of ₹535.98 crore during the True up for FY 2012-13. Thus, there is reduction in surplus of ₹109.69 crore now on which the Commission allows carrying cost of ₹6.20 crore @11.30% for FY 2014-15 (Six months), ₹12.66 crore @11.54% for FY 2015-16 (full year) and ₹5.12 crore @9.34% for FY 2016-17 (six months). The total allowable carrying cost for FY 2012-13 is worked out to the tune of ₹23.98 crore.

6.22.2 True up of FY 2013-14

In the review of FY 2013-14 in Tariff Order FY 2014-15, the Commission had determined a revenue gap (surplus) of ₹971.16 crore on which carrying cost was recovered as per para 6.23.3 of Tariff Order FY 2014-15. Now, in this Tariff Order, the Commission has determined a revenue gap (surplus) of ₹1783.66 crore during the True up for FY 2013-14. Thus, there is addition in surplus of ₹812.50 crore on which the Commission allows further recovery of carrying cost of ₹45.91 crore @11.30% for FY 2014-15 (Six months), ₹93.76 crore @11.54% for FY 2015-16 (full year) and ₹37.94 crore @9.34% for FY 2016-17 (six months). The total recovery of carrying cost for FY 2013-14 is ₹177.61 crore.

6.22.3 PSPCL was unable to furnish Audited Annual Accounts for FY 2012-13 and FY 2013-14 for true up in time due to late finalization of the Opening Balance Sheet of PSPCL by GoP. The Commission, further, decides that the carrying cost due to delay in the finalization of the Opening Balance Sheet of PSPCL, which has been notified by GoP on 24.12.2012, is attributable to Government of Punjab. Allowable carrying cost of ₹11.45 crore for FY 2012-13 and recoverable carrying cost of ₹84.82 crore for FY 2013-14 is attributable to PSPCL **resulting in net recoverable carrying cost from PSPCL for these years to ₹73.37 (84.82-11.45) crore**.

Allowable carrying cost of ₹12.53 (23.98-11.45) crore for FY 2012-13 and recoverable carrying cost of ₹92.79 (177.61-84.82) crore for FY 2013-14 is attributable to GoP.

Accordingly, the net benefit of carrying cost of ₹80.26 (92.79-12.53) crore relating to FY 2012-13 and FY 2013-14 is passed on to GoP.

6.22.4 **Review of FY 2015-16**

The Commission has determined revenue gap (Deficit) of ₹845.81 crore in the review for FY 2015-16. The Commission, therefore, allows carrying cost of ₹48.80 crore @11.54% for FY 2015-16 (Six months) and ₹39.50 crore @9.34% for FY 2016-17 (Six months) to PSPCL. The total allowable carrying cost in the review of FY 2015-16 is of ₹88.30 crore.

Thus the allowable carrying cost of PSPCL for FY 2012-13, FY 2013-14 and FY 2015-16 works out to ₹14.93 (88.30 - 73.37) crore.

6.23 Revenue Requirement for FY 2016-17

A summary of the Aggregate Revenue Requirement of PSPCL for FY 2016-17 as discussed in the preceding paragraphs is given in Table 6.30.

Table 6.30: Revenue Requirement for FY 2016-17

(₹crore)

Sr. No.	Items of Expenses	Proposed by PSPCL	Approved by the Commission
I	II	III	IV
1.	Cost of Fuel	5804.62	2397.56
2.	Cost of power purchase	13527.45	14697.41
3.	Employee Cost	5715.97	4835.58
4.	R & M expenses	673.58	418.30
5.	A & G expenses	217.24	138.00
6.	Recoverable O&M expenses on account of BBMB as per CERC orders dated 12.11.2015 and 21.03.2016.		(-)191.09
7.	Depreciation	1157.58	1063.59
8.	Interest & Finance charges	3029.69	1503.74
9.	Return on Equity	942.62	942.62
10.	Transmission and SLDC charges payable to PSTCL	1002.17	1151.01
11.	RSD charges payable to GoP	8.26	8.26
12.	Provision for DSM	10.00	10.00
13.	**Total Revenue Requirement**	32089.19	**26974.98**
14.	Less: Non Tariff Income	826.65	1160.62
15.	**Net Revenue Requirement**	31262.54	**25814.36**
16.	Revenue from existing tariff	26121.77	25747.94
17.	Surplus(+)/ Deficit(-) for FY 2016-17	(-)5140.77	(-)66.42
18.	Surplus (+)/Deficit (-) upto FY 2015-16		(+)247.29
19.	Carrying cost on gaps		(-)14.93
20.	**Surplus (+)/ Deficit (-) upto FY 2016-17**		**(+)165.94**

The Cumulative Gap (surplus) for FY 2016-17 is determined at ₹165.94 crore. The Annual Revenue Requirement for FY 2016-17 is assessed at ₹26974.98 crore with energy sales of 44724.07 MU. The average cost of supply with this revenue requirement comes to 603.14 paise per kWh (₹26974.98 crore/44724.07 MU). The combined average cost of supply works out to 597.95 paise per kWh (₹26742.62 crore/44724.07 MU), after taking into account the ARR of ₹26974.98 crore for FY 2016-17, approved consolidated surplus of ₹247.29 crore upto FY 2015-16 and carrying cost of ₹14.93 crore for the approved revenue gaps.

Chapter 7
Tariff Related Issues

7.1 Two Part Tariff for Retail Supply

7.1.1 (i) Section 45 of the Electricity Act, 2003 provides the power to distribution licensee to recover the charges for the supply of electricity by it in accordance with tariffs fixed from time to time. As per Section 45 (2) of the Electricity Act, 2003 (Act):

The charges for electricity supplied by a distribution licensee shall be:

(a) fixed in accordance with the methods and the principles as may be specified by the concerned State Commission;

(b) published in such manner so as to give adequate publicity for such charges and prices.

Section 45 (3) of the Act states that the charges for electricity supplied by a distribution licensee may include a fixed charge in addition to the charge for the actual electricity supplied.

Moreover, the Tariff Policy, 2006 focuses on introduction of Two Part Tariff and Time of Day (ToD) tariffs as it would result in flattening the peak and implementing various energy conservation measures. Clause 8.4 (1) of Tariff Policy, 2006 defines the tariff components and its applicability as follows:

"Two-part tariffs featuring separate fixed and variable charges and Time differentiated tariff shall be introduced on priority for large consumers (say, consumers with demand exceeding 1 MW) within one year…"

In view of these provisions, the utility (PSPCL) was directed by the Commission to submit the Two Part Tariff proposal for implementation in the State.

(ii) With the ARR & Tariff petition for FY 2012-13, PSPCL had submitted Two Part Tariff proposal to the Commission. The assumptions for arriving at the proposal and the structure were also elaborated therein. Several consumers and consumer groups had raised specific objections to the Two Part Tariff proposal. PSPCL had given its response to the objections raised by the stakeholders. Keeping in view the objections raised by the stakeholders and the response of PSPCL, the Commission in its Tariff Order for FY 2013-14 had observed that “with the coming up of more accurate and sophisticated electronic metering equipment, there is hardly any possibility of manipulation of meter reading data, including maximum demand. However, in view of the complicating/divergent views expressed by various stakeholders, the Commission does not consider it appropriate to introduce Two Part Tariff during the year 2013-14 but would like to more surely prepare the ground for implementation from the next financial year.”

The Commission further observed that:

“The Commission, while mindful of Tariff Policy enjoining early introduction of Two Part Tariff, is nevertheless, of the considered view that Two Part Tariff should be introduced only after attending concerns of various stakeholders of the utility through public hearings and by critically analyzing the actual billing data, to determine the impact on consumers as well as revenue of utility. PSPCL is, therefore, directed to examine the issues raised by the consumers/consumer organizations, and conduct mock trial/parallel run of the proposed Two Part Tariff system, at least in five selected Divisions of PSPCL for 6 months, and submit a detailed report along with a more refined proposal for introduction of Two Part Tariff, addressing the concerns of the consumers/consumer organizations expressed during the processing of ARR for FY 2013-14 and also the observations made by PSPCL during the mock trial/parallel run.”

(iii) In compliance to the directive of the Commission in the Tariff Order for FY 2013-14, PSPCL submitted Two Part Tariff proposal to the Commission after conducting mock trial/parallel run. In the proposal, PSPCL ensured revenue neutrality with the single part tariff. However, PSPCL reiterated that the Two Part Tariff has characteristics that the low consumption consumers pay more and the consumers having higher consumption pay less, which was also clear from the results of the mock trial obtained. Several consumers/consumer organisations raised objections to the Two Part Tariff proposal. PSPCL gave its response to the objections raised by the consumers/consumer organisations.

In view of the objections from the consumers/consumer associations and the response of PSPCL, the Commission observed and ordered as under, in the Tariff Order for FY 2014-15:

“The Commission notes that there is considerable opposition from various categories of consumers for introduction of Two Part Tariff in the State. The various objectors have submitted their apprehensions and there is general fear in the minds of consumers that their bill amount will increase if the Two Part Tariff proposal submitted by PSPCL is introduced in the present form. PSPCL has tried to allay the apprehensions of the objectors in its reply to the objections raised by the various objectors. During the public hearing also, there was considerable opposition from the various categories of consumers. On examination of the proposal submitted by PSPCL, the Commission has also observed that the proposal will affect the majority of the consumers adversely, particularly the consumers having low consumption. There is a need for consensus building amongst various stakeholders before introduction of Two Part Tariff in the State. The Commission, therefore, directs PSPCL to re-examine the issues/objections raised by the consumers/consumer associations and even should discuss with the various categories of consumers/consumer associations, the issues raised by them, and thereafter resubmit the Two Part Tariff proposal, after addressing the concerns of the majority of the consumers/consumer associations."

7.1.2 In response to the directive of the Commission contained in the Tariff Order for FY 2014-15, PSPCL in the ARR for FY 2015-16 submitted as under:

"The proposal for Introduction & Implementation of Two Part Tariff was submitted to the PSERC vide this office memo no. 1305/CC/DTR-233 dated 01.01.2013. The PSERC in Tariff Order for FY 2013-14 directed the PSPCL to examine the issues raised by the consumers/consumer organizations, and conduct mock trial/parallel run of the proposed Two Part Tariff system, at least in five selected Divisions of PSPCL for 6 months, and submit a detailed report along with a more refined proposal for introduction of Two Part Tariff, addressing the concerns of the consumers/consumers organizations expressed during the processing of ARR for FY 2013-14 and also the observations made by PSPCL during the mock trial/parallel run. As per directions, the proposal for Two Part Tariff and the outcome of the Mock Trial on prescribed proforma was submitted to PSERC vide this office memo no. 226/DTR/Dy.CAO/ 233/Vol.III dated 30.01.2014 & thereafter, Public Hearing was held on 28.03.2014. Replies of the objections were also sent to PSERC as well as the objectors. In the Tariff Order for FY 2014-15, the Commission has directed PSPCL to resubmit the Two Part Tariff proposal, after addressing the concerns of the majority of consumers/consumer associations.

The perusal of the objections of the stake holders reveal that the stake holders are objecting to the very characteristic of the Two Part Tariff which clearly depicts that the consumers having higher consumption shall have reduced bills under Two Part

Tariff whereas the consumers with moderate consumption may have to pay a little extra. There is no tool available with PSPCL which may be applied to ensure that the bill of no consumer increases but the bills of the consumers having higher consumption may reduce as the same shall be contradictory to the principle of revenue neutral proposal.

In view of the above, PSPCL is of a considered opinion that the proposal submitted by PSPCL is the best possible proposal keeping in view the data of PSPCL and since the final call on the introduction of the Two Part Tariff is to be taken by PSERC, the call to build consensus amongst various stake holders also need to be taken by PSERC. Accordingly, the proposal already submitted with the ARR of FY 2014-15 may again be considered for building consensus amongst the stake holders."

The Commission in its letter no. 13376 dated 05.12.2014 reiterated its directions issued in the Tariff Order for FY 2014-15 and directed PSPCL to resubmit the proposal for introduction of Two Part Tariff in the State, after addressing the concerns of the stakeholders as brought in para 7.2 of the Tariff Order for FY 2014-15. PSPCL vide its letter no. 4815 dated 05.02.2015 submitted that PSPCL has already taken its stand on the same as per the reply to the directive in the ARR for FY 2015-16 and the position remains the same as on date.

7.1.3 In the Tariff Order for FY 2015-16, the Commission observed that the Two Part Tariff proposal submitted by PSPCL at the time of processing of ARR for FY 2014-15 cannot be implemented in the present form in view of apprehension expressed by various objectors and also fear in the minds of the consumers that their bill amount will increase, if Two Part Tariff proposal submitted by PSPCL is introduced in the present form. The Commission further observed that there is, in general, recession in the Industrial Sector at the national level and specifically more at the State level, and as such, time is not ripe to introduce Two Part Tariff proposal submitted by PSPCL. Therefore, PSPCL was directed to discuss with the various categories of consumers/consumer associations the issues/objections raised by them (as brought out in the Tariff Order for FY 2014-15) and re-submit the Two Part Tariff Proposal along with ARR for FY 2016-17, after building consensus amongst various stakeholders.

7.1.4 In the ARR for FY 2016-17, PSPCL submitted that the matter regarding Two Part Tariff is under the consideration of Commercial Organization and is still to be finalized and PSPCL comments will be submitted to the Commission separately. During processing of ARR for FY 2016-17, PSPCL informed the Commission that a Public Notice has been issued by it for inviting comments of the Public/Stake-holders on the

Two Part Tariff proposal of PSPCL. Further, the proposal of Two Part Tariff shall be submitted to the Commission in due course of time. PSPCL has submitted to the Commission (vide letter no. 4811 dated 06.07.2016) the Two Part Tariff proposal and revised proposal vide letter no. 4827 dated 13.07.2016.

7.1.5 The Commission observes that instead of framing the proposal after building consensus among various stake-holders after discussing with the various categories of consumers/consumer organizations the issues/objections raised by them, as brought out in the Tariff Order for FY 2014-15 and then submitting the Two part Tariff proposal, PSPCL invited the comments of Public/Stake-holders on its own proposal, which has further complicated the issue of introduction of Two Part Tariff instead of solving the same. **However, since PSPCL has already invited comments from Public/Stake-holders on its own proposal and has submitted to the Commission Two Part Tariff proposal vide letter no. 4811 dated 06.07.2016 & revised Two Part Tariff proposal vide letter no. 4827 dated 13.07.2016, the Commission will examine the proposal submitted by PSPCL and take appropriate action before finalization of the same.**

7.2 Time of Day (ToD) Tariff

7.2.1 Peak Load Hours restrictions were imposed by erstwhile PSEB to tackle power shortage and transmission & distribution system constraints during peak load hours. As per prevailing instructions, industrial consumers are allowed to use some load, called restricted load, during this period without payment of any extra charges. However, industrial consumers can use higher load during peak hours after payment of Peak Load Exemption Charges (PLEC) as approved by the Commission. These charges are calculated for 3 hours per day. Thus, PLEC is being used as a commercial mechanism to restrict the demand during high demand period.

However, the conditions have changed in the last few years with Punjab becoming a power surplus State and system constraints have also been tackled due to investment in transmission and distribution system. Both PSPCL and PSTCL gave an undertaking on affidavit during FY 2013-14 that there is no transmission and distribution network constraint and the full demand of the State can be catered.

PLEC is acting as a deterrent for use of surplus power during peak load hours. For the past couple of years, the industrial consumers, during public hearings held in respect of ARRs and interaction on various issues are continuously objecting the justification of levying PLEC during peak load hours, in power surplus regime.

7.2.2 Time of Day (ToD) tariff is a tariff structure in which different rates are applicable for use of electricity at different times of the day. There are certain time blocks in a day when the demand for electricity is at its peak. World over, the Transmission/ Distribution System is not designed to meet 100% peak demand round the clock. Thus, restrictions on power supply during peak hours are necessary to flatten the load curve and operate the system within permissible parameters and to avoid cascade tripping. ToD tariff is implemented to reduce demand/consumption of electricity during peak hours. To achieve this objective, electricity is made expensive during peak hours so that consumers use less electricity during these hours. Also, electricity charges during off peak hours are reduced as an incentive for people to use more electricity during off peak hours and thus flatten the demand curve.

7.2.3 Section 62 (3) of the Electricity Act 2003 lays down that:

The Appropriate Commission shall not, while determining the tariff under this Act, show undue preference to any consumer of electricity but may differentiate according to the consumer's load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required.

Para 5.4.9 of the National Electricity Policy also advocates the ToD tariff, which says that:

The Act requires all consumers to be metered within two years. The SERCs may obtain from the Distribution Licensees their metering plans, approve these, and monitor the same. The SERCs should encourage use of pre-paid meters*. In the first instance, ToD meters for large consumers with a minimum load of one MVA are also to be encouraged. The SERCs should also put in place independent third-party meter testing arrangements.*

The provision of the Tariff Policy (8.4 Definition of tariff components and their applicability) envisages explicitly the emphasis on the ToD Tariff. The provision says that:

Two-part tariffs featuring separate fixed and variable charges and Time differentiated tariff shall be introduced on priority for large consumers (say, consumers with demand exceeding 1 MW) within one year. This would also help in flattening the peak and implementing various energy conservation measures.

In view of the *above* provisions, the Commission in its various Tariff Orders directed PSPCL to submit a proposal for the introduction of Time of Day tariff in the State.

7.2.4 PSPCL in its submissions in the ARR for FY 2013-14 had recommended the introduction of Time of Day tariff for the year 2013-14 for Large Supply industrial consumers only. PSPCL had proposed 06:00 to 18:00 hours as normal hours, 18:00 to 22:00 hours as peak period and 22:00 to 06:00 hours as off peak period. PSPCL had submitted that off peak period for six months (October to March) only has been considered for ToD tariff as the load curve shows a dip during these months in demand during night hours which is not good for an efficient system operation during winter period i.e. from October to March.

The Commission noted that the Time of Day (ToD) Tariff which is widely accepted Demand Side Management measure has already been implemented in majority of the States. In some other States like Haryana and Himachal Pradesh, ToD tariffs have not been notified but Peak Load Exemption Charges (PLEC), which are a form of ToD tariffs have been notified, where additional tariff during peak load hours is applicable. Such type of ToD Tariff also existed in Punjab prior to FY 2013-14. The Commission further noted that in the initial stages, ToD tariffs were notified for limited consumer categories, typically for HT industrial and thereafter progressively extended to bring other consumer categories in the fold of ToD tariffs.

The Commission, therefore, in its Tariff Order for FY 2013-14 approved the proposal of PSPCL for introduction of Time of Day (ToD) Tariff for six months (October to March) of FY 2013-14, during off peak hours from 22:00 hours to 06:00 hours for Large Supply industrial category, and approved rebate of ₹1.00/unit on the normal tariff for this category. It was also ordered that there will not be any change in the duration of peak load hours restrictions which will not be for more than 3 hours in the evening between 18:00 hours to 22:00 hours and will continue to be governed as per existing instructions.

7.2.5 PSPCL vide its letter no. 378/DTR/Dy.CAO/Vol.III dated 26.02.2014 intimated that with the commissioning of IPPs in the State, there will be an energy surplus regime during FY 2014-15 in the State and that there shall be considerable generation capacity over hang across the country and thus it may not be feasible to sell large amount of power outside the state of Punjab. Further, PSPCL vide its letter no. 5106/TR-5/PSERC-Misc dated 24.02.2014 also submitted declaration on affidavit that the power available including surplus power can flow to the consumers through transmission and sub transmission system available with PSPCL for FY 2014-15. PSTCL vide its letter no. 482/FA/ARR-403 dated 26.02.2014 also submitted a declaration on affidavit that the power available including surplus power can flow through transmission system of 400 kV/220 kV/132 kV available with PSTCL for

FY 2014-15.

In view of the persistent demand from Large Supply Industrial category consumers in general for extension in the period of ToD tariff to whole year, the Commission analyzed the issue and ToD tariff was further extended upto 31.05.2014 by the Commission vide its order dated 28.02.2014.

7.2.6 During public hearings on the ARR for FY 2014-15, there was demand from various consumers/consumer associations for extension of ToD Tariff for Large Supply industrial category for FY 2014-15 and also for introduction of ToD tariff for Medium Supply industrial category consumers, as the same may make MS industry of Punjab to be more competitive, reduce the quantum of surrendered power and also earn more revenue for PSPCL, in view of surplus power available with PSPCL for FY 2014-15.

Keeping in view the persistent demand from industrial category consumers to do away with PLEC, surplus power during FY 2014-15 projected by PSPCL in the ARR of FY 2014-15 and certification by PSPCL and PSTCL that the power including surplus power can flow through the transmission and sub-transmission system available with PSPCL and PSTCL, the Commission approved the Time of Day (ToD) tariff for LS and MS category of consumers for FY 2014-15 on optional basis.

At the time of approval of ToD tariff in the Tariff Order for FY 2014-15, the Commission had opined that with the implementation of the proposal contained in the Staff Paper, the Large Supply and Medium Supply industrial category consumers will shift their operations to off peak hours, resulting in reduction in consumption during peak hours and normal hours and increase in consumption during off peak hours. The Commission had further opined that the consumption during off peak hours may increase further due to cheaper power available during this period and also that PSPCL will be in a position to release more load/connections as a result of shifting of load. All this may also result in increase in the revenue of the utility.

7.2.7 The Commission vide its letter dated 25.02.2015 sought the comments of PSPCL as to whether ToD tariff as approved in the Tariff Order for FY 2014-15 should be continued and if continued what should be the rate of surcharge and rebate. PSPCL was also asked to comment with regard to the period of ToD tariffs. PSPCL vide its letter dated 12.03.2015 submitted the comments.

The Commission, accordingly, decided that for FY 2015-16 there shall be no ToD rebate/ToD tariff during the months of April and May, 2015 and further decided to continue ToD tariff from 01.10.2015 to 31.03.2016 on optional basis. Further, the rebate which was approved at ₹1.50/kVAh in the Tariff Order for FY 2014-15 was reduced to ₹1.00/kVAh during off peak hours from 10.00 PM to 06.00 AM in the Tariff Order for FY 2015-16.

7.2.8 During the processing of ARR for FY 2016-17, in the objections received, during public hearings held by the Commission at various places and during interaction of the Commission with industrial consumers & their organizations regarding use of surplus power available with PSPCL, a view emerged that PLEC should be removed completely and in its place ToD tariff should be introduced, which will help the industry to consume more power and ultimately help PSPCL to utilize its surplus power and bring down burden of fixed charges payable to the generating stations for non-utilization of surplus power of 18024 MU during FY 2016-17 as projected by PSPCL in its ARR for FY 2016-17.

In view of the above, a Staff Paper was prepared and it was proposed in the Staff Paper to do away with the PLEC regime during the period April to September and replace it with ToD tariff for Large Supply and Medium Supply industrial category consumers, to help the consumers of these categories in doing ease of business as they would be spared from seeking Peak Load Exemption.

A public notice was issued by the Commission for inviting suggestions and comments from the general public and the stakeholders on the Staff Paper on Time of Day (ToD) Tariff proposal for Large Supply and Medium Supply Industrial Categories of Consumers. The following ToD Tariff was proposed in the Staff Paper:

a) For Large Supply Industrial Category consumers, applicable from the date as decided by the Commission:

Period	Time period	Tariff
1st June to 30th September of a financial year	06.00 AM to 06.00 PM	Normal Tariff approved by the Commission
	06.00 PM to 10.00 PM	Normal Tariff approved by the Commission plus ₹3.00 per kVAh
	10.00 PM to 06.00 AM	Normal Tariff approved by the Commission
1st October to 31st May of next year	06.00 AM to 06.00 PM	Normal Tariff approved by the Commission
	06.00 PM to 10.00 PM	Normal Tariff approved by the Commission plus ₹3.00 per kVAh
	10.00 PM to 06.00 AM	Normal Tariff approved by the Commission minus (i) ₹1.00 per kVAh for consumption during this time period i.e. 10.00 PM to 06.00 AM, excluding consumption considered in para (ii) below. (ii) ₹ 2.00 per kVAh on consumption more than maximum consumption, during same time period i.e. from 10:00 PM to 06:00 AM (next day) in similar 8 months during any of last 3 years.

b) For Medium Supply Industrial Category consumers, applicable from the date as decided by the Commission:

Period	Time period	Tariff
1st June to 30th September of a financial year	06.00 AM to 06.00 PM	Normal Tariff approved by the Commission
	06.00 PM to 10.00 PM	
	10.00 PM to 06.00 AM	
1st October to 31st May of next year	06.00 AM to 06.00 PM	Normal Tariff approved by the Commission
	06.00 PM to 10.00 PM	
	10.00 PM to 06.00 AM	Normal Tariff approved by the Commission minus (i) ₹1.00 per kVAh for consumption during this time period i.e. 10.00 PM to 06.00 AM, excluding consumption considered in para (ii) below. (ii) ₹2.00 per kVAh on consumption more than maximum consumption, during same time period i.e. from 10:00 PM to 06:00 AM (next day) in similar 8 months during any of last 3 years.

7.2.9 In response to the Public Notice issued, the suggestions/comments from the following 11 objectors have been received:

a) BCL Industries, Bathinda.

b) Goyal Carbonic Pvt. Ltd., Pahile.

c) Nahar Spinning Mills Ltd., Kupkalan, Malerkotla.

d) Mandi Gobindgarh Induction Furnace Association, Mandi Gobindgarh.

e) PHD Chamber of Commerce and Industry, Chandigarh.

f) Siel Chemical Complex, Rajpura.

g) Nahar Industrial Enterprises Ltd., Ludhiana.

h) Steel Furnace Association of India, Ludhiana.

i) Trishala Alloys Pvt. Ltd., Ludhiana.

j) Steel Furnace Association of India, Punjab Chapter, Ludhiana.

k) Apex Chamber of Commerce & Industry (Punjab), Ludhiana.

The suggestions/comments received from above objectors have been summarized as under:

i) PLEC during peak hours may not be imposed and normal tariff be applied during the whole period of the day i.e. 24 hours. Time of Day (ToD) Tariff structure be made applicable as per normal Tariff and ₹3.00 per unit should not be charged during 06:00 P.M. to 10:00 P.M. The tariff for industry in Punjab is highest in the country and because of this, industry is either shifting out of the State or has closed.

ii) PSPCL should decrease ₹1.00 per unit cost of basic tariff across the board on

24 hours basis, in comparison to rate of ₹5.00 per unit being offered to new industry.

iii) The peak load hours should not be for more than 3 hours during the period from June to Sept., otherwise it will put extra burden on the continuous process industrial consumers.

iv) From the present proposal, the industries which are not running their plants for 24 hours, are more benefited in ToD regime because they run their industries for 20 hours a day and not paying any PLEC and get rebate during off peak hours.

v) The landing cost of power purchased from open access during peak load hours is much lower than the basic rate of ₹5.99/ kWh of PSPCL power for 66 KV consumers, including continuous process charges.

vi) While devising the ToD tariff, interest of LS consumers has not been kept into consideration since they will be hit hard financially for 4 months of paddy period. The proposal will not result in increase of consumption as the proposed rates do not provide adequate incentive to increase the consumption of power. As per past experience with PSPCL, there will be implementation problems also, which need to be sorted out by the Commission while issuing orders for the ToD tariff.

vii) All the proposals of PSPCL/PSERC in the previous years were based on the assumption of revenue neutrality, protecting the existing revenue of PSPCL from the LS industry. Since the rebate given on one hand was recovered in the shape of surcharge through other hand and cost of production of LS industry remained almost same, there was no increase in PSPCL sale of power to LS consumers. The present staff paper also seems to have been prepared with same approach and if implemented in the same form; in all probability, there will be no increase in sale of power to LS category.

viii) An open access consumer purchases power from Power Exchange after paying all the open access charges and losses etc., and it is still cheap as compared with PSPCL power. Therefore, ToD charge and rebate should be financially attractive and must result in increase in sale of PSPCL power. Any loss due to withdrawal of PLEC is likely to be more than compensated due to shift in consumption from open access to PSPCL power partially and extra revenue coming to PSPCL due to additional charges on open access, fixed charges due to Two Part tariff and cross subsidy surcharge.

ix) While implementing the threshold rebate of ₹1.00 per unit in FY 2014-15, PSPCL included the power availed under open access in the last three years while working out the average consumption for last 3 years, but excluded the open access power availed in the year 2014-15 for working out the eligible consumption for rebate. Working out the threshold limit for rebate was beyond the understanding of the ordinary consumer since it involved locating the bills for last 3 years, make adjustment in consumption for the overlapping billing days at the start and end of the period, conversion of consumption from kWh to kVAh, adjusting it for increase/decrease in contract demand and then averaging it. It is desirable that calculations should be simplified and for this, the threshold limit need to be linked to the last year 2015-16 only. Open access power should be excluded for both years or included for both years.

x) The expected energy surplus has been indicated as around 15300 MU, against the projected requirement of the State in ARR for FY 2016-17 as 53000 MU, indicating a surplus of around 30%. PSPCL consumers are bearing the fixed charges of around ₹2300 crore for the idle surplus capacity through tariff. The variable cost of the surrendered power has been worked out as ₹3.00 per unit in Petition No 70 of 2015. Existing average tariff of the LS industry is about ₹6.00 per unit. As such, a rebate of ₹2.50 per unit for LS industry for incremental usage of power from PSPCL over the year 2015-16 will give additional ₹0.50 per unit to PSPCL over the variable cost.

xi) In order to incentivize the consumption by the industry and keeping in view the variable cost of ₹3.00 per unit of stranded capacity, the ToD charge for peak hours during 4 months of paddy should be reduced.

In summer, light load comes on the system at 07:00 PM and thus with proposed start of peak from 06:00 PM, the PSPCL consumption will decrease between 06:00PM to 07:00 PM. Similar will be case in winter between 09:00 PM to 10:00 PM, when load will taper off but industrial load will not come on bar. Therefore, duration of 3 hours for whole year is best suited and will increase the consumption from PSPCL.

xii) In the staff paper, while ToD rebate is proposed to be extended from 6 months to 8 months, PLEC is proposed to be replaced with ToD charge for 4 months of Paddy without any night rebate. This will put additional financial burden on the induction furnace consumers and on those consumers who are using only permitted power during peak load hours.

Productivity during night shift is low as compared with day shift. There are additional costs of labour welfare and lighting etc. during night hours. ToD rebate of ₹1.00 per unit for night hours has not proved to be a sufficient incentive for the industry. Open access power remained viable during night hours even with rebate of ₹1.00 per unit. Therefore, to compensate the industry adequately and make the open access unviable, the night rebate during 8 months need to be increased.

xiii) The proposed additional night rebate of ₹1.00/unit linked with maximum consumption need to be withdrawn and flat ToD rebate should be implemented.

The practical difficulties in its implementation have not been kept in view appropriately. kVAh readings are available for last two years only and the consumption for 3rd year is in kWh. Treatment of open access power for calculating the maximum consumption of last 3 years and in the current year for being eligible for the additional rebate is also a concern. PSPCL will declare the maximum consumption of each consumer after the year is over to save on the rebate. Therefore, it shall not increase the consumption from PSPCL.

xiv) All industries have basic exemption in the peak load hours, depending upon the connected load. This exemption in absent from the proposed peak load ToD tariff. The exemption should remain same in the ToD tariff also.

xv) Tariff Order be made effective prospectively from 7 days after the date of issue of order, so that consumers do not suffer financially.

xvi) PSPCL in its ARR for FY2016-17 has projected surplus power of 15212 MU. Power position is also comfortable during peak hours and adequacy of grid system to transmit & distribute power has already been certified by PSPCL & PSTCL. Therefore, there is no justification of levying ToD charge of ₹3.00 per unit during 4 months in paddy season.

xvii) Maximum consumption at any point of time may be due to some abnormal situation, which may not happen again frequently or may not happen at all due to following reasons.

- Start of production after unplanned shut down stressing maximum production to cover up the gap.
- Receiving of windfall orders or forced shutdown after the period in which maximum demand is recorded, forcing increased production before such shutdown to meet deadlines given by customers.

- In no case, this demand will repeat on sustainable basis. Therefore, using of average demand than maximum demand of the off peak hours would be a better solution. Using present consumption over the average consumption during off peak hours in the last three years for giving rebate will incentivize industry to shift part of their demand from open access to PSPCL power and/or increase production to take the incentive of PSPCL scheme.

xviii) PSPCL should consider increase in power purchase from PSPCL in ensuing period over the corresponding period for giving rebate. Any such increase will indicate (i) Shift of power purchase from open access to PSPCL; (ii) increase in overall consumption. Only this methodology can incentivize the industrial consumes to shift to PSPCL power.

xix) The power drawn from PSPCL for rebate may be based on simple formula.

Total power consumed by industrial unit minus power drawn from open access = Total power purchased from PSPCL in a year.

As power consumed data is available with PSPCL in kWh and kVAh, any of them can be used. There is no need of referring to change in contract demand and converting kWh in kVAh etc. as being done in the past.

xx) PSPCL is installing meters of capacity -/1A and -/110V on 66KV connections. In case of CT of ratio 100/1A, multiplying factor works out to 6000. With such a high multiplying factor, how can one control consumption in peak load hour timings, where consumption is only 100 kWh. With such high multiplying factor, the calculation for charges by PSPCL for peak load consumption will go haywire.

7.2.10 PSPCL vide letter dated 12.05.2016 submitted comments on the staff paper, which have been summarized as under:

i) ToD tariff for the period from 1st October to 31st of March next year for both LS and MS Consumers may be made applicable instead of from 1st October to 31st May next year. ToD tariff has been introduced with the motive that the load curve during the day becomes flat and consumers shift their load during low demand period from the peak period, thus thermal plants can be run on most optimum loads, as backing down plants causes efficiency loss. Punjab is facing huge variations in the load in a single day during the winter period and during summer, the load curve tends to become flat. During peak summer period, the load becomes so flat that the difference in maximum demand and minimum demand is not more than 5%. Punjab witnesses such phenomenon from April onwards and remain so upto September end. During this period, the load curve is flat and hardly any difference in demand during peak and non peak hours. There is not much scope of flattening the curve during this period.

ii) ToD charge of ₹3.00 per unit is also to be made applicable on the open access power during peak load hours. The electrical system does not distinguish between open access power or PSPCL power, which are only accounting procedures. PLEC is only a commercial mechanism to save the system from collapse. As such, from system safety point of view, there should not be any distinction between open access power and PSPCL power. As per staff paper proposal, ToD Tariff shall replace PLEC. Thus, the consumer on whom PLEC was applicable will now have to pay ToD Tariff. The revenue realization from LS consumers includes revenue from PLEC charges and if ToD Tariff is not charged on open access consumers during peak load hours, who opt for ToD Tariff, the Cross Subsidy Surcharge paid by these open access LS consumers shall only partially subsidies the cross subsidy element.

iii) Instead of rebate of ₹2.00 per kVAh during night hours, proposal of ₹4.99 per kVAh may be considered for acceptance on the power drawn from PSPCL only. In case of increase/ decrease/ change in Load/ Contract Demand of the consumer, then maximum consumption should be calculated on prorata basis. For the consumption of power which will fall under the slab of ₹4.99/kVAh, no other ToD rebate should be made applicable.

7.2.11 The Commission vide letter dated 17.06.2016 directed PSPCL to submit comments on financial implication and technical constraints, if any, which may arise due to implementation of the proposal contained in the Staff Paper.

7.2.12 PSPCL vide letter dated 06.07.2016 submitted comments on financial implication and technical constraints on the proposal contained in staff paper, which have been summarized as under:

i) The complete financial implication can't be worked out as it mainly depends on the factor that how much load will be shifted from Peak Load Period to Off Peak Period of the day. Secondly, there is no data for comparison on the ToD time blocks of the day for years before introduction of ToD tariff. On the basis of data of LS consumers for the previous years, PSPCL has submitted as under:

a. Total energy consumption of LS consumers has decreased from 11515.30 MU during FY 2014-15 to 10146.47 MU during FY 2015-16.

b. During ToD period of the Financial Year 2014-15 (i.e. October, 2014 to March 2015), ₹132.68 crore were charged as Peak Load Hour Charges (Energy Consumption of 464.86 MU), whereas ₹238.32 crore were given as ToD rebate during Off Peak Hours (Energy Consumption of 1616.05 MU). There was provision of extra ₹3/ kVAh during Peak Load Hours & rebate of ₹1.50 during Off Peak Hours (between 10:00 PM to 06:00 AM). So, direct financial loss on this account was only ₹105.64 crore for FY 2014-15.

   For the same period in FY 2015-16 (i.e. October, 2015 to March, 2016), ₹116.62 crore were charged as Peak Load Hour Charges (Energy Consumption of 323.74 MU), whereas ₹143.56 crore were given as ToD rebate during Off Peak Hours (Energy Consumption of 1264.17 MU). During FY 2015-16, the rebate during Off Peak Hours (between 10:00 PM to 06:00 AM) was reduced to ₹1/kVAh. So, direct financial loss on this account was only ₹26.94 crore for FY 2015-16.

   Energy consumption during Off Peak Hours (between 10:00 PM to 06:00 AM) reduced to 1264.17 MU from 1616.05 MU, which has resulted in revenue loss due to shifting of some of the consumers from PSPCL supply to Open Access supply.

c. On the basis of the data for Maximum Demand, Minimum Demand and Load Factor for the months of April & May, July & August, December & January for three financial years (2013 to 2016), average percent load factor during the months of April & May is in the range of 85% to 89%, the value of average percent load factor for the months of July & August is in the range of 92% to 95%, while the value for the same during winter months of December & January is in the range of 76% to 79%.

   The load curve for the months of April & May resembles the summer months and is near flat. Therefore, the extension of ToD period up to the months of April & May cannot be recommended and it will be of no use to the utility (PSPCL). On the other hand, it will result in loss of revenue on account of rebate during off peak hours (10:00 PM to 06:00 AM).

ii) Regarding technical constraints, PSPCL submitted further as under:

a. The load profile of PSPCL is such that it is not feasible to allow ToD from April to September. During April and May, the load hovers around 7000 MW and there is not much difference in the load during day & night. It has been anticipated by PSPCL that if the industry is allowed to run without any peak load hours restrictions, then an additional load of around 1000-1500 MW shall be there during the restricted hours. As a result of it, that much additional generation shall have to be made available in order to meet with this additional demand, that too for the brief period of peak load hours only, which for the rest of the time shall have to be backed down/ surrendered and result in financial loss to PSPCL.

b. During the months from June to September, peak summer/paddy season is there and peak demand touches an all-time high. The paddy season has just commenced this year, but the peak demand has already touched 10915 MW at 21:30 hrs. i.e. during the peak load hours restrictions, which is expected to rise further in the month of July. This peak demand has been achieved despite the fact that the peak load hours restrictions are in place at the moment. If these restrictions are removed and the industry is allowed to have a free run during these hours, then this peak demand shall further enhance by 1000-1500 MW, which shall not only be difficult to meet, but shall also result into additional generation so as to meet this demand, which otherwise shall have to be surrendered for the rest of the period, resulting into financial loss to PSPCL.

c. In view of above reasons, PSPCL has submitted that it is not feasible to allow the LS industrial consumer to run their load during the peak load hours without any restrictions.

7.2.13 During the meeting with the Commission on 11.07.2016, PSPCL raised apprehensions that system in some pockets of Punjab may not be able to handle the load, if Peak Load Hours Restrictions are removed during April to September of a year and ToD tariff is made applicable during this period.

7.2.14 In view the objections received from the objectors and the comments of PSPCL, the Commission observes and decides as under:

(i) On the basis of data submitted by PSTCL and PSPCL in their ARRs, the Commission has worked out the total transmission capacity and distribution capacity of the State 111537.30 MW and 12886.78 MW respectively, which is sufficient to meet the additional load which may come up on the transmission system of PSTCL and distribution system of PSPCL, if Peak Load Hours Restrictions are removed and in its place ToD tariff is made applicable during summer/paddy period of a year. Further, the load on transmission system and distribution system of PSTCL and PSPCL in the State during winter months of a year is much less than the maximum demand during the summer months of a year.

(ii) During the processing of ARR for FY 2014-15, PSPCL vide its letter No.5106/TR-5/PSERC-Misc. dated 24.02.2014 had submitted declaration on affidavit that the power available including surplus power can flow to the consumers through transmission and sub-transmission system available with PSPCL for FY 2014-15. Further, PSTCL vide letter No.482/FA/ARR-403 dated 26.02.2014 also submitted declaration on affidavit that the power available after including surplus power can flow through transmission system of 400 kV/220 kV/120 kV available with PSTCL for FY 2014-15. There is considerable development in transmission system of PSPCL and transmission/sub-transmission & distribution system of PSPCL during the years subsequent to submitting of affidavits by PSTCL and PSPCL i.e. during FY 2014-15 and FY 2015-16, for which sufficient funds under the head “Capital Works” have been approved by the Commission in its Tariff Order for these years. It is also well known that due to slow down in general, many industries have either closed or have reduced their operations. Further, some industries have shifted to other places in India due to various reasons. Therefore, fears of PSPCL with regard to technical constraint are un-founded.

(iii) The submission by PSPCL that additional generation shall have to be made available in order to meet with the additional demand during the period of Peak Hours in summer months and winter months can be managed by scheduling power from various sources and even power from Power Exchanges can be purchased by PSPCL, in case of any exigency.

(iv) If still there may arise technical constraint, in any pocket of the transmission/distribution system, the same can be managed by adopting Power Regulatory Measures, for which the Commission has already given approval in its Order dated 29.03.2016 in case of Petition no. 02/2016. For system/grid stability, PSPCL may impose Power Regulatory Measures on those industrial consumers due to whom the constraint occurred.

(v) The Commission, as a policy, decides to remove PLEC and approves following ToD tariff for Large Supply industrial category consumers:

(a) ToD tariff comprising of normal tariff plus additional charge as approved by the Commission in the Tariff Order will be applicable during peak hours from 06:00 PM to 10:00 PM from 1^{st} June to 30^{th} September.

(b) ToD tariff comprising of normal tariff minus rebate as approved by the Commission in the Tariff Order will be applicable from 10:00 PM to 06:00 AM (next day) from 1^{st} October to 31^{st} May of next year.

(vi) The Commission decides to remove PLEC and approves ToD tariff for Medium Supply industrial category consumers, comprising of normal tariff minus rebate as approved by the Commission in the Tariff Order and will be applicable from 10:00 PM to 06:00 AM (next day) from 1^{st} October to 31^{st} May of next year.

(vii) The following ToD tariff for Large Supply industrial category consumers and Medium Supply industrial category consumers is approved by the Commission for FY 2016-17:

a) <u>For Large Supply Industrial Category consumers:</u>

Period	Time period	Tariff
1^{st} April, 2016 to 31^{st} July, 2016	06.00 AM to 06.00 PM	Normal Tariff* for FY 2016-17
	06.00 PM to 10.00 PM	Normal Tariff* for FY 2016-17 plus PLEC during peak load hours as approved by the Commission in the Tariff Order for FY 2013-14
	10.00 PM to 06.00 AM (next day)	Normal Tariff* for FY 2016-17
1^{st} August, 2016 to 30^{th} September, 2016	06.00 AM to 06.00 PM	Normal Tariff* for FY 2016-17
	06.00 PM to 10.00 PM	Normal Tariff* for FY 2016-17 plus ₹2.00 per kVAh
	10.00 PM to 06.00 AM (next day)	Normal Tariff* for FY 2016-17
1^{st} October, 2016 to 31^{st} March, 2017	06.00 AM to 06.00 PM	Normal Tariff* for FY 2016-17
	06.00 PM to 10.00 PM	
	10.00 PM to 06.00 AM (next day)	Normal Tariff* for FY 2016-17 minus ₹1.00 per kVAh

* As per Schedule of Tariff for FY 2016-17

b) For Medium Supply Industrial Category consumers:

Period	Time period	Tariff
1st April, 2016 to 30th September, 2016	06.00 AM to 06.00 PM	Normal Tariff* for FY 2016-17
	06.00 PM to 10.00 PM	
	10.00 PM to 06.00 AM (next day)	
1st October, 2016 to 31st March, 2017	06.00 AM to 06.00 PM	Normal Tariff* for FY 2016-17
	06.00 PM to 10.00 PM	
	10.00 PM to 06.00 AM (next day)	Normal Tariff* for FY 2016-17 minus ₹1.00 per kVAh

* As per Schedule of Tariff for FY 2016-17

(viii) Regarding financial implications of the ToD tariff approved by the Commission, refer para 6.20.2 of this Tariff Order.

(ix) Replacement of PLEC with ToD Tariff as approved by the Commission will result in ease of doing business as the consumers will not be required to seek peak load exemption from PSPCL. Further, this may also result in increase in consumption by Large Supply and Medium Supply industrial category consumers, resulting in reduction in fixed cost of surplus surrendered power. This may also give fillip to the industry, more employment opportunities, more revenue to the State Govt. etc. Further, this may also result in increase in revenue of the utility.

7.3 Cost of Supply

7.3.1 In view of the provisions of Electricity Act, 2003 and the National Electricity Policy, the Commission in its various Tariff Orders has been directing PSPCL to expedite the 'Cost of Supply' study and submit its findings to the Commission at the earliest. PSPCL, at the time of processing of ARR and Determination of Tariff petition for FY 2013-14, submitted the cost of supply study report. The cost of supply study report containing detailed explanation on the approach and the methodology developed, results obtained from the two methodologies referred to as Methodology I and Methodology II, was made available for offering comments/suggestions by the stakeholders. The Commission, after considering various comments/suggestions made by the stakeholders and the response of PSPCL, decided to adopt Methodology II for determination of cost of supply to various categories of consumers. Indicative voltage-wise, category-wise cost of supply for the year 2013-14, on the basis of results obtained with Methodology II was made part of the Tariff Order for FY 2013-14.

7.3.2 The Commission observed in the Tariff Order for FY 2013-14 that it would have been ideal to fix electricity tariff for all consumers on cost to serve basis. But, historically, there has been extensive cross subsidization in electricity sector. The tariff for consumers, who pay less than the cost to serve, will need to be hiked significantly to cover the gap between the tariff of subsidized consumers and cost to serve these consumers. Further, the Commission is raising tariff of subsidized consumers gradually to reduce such gap, and at the same time avoiding tariff shock to subsidized consumers and bringing the tariffs of various consumers within reasonable difference as compared to cost to serve these consumers. Keeping this in view and in order to move in the direction of cost of supply, the Commission, in the Tariff Orders for FY 2013-14, FY 2014-15 and FY 2015-16, decided to give rebate to the various categories of consumers getting supply at 11 kV/33 kV/66 kV/132 kV/220 kV (at 400 kV also as per Tariff Order for FY 2015-16).

7.3.3 **On the basis of data submitted by PSPCL in its Petition for ARR and Determination of Tariff for FY 2016-17 and the ARR approved by the Commission for FY 2016-17, the Commission has determined the indicative voltage-wise, category-wise cost of supply for the year 2016-17, using Methodology II (Appendix II, Volume-I). Further, the Commission decides to give rebate as mentioned in para 9.2.3 [Note (ix) under Table 9.1].**

7.4 Sale of Surplus Power

7.4.1 PSPCL in the ARR for FY 2016-17 has projected surplus power of 18124 MU during FY 2016-17. The surplus power projected by PSPCL from the central generating stations and IPPs in the State of Punjab has been proposed to be surrendered, as per merit order of power purchase from these thermal and gas plants. PSPCL has not submitted any proposal to utilize/sell this power within the State or outside the State. The financial impact of the power to be surrendered during FY 2016-17 has not been projected by PSPCL in the ARR for FY 2016-17. However, the Commission has worked out the financial impact of power to be surrendered, on the basis of data supplied by PSPCL in the ARR, as ₹2075 crore during FY 2016-17 .

In the Tariff Order for FY 2014-15, the Commission, after working out the average per unit cost of the surplus power and with the view to reduce the extra fixed cost of surrendered power to some extent, had approved rebate of ₹1/kWh (or kVAh) on the category-wise tariffs for all categories for consumption over and above threshold limit, except Street Lighting and AP categories.

PSPCL in its submissions in ARR FY 2015-16 had stated that the desired purpose of increase in energy sales was not achieved even with the incentive in the form of rebate of ₹1/kWh (or kVAh) approved by the Commission for increase in energy consumption beyond a threshold limit. Even, the normal increase in energy sales in respect of various categories of consumers during FY 2014-15 was generally less than as estimated by PSPCL/Commission and as such, there may not be any tangible decrease in the fixed cost of the surrendered power during FY 2014-15.

The Commission therefore decided in Tariff Order for FY 2015-16, not to continue with the rebate as approved in Tariff Order for FY 2014-15.

7.4.2 Now with the Commissioning of additional units of various IPPs in Punjab, more of surplus power needs to be utilized to reduce the burden of fixed cost of the surrendered power on the consumers of the state. One more chance needs to be given to the consumers of state to utilize surplus power. **Therefore, the Commission approves base tariff rate of ₹4.99 per kVAh for Large Supply industrial category consumers, who consume power above threshold limit as per para 7.4.3. All other surcharge and rebates as approved by the Commission and Govt. levies as notified by the State Government shall be charged extra.** The Commission expects that this will result in reducing extra fixed cost of surrendered power to some extent, the actual quantum of which will only be known at the end of FY 2016-17 and shall be considered by the Commission at the time of true up.

7.4.3 The criterion for allowing rate of ₹4.99 per kVAh shall be as under:

(i) It shall be allowed for any consumption during the financial year exceeding the consumption worked out on the following methodology:

The maximum annual consumption in any of the last two financial years shall be taken as threshold. In case, period is less than two financial years i.e. if connection has been released after 31.03.2014, tariff @ ₹4.99 per kVAh shall not be permissible. Further, in case, there is reduction or extension in load/demand, threshold consumption for a financial year shall be worked out on pro-rata basis.

(ii) The billing at the reduced rate shall be done once the consumer crosses the target consumption as worked out under Step (i), e.g. if a consumer has maximum annual consumption in any of two financial years as 10000 kVAh, the consumer shall be entitled for billing at the reduced rate for any consumption exceeding the threshold consumption of 10000 kVAh during FY 2016-17. The reduced rates shall be allowed to the consumer as and when the consumption of the consumer exceeds 10000 kVAh.

Chapter 8
Directives

Compliance of Directives

The Commission has a statutory function under Electricity Act, 2003 to get the conditions of licensee enforced and also to guide the distribution licensee to become an efficient and commercially viable entity. The Commission is also bound to ensure compliance of the various provisions of the Act.

Punjab has become a power surplus State and accordingly all the shortage era barriers need to be removed to give fillip to the industrial growth which has slipped below the average growth rate of the country during the last 10 years. The rationalisation of tariff structure along with 24X7 quality power supply will help the Industry to become competitive enough to survive.

To fulfill these objectives, the Commission has been issuing various directions to the distribution licensee in order to achieve higher efficiency and performance levels to ensure reliable and quality power to the consumers at affordable rates. However, it has been observed by the Commission that the compliance of the directives issued to PSPCL in the previous Tariff Orders has not been satisfactory. The status of compliance of directives issued in the Tariff Order for FY 2015-16 and further directives for compliance of PSPCL during FY 2016-17 along with comments, is summarized as under:

<table>
<tr><th>Sr. No.</th><th>Issues</th><th>PSERC Directives for FY 2015-16</th><th>PSPCL Reply</th><th>PSERC Comments & Directives for FY 2016-17</th></tr>
<tr><td>8.1</td><td>T&D Loss Reduction</td><td>(i) Shifting of meters outside consumer premises

In the Tariff Order for FY 2014-15, PSPCL assured that the work of shifting of all remaining meters (14.47 lac) covered under Non-APDRP schemes and awarded on turnkey basis shall be completed by Dec. 2014 and shifting of remaining 2.19 lac meters being carried out departmentally by the PSPCL shall be completed by March 2015. The Commission while expressing concern on the slow pace of shifting of meters,</td><td>Scheme wise detail of meter shifted and balance meters required to be shifted ending March 2016 is as under :-
<table>
<tr><th colspan="2">Scheme</th><th>Total meters covered under the scheme (in Lacs)</th><th>Total meter shifted upto 3/2016 (in Lacs)</th><th>Balance meters to be shifted (in Lacs)</th></tr>
<tr><td rowspan="3">Non-APDRP</td><td>Phase-I</td><td>20.81</td><td>19.87</td><td>0.94</td></tr>
<tr><td>Phase-II</td><td>11.81</td><td>9.31</td><td>2.5</td></tr>
<tr><td>Inhouse</td><td>5.48</td><td>3.82</td><td>1.66</td></tr>
<tr><td>R-APDRP</td><td>(Part-B)</td><td>11.09</td><td>7.63</td><td>3.46</td></tr>
<tr><td>Total</td><td></td><td>49.19</td><td>40.63</td><td>8.56</td></tr>
</table></td><td>The Commission in the Tariff Order for FY 2015-16, directed PSPCL to ensure shifting of all meters under non-APDRP areas by 31.3.2015 but still 5.1 lac meters are yet to be shifted. Out of 5.1 lac meters, only 1.74 lac meters are under dispute. The target for shifting meters under Phase II has now been postponed to June 2016. Similarly, the target for shifting all balance meters departmentally was March 2015 but still 1.66 lac</td></tr>
</table>

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		directed PSPCL to complete the job as per this revised schedule submitted by PSPCL. However, it is matter of serious concern that 13.23 lac out of a total of 38.10 lac meters under Non-APDRP schemes are yet to be shifted. The target date for completion of the job for shifting 11.84 lac meters under R-APDRP was July 2015 but still 6.83 lac meters (58%) are yet to be shifted. PSPCL from time to time has claimed drastic reduction of losses, improvement in voltage profile and increase in reliability of supply with shifting of meters but still the utility is unable to adhere to its own completion schedules. PSPCL shifted on an average 7.25 lac meters per year during 2010-11 & 2011-12 but during next two years, the progress came down drastically to the level of 2.5 to 3.5 lac meters which may be one of the reason for the failure of PSPCL to achieve T&D loss targets during the last few years. PSPCL is directed to ensure shifting of meters in Non-APDRP areas by the target of 31.03.2015 as committed and submit completion certificate within a month of the issuance of this Tariff Order. The meters covered under R-APDRP schemes should be shifted as per timelines of the approved schemes. PSPCL is also directed to ensure shifting of meters in pillar boxes by revamping the LD system in rural areas as per approved scheme. **Third Party Audit:** PSPCL is further directed	In Non APDRP Scheme Phase -II , out of balance 2.50** Lac connections, 0.53 Lac nos. connections are related to works under DS Circles West Ludhiana/Sub -Urban Ludhiana and Bathinda/ Faridkot/ Ferozpur which were earlier cancelled due to poor progress of contractors and are expected to be completed by June 2016,Works of 0.81 lac connections under DS Circle Patiala is under dispute with M/s Jindal Traders, Barnala and case is lying at Hon'ble High Court, Chandigarh. Out of balance 1.16 lac connections under 11 no. schemes for which work is under progress, 0.93 lac. connections are held up due to right of way problem despite best efforts made by DS/Non-APDRP organization. Balance 0.23 lac connections are expected to be completed by end of June 2016. The above reasons have resulted into delay and slippage to the committed targets Since the commencement of works under Phase-II, severe resistance is being faced mainly in Sangrur, Barnala, Mukatsar and Tarntaran circles from public/kissan unions. Work of 0.81 lac connections in Patiala circle is under consideration of Hon'ble High Court and will be reallocated after decision of Hon'ble Court. PSERC vide order dated 26.5.2015 has directed	meters are pending. PSPCL is directed to complete the work of shifting of meters under Phase II by July 2016 and in house meters by Dec. 2016. Although the target for shifting of meters under R-APDRP was July 2015 but still 3.46 lac meters are pending. MoP has granted extension for completion of R-APDRP Part B projects by 31.3.2017. PSPCL is directed to complete the job within stipulated time. PSPCL is directed to allocate a unique identification code for meters installed outside the consumer premises and those still inside the premises to accurately assess the progress of meter shifting. The Commission vide

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		to submit the report of 3rd party audit as per the Commission's Order dated 28.7.2014 in petition no.15 of 2014 read with Order dated 25.2.2015 in petition no. 8 of 2015.	to get 3rd Party audit conducted on at least 10% of the 11 KV feeders covered under each scheme where the work for shifting of meters have been completed till March, 2014 and further directed PSPCL to carry out similar audit on at least 10 % of the remaining 11 KV feeders where work of shifting of meters has been completed after March, 2014 in the second phase. PSERC has also ordered that PSPCL must award the work for the first Phase within 3 months of the issue of this order and get it completed within 12 months from the date of award of work to the agency. Before taking up the work of audit, the random sampling of 11 KV feeders shall be got approved from the commission by the Agency. In compliance of the above decision, Work order has been issued to M/s WAPCOS Ltd. on 26.4.2016 to carry out the audit. Feeder wise data for random sampling has also been sent to Hon'ble PSERC. Evaluation report shall be submitted to Hon'ble Commission as per timelines of work order.	Order dated 28.7.2014 in petition no. 15 of 2014, while allowing capital expenditure for shifting of meters under non-APDRP areas, directed PSPCL to get 3rd party audit carried out on all the loss reduction schemes to verify/quantify the benefits. On the specific request of PSPCL, the Commission vide Order dated 25.02.2015 in petition no. 8 of 2015 allowed PSPCL to conduct third party audit on at least 25% of the feeders. The Commission again lowered the sample size to 10% vide Order dated 26.05.2015 in petition no. 25 of 2015 and directed the utility to allot work for 3rd party audit of 10% feeders by August, 2015. The Commission observes with concern that PSPCL could award the work only in April 2016. The list of 10% randomly selected feeders has already been approved by the Commission and PSPCL is directed to ensure completion of work as per schedule and submit preliminary report to the Commission along with its observations/objection before acceptance of final report of 3rd party audit.
		(ii) Replacement of Electro-mechanical meters **(a) 3-ф meters: SP/DS/NRS** During processing of ARR for FY 2014-15, PSPCL assured that 6699 number 3-ф electro-mechanical meters of SP/DS/NRS categories shall be replaced by 9/2014 but now the target date has again been revised to 9/2015. PSPCL has failed time & again to adhere to the timelines committed by the utility to the Commission. PSPCL is directed to get the job executed on top priority.	**(a) 3-ф meters: SP/DS/NRS** In field, meters are being replaced by multiple agencies such as Contractors in area's were work has been allotted on turnkey basis and also by PSPCL's own staff resulting in reconciliation issues. Field officers have been directed to physically check sites and certify that all 3-ph electromechanical meters have been replaced and billing data has been updated accordingly. After physical verification, 8859 3-ph Electro-Mechanical meters have been reported to be replaced from 4/2015 to 3/2016. Balance 6093 meters are reported to be electromechanical	**(a) 3-ф meters: SP/DS/ NRS** PSPCL assured to replace all three phase electro-mechanical meters by 9/2014 which was extended to 9/2015. However PSPCL has now submitted that 6093 meters are yet to be replaced. Moreover, no target date for completing replacement of these meters has been intimated. PSPCL is directed to ensure replacement of all three phase meters of DS/NRS/SP category consumers by Dec. 2016.

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		b) 1-ф meters (DS/ NRS): In the Tariff Order for FY 2013-14, PSPCL was directed to replace 50% of remaining E/M meters during 2013-14 and balance during 2014-15 with first priority for high loss feeders. In view of the failure of PSPCL to comply with the directions and various constraints brought out during processing of previous ARR, the Commission directed PSPCL to complete replacement in Non-APDRP areas by Dec. 2014 and in R-APDRP areas by July 2015. However, PSPCL could replace only 86684 electro mechanical meters with electronic meters during first 9 months of FY 2014-15. The work of replacement should have been planned along with shifting of meters but PSPCL could not utilise this opportunity. Commission directs PSPCL to ensure replacement of all E/M meters under R-APDRP areas by July 2015 and in Non-R-APDRP areas by March 2016.	**b) 1-ф meters (DS/NRS)** Total Electromechanical =852100 Nos Meter. Under Non APDRP area =568562 Nos. Under APDRP areas =283538 Nos. (replacement of electromechanical meters with electronic meters is covered in scope of contractors carrying out shifting meters outside consumer premises)	**b) 1-ф meters (DS/NRS):** The Commission notes with serious concern that against a revised target of completion of replacing all 1-ф meters under R-APDRP areas by July 2015, there are still 2,83,538 meters pending for replacement. Only 42049 Nos. 1-ф meters of APDRP areas have been replaced in last one year. PSPCL was directed to ensure replacement of all E/M single phase meters in Non-APDRP areas by March 2016 but there are still 5,68,562 meters pending for replacement as on 31.03.2016. Against a self committed target of replacement of 3 lac meters every year, PSPCL could replace only 1.68 lac meters during FY 2015-16. The Commission observes that PSPCL has not committed any time frame to complete the job and has rather left it to the contractors. The Commission directs PSPCL to ensure replacement of all 1-ф electromechanical meters by March 2017. PSPCL is directed to allocate a unique identification code for electro-mechanical and electronic meters in order to monitor the progress of replacement of electro-mechanical meters in effective manner.
		c) Key Exception Report: As per Key exception report ending 4th cycle of 2014-15, there are 12847 burnt meters pending replacement out of which 1753 number were reported burnt prior to June 2014. Similarly there are 40525 defective meters out of which 5130 meters were reported defective prior to June	Instructions had been issued to field offices to replace all burnt/Defective meters as per timeframe given in SOP The latest Key Exception Report has been submitted to Secretary/PSERC	Serious violations of Standards of Performance (SOP) in replacing dead/ defective/burnt meters have been observed as the key exception reports shows large number of meter burnt, defective meters, broken M&T seals, glass broken cases continuing since 2015.

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		2014. This is a serious violation of Standard of Performance and Commission directs PSPCL to ensure adherence to the minimum Standards of Performance mentioned in Annexure-1 of Supply Code 2014.		PSPCL should certify within one month of issue of this Tariff Order that dead/burnt/ defective meters have been replaced as per SOP and there is no backlog. "PSPCL is further directed to ensure submission of Management Information Report (MIR) for each quarter immediately after its compilation".
		(iii) Conversion of LVDS to HVDS The directive in the Tariff Order for FY 2014-15 was to convert atleast 33% LVDS tubewell consumers into Less LT HVDS per year so as to achieve the target by Mar, 2017. During processing of ARR for FY 2013-14, PSPCL proposed that due to technical constraints, the utility shall be implementing Less LT HVDS instead of HVDS but no progress has been reported even under this amended scheme. The plea that PSPCL is identifying high loss feeders is not tenable since this information is readily available with the utility. The adoption of HVDS or less LT HVDS is a universally proven method of loss reduction which needs to be replicated with suitable amendments as per ground realities. PSPCL is directed to submit roadmap in this regard within 3 months of the issuance of this Tariff Order.	a) Out of 9.5 lac existing / old AP connections fed on LT feeders, 2.11 lac were covered in 25 schemes against target of shifting of 2.11 lac. connections on HVDS, PSPCL has shifted 2.21 lac AP connections on HVDS by installing 1.86 Lac Nos. dedicated DTs. 1. Conversion of LVDS to HVDS in AP sector is a highly capital intensive scheme. Approximate cost of conversion of 1 tube well connection to HVDS is ₹1 lac. As such, this scheme is viable only for high loss feeders. 2. PSPCL has in last 4 years erected approx 1500 new AP feeders and augmented conductor of 1200 feeders to bifurcate overloaded and high losses feeders. 3. As seen from analytical studies losses of HVDS feeders ranges from 6-10 % while losses of non HVDS feeders ranges from 12-20 %. Reduction of 8-12% losses don't make conversion of LVDS to HVDS commercially viable 4. However All new connections are being released under HVDS only 5. All shifting of AP connections is done under HVDS only.	In the ARR for FY 2013-14, PSPCL pointed out that due to high cost involved in adopting HVDS, the utility will adopt less LT HVDS. In the T.O. 2014-15, PSPCL was directed to submit roadmap to convert at least 33% LVDS AP consumers to less LT HVDS per year within 3 months of the issuance of the Tariff Order. However, PSPCL has not taken any action to implement the directions of the Commission As per PSPCL's own admission, the average technical losses on all the AP feeders may be in the vicinity of 14 to 15% and in case unauthorised running of agriculture motors is taken into account, the T&D loss level in the agriculture sector may be in the range of 18 to 20 %. High loss feeders need to be converted in to HVDS in a time bound manner. PSPCL is directed to submit list of AP feeders with T&D losses above 16% within one month of issue of this Tariff Order. PSPCL is directed to intimate the total number of AP connections as on March, 2016 and number of AP connections catered on HVDS. The number of 11 kV HVDS AP feeders (having all AP connections on HVDS) may also be intimated.

<table>
<tr><th>Sr. No.</th><th>Issues</th><th>PSERC Directives for FY 2015-16</th><th>PSPCL Reply</th><th>PSERC Comments & Directives for FY 2016-17</th></tr>
<tr><td></td><td></td><td>d) Reduction in Transformer damage rate:

There were over 42800 overloaded transformers ending March 2014 but PSPCL has not submitted any status of either overloaded transformers or damage rate during 2014-15. PSPCL is directed to supply the capacity wise number of overloaded transformers and the damage rate during 2014-15 along with roadmap for de-loading before start of paddy season within a month of issuance of this Tariff Order.</td><td><table>
<tr><th></th><th colspan="5">Capacity in KVA</th></tr>
<tr><th></th><th>6.3</th><th>10</th><th>16</th><th>25</th><th>Total</th></tr>
<tr><td>Total T/Fs</td><td>113606</td><td>200791</td><td>118466</td><td>144595</td><td>577458</td></tr>
<tr><td>Damaged during 2015-16</td><td>5339</td><td>6385</td><td>2938</td><td>7504</td><td>22166</td></tr>
<tr><td>%age damage rate</td><td>4.7</td><td>3.18</td><td>2.48</td><td>5.19</td><td>3.84</td></tr>
<tr><td>Overload-ed as on 31.03.15</td><td>3064</td><td>6040</td><td>8437</td><td>166</td><td>17707</td></tr>
<tr><td>Deloaded upto 31.03.16</td><td>2610</td><td>5763</td><td>7579</td><td>137</td><td>16089</td></tr>
<tr><td>Balance</td><td>454</td><td>277</td><td>858</td><td>29</td><td>1618</td></tr>
</table>
Balance DT's will be deloaded upto June, 2016</td><td>d) Reduction in Transformer damage rate:

The Commission notes that damage rate of 25/63/100 kVA transformers are on higher side. In a separate submission, PSPCL has intimated that during FY 2015-16 (upto Dec. 2015), the damage rate was 6.01%. PSPCL must ensure deloading of balance Distribution Transformers by July 2016 and ensure reduction in damage to DTs.</td></tr>
<tr><td>8.2</td><td>Impleme-ntation of R-APDRP Scheme:</td><td><u>R-APDRP (Part A):</u>

The Commission directs PSPCL to implement its IT plan across the State within the time frame fixed by MoP. Commission reiterates its direction that in case of failure to do so, loan amount eligible for conversion into grant shall not be taken in to account by the Commission while processing the ARR.</td><td>It is brought out that the project has been completed and all the 47 towns have been declared “Go Live” in April 2015 well ahead of the target date of 30.06.2015.</td><td>The Commission notes that all 47 towns have been declared ‘GO LIVE’ by April 2015 but correct data of not even a single town has been shared with the Commission till date. PSPCL should certify that correct data is being received w.r.t. all 47 towns and IT scheme of all stations is working perfectly without any technical or commercial problem.

PSPCL is directed to share regularly the correct data of all 47 towns with the Commission so as to reach before 10th of every month starting from July 2016.</td></tr>
<tr><td></td><td></td><td><u>R-APDRP (Part B):</u>

The progress of work under R-APDRP appears to be behind its schedule. The Commission reiterates its stand that R-APDRP schemes be implemented by PSPCL in target time frame work as given by MOP/GOI/ (PFC) so that 50% grant under the scheme is fully availed. In case of failure to do so, loan amount eligible for conversion into grant shall not be</td><td>The execution of work awarded on 10.05.2013 to M/S L &T Construction and M/S Godrej & Boyce for 23 nos towns is in progress. M/S. L&T Godrej have completed 89.15% and 69.58% work respectively by March, 2016. The work orders of M/S A2Z and its Consortium partners have been cancelled and fresh tender for 22 nos. towns' (including 6 nos. New towns) was floated on 15.05.2015. The work orders for 16 no. towns are placed to M/S. Nucon Switchgear Pvt. Ltd. and its consortium partners, M/S Shreem Electric Ltd and for 6 no. towns to M/S Shreem Electric Ltd on 4.1.2016.</td><td>The Commission notes with concern the slow progress of execution of R-APDRP Part B works. Commission reiterates its direction that R-APDRP schemes should be implemented by PSPCL in the time frame fixed by MOP/GOI/ (PFC) so that 50% grant under the scheme is fully availed. In case of failure to do so, loan amount eligible for conversion into grant shall</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Issues</th><th>PSERC Directives for FY 2015-16</th><th>PSPCL Reply</th><th>PSERC Comments & Directives for FY 2016-17</th></tr>
<tr><td></td><td></td><td>taken in to account by the Commission while processing the ARR.</td><td>
<table>
<tr><th>Name of Scheme</th><th>Total Scope</th><th>Shifted up to 03/16</th><th>Balance</th><th>Target Date during 2016-17</th></tr>
<tr><td>L&T</td><td>207806</td><td>170474</td><td>37332</td><td>37332</td></tr>
<tr><td>Godrej</td><td>175570</td><td>133664</td><td>41906</td><td>41906</td></tr>
<tr><td>15 No. Towns</td><td>544046</td><td>459387</td><td>84659</td><td>84659</td></tr>
<tr><td>M/s Shreem Electric Ltd. (6 No. Towns)</td><td>80704</td><td>0</td><td>80704</td><td>80704</td></tr>
<tr><td>M/s Nucon switchgear Ltd. (16 No. Towns)</td><td>101852</td><td>0</td><td>101852</td><td>101852</td></tr>
<tr><td>Total</td><td>1109978</td><td>763525</td><td>346453</td><td>346453</td></tr>
</table>
Strengthen sub-transmission and Distribution System of 46 towns of Punjab with DPRs cost of ₹1632 .70 Cr.
<table>
<tr><th>Name of firm</th><th>No. of Package</th><th>No. of Towns</th><th>Status as on 31.3.2016</th></tr>
<tr><td>L&T</td><td>4 No.</td><td>3 No.</td><td>89.15%</td></tr>
<tr><td>Godrej</td><td>2 No.</td><td>20 No.</td><td>69.58%</td></tr>
<tr><td>M/s Nucon switchgear Ltd.</td><td>1 No.</td><td>16 No.</td><td>100% Joint survey of 208 feeders comp-leted and IOs against 120 Nos. feeders issued.</td></tr>
<tr><td>M/s Shreem Electric Ltd.</td><td>1 No.</td><td>6 No.</td><td>55% survey completed.</td></tr>
</table>
</td><td>not be taken in to account by the Commission while processing the ARR.</td></tr>
<tr><td></td><td></td><td><u>Management Information System(MIS):</u>

In the status report ending March 2014, PSPCL assured that project will be implemented by 31.05.2014 but now the completion date has been revised to 31.03.2015. PSPCL is directed to submit the status within one month of the issuance of this Tariff Order.</td><td>All the towns have been declared "Go Live". However, it will take 5-6 months to stabilize and check the correctness of the reports. There after reports will be sent to PSERC.</td><td>The Commission observes that despite declaring all 47 towns ‘GO LIVE’ in April 2015, the data could not stabilize even by March, 2016. PSPCL has been reiterating the plea since June 2015 that it would take 5-6 months to stabilize & check the correctness of data but could not ensure the same.

PSPCL is directed to give reasons for non stabilization of the data of all the towns declared “GO LIVE”.

Under UDAY scheme, PSPCL is required to implement MIS for tracking meter replacement, loss reduction & day to day progress. The Commission</td></tr>
</table>

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
				directs PSPCL to share these reports within one month of issue of Tariff Order for FY 2016-17.
8.3	**Energy Audit**	Though 24 No. towns have been declared "GO LIVE" by 12/2014 but Energy Audit report of not even a single town has been shared with the Commission by PSPCL despite directions to do so. As such, authenticity/efficacy of the data cannot be commented upon. The Commission directs PSPCL once again to submit Energy Audit report of all "GO LIVE" Towns within a month of issuance of this Tariff Order. PSPCL has also failed to implement the directive of the Commission to generate & share 11 KV feeder wise Energy Audit Reports by updating consumer indexing. The Commission again directs PSPCL to implement the directions and report compliance within three months of issuance of this Tariff Order.	All the towns have been declared "Go Live". However, it will take 5-6 months to stabilize and check the correctness of the reports. There after reports will be sent to PSERC.	The Commission observes that the energy report of Feb.,2016 supplied by PSPCL shows alarmingly low billing efficiency, collection efficiency and extremely high AT&C losses for 44 out of 47 towns. Only Phagwara, Mohali and Gobindgarh have AT&C losses less than 15% (11.55%, 14.76% and 6.95% respectively). It has also been observed that as compared to baseline data, the AT&C losses of many towns have increased. The Commission directs PSPCL to supply the energy Audit Reports of all 47 towns on monthly basis. As per MoU signed under UDAY scheme, PSPCL is to complete energy audit up to 11 kV level in rural areas by Sept. 2016. PSPCL is directed to ensure that consumer indexing of all feeders is updated before Sept. 2016 and a certificate to this effect must be submitted to the Commission. The Commission directs PSPCL to supply Energy Audit Reports of all 11 kV feeders w.e.f. Oct. 2016.
		<u>Energy Audit of Thermal Generating Stations</u>: The Energy Audit at PSPCL's thermal plants & other installations be continued as a regular exercise. Timely action should be taken on the suggestions/recommendations of the Energy Auditors.	**GGSSTP Ropar:** As per BEE recommendations a fresh energy audit of all GGSSTP units has been carried out. The firm has submitted draft energy audit report which is being studied and is under finalisation. Recommendations/findings shall be available after its finalisation and same shall be intimated accordingly. **<u>GNDTP, Bathinda</u>** Energy Audit (along with heat rate study) of GNDTP unit-1&2 has already been got conducted from M/s CPRI, Bangalore. Recommendations of the agency are being implemented in a phased	The Commission notes with concern that short, medium and long term measures suggested by CPRI for GGSSTP Ropar to bring heat rate from 2621 Kcal/Kwh to 2529 Kcal/Kwh have not been implemented. The energy audit reports of all thermal units be shared with the Commission within two months of issue of T.O. 2016-17.

<table>
<tr><th>Sr. No.</th><th>Issues</th><th>PSERC Directives for FY 2015-16</th><th>PSPCL Reply</th><th>PSERC Comments & Directives for FY 2016-17</th></tr>
<tr><td></td><td></td><td></td><td>manner at the plant. Energy Audit of unit-3&4 was not carried out due to their Renovation & Modernization works.

COD (Commercial Operation Declaration) of Unit-3 after its R&M was made w.e.f. 07.12.2012 and the unit is running satisfactorily. The COD of unit-4 has also been made on 27 Sep, 2014 after its R&M works.

Further as per BEE notification, Energy Audit of GNDTP Units got carried out from M/s Siri Exergy and Carbon Advisory Services (P) Ltd, Hyderabad. Draft report of the same has been received.

<u>GHTP Lehra Mohabbat.</u>

For Energy Audit of all the 4 units of GHTP, Work Order No. 04/2014/CE-28 dated 28.3.2014 has been placed upon M/s National Productivity Council Hyderabad. The field work of Energy Audit has been completed. The draft report of this energy audit has been received. Final report on Energy Audit is expected soon.</td><td>Timely action on recommendations/ suggestions in Energy Audit reports be ensured.</td></tr>
<tr><td></td><td></td><td><u>Energy Audit of Hydro Generating Stations:</u>

The Commission notes the compliance. The status of replacement of 1-ɸ GTs along with energisation of new transformers at Shanan be brought to the notice of Commission.</td><td>Compliance of Directives issued by the commission has already been made as the Auxiliary losses of all the Hydro Stations of PSPCL are comparable with NHPC Projects e.g. CERC norms set for Aux. consumption of Chamera HEP are 0.4% of the generated energy. Detail of auxiliary consumption and G.T. Losses in respect of all Hydel Projects of PSPCL ending March, 2016 is tabulated below:

<table>
<tr><th>Sr. No</th><th>Name of Plant</th><th>Aux.Cons. (%)</th><th>GT Losses (%)</th></tr>
<tr><td>1</td><td>RSD</td><td>0.210</td><td>0.130</td></tr>
<tr><td>2</td><td>ASHP</td><td>0.087</td><td>0.272</td></tr>
<tr><td>3</td><td>UBDC</td><td>0.310</td><td>0.310</td></tr>
<tr><td>4</td><td>MHP</td><td>0.175</td><td>1.579</td></tr>
<tr><td>5</td><td>Shanan</td><td>0.037</td><td>1.160</td></tr>
</table>

Remarks for :
Above Sr. No.4 MHP:-

Power generated in the generating unit is carried out to LV side of generated unit to step up T/F through the 11 KV Aluminum cables (500 mm^2 at PH1&2 and 800 mm^2 at PH 3 & 4) for each phase i.e. total 6 no. Aluminum cable have run load with length of the each cable 105 meter. The losses in these cables are also contributing to GT losses. Further, generator transformers of this plant (PH-1 to PH-4) are very old and were commissioned during 1983, 1988 & 1989.

Work for replacement of 132 KV CT/PTs as per</td><td>The Commission notes the action taken by PSPCL. The status of replacement of 132 kV CTs/PTs at MHP should be submitted within one month of the issue of this Tariff Order.

In the Tariff Order for FY 2015-16, it has been recorded that two new transformers are being procured to spare existing T/Fs for over hauling. No progress in this regard has been submitted. PSPCL is directed to submit the latest status in this regard.</td></tr>
</table>

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
			State Grid Code is in progress. **Above Sr. No.5 Shanan :-** Due to installation of single phase transformers instead of 3-phase T/Fs due to space constrains. These T/Fs are about 30 years old, have iron core contributing to higher GT losses. These need over hauling for which action is being taken in a phased manner.	
8.4	**Demand Side Management Energy Conserva-tion**	**i) <u>Bachat Lamp Yojna:</u>** The only step taken by PSPCL during FY 2014-15 is to sign anMoU with BEE for formulation of DSM plan and frame a proposal to provide LEDs to consumers through EESL. The Commission has already approved in-principle the proposal of PSPCL to replace 16 lac ICLs with LEDs under DELP scheme through EESL subject to formal approval of the DPR along with cost-benefit analysis. The Commission directs PSPCL to implement the project on top priority after following the procedure specified in DSM regulations.	To comply with the directives of Hon'ble PSERC, PSPCL framed a DELP proposal to implement the scheme outside BLY. Energy saving potential of the project will be around 106 MU per annum. The commission has approved replacement of 16 Lac ICLs in the 8 lac consumer premises with LED's at the subsidised price of ₹10 under DELP scheme through M/s EESL an Energy Services Company (ESCO) in the State of Punjab as Pilot Project. PSPCL has already informed M/s EESL to submit the DPR for concerned zone, so that the actual quantum of ICLs may be calculated for implementation of DELP Scheme. Therefore, whenever M/s EESL will submit DPR to PSPCL the same will be submitted to Hon'ble PSERC for approval so that DELP scheme may be implemented in the state of Punjab.	The Commission notes that despite in principle approval to replace 16 lac ICLs with LEDs under DELP Scheme, no tangible progress has been made. The Commission directs PSPCL to implement this project on top priority after following the procedure specified in DSM regulations. Under UDAY scheme, PSPCL is required to provide LEDs to all domestic and other categories of consumers under DELP through EESL. PSPCL is directed to submit its roadmap and implementation schedule to fulfil its obligation under UDAY.
		<u>ii)Agricultural DSM:</u> During processing of ARR for FY 2014-15, PSPCL informed that after failure to execute Ag.DSM project on selected 6 number feeders, fresh proposal to execute a pilot project on 2500 number agriculture pumpsets through EESL has been initiated. However, it appears that this proposal has also been shelved by PSPCL. The only step taken by PSPCL during FY 2014-15 is to sign MoU with BEE on 12.06.2014 under Capacity Building Programme. Different studies have established that there is scope of 32% to 37% energy saving in agriculture sector by	While reiterating the past efforts made by PSPCL to implement Ag. DSM, it has been reported that MoP has launched Capacity building programme during the XIIth five year plan in its meeting dated 18th June, 2013, held at Ministry of Power ("MoP"), New Delhi and PSPCL has signed MoU with BEE on dated 12.6.2014 under this programme. In this context as per terms and conditions of MoU signed between BEE and PSPCL, M/s EESL, has empanelled M/s The Energy and Resources Institute (TERI) for study of load research and analysis. Now, as per latest update M/s TERI has completed the survey for all categories of Punjab and M/s TERI has submitted the survey report to PSPCL on dated 16th September, 2015 under which the survey on 110 No. of agriculture pumps is being performed to which the management of PSPCL found satisfactory and M/s EESL has been informed on dated 24.11.2015 to prepare Action Plan for the state of Punjab under Capacity Building Programme. Therefore after the approval of Action Plan, the various measures such as replacement of existing	PSPCL has repeatedly been directed to execute a pilot project of Agricultural DSM, as a huge energy saving potential by replacing inefficient motors exist in the Agriculture Sector but PSPCL has totally failed to take any workable initiative to take up Agricultural DSM project. During meeting with PSPCL officers on 29.06.2016, it was informed that a demonstrative pilot project for replacement of about 100 existing pumsets fed from 11 kV Chatipeer feeder under Nabha Divn. to ascertain energy saving potential is being executed through EESL. In case, Energy

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		replacing in-efficient motors with star rated energy efficient motors. Despite repeated directions by the Commission to undertake agriculture DSM pilot projects to demonstrate energy saving potential to the stakeholders, PSPCL has failed to implement the directive. PSPCL is directed to immediately take up some Agriculture DSM pilot projects for replacing in-efficient motors with efficient/star rated motors and submit the action taken report within 3 months of the issuance of this Tariff Order.	inefficient pump sets with efficient pump sets and other measures to achieve saving targets in the category of agriculture consumers may be taken in hand only after determining the scope of savings in particular areas identified in the DSM action plan. In addition to above, the proposal of M/s EESL to replace one lac. no. of inefficient agriculture pump sets with BEE star rated efficient pump sets is also under consideration of PSPCL's management and Govt. of Punjab.	saving of 30% or more is achieved then project to to replace 1 lac more pumsets shall be taken in hand. The PSPCL is directed to share the results of pilot project with the Commission within 15 days of its completion. Under UDAY scheme, PSPCL is to replace 10% of the agriculture pumpsets with energy efficient pumpsets by March 2019. The Commission directs PSPCL to submit its implementation schedule within 3 months of issue of this Tariff order. PSPCL should also take up other energy saving projects such as replacement of inefficient air conditioners, air coolers, fans etc. under intimation to the Commission.
		iii) DSM Plan / Capacity Building Programme: In the Tariff order for FY 2014-15, the Commission approved a DSM fund of ₹40.76 crore as sought by PSPCL but PSPCL has failed to utilise this fund. PSPCL has failed to achieve energy saving target of 500 MU fixed by the Commission. The energy saving target of 500 MU fixed for FY 2014-15 is carried forward to FY 2015-16 and PSPCL is directed to achieve this target. However, the target may be reviewed after submission of load/market survey of consumers being carried by TERI.	Under capacity building programme launched by MoP, EESL will make complete DSM Action Plan for all categories of consumers of State of Punjab. Under this programme BEE will provide full financial as well as technical support to PSPCL for preparation of complete DSM plan notified by PSERC and BEE will also provide training to master trainers of PSPCL to achieve DSM targets. EESL has empanelled M/s The Energy and Resources Institute (TERI) for study of load research and analysis. TERI has offered 1480 No. of consumers as sample size of survey and also PSPCL has provided required data of PSPCL to TERI. TERI has completed the survey for all categories of Punjab and has submitted the survey report to PSPCL on dated 16th September 2015 under which the survey on 1480 No. of different consumers including different categories is being performed to which the management of PSPCL found satisfactory and M/s EESL has been asked to prepare action plan for the state of Punjab under Capacity Building Programme. Therefore after the approval of Action Plan the various measures to achieve saving targets in the different categories of consumers may be taken in hand only after determining the scope of savings in particular areas identified in the DSM action plan.	The Commission observes that target of saving 500 MUs in FY 2014-15 (including target of 250 MUs of 2013-14) by implementing DSM Plan has not been achieved by PSPCL. The Commission directs PSPCL to share the report submitted by M/s EESL and also DSM action plan for various categories along with implementation schedule within one month of issue of T.O. for FY 2016-17.

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
8.5	**Agricultural consumption & Metering Plan**	**<u>Agriculture Consumption</u>** a) Segregation of feeders	a) All AP mixed feeders except 2 no. which are held up due to court cases have been segregated.	a) The Commission notes the action
		b)The Commission repeatedly directed PSPCL to segregate AP load of Kandi area feeders fed from mixed feeders and in case segregation in some cases is not practicable, then in such cases all AP motors should be metered. The Electricity Act 2003 mandate 100% metering of all consumers. However, PSPCL in the last two years had not taken any step to implement the directions of the Commission. Under these circumstances, the Commission has no other option but to continue the present methodology to assess AP consumption of kandi area feeder. Government of India has now launched Deendayal Upadhyaya Gram JyotiYojana which not only allow liberal funding including substantial portion of grant to segregate the mixed feeders and to achieve 100% metering. PSPCL is directed to utilise this scheme for segregation of mixed kandi area feeders and/or achieve 100% metering on these feeders during 2015-16.	b) In Kandi area, population is scattered over large geographical areas with most of people residing in clusters comprising of 15-20 houses in fields having AP motors adjacent to houses making segregation of AP non AP load costly and unviable. In DDUGJY, funds allocated are very meagre and as such Feeder segregation of kandi feeders and 100 % metering of AP connections were not incorporated in DPR's of concerned districts. However Regarding accurate computation of energy consumption of AP load and non-AP load, the segregation of AP energy input and non-AP energy input is being done accurately in the ratio of the consumption in each category. All non AP consumers are metered and their consumption is being assessed accurately from the meter readings and AP consumption is being computed from the sample meters and input energy has been segregated according to the ratio of their consumption on the basis of the fact that losses on the feeders are common to both the categories	b) The Commission directed PSPCL in the Tariff Order for FY 2015-16 to utilise DDUGJY funds to carry out feeder segregation and 100% metering but despite availability of liberal funding under a centrally sponsored scheme specifically designed for this purpose, PSPCL deliberately ignored the directions of the Commission and did not include these works in the DPRs submitted to REC. The Commission directs PSPCL to take up the matter with REC and revise the DPRs to include the work of segregation of kandi area feeders and to achieve 100% metering as per section 55 of the Act.
		c) AMR of AP feeders The AMR project covering 500 grid Sub-stations was allotted in year 2008 and the scope of work was revised to cover 650 grid Sub-stations feeding 3850 AP feeders with completion date of 31.12.2012. Despite repeated directions by the Commission, PSPCL has failed to fully operationalise the	c) AMR project in PSPCL was started around 2008 that used Mod-bus protocol compliant modems and meters for communication with propriety hardware from M/s Voila technologies Ltd and server software from M/S EASUN Reyrolle. Meanwhile a new meter data protocol "DLMS" has been introduced and all new meters use DLMS for communication. Now new DLMS compliant meters are being installed in sub stations whereas AMR works on Modbus protocol resulting in loss of data for entire sub station when either existing meter is replaced or a new breaker is installed. This has resulted in non communication between AMR server software and	c) The Commission notes with serious concern, the unprecedented long delay in operationalzing the AMR of AP feeders despite huge investments made since 2008 on this project. Though, PSPCL has claimed (ending 09/2015) that 1740 numbers of AP feeders were being read from AMR, yet the AMR data of not even a single AP feeder has been shared

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		project. During processing of ARR for FY 2012-13, it was informed by PSPCL that AMR compatible meters on 3239 AP feeders have been installed and AMR data will be available soon to the Commission for accurate assessment of AP consumption. However, PSPCL could submit correct data of only approximately 2000 AP feeders and that too for short duration. The submission of AMR data has been discontinued w.e.f March 2014. It was informed by PSPCL that due to some technical snag in AMR Server and cancellation of the contract of AMR vender due to deficient service, the data is not being captured by PSPCL. Thus PSPCL due to its inept handling of AMR project has squandered the benefits which could have accrued due to substantial investment made to opertionalise the AMR project. The successful implementation of AMR project could have helped the Commission to estimate AP consumption more accurately to the satisfaction of all the stakeholders since no human interface in collection of the AMR data is involved. It is matter of concern that there appears to be no clear roadmap in the near future for the revival of the AMR project. It appears that PSPCL is planning to bring all feeders under SAP which may take further 2 years. PSPCL is directed to revive the AMR project and ensure submission of AMR data of AP feeders without any further delay.	AMR modems and thus non submission/ submission of erroneous data to PSERC. Now PSPCL is in process of upgrading the AMR system to be able to read both Modbus & DLMS protocol modems. System is under testing as & when system stabilizes, PSPCL will replicate it at all existing substations & start submitting data generated from AMR system to PSERC. Timelines for same will be submitted after stabilization.	with the Commission**.** The timelines of commissioning of AMR for all AP feeders be shared with the Commission within one month of issue of Tariff Order 2016-17. The Commission observes that PSPCL failed to anticipate the software compatibility of DLMS protocol meters for AMR of AP feeders with MODBUS protocol software of AMR system. The action for upgrading the system to read both MODBUS and DLMS protocols should have been taken before the introduction of DLMS protocol meters to avoid unnecessary delay to the already delayed AMR project. The Commission directs PSPCL to submit the AMR data of the AP feeders without any further delay and also ensure that all AP feeders are covered under AMR. .
		d) Submission of monthly AP data	d) Monthly data of pumped energy on AP feeders as per Grid meters on the formats is being	d) The Commission adopted the pumped

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
			submitted regularly to Hon'ble PSERC.	energy methodology for assessing AP consumption in the review of FY 21012-13 carried out in the Tariff Order for FY 2013-14 and discarded the sample metre methodology. Accordingly PSPCL is directed to stop submission of sample meter data to the Commission and may utilise the healthy sample meters to comply with the directions of the Commission to provide 100% metering on atleast 10% AP feeders.
		e) Submission of AMR data.	e) See comments of PSPCL against c) above	e) Refer to comments & directive of the Commission against c) above
		f) No progress to provide meters on AP motors fed from urban feeders has been made by PSPCL during FY 2014-15 which indicate total lack of initiative on the part of the licensee to implement the directions of the Commission. The directive is reiterated to ensure compliance immediately otherwise all such consumers shall continued to be treated as being fed from AP feeders.	f) 5152 AP connection running on urban feeders have already been provided Meters. Directions have already been given for providing 100% metering on AP motors running on urban feeders.	f) Despite repeatedly directions to provide meters on all AP consumers running on urban feeders, no tangible progress has been made. The Commission reiterates its directions to PSPCL to provide 100% metering on A.P. consumers fed from urban feeders and report compliance by issuing certificate within one month of issue of Tariff Order for FY 2016-17.
		ii) Metering Plan: In previous Tariff Order, PSPCL was directed to submit its plan to achieve 100% metering as per Section-55 of the Act, within three month of the issuance of the Tariff Order but the utility failed to submit any plan in this regard. It is matter of serious concern that licensee is adamant in violating the provisions of the Act by citing financial and administrative constraints. PSPCL is again directed to utilise the liberal funding available under Deendayal Upadhyaya Gram Jyoti Yojana of MoP/GoI to fulfil the mandate of the Act	Although section 55 of Act provides for 100% metering of all consumers but installation of meters on a category of consumers which are metered on flat rate will not serve any purpose except recording energy. Installation of 100 % meters on all 11.889 lac consumers is a huge Task and involves following:- • Total cost involved in installation of 12 lac AMR meters is around Rs 1000 Cr. • Recording monthly readings not only involves connectivity issues but also requires huge infrastructure, additional manpower and software licences cost. No utility in India has carried out AMR for such large number of consumers. So far only utilities have carried out AMR of large consumers numbering from hundreds to few thousand. • Replacement of defective meters or modems will also involve huge cost. • It is normally seen that infrastructure used only for study purposes gets abandoned	PSPCL has submitted a totally irrelevant reply to the directions of the Commission for FY 2015-16. The direction of the Commission was to submit 100% metering plan as per section 55 of the Act and there was no mention to provide AMR meters. To make available liberal funding to the distribution licensees for achieving 100% metering, GoI launched DDUGJY for this purpose but PSPCL preferred to ignore the directions of the Commi-ssion and the GoI scheme. The Commission reiterates its directions to PSPCL to submit the Action Plan within one month of issue this Tariff Order to achieve

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		regarding 100% metering of all consumers.	after some time and investment so made also get lost.	100% metering.
8.6	**kVAh Tariff**	The Commission notes the compliance. Refer para 5.1 of this Tariff Order also. The proposal for left over categories may be framed by PSPCL.	The Proposal was submitted to the Hon'ble Commission vide this office memo No. 2779 dated 07.11.2013 and public hearings on the issue were held. As per Tariff Order for FY 2014-15, KVAH Tariff was introduced for large supply, medium supply, bulk supply, railway traction, DS (load more than 100 kw) and NRS (load more than 100 kw) categories of consumer w.e.f. 01.04.2014. In Tariff Order for FY 2015-16, PSERC has further approved the KVAH Tariff for DS/NRS consumers with load more than 50 kw & up to 100 kw w.e.f. 01.10.2015. Further, Sub-committee constituted for extending KVAH Tariff and Contract Demand System for three phase SP and DS & NRS categories to consumers (having connected load up to 50 kW) held its meeting on 4.03.2016 and resolved (copy enclosed as Annexure- G) as under : 1. The committee suggested that the system of contract demand may not be implemented at present for both the categories i.e SP category and DS/NRS categories having connected load from 20Kw to 50 kW as in both categories small consumers of non organized sector are covered. Moreover the demand requirement of these consumers as a percentage of their connected load is low. 2. As for the conversion factor, the committee decided to suggest a conversion factor of 0.90 in line with the conversion factor being implemented for other category of consumers to maintain parity.	The Commission notes the compliance and agrees with the reply of PSPCL.
8.7	**Two Part Tariff**	Refer para 5.2 of this Tariff Order	The proposal for Introduction & Implementation of Two Part Tariff was submitted to the PSERC vide this office memo no. 1305/CC/ DTR-233 dated 1.1.2013. As per directions of PSERC in Tariff Order for FY 2013-14, the refined proposal for Two Part Tariff and the outcome of Mock trial on prescribed proforma was submitted to PSERC & thereafter, Public Hearing was held on 28.03.2014. Replies of the objections were also sent to PSERC as well as the objectors. In the Tariff Order for FY 2014-15, the Commission has directed PSPCL to resubmit the Two Part Tariff proposal, after addressing the concerns of the majority of consumers/consumer associations. However, in the ARR for FY 2015-16 it has been submitted to PSERC that PSPCL is of a considered opinion that proposal submitted by PSPCL is the best possible proposal. Keeping in view the data available and since the final call on the introduction of the Two Part Tariff is to be taken by PSERC, the call to build consensus amongst various stakeholders need also to be taken by PSERC. Accordingly, it was requested that the proposal already submitted with ARR of 2014-15 may again be considered for building consensus amongst the stakeholders. In the T.O for FY 2015-16, PSERC has again directed	Refer para 7.1 of this Tariff Order.

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
			PSPCL to discuss with the various categories of consumers/ consumer associations the issues/objections raised by them (as brought out in the T.O. for FY 2014-15) and resubmit the Two Part Tariff proposal along with the ARR for FY 2016-17, after building consensus amongst various stakeholders. The matter is still under consideration by the management. Two part tariff proposal has been uploaded on PSPCL website, public objections/comments on the proposal are coming to CE/ Commercial, PSPCL	
		<u>ToD Tariff</u> Refer para 5.3 of this Tariff Order. PSPCL should certify that all LS &MS consumers who opted for ToD Tariff by 15.9.14 have been provided duly tested ToD meters before 30.9.14 as per T.O. 2014-15. PSPCL should certify that specifications for ToD meters have been approv-ed, vendors short listed and rates fixed for ToD meters. PSPCL should ensure that meters are available only at rates fixed by PSPCL.	It is certified that specifications for purchase of various categories of meters contain TOD provisions and all purchase orders to the shortlisted vendors are issued for TOD complaint energy meters at rates approved by PSPCL.	The Commission notes the compliance.
8.8	**Employee Cost**	**<u>(i)</u>** <u>Implementation of PwC report</u> The PwC report on manpower planning was submitted to PSPCL in March 2011 and since its submission the reply of PSPCL in subsequent ARR petitions has been that report is under the consideration of Board of Directors. The Commission directed PSPCL to submit the action taken report on PwC report within 3 months of issue of Tariff Order for FY 2014-15 but instead of taking any decision on the report, the utility reiterated its position that report is under consideration of BoD. It indicates indecisiveness on the part of the utility to take appropriate decision on very important aspect of manpower planning.	As pointed out by Hon'ble Commission in earlier directives that the study intended not only to reduce the employees strength but also to increase productivity of existing manpower by re-deployment of the existing staff, it is submitted that the proposed re-deployment (cadre change) in the PwC Report is negligible in number (9 only), however, the re-deployment (same cadre) within the organisation is being regularly undertaken by in-house cadre regularisation wing based upon the in-house restructuring requirements. On part of report being under consideration of BoD of PSPCL, it is clarified here that the report is always under constant consideration of PSPCL's BoD while taking critical decisions on policy matters, restructuring, reorganisation of existing human resources of PSPCL. Further, during fresh recruitment of manpower, deployment of newly recruited manpower and redeployment of existing human resources etc. broad guidelines of PwC Report are always taken into consideration. Regarding re-training the reply is detailed in next para no. vi) titled "Training". As regards the productivity, organisation has been taking incessant efforts & initiatives to adopt the best practices/proven modern management concepts & need based in-house restructuring &	i) The Commission notes the action taken by PSPCL. PwC report on Man Power planning was submitted by the Consultants to PSPCL in March 2011 but remained unimplemented due to indecisiveness of the management. Employee cost is a major component of Annual Revenue Requirement and affects the consumers. PSPCL is directed to get this report updated from Consultants by getting it re-examined in view of the present scenario and prepare a roadmap for the reduction of employee cost. This exercise must be completed within six months of the issue of this Tariff Order.

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		Commission reiterates its directive to PSPCL to submit the action taken report on PwC report within 2 months of issue of Tariff Order.	manpower rationalisation. As a result, during the last decade, Employee Productivity Parameters have improved to a large extent. PwC Report has already been under consideration of the BOD. The decisions taken by PSPCL from time to time reflect guidelines of PwC as well.	
		ii) <u>Reorganization of DS on functional lines:</u> PSPCL had been claiming excellent results due to re-organisation of distribution set-up but for last more than one year, PSPCL has discontinued the implementation of functional re-organisation with the plea that model is being re-examined in view of adverse feedback received from some field officers and consumers. In petition no. 4 of 2014, PSPCL informed the Commission that BODs in its meeting held on 27.05.2014 has constituted a committee to suggest a suitable model and will submit the report within 2 months. The Commission in its Order dated 28.11.2014 directed PSPCL to furnish final plan for reorganisation of distribution setup along with half yearly targets by 31st Jan. 2015 but till date no plan or decision in this regards has been conveyed by PSPCL to the Commission. The Commission has indeed visualised such scenario and commented in the ibid Order that track record of PSPCL in taking timely decisions for tackling the issue of employees cost & productivity does not inspire confidence for speedy resolution of the issue by the utility. While taking a serious view of the repeated failure of PSPCL to take timely action on the issue of manpower productivity, Commission directs the utility to implement re-organization of DS wing on top priority.	Based on report of committee BOD PSPCL has approved modified Functional model. PSPCL as per modified plan has started reorganizing distribution offices and revised Functional model has been rolled out in Jalandhar, Amritsar cities. In balance Functional model will be rolled out in phased manner after paddy season is over.	The Commission directs PSPCL to submit the roll out plan for implementation of re-organisation of distribution set up on functional lines within one month of issue of this tariff order.

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		iii) AMR of H.T. consumers: PSPCL in the reply to para 6.3(i) has claimed that 24 number towns have been declared "GO LIVE" but billing of only 7 towns on AMR has been reported. Commission directs PSPCL to ensure implementation of AMR in all R-APDRP towns by 30.6.2015 and remaining by March, 2016.	Till 11.4.2016, 5990 Modems have been installed on HT consumers in 47 R-APDRP towns. Further all 47 R-APDRP towns have been declared GO-Live and billing of all towns is being carried out through the system.	The Commission observes that the directions to PSPCL were to cover all HT and MS consumers under AMR. PSPCL has submitted only the number of modems installed on HT consumers. The status and timeframe to cover all HT & MS consumers under AMR should be submitted to the Commission within one month of issue of this Tariff Order.
		iv) Distribution SCADA/ DMS PSPCL must ensure implementation of SCADA along with R-APDRP works.	Detailed WO has been issued to M/s Siemens Ltd. on dated 23/02/2015 for implementation of SCADA/DMS project in PSPCL at three towns of Punjab i.e. Amritsar, Jalandhar & Ludhiana. Firm has finished the detailed site survey of Jalandhar & Ludhiana Town. Site survey of Amritsar Town is also completed and various design documents have also been approved/being approved by PSPCL. The buildings of SCADA control centre at all the 3 towns are under construction and are likely to be completed within timeline. Project is running as per schedule and is expected to be completed within 18 months.	The Commission notes the action taken by PSPCL. PSPCL is directed to ensure completion of the Project as per schedule.
		v) Unmanned Sub Stations: The direction to PSPCL was to expedite the process of setting up unmanned grid substations on the lines of progressive distribution utilities in the country. The utility is bound to take note of various directions issued by the Commission in public interest and in case of any difficulty in its implementation, the matter should have been taken up with detailed explanation but the reply of PSPCL that there is no plan for setting up un-manned stations indicate PSPCL's indifferent attitude towards directions being issued by the Commission to improve its functioning and introduction of latest technology & best practices in the field of	GIS based substation has been planned in Chaura Bazar Ludhiana and is under construction likely date of completion is 31.5.2016.	PSPCL is required to adopt modern technologies and best practices to improve efficiency and consumer service. PSPCL is directed to intimate the performance of Chaura Bazar unmanned grids sub-station and also submit future roadmap for covering more grid sub-stations under this scheme.

<table>
<tr><th>Sr. No.</th><th>Issues</th><th>PSERC Directives for FY 2015-16</th><th>PSPCL Reply</th><th>PSERC Comments & Directives for FY 2016-17</th></tr>
<tr><td></td><td></td><td>distribution business for better consumer service. PSPCL is directed to intimate the reasons for not adopting such latest technologies within 2 months of issue of this Tariff Order.</td><td></td><td></td></tr>
<tr><td></td><td></td><td>vi) <u>Training:</u>

PSPCL may take appropriate action for periodic training of its manpower to increase the efficiency and productivity.</td><td>PSPCL is providing extensive need based training and re-training to its manpower and the same is reflected in the improved efficiency of PSPCL's staff. The process of periodic training of PSPCL's manpower would be continued as per PSERC's directive.

Moving a step further, PSPCL constituted a committee which studied and short listed the most reputed and suitable training institutes for providing trainings to PSPCL officers and officials. Day by day we are concentrating more on role specific trainings so that the professionalism of PSPCL's human resources may be developed to cope with changing business environment.</td><td>The Commission notes the action being taken by PSPCL.

The Commission engaged IIM Ahmadabad to study Tariff and related matters. The consultant after extensive study and interaction with the top management of both power companies and various other stakeholders has recommended in its report that “being in a situation of excess supply after many years of shortage, at an organizational level, there is need to change the mind set to one of a strong market and customer driven orientation Executive Education Programme could facilitate this”. Accordingly, PSPCL is directed to finalize the Training Programme for senior and middle level management officers on various aspects of ‘Marketing’ within a month of issue of this Tariff Order and intimate the same to the Commission.</td></tr>
<tr><td>8.9</td><td>Receiv-ables</td><td>The total receivables have increased from ₹71780.33 lac to ₹78648.43 lac and the increase is mainly against industrial category. The outstanding amount against Government departments also increased from ₹218.66 lac to ₹295.61 lac during this period. PSPCL is directed to explore the possibility of installing pre-paid meters on the connections being released to Government</td><td>Status of Defaulting Amount (₹lacs) ending 03/2015 viz-a-vis 3/2016 is as under:-

<table>
<tr><th>Category</th><th>Ending 03/15 (un-audited)</th><th>Ending 3/2016 (un-audited)</th></tr>
<tr><td>ISC</td><td>50938.69</td><td>70500.24</td></tr>
<tr><td>AP</td><td>280.22</td><td>262.52</td></tr>
<tr><td>GSC</td><td>32537.10</td><td>36493.59</td></tr>
<tr><td>Others</td><td>738.52</td><td>1099.96</td></tr>
<tr><td>Total</td><td>84494.53</td><td>108356.31</td></tr>
</table>
For introduction of pre-paid metering system, PSPCL had already taken up the matter with Govt. of Punjab vide letter No.3783 dated 5.11.2014 wherein it was proposed to install these meters in first phase covering all temporary connections existing as well as new with connected load up to 50 KW and single point connections released to clusters/colonizers. The scheme will be replicated</td><td>The total receivables have increased from ₹84494.53 lac in 03/2015 to ₹108356.31 lac ending 03/2016. The detailed scrutiny of the defaulting amount data shows that receivables from Govt. Deptts. have increased from ₹34061.41 lac in 03/2015 to ₹53013.76 lac in 03/2016.

The reply given for not adopting pre-paid meters on Govt. and Temporary connections is not convincing as many</td></tr>
</table>

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		departments in consultation with State government.	for single phase three phase LT industrial consumers and DS NRS with load up to 20 KW. The response from the Punjab Government is still awaited. It is further submitted that prepaid metering system has not been implemented fully in any State as prepaid meters have not given satisfactory results and utilities have to depend upon vendors for recharging of coupons facility. Further Electricity Act specific that only willing consumers may be covered under prepaid metering system. As consumers are getting 12% p.a. interest on consumption security it will further act as a retarding force in the implementation of prepaid metering. In view of the above position, unless reliable meters for prepayment system are available and are found successful in trial runs, only then this system needs to be introduced. It is, therefore, requested to kindly postpone the introduction of prepaid metering for one year. Report of committee formed for suggesting the implementation of pre paid metering in PSPCL has recommended use of smart metering instead of pre paid metering and same is under consideration/decision of PSPCL management. A pilot project for smart metering of all feeders and consumers emanating from one sub stations at Mohali has been started. WO in this regard stands issued by office of EIC/IT, PSPCL, Patiala.	progressive utilities are using these meters. Manipur State has successfully implemented the programme to introduce prepaid meters and reported very encouraging results. PSPCL is directed to study the implementation strategy of Manipur State for large scale introduction of prepaid meters and prepare roadmap for introduction of prepaid meters in the Punjab within a month of issue of this Tariff Order.
8.10	**Mtc. of category wise details of Fixed Assets**	PSPCL is directed to take immediate action as per Companies Act 2013.	It is submitted that revision of accounting manuals is under process. M/s Ernst and Young (consultants entrusted with work) have yet to submit the final draft of Capital Expenditure and Fixed Assets Manual. Therefore instructions regarding maintenance of category-wise details of fixed assets can be given only after acceptance of final draft of Capital Expenditure & Fixed Assets manual by the competent authority. The matter is being taken up with M/s Ernst & Yong for early finalisation of the manuals.	The Commission notes the action taken by PSPCL. The Commission directs PSPCL to submit the status report on preparation of fixed asset register on quarterly basis and intimate the target date for completion of the job.
8.11	**Power purchase from Traders and through UI**	i) The Commission in para 97 of its order dated 10.10.2014 in case of petition no. 12/2014 (suo motu) had observed that PSPCL has already appointed consultants to develop models for optimal power procurement and sale and the models being developed by them are expected to go live by September, 2014. The Commission in the ibid order had directed PSPCL to submit the model developed by the consultants for optimal power procurement and sale of power within 30	i) The consultant M/s Mercados-AF Pvt. Ltd has developed the models required for optimal procurement and sale of power. The key modules that have been developed are: i) Day Ahead Price forecasting Module. ii) Short-Term Day ahead Load forecasting Module. iii) Short-Term portfolio optimization Module. iv) Medium-Term Load forecasting Module. v) Medium-Term portfolio optimization. vi) Month ahead price forecasting Module. These models had been put into working/testing to check their accuracy during the peak demand period (Paddy Season). It has been observed on most of the time/days, forecasting error was less than 3%, whereas, on few occasions it was more due to some sudden variations in the weather	i) PSPCL is not taking the matter seriously and till date has not submitted the revised status of “go-live” of models after the successful implementation of the modules thus developed by the firm. PSPCL is directed to submit the status within 30 days from the date of issue of Tariff Order.

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		days from the date of the order. A period of more than 6 months has elapsed, no such model as directed by the Commission has been submitted. PSPCL is again directed to submit the model developed by the consult-ants, within 30 days of the issue of the Tariff Order.	condition & hence are generally in order. The revised status of' 'go-live 'of models will be intimated to the Hon'ble Commission after the successful implementation of the modules thus developed by the firm.	
		ii) The Commission in para 118 of the ibid order had observed that the trading margin being paid for banking agreements signed through intermediary traders can be avoided through direct banking, as PSPCL has the requisite expertise to carry out the same, and hence it will be preferable that PSPCL enters into the banking arrangements directly, until it is absolutely essential to have involvement of trading companies. The action taken in the matter be intimated to the Commission, within 30 days of the issue of the Tariff Order.	ii) PSPCL always endeavours to explore possibilities of banking that fall under direct arrangements with the various utilities. Correspondences have already been made at regular intervals with different utilities to tie up the direct banking. PSPCL has managed to tie up direct banking for the period June 2016 to Sep-16 with MPPMCL for 400 to 600 MW. Further PSPCL made direct banking arrangements with HPSEBL for 200 MW from May 2016 to Sep 2016 by participating in their tender directly. PSPCL has also made efforts to do direct banking arrangements with Rajasthan, Gridco, Assam, but they have shown their reluctance to enter direct baking arrangements with PSPCL. Recently all the utilities based in NR have been requested by PSPCL on 13.1.2016 vide office memos to enter into banking arrangements with PSPCL but till now no response has been received from them. It is understood that utilities like Rajasthan, HP, J&K have started banking through trading companies to meet with the cash crunch where in advance transmission charges are also paid by the trading companies which are reimbursed by the utilities at a later stage. Thus the avenues of direct banking have diminished due to above referred reason. Still every effort is being made to engage in direct banking with the utilities as much as possible.	ii) The Commission notes the compliance. However, PSPCL is directed to enter banking agreements directly to avoid intermediary traders until it is absolutely essential to have involvement of trading companies.
		(iii) The Commission in para 126 of the ibid order has desired to submit the information on daily/monthly basis and also upload on its website with regard to power purchase etc. PSPCL is directed to intimate the action taken in the matter within 30 days of the issue of the Tariff Order and confirm that the information as directed by the Commission in its ibid order is being uploaded on the website of PSPCL.	iii) PSPCL is already uploading the reports on daily and monthly basis as per the formats got approved from Hon'ble PSERC. The reports are available at the official website of PSPCL i.e www.pspcl.in under the head 'PSERC Reports' under 'Power supply & Schedule Circulars'.	iii) The Commission notes the compliance.
8.12	**Loading status of sub-**	PSPCL should ensure de-loading of overloaded sub-stations before	TS Organization of PSPCL during the year 2015-16 commissioned 115 Nos. works with an addition of 1130.50 MVA transformation capacity	The Commission notes the action taken and directs PSPCL to submit its plan to

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
	transmi-ssion system (66 kV & 33 kV)	Paddy 2015.	814.886 Ckt. KM 66 KV line has been constructed during the year 2015-16 ending March-2016 to deload the Sub transmission System All critically overloaded Substations have thus been attended to and brought within the tolerance limits. However, efforts are being made to bring the Substations loading to 70% by range limits, constructing new Substations & enhancing the capacity of existing Substations. Thus the directives of the Hon'ble PSERC are being complied with by TS Organization of the PSPCL in this matter also. The list of 66/33 KV sub-stations above 70% loading is available on PSPCL web-site.	deload all grid sub-stations and lines having loading above 70% of its capacity.
8.13	**Cost Audit of generat-ing stations**	The Commission notes the action being taken.	Cost audit report of PSPCL for the year 2011-12 had been submitted to PSERC vide this office memo No. 2361 dated 30.7.2015. Cost audit report of PSPCL for the year 2012-13 has been submitted to PSERC vide this office memo No. 2040 dated 27.01.2016.	The Commission notes the action taken and directs PSPCL to regularly and timely supply Cost Audit Reports to the Commission.
8.14	**AMR of DS/ NRS consumers**	The Commission notes the action being taken.	The WO cum C/A No.510/DIT-739 dated 28.04.2015 was issued to M/s KALKITECH as pilot project of GOI for carrying out in one grid of Tech-I sub-division of Mohali. The site survey has been completed. Various DRs documents has already been approved by PSPCL. The project is progressing as per time lines and expected to be completed in time.	The Commission notes the action being taken. The Commission directs PSPCL to share the progress of the work order on quarterly basis.
8.15	**Improve-ment in quality of service**	PSPCL is not adhering to the SoP particularly with regard to replacement of burnt/ damaged meters, attending to complaints/ service requests. PSPCL should ensure strict compliance of SoP notified by the Commission.	Instructions have already been issued to display SOP notified by Commission Reliability indices are being uploaded on PSPCL website regularly.	The Commission has noted that dead/ defective/ burnt meters are not being replaced as per SOP notified by the Commission. The restoration of supply in case of breakdown/fault should be ensured strictly as per SoP. PSPCL is directed to ensure compliance of SoP and submit cycle wise key Exceptions reports and quarterly MIR to the Commission. PSPCL is further directed to ensure 24x7 (except AP) quality power supply to all sections of consumers.
8.16	**Fuel Audit of various Thermal Plants of PSPCL**	The Commission notes the compliance made by PSPCL as far as supplying information in the matter on quarterly basis is concerned and further directs to continue to supply the same in future also. PSPCL is directed to maintain difference in	The Comparison of GCV of received and bunkered coal is as under:	The Commission notes the compliance made by PSPCL as far as supplying information in the matter on quarterly basis is concerned and further directs to continue to supply the same in future also. Refer para 6.7 of this Tariff Order. Recently many State run

<table>
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<tr><td></td><td></td><td>GCV between received and bunkered coal as per regulations.</td><td>
<table>
<tr><th colspan="4">GGSSTP, Rupnagar</th></tr>
<tr><th>MONTH</th><th>Receipt Coal GCV (AFB) (Kcal /Kg)</th><th>Bunkered Coal GCV (AFB) (Kcal /Kg)</th><th>Difference in GCV (AFB) (Kcal /Kg)</th></tr>
<tr><td>April-15</td><td>3923</td><td>3810</td><td>113</td></tr>
<tr><td>May-15</td><td>3936</td><td>3797</td><td>139</td></tr>
<tr><td>June-15</td><td>4008</td><td>3882</td><td>126</td></tr>
<tr><td>July-15</td><td>4331</td><td>4192</td><td>139</td></tr>
<tr><td>Aug.-15</td><td>4372</td><td>4205</td><td>167</td></tr>
<tr><td>Sept.-15</td><td>4743</td><td>4251</td><td>492</td></tr>
<tr><td>Oct-15</td><td>4344</td><td>4266</td><td>78</td></tr>
<tr><td>Nov.-15</td><td>4282</td><td>4214</td><td>68</td></tr>
<tr><td>Dec.-15</td><td>4442</td><td>4230</td><td>212</td></tr>
<tr><td>Jan 16</td><td>4569</td><td>4347</td><td>222</td></tr>
<tr><td>Feb 16</td><td>5081</td><td>4227</td><td>854</td></tr>
<tr><td>March 16</td><td>4860</td><td>4226</td><td>634</td></tr>
<tr><th colspan="4">GHTP, Lehra Mohabat</th></tr>
<tr><td>April-15</td><td>4326</td><td>4184</td><td>142</td></tr>
<tr><td>May-15</td><td>4008</td><td>3871</td><td>137</td></tr>
<tr><td>June-15</td><td>3742</td><td>3732</td><td>10</td></tr>
<tr><td>July-15</td><td>4437</td><td>4328</td><td>109</td></tr>
<tr><td>Aug.-15</td><td>4213</td><td>4128</td><td>85</td></tr>
<tr><td>Sept.-15</td><td>4528</td><td>4399</td><td>129</td></tr>
<tr><td>Oct-15</td><td>4224</td><td>4087</td><td>137</td></tr>
<tr><td>Nov-15</td><td>4230</td><td>4087</td><td>143</td></tr>
<tr><td>Dec.-15</td><td>4161</td><td>4018</td><td>143</td></tr>
<tr><td>Jan 16</td><td>4097</td><td>3964</td><td>133</td></tr>
<tr><td>Feb 16</td><td>4910</td><td>3961</td><td>949</td></tr>
<tr><td>March 16</td><td>5146</td><td>4575</td><td>571</td></tr>
<tr><th colspan="4">GNDTP, Bathinda</th></tr>
<tr><td>April-15</td><td>4343.02</td><td>4190.12</td><td>152.90</td></tr>
<tr><td>May-15</td><td>4153.23</td><td>4050.02</td><td>103.21</td></tr>
<tr><td>June-15</td><td>4152.51</td><td>4050.81</td><td>101.70</td></tr>
<tr><td>July-15</td><td>4313.01</td><td>4105.16</td><td>207.85</td></tr>
<tr><td>Aug.-15</td><td>4192.56</td><td>3951.20</td><td>241.36</td></tr>
<tr><td>Sept.-15</td><td>4342.85</td><td>4015.48</td><td>327.37</td></tr>
<tr><td>Oct-15</td><td>4351.22</td><td>4147.66</td><td>203.56</td></tr>
<tr><td>Nov-15</td><td>4471.56</td><td>4137.46</td><td>334.10</td></tr>
<tr><td>Dec-15</td><td>4210.62</td><td>3924.49</td><td>286.13</td></tr>
<tr><td>Jan- 16</td><td>4278</td><td>4067</td><td>211</td></tr>
<tr><td>Feb- 16</td><td>4814</td><td>4112</td><td>702</td></tr>
<tr><td>Mar- 16</td><td>4676</td><td>4169</td><td>507</td></tr>
</table>
</td><td>Coal Miners, Power Developers and Central Institute of Mining and Fuel Research (CIMFR) has entered into a tripartite agreement for quality analysis of coal supplied to generating stations both at the loading and unloading points. In case grade slippage is detected, the generators will be compensated. The Commission directs PSPCL to sign similar TPA immediately and report compliance within one month of issue of this Tariff Order.</td></tr>
<tr><td>8.17</td><td>Review of PPAs with Generators / Traders for purchase of power from outside the State of Punjab.</td><td>PSPCL is directed to carry out the job at the earliest and submit action taken report along with next ARR. Top priority should be given to this work in view of surplus power in the State.</td><td>PSPCL has already engaged consultant M/s Mercados-AF Pvt. Ltd for review of PPAs, who has submitted its report. On the basis of the report the proposal for surrender of allocated/unallocated share of PSPCL from Anta, Auriya, Dadri & APPCPL, Jhajar has been conveyed to OSD/Power Reforms, GOP for surrender of PSPCL share from these NTPC projects.</td><td>PSPCL is directed to pursue the matter vigorously at higher level.</td></tr>
<tr><td>8.18</td><td>Audited Annual Accounts for FY 2012-13 and FY 2013-14</td><td>PSPCL has failed to submit audit report of CAG of India for FY 2012-13 and Audited Annual Accounts & CAG of India for FY 2013-14 in time resulting deferment</td><td>CAG report on the Annual Accounts of PSPCL for FY 2012-13 and FY 2013-14 stands submitted to PSERC vide this office memo no. 407 dated 27.03.15 & 2169 dated 20.4.2016 respectively.</td><td>Late submission of Audited Annual Accounts by PSPCL results in late true ups of the relevant years. PSPCL is, therefore, directed to ensure timely submission of Audited</td></tr>
</table>

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		of true up for these years. PSPCL is directed to ensure timely submission of audited annual accounts.		Annual Accounts along with reports of Statutory Auditors & CAG and reply of management to the observations.
8.19	**Per Unit Fuel Cost**	PSPCL is further directed to take note of the cost per unit while backing down its generating plants.	On the basis of the coal received from the sources as listed in the directives, variable cost of each plant is worked out on monthly basis which differs from each other because of the obvious reasons listed in the directives. Energy from these generating plants is scheduled only on the basis of the merit order prepared on the basis of the variable cost of energy worked out as discussed above. Hence, due consideration is already being given to the cost of generation for each plant while scheduling energy from them. However, it is worth mentioning here that the coal supplies from our own captive coal mine PANEM has been stopped altogether after the cancellation of mines by the Hon'ble Supreme Court on 9.4.2014. Now the coal at all the plants is being received only from the same source i.e. SECL, CCL & BCCL. Hence there is no differentiation in the source of coal for all the plants. The difference in the variable rates of these plants is on account of the difference in their heat rates and other factor specific to them.	PSPCL to take note of the cost per unit while backing down its own generating plants. Regular supply of coal from Punjab's own captive coal mine is of utmost importance to protect the interest of the consumers. PSPCL is directed to follow the matter more vigorously, so that coal supply from own captive mine may be restored at the earliest.
8.20	**System Analysis wings**	PSPCL should establish system analysis wings under CE/Planning and CE/PPR to conduct planning and system operation studies respectively. The technical proposals submitted to the Commission requiring the system analysis studies should invariably be supported by these studies (load flow/short circuit/stability studies etc.)	Analysis wing has been created in the Planning Organisation vide O/o No.03/SE/Plg-3 dated 2.1.2015 in compliance to the directive of PSERC issued against the suo-moto petition No. 54/2014. Planning Organisation is studying and also taking up the matter with designers/suppliers of existing software and with various power utilities and organisations in context of using the software for sub transmission system analysis at voltage level of 66 KV/33 KV/11 KV. For building up of the complete network model of 66 KV Sub-Transmission System and further linking them with the 132/200/400 KV Sub-Stations of Punjab and EHV System and generating system of neighbouring states comprising Northern Grid Network in the MiPower Software of M/s PRDC, Bangalore, the scope of work has been formulated by this office. The scope of work broadly includes sending a team of expert engineers to PSPCL for putting the package of "MiPower Software" into fully operational mode so as to comply the directions of PSERC in regard to use software for load assessment/demand forecast, load flow analysis, contingency analysis, short circuit analysis and dynamic analysis of the 33 KV/66 KV system of PSPCL along with integration of the same with 132/200/400 KV network of PSTCL with a view to meet with the stipulations of Manual of Transmission Planning Criteria of CEA Accordingly, some information along with the draft offer of the firm has been received in this office, which is under consideration and the same shall be put up before the competent authority after	The Commission notes the action taken in setting up of System analysis Wing. The Commission reiterates that all Technical Proposals submitted to the Commission, should invariably be supported by Load Flow Studies, Short Circuit. Analysis, Stability Studies etc. The Commission observes the painfully slow progress on the network model of 33 kV/66 kV sub transmission system to properly study the system load flow and other critical parameters through a software designed for the studies.

<table>
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<tr><td></td><td></td><td></td><td>seeking some clarifications from the firm.

A soft copy MiPower Software of 220 KV/132 KV system of Punjab has been obtained from PSTCL and this data should be utilized while integrating with 66 KV and 11 KV system of PSPCL. The firm was requested to re-evaluate the commercial offer and accordingly informed the minimum (normal) budgetary rates to this office.

M/s PRDC, Bangalore has informed that the quoted offer doesn't include any system study for "Power evacuation studies at 66 KV & 11 KV voltage level" and they have already given minimum rate in the offer.

M/s PRDC has also confirmed that the scope of work of the firm includes load flow study for the modelled network till 66/11 KV transformer secondary side. The outgoing feeders from secondary side of 66/11 KV transformers will be modelled as lumped load at transformer outgoing at 11 KV. Modelling of 11 KV feeders is not envisaged in the present offer. The same is being analysed by PSPCL.

Now, M/s MAD Tech Solutions Pvt Ltd, Bangalore has informed that they can also carry out load flow studies and generation evacuation studies desired by PSPCL. An open tender will be floated.</td><td></td></tr>
<tr><td>8.21</td><td>Updating of consumer's Security Registers, payment of interest on Security Consumption and Security Meter</td><td>The claim of PSPCL that interest on security for FY 2013-14 has been made to all consumers appears to be incorrect since during public hearings held on ARR petition for FY 2015-16, various consumer representatives complained that interest has not been paid to all the consumers. This fact is further corroborated by the ARR figures which shows a payment of ₹150 crore against a security deposit of ₹2292 crore during 2013-14. At interest rate of 11.70% payable during 2013-14, the amount of interest paid to consumers should have been almost double.

While taking a serious view of the harassment of general consumers, PSPCL is directed to ensure updation of consumer's security register and submit a certificate on affidavit that annual interest on Security (Consumption) and Security (Meter)</td><td>To reconcile the ACD as per the consumer security registers and interest thereupon, an exercise has been carried out by the Distribution Organisation to extract the information of consumers whose ACD is found to be Zero from the start of their connection. The following position has been emerged out during this exercise as under :-

<table>
<tr><th>Sr. No.</th><th>Description</th><th>Total No. of Consumers</th><th>Total No. of Consumers with Zero ACD</th><th>% of consumers with Zero ACD</th></tr>
<tr><td>1.</td><td>Non-SAP Areas</td><td>4030474</td><td>1017000</td><td>25.23</td></tr>
<tr><td>2.</td><td>SAP Areas</td><td>2932000</td><td>867362</td><td>29.58</td></tr>
<tr><td></td><td>G. Total</td><td>6962474</td><td>1884362</td><td>27.06</td></tr>
</table>
For updation of security register of 18.84 Lacs consumers, the matter has been referred to DS offices since the necessary completion of this activity have to be done by them. Accordingly, the security registers are being updated. Detailed report shall be submitted upon completion of updation of registers.</td><td>It is a matter of serious concern that interest on Security (Consumption) and Security (Meter) is not being paid to all consumers despite repeated directions from the Commission. PSPCL was directed to certify on affidavit that interest to all consumers along with penal interest up to 2014-15 has been paid because the General Public was feeling extremely harassed on this account. PSPCL has failed to collect information from all the five Distribution zones in the last one year to certify to the Commission.

The security registers have not been updated and consumers are being denied the interest payable as per the Act and the Supply Code.

The updation of Security registers is the internal administrative matter of the licensee and it cannot be used as an alibi to deny the interest to large number of consumers. The Commission directs PSPCL</td></tr>
</table>

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		payable upto FY 2014-15 along with penal interest, where ever payable due to delay in payment of interest, has been credited to the accounts of all eligible consumers as per regulation 17 of the Supply Code 2014.		to ensure up to date payment of interest on Security (Consumption) and Security (Meter) to all consumers and submit certificate within one month of the issue of this Tariff Order failing which proceedings under relevant sections of the Act shall be initiated
8.22	**Introdu-ction of Contract Demand System**	Refer Para 5.1 of this Tariff Order. PSPCL is directed to submit a road map for introduction of Contract Demand System for remaining category of consumers within 3 months of the issue of this Tariff Order.	It is submitted that PSPCL is already in the phase for implementation of Contract Demand System for MS category w.e.f. January 2015. Further as per the confirmation given by the Director/Distribution for installation and readiness of compatible meters with the facility of recording KVA/MDI reading for DS/NRS above 50 KW. The process of recording the kVAh reading of DS/NRS having connected load more than 50 KW up to 100 KW was already started w.e.f. 3/2015 vide CC No.09/2015 so as to properly implement the KVAH based tariff on these categories as directed by PSERC w.e.f.1.10.2015. In order to introduce the contact demand for all three phase, DS/NRS/SP Industrial consumer PSPCL will have to make proper arrangement for recording of meter reading/billing, infrastructure and other sources before come into force. Further, Sub-committee constituted for extending KVAH Tariff and Contract Demand System for three phase SP and DS & NRS categories to consumers (having connected load up to 50 kW) held its meeting on 4.03.2016 and resolved as under : 1. The committee suggested that the system of contract demand may not be implemented at present for both the categories i.e SP category and DS/NRS categories having connected load from 20Kw to 50 kW as in both categories small consumers of non organized sector are covered. Moreover the demand requirement of these consumers as a percentage of their connected load is low. 2. As for the conversion factor, the committee decided to suggest a conversion factor of 0.90 in line with the conversion factor being implemented for other category of consumers to maintain parity.	The Commission notes the compliance and agrees with the reply of PSPCL.
8.23	**Calculation of depreci-ation as per straight line method**	PSPCL is directed to claim the depreciation for assets in the next ARR as per straight line method over the useful life of the asset at the rate of depreciation as specified by the CERC provided that the remaining depreciable value as on 31st March of the year closing after a	It is submitted that Accounts Circular No. 9/2015 and dated 01.07.2015 has been issued by this office and depreciation is being provided on straight line method in PSPCL.	The depreciation rates as per CERC (Terms and Conditions of Tariff) Regulations, 2014 are applicable to PSPCL. Remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life

<table>
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<tr><td></td><td></td><td>period of 12 years from the effective date of commercial operation of the station/line shall be spread over the balance useful life of the assets.</td><td></td><td>of the assets. The Commission directs PSPCL to prepare accounts accordingly.</td></tr>
<tr><td>8.24</td><td>Proper sealing/ locking of pillar boxes/ MCBs</td><td>The Commission has repeatedly directed PSPCL to ensure that all pillar boxes and MCBs housing meters in public places or outside consumer premises must be properly locked and sealed. The Commission directs PSPCL to do the needful and submit a certificate within two months of the issue of this Tariff Order that all pillar boxes/MCBs have been properly sealed/ locked.</td><td>Pillar boxes seals are opened for following reasons

Replacement of Defective / burnt meters

Installation of new meters while releasing connections

While recording readings where glass is not clear.

During checking of connections

Sealing and resealing of pillar boxes is a continuous process. Therefore at no point of time it can be certified that all boxes sealed will not be opened in due course of time in future. However directions have been issued to field offices to ensure that whenever a pillar box is opened , It is sealed immediately .</td><td>The directions issued by the Commission to PSPCL were to ensure that pillar boxes/MCBs are properly sealed. The Commission is aware that sometimes, opening of pillar box will be required to carry out some job but such an event cannot become an excuse to keep the pillar box unsealed/open. PSPCL has to issue necessary guidelines to the field officers to ensure immediate resealing of pillar boxes/MCBs.</td></tr>
<tr><td>8.25</td><td>Periodic Checking of meters</td><td>Regulation 21.3 of the Supply Code 2014 provides for periodic inspection/ testing of all meters/metering equipment installed at the consumers' premises in the given time schedule. It has been brought to the notice of the Commission that EHT metering equipments are not being tested at site by the licensee. PSPCL is directed to ensure compliance of the regulations and report compliance within two months of the issuance of this Tariff Order. PSPCL should check the multiplying factor of all C.T./P.T. meters and report compliance within 6 month of issue of this Tariff Order.</td><td>Out of total 172 No. EHT meters 152 No. meters were checked up to 06/2015 and status was OK and remaining 20 meters had been checked up to 09/2015. All the EHT meters stands checked and detail of checking of EHT meters by MMTS units of CE/Enf. up to Sept.2015 was as under :-

<table>
<tr><th>Sr. No.</th><th>Enf. Circle</th><th>No. of EHT Meters</th><th>No. of Conns. checked</th><th>Status of Multyplying factor</th></tr>
<tr><td>1</td><td>Amritsar</td><td>12</td><td>12</td><td>OK</td></tr>
<tr><td>2</td><td>Bathinda</td><td>17</td><td>17</td><td>OK</td></tr>
<tr><td>3</td><td>Jalandhar</td><td>11</td><td>11</td><td>OK</td></tr>
<tr><td>4</td><td>Ludhiana</td><td>64</td><td>64</td><td>OK</td></tr>
<tr><td>5</td><td>Patiala</td><td>68</td><td>68</td><td>OK</td></tr>
<tr><td></td><td>Total</td><td>172</td><td>172</td><td></td></tr>
</table></td><td>PSPCL should certify that accuracies of EHT metering equipments including CT/PT units of all 172 EHT connections have been checked by MMTS. The details of the testing equipments for checking the accuracies at site for ratio error and phase angle errors of CTs/PTs and meter accuracies of electronic meters be shared with the Commission.

The Commission reiterates its directions that meticulous compliance of regulation 21.3 of Supply Code 2014 regarding periodic inspection /complete testing at site of all meters/metering equipments must be ensured.</td></tr>
<tr><td>8.26</td><td>Replacement of defective energy meters at Grid Sub-station</td><td>PSPCL is directed to ensure that all the energy meters installed at various grid sub-stations record correct energy. Any meter found defective must be replaced within 10 working days. Similarly</td><td>Instructions have been issued to all Grid maintenance offices to replace any feeder meter which got defective within 10 working days</td><td>The officer of the Commission has noticed during inspection of various grid sub-stations that non-functional feeder meters are not being replaced within 10 days. The MMTS must carry out DDL of meters during checking</td></tr>
</table>

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
		any other defect contributing to wrong recording of the energy must be rectified within 10 days. The defective meter shall be got tested from MMTS/ME lab and the report should be submitted to the Commission. PSPCL is directed to check multiplying factors of all energy meters & report compliance within 3 month of issue of this Tariff Order.		and supply the same to the Commission with its report.
8.27	**Calculation of AT&C losses**	PSPCL is directed to calculate AT&C losses along with T&D losses w.e.f 01.04.2015	PSPCL has started computation of AT&C Losses. The AT&C losses for the year 2015-16 will be submitted after the finalisation of annual account of PSPCL for the FY 2015-16.	The Commission directs PSPCL to supply AT&C losses for FY 2015-16. PSPCL is directed to achieve AT&C loss target of 14.00% set under UDAY scheme by 2018-19.
8.28	**Power Regula-tory Measures**	PSPCL is directed to ensure clear, proper and timely advance intimation of scheduled power cuts/other regulatory measures to the consumers. All unscheduled power cuts shall be put on the website of PSPCL on the next day giving reasons and duration of such regulatory measures.	PSPCL has already noted down the Commission's directive to issue the clear, proper and timely intimation to its valued consumers for the scheduled power cuts/other regulatory measures if imposed in case of shortage of power supply is envisaged. The detail of unscheduled power cuts if imposed in case any exigency occurs in power system & the reasons also shall be uploaded on the website subsequently in the daily report which is being uploaded on the PSPCL website. However, it is worthwhile mentioning here that till now during the year 2015-16, no schedule power cut have been imposed due to comfortable supply position.	The Commission notes the action being taken and directs PSPCL for meticulous implementation of the directions.
8.29	**Assess-ment of T&D losses on AP feeders**	Since PSPCL has not implemented Section 55 of the Act mandating 100% metering, therefore, to estimate the T&D loss level on AP feeders, PSPCL is directed to cover atleast 5% pure AP feeders spread all over the state under 100% metering by December, 2015 and to engage an independent agency to record metered sale and pumped energy of these AP feeders to calculate T&D losses.	The proposal for installation of 100% meters on AP feeders under Section-55 of the Act could not be executed due to its high financial implications and operational problems and this has been brought to the notice of Hon'ble Commission. Now, as proposed by the Commission to install 100% meters on 5% pure AP Feeders is being considered and instructions have been sent to the concerned EICs/CEs (DS) Zones to identify and select 5% pure AP Feeders for the above said purpose and start the process of installing 100% meters in order to comply with the directives of the commission for computation of T&D losses more accurately.	The Commission notes that no efforts have been made by PSPCL to provide 100% metering on 5% pure AP feeders, spread all over the State and engaging an independent agency to record metered energy and pumped energy of these AP feeders to calculate T&D losses. The Commission observes that PSPCL is always reluctant to implement measures for true computation of AP consumption for obvious reasons. The Commission reiterates its directive to PSPCL to install 100% meters on 5% pure AP feeders by December, 2016 and another 5% by December, 2017. Before implementing

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
				the scheme, PSPCL should get the AP feeders identified for 100 % metering approved from the Commission.
8.30	**Implementation of Commission's order dated 04.12.14 in case of petition no. 54 of 2014 in the matter of Technical Audit of works executed by PSTCL and PSPCL for development of transmitssion, sub-transmission system from 01.04.10 to 31.03.13**	PSPCL is directed to submit the action taken report on quarterly basis on various directives issued in the Commission's order dated 04.12.2014 in case of petition no. 54 of 2014. The first such quarterly report ending June, 2015 is to be submitted by 31.07.2015 and next quarterly reports should be submitted by 31.10.2015, 31.01.2016 and 30.04.2016.	The directions of Hon'ble Commission's Order are fully implemented and status of implementation is as under please:- **<u>Point No.5</u>**: The observation is being implemented. TS Organisation is implementing the approved lists of transmission works including 66KV transmission lines for load demand and evacuation of power from the generating stations Solar Power Plants. These lists are issued by the office of Chief Engineer/Planning, PSPCL by implementing the Manual of Transmission Planning Criteria issued by Central Electricity Authority. TS Organisation constructed 414.589 Ckt. KM during 2012-13, 662.217 Ckt. KM during 2013-14, 715.250 Ckt. KM during the year 2014-15 and 511.692 Ckt KM upto Dec, 2015 during the year 2015-16. 66KV transmission lines to evacuate power from Solar Power Plants near Arniwala, Boha & Jaga Ram Tirath have also been constructed & commissioned. **<u>Point No.6</u>**: The observation is being implemented. TS Organisation of the PSPCL is committed for the commissioning of robust & reliable transmission network. Planning for the transmission & Sub-station works is issued by the office of Chief Engineer/Planning on annual basis/three year basis. The following progress for the 66KV transmission works has been achieved during the past three years as under:- **Year** / **66KV Sub-station works** / **66KV Transmission lines (Ckt. KM)** / **MVA capacity added** 2012-13 / 150 / 414.589 / 1510.45 2013-14 / 153 / 662.217 / 1499.00 2014-15 / 226 / 715.250 / 2222.20 2015-16 / 115 / 814.886 / 1130.50 A number of 11KV capacitor banks are being added in the Sub-transmission system of the State. 334.806 MVAR of 11KV capacitor banks has been added/ commissioned during the year 2014-15. 148.349 MVAR of 11KV capacitor banks has been added/ commissioned during the year 2015-16 upto Dec. 2015. **<u>Point No.7</u>**: The observation is being implemented. The policy of Best Practices in transmission is being followed. There is well considered planning of the transmission works. E: tendering system is being	 The Commission notes the compliance The Commission notes the compliance The Commission notes the compliance and directs PSPCL to follow provisions of the report of the

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
			followed for procurement of the equipment and allotment of work orders. There is efficient project management & monitoring of the quality including pre-despatch in the field offices. The working officials are continuously being trained regarding safety measures and improving quality of works.	committee constituted by GoI recommending the Best Practices.
			<u>Point No.8</u>: No comments by PSPCL.	PSPCL has not intimated anything regarding regular meetings with PSTCL and exchange of data on load assessment demand forecast for each substation and nothing has been mentioned regarding load flow analysis, contingency analysis, short circuit analysis and dynamic analysis. The Commission directs PSPCL to follow the directive of the Commission meticulously in this regard.
			<u>Point No.9</u>: The observation is being implemented. E: tendering process is followed for procurement and allotment of work orders. The Grid construction activity is departmental. Lowest bidder is awarded the work after process of competitive bidding.	The Commission notes the compliance.
			<u>Point No.10</u>: The observation is being implemented. The physical & financial progress is being reported & monitored on monthly basis. The compiled physical & financial progress is also sent to RE & APDRP and Financial Advisor, PSPCL for financial tie-up. The TS Organisation of PSPCL came into existence w.e.f. 1.12.2011. However during the last three years, substantial achievements have been made in the field of Grid Construction activities including New, Additional, and Augmentation & Up-gradations in Sub-transmission system and construction of 66 KV transmission lines. The progress has been summarized under Point No.6 above. All out efforts are being made to increase the quantum of the works completed & commissioned. However, overall financial aspect of the PSPCL scenario is being taken care of while initiating the Transmission work.	PSPCL was directed to submit to the Commission on half yearly basis, the physical & financial record of the works. But no such record has been submitted by PSPCL. PSPCL is again directed to submit the same on half yearly basis.
			<u>Point No.11</u>: No comments by PSPCL.	The Commission notes with serious concern that no action has been taken by PSPCL to maintain proper record of scheduled date of commissioning and actual date of commissioning of all works with reasons for delay, if

<table>
<tr><th>Sr. No.</th><th>Issues</th><th>PSERC Directives for FY 2015-16</th><th>PSPCL Reply</th><th>PSERC Comments & Directives for FY 2016-17</th></tr>
<tr><td></td><td></td><td></td><td></td><td>any. PSPCL is directed to maintain the same, under intimation to the Commission.</td></tr>
<tr><td></td><td></td><td></td><td><u>Point No.12</u>:
The observation is being implemented. The preparatory activities such as surveys, design and testing, processing for forest & other statutory clearances like Railways, tendering activities etc. is being done parallel to the Sub-transmission system works.</td><td>The Commission notes the compliance and directs PSPCL to maintain complete record as directed earlier.</td></tr>
<tr><td></td><td></td><td></td><td><u>Point No.13</u>:
The observation is being implemented. There is no undue delay in the up-gradation/commissioning of Sub-transmission System of the PSPCL. The capacity of existing Sub-stations has been added. A number of 66KV Sub-stations have been completed & commissioned for strengthening the Sub-transmission System. So flow of reliable power benefits envisaged to the consumers is actually being achieved.</td><td>The Commission notes the action taken in this regard and directs PSPCL to supply the list of Substations/Transmission works which are delayed for more than 3 months, with reasons.</td></tr>
<tr><td></td><td></td><td></td><td><u>Point No.14</u>:
No comments by PSPCL.</td><td>PSPCL has not mentioned anything regarding preparation and updation of Maps of the system. PSPCL is again directed to prepare Maps of the whole system and update them regularly with exchange of data with PSTCL.</td></tr>
<tr><td></td><td></td><td></td><td><u>Point No.17</u>:
The observation is being implemented. Full care is being given for the completion of the Sub-transmission System & its up-gradation to match with the addition of the Generating capacity. All the remaining works have been planned by the office of Chief Engineer/Planning within time.</td><td>PSPCL has not mentioned anything regarding load flow study for system planning so that overloaded lines can be brought within permissible loading limits. PSPCL is directed to follow the directive in letter and spirit.</td></tr>
<tr><td></td><td></td><td></td><td><u>PointNo.18</u>:
The observation is being implemented. TS Organisation has been giving full care for addition of 11KV Capacitor Banks in Sub-transmission System. The progress is as under:-
<table><tr><th>Year</th><th>MVAR capacity added</th></tr><tr><td>2012-13</td><td>61.245 MVAR</td></tr><tr><td>2013-14</td><td>438.238 MVAR</td></tr><tr><td>2014-15</td><td>334.806 MVAR</td></tr><tr><td>2015-16</td><td>191.901 MVAR</td></tr></table></td><td>The Commission notes the compliance.</td></tr>
<tr><td></td><td></td><td></td><td><u>Point No.19</u>:
The observation is being implemented. Due care is being given for regulating the inventory of the S&T stores. Accounts of the material at site is also</td><td>The Commission notes the action taken by PSPCL. PSPCL is again directed to develop and follow the</td></tr>
</table>

Sr. No.	Issues	PSERC Directives for FY 2015-16	PSPCL Reply	PSERC Comments & Directives for FY 2016-17
			being monitored. Spares are being procured as per requirement of P&M. **Point No.20**: The observation is being implemented. The rating of various Sub-stations equipment matches with the loading limit of Sub-transmission line works. 66KV CTs for the Power Transformers and for the transmission lines are of adequate capacity as compared to their loading. Matching equipment for the 20MVA & 31.5 MVA Power transformers has been installed please.	scientific inventory management system. The PSPCL was directed to submit quarterly information on de-loading of overloaded Transmiss-ion lines and Substations. No information is being submitted by PSPCL. PSPCL is again directed to submit the same.
8.31	**Sale of Surplus Power**	PSPCL is directed to prepare a plan for sale of surplus power available in the State in the market & submit quarterly progress to the Commission.	PSPCL has engaged M/s Mercodos-AF Pvt Ltd to prepare the modules for sale of surplus power. PSPCL has recently considered the tenders floated by Noida Power Company Limited (NPCL), West Bengal State Electricity Distribution Company Ltd (WBSEDCL), Rajasthan Discoms Power Procurement Centre (RDPPC), Telangana State Power Coordination Committee (TSPCC), Assam Power Distribution Company Limited (APDCL) and the Briham Mumbai Electricity Supply & Transport Undertaking (BEST) regarding sale of power. PSPCL has participated in tenders of NPCL, WBSEDCL, RDPPC and APDCL but in view of higher rate quoted by PSPCL in comparison to other bidders PSPCL didn't get any order for sale of power to these utilities. In case of TSPPC and BEST was decided not to participate in these tenders due to absence of corridor and variable quantum of power required respectively. Participation against Tender Enquiry floated by Bangladesh Power Development Board (BPDB) for medium term purchase of power is under active consideration for which consent of Government of India (GOI) is required since it is an eligibility criteria in case of the domestic coal is used as fuel. PSPCL has taken up the matter for required consent with Ministry of Power, GOI. A tender enquiry was also floated during the month of Nov-2015 to dispose of anticipated surplus power (500 MW). In view of no response, the date has been extended twice.	PSPCL is directed to formulate a policy for marketing surplus power by creating dedicated trained team of experts, empowered to take prompt decisions to tap electricity market. Necessary training and institutional mechanism is to be put in place immediately. PSPCL is further directed to submit quarterly reports on the steps taken in this regard along with status of sale of power to the Commission.

The Commission shall be taking a quarterly review of the status of implementation of the directives with PSPCL management on regular basis. The non compliance of any directive shall invite punitive action in accordance with various provisions of the Act.

Chapter 9
Determination of Tariff

9.1 Annual Revenue Requirement

The Commission has determined the ARR of PSPCL for FY 2016-17 at ₹26974.98 crore. In the ARR, PSPCL has submitted Annual Audit Accounts for FY 2012-13 and FY 2013-14. The Annual Accounts submitted by PSCPL for FY 2013-14 were without CAG Audit Comments. PSPCL submitted the CAG Audit Comments on the Audited Annual Accounts for FY 2013-14 on 26.02.2016. The Commission decided to carry out the True up of FY 2012-13 and FY 2013-14. Further, PSPCL has submitted that the auditing of accounts for FY 2014-15 is under process. As such, the Commission has decided not to undertake the True up for FY 2014-15. The review for FY 2015-16 indicates surplus of ₹247.29 crore up to FY 2015-16. The Commission has determined the revenue gap (deficit) of ₹66.42 crore for FY 2016-17 and consolidated gap (surplus) of ₹165.94 crore, including surplus of ₹247.29 crore up to FY 2015-16 and carrying cost of (-)₹14.93 crore on revenue gaps.

9.2 Determination of Retail Supply Tariff

9.2.1 In determining tariff, the Commission is guided by the principles laid down in Section 61 of the Act as well as its own Regulations which provide the framework for working out the ARR of a power utility and tariff for different categories of consumers. The Commission has also kept in view the relevant aspects of the National Electricity Policy, Tariff Policy, the norms adopted by it in earlier Tariff Orders and inputs received from consumers/consumer organizations/ stakeholders in their objections and during the process of public hearings.

Income from tariff at existing rates taken into account for working out the percentage decrease in tariff required to cover the gap (surplus), does not include income from sales to Common Pool consumers, Outside State sale, Peak Load Exemption Charges (PLEC) and Monthly Minimum Charges (MMC).

9.2.2 To utilize the surplus revenue of ₹165.94 crore, decrease of 0.65% is required over the existing tariff across all categories, but excluding revenue from sale to common pool consumers, outside State sale, PLEC and MMC. The combined average cost of supply with this decrease works out to 597.95 paise per unit. The ARR of PSPCL for FY 2016-17 as assessed by the Commission covers the complete financial year. The recoveries of tariff, therefore, have to be such that total revenue requirement of PSPCL for FY 2016-17 is recovered during the current financial year. However, since revised tariff is to be effective from August 01, 2016, the amount of ₹165.94 crore needs to be adjusted in the balance period of eight months of FY 2016-17. In that case, the decrease of 0.65% in the existing rate has to be annualized and uniform decrease of 0.98% effected for all categories, except the common pool consumers, outside State sale, PLEC and MMC.

The Indian Institute of Management, Ahmedabad, the Consultant appointed by the Commission, in their report has submitted that Cumulative Annual Growth Rate (CAGR) of Punjab's primary sector State Gross Domestic Product (SGDP) has decreased from 2.42% between FY 2005-06 and FY 2008-09 to 1.55% between FY 2012-13 and FY 2015-16, whereas the CAGR of India's primary sector GDP has reduced from 3.76% to 2.14%. The growth rates in the primary sector for Punjab have in general been lower than that of the country, except for a few years. The CAGR of Punjab's secondary sector SGDP has decreased from 13.18% between FY 2005-06 and FY 2008-09 to 3.16% between FY 2012-13 and FY 2015-16, whereas the CAGR of India's secondary sector GDP have reduced from 9.53% to 5.52%. The growth rates in the secondary sector for Punjab, which were higher than that for the country during FY 2005-06 to FY 2008-09, has become lower than that for the country during FY 2012-13 to FY 2014-15. The CAGR of Punjab's tertiary sector SGDP has decreased from 8.10% between FY 2005-06 and FY 2008-09 to 7.68% between FY 2012-13 and FY 2015-16, whereas the CAGR of India's tertiary sector GDP has reduced from 10.30% to 8.85%. Punjab's tertiary sector has performed worse than the country. The growth in the industrial sector has slowed down and is below the national growth rate. In light of these and national 'Make in India' campaign, there is a significant opportunity to promote the secondary (industry) sector in order to increase the overall SGDP growth and to provide employment opportunities to the people of Punjab. It has been recommended in the report by the Consultant that industrial sector needs to be promoted in the State. Therefore, the Commission decides to decrease the tariff for various industrial categories i.e. SP, MS & LS and no change in tariff for other categories, as given in Table 9.1.

9.2.3 The Commission in its Order dated 28.03.2016 in Petition no.79 of 2016 ordered that the existing tariff structure as approved in the Tariff Order dated 05.05.2015 for PSPCL for FY 2015-16 shall continue to be charged w.e.f. 01.04.2016 till the date of issue of Order on the ARR filed by PSPCL for FY 2016-17. The Commission has decided to make the revised tariffs applicable w.e.f. August 01, 2016. As such, the tariff structure as approved in the Tariff Order dated 05.05.2015 for PSPCL for FY 2015-16 shall continue to be applicable up to July 31, 2016. The existing and revised tariffs are indicated in Table 9.1.

Table 9.1: Existing and Revised Tariff for FY 2016-17

<table>
<tr><th rowspan="2">Sr. No.</th><th rowspan="2">Category of Consumers</th><th colspan="2">Existing Tariff</th><th colspan="2">Revised Tariff approved by the Commission w.e.f. August 01, 2016</th></tr>
<tr><th>Energy Rate</th><th>MMC (₹)</th><th>Energy Rate</th><th>MMC (₹)</th></tr>
<tr><td colspan="6">A) PERMANENT SUPPLY</td></tr>
<tr><td>1A.</td><td colspan="5">Domestic (for loads upto 50kW)</td></tr>
<tr><td>a)</td><td>Upto 100 kWh</td><td>452 paise/kWh</td><td rowspan="3">52/kW</td><td>452 paise/kWh</td><td rowspan="3">52/kW</td></tr>
<tr><td>b)</td><td>Above 100 kWh and upto 300 kWh</td><td>614 paise/kWh</td><td>614 paise/kWh</td></tr>
<tr><td>c)</td><td>Above 300 kWh</td><td>656 paise/kWh</td><td>656 paise/kWh</td></tr>
<tr><td>1B.</td><td colspan="5">Domestic (for loads exceeding 50 kW and upto 100kW)</td></tr>
<tr><td>a)</td><td>Upto 100 kVAh</td><td>407 paise/kVAh</td><td rowspan="3">47/kVA</td><td>407 paise/kVAh</td><td rowspan="3">47/kVA</td></tr>
<tr><td>b)</td><td>Above 100 kVAh and upto 300 kVAh</td><td>553 paise/kVAh</td><td>553 paise/kVAh</td></tr>
<tr><td>c)</td><td>Above 300 kVAh</td><td>590 paise/kVAh</td><td>590 paise/kVAh</td></tr>
<tr><td>1C.</td><td colspan="5">Domestic (for loads/demand exceeding 100kW/kVA)</td></tr>
<tr><td>a)</td><td>Upto 100 kVAh</td><td>416 paise/kVAh</td><td rowspan="3">47/kVA</td><td>416 paise/kVAh</td><td rowspan="3">47/kVA</td></tr>
<tr><td>b)</td><td>Above 100 kVAh and upto 300 kVAh</td><td>565 paise/kVAh</td><td>565 paise/kVAh</td></tr>
<tr><td>c)</td><td>Above 300 kVAh</td><td>604 paise/kVAh</td><td>604 paise/kVAh</td></tr>
<tr><td>2A.</td><td colspan="5">Non-Residential Supply (for loads upto 50kW)</td></tr>
<tr><td>a)</td><td>Upto 100 kWh</td><td>653 paise/kWh</td><td rowspan="2">190/kW</td><td>653 paise/kWh</td><td rowspan="2">190/kW</td></tr>
<tr><td>b)</td><td>Above 100 kWh</td><td>675 paise/kWh</td><td>675 paise/kWh</td></tr>
<tr><td>2B.</td><td colspan="5">Non-Residential Supply (for loads exceeding 50 kW and upto 100kW)</td></tr>
<tr><td>a)</td><td>Upto 100 kVAh</td><td>588 paise/kVAh</td><td rowspan="2">171/kVA</td><td>588 paise/kVAh</td><td rowspan="2">171/kVA</td></tr>
<tr><td>b)</td><td>Above 100 kVAh</td><td>608 paise/kVAh</td><td>608 paise/kVAh</td></tr>
<tr><td>2C.</td><td colspan="5">Non-Residential Supply (for loads/demand exceeding 100kW/kVA)</td></tr>
<tr><td>a)</td><td>Upto 100 kVAh</td><td>601 paise/kVAh</td><td rowspan="2">171/kVA</td><td>601 paise/kVAh</td><td rowspan="2">171/kVA</td></tr>
<tr><td>b)</td><td>Above 100 kVAh</td><td>621 paise/kVAh</td><td>621 paise/kVAh</td></tr>
<tr><td>3.</td><td>Public Lighting</td><td>669 paise/kWh</td><td>As per 8 hrs/Day</td><td>669 paise/kWh</td><td>As per 8 hrs/Day</td></tr>
<tr><td rowspan="2">4.</td><td rowspan="2">Agricultural Pumpsets</td><td>i) Without GoP subsidy: 458 paise/ kWh or ₹338/BHP/ month</td><td rowspan="2">Not Applicable</td><td>i) Without GoP subsidy: 458 paise/ kWh or ₹365/BHP/ month</td><td rowspan="2">Not Applicable</td></tr>
<tr><td>ii) With GoP subsidy: NIL</td><td>ii) With GoP subsidy: NIL</td></tr>
<tr><td>5.</td><td>AP High-Technology/ High Density Farming</td><td>458 paise/kWh</td><td>Not Applicable</td><td>458 paise/kWh</td><td>Not Applicable</td></tr>
<tr><td>6.</td><td>Compost Plants/Solid Waste Management Plants for Municipalities/ Urban Local Bodies</td><td>458 paise/kWh</td><td>47/kVA</td><td>458 paise/kWh</td><td>47/kVA</td></tr>
<tr><td>7.</td><td colspan="5">Industrial Consumers</td></tr>
<tr><td>a)</td><td>Small Power</td><td>585 paise/kWh</td><td>157/kW</td><td>547 paise/kWh</td><td>157/kW</td></tr>
</table>

Sr. No.	Category of Consumers	Existing Tariff		Revised Tariff approved by the Commission w.e.f. August 01, 2016	
		Energy Rate	**MMC (₹)**	**Energy Rate**	**MMC (₹)**
b)	Medium Supply	587 paise/kVAh	188/kVA	551 paise/kVAh	188/kVA
c)	Large Supply				
i)	General Industry	614 paise/kVAh	188/kVA	603 paise/kVAh	188/kVA
ii)	PIU	633 paise/kVAh	491/kVA	622 paise/kVAh	491/kVA
iii)	Arc Furnace	633 paise/kVAh	491/kVA	622 paise/kVAh	491/kVA
8.	**Bulk Supply (including MES)**				
a)	HT	609 paise/kVAh	307/kVA	609 paise/kVAh	307/kVA
b)	LT	635 paise/kVAh		635 paise/kVAh	
9.	**Railway Traction**	655 paise/kVAh	314/kVA	655 paise/kVAh	314/kVA
10.	**Start-up Power for Generators/ CPPs**	614 paise/kVAh	Not Applicable	603 paise/kVAh	Not Applicable
11.	**Charitable Hospitals set-up under Persons with Disability (PwD) Act, 1995**				
a)	For loads upto 100kW	452 paise/kWh	52/kW	452 paise/kWh	52/kW
b)	For loads exceeding 100kW	416 paise/kVAh	47/kVA	416 paise/kVAh	47/kVA
B) SEASONAL INDUSTRY: COTTON GINNING, PRESSING AND BAILING PLANTS, RICE SHELLERS, KINNOW GRADING AND WAXING CENTRES, RICE BRAN STABILISATION UNITS (WITHOUT T.G.SETS) (SP, MS, LS)					
a)	During Season				
	SP	585 paise/kWh	574/kW	547 paise/kWh	574/kW
	MS	587 paise/kVAh	518/kVA	551 paise/kVAh	518/kVA
	LS	614 paise/kVAh	518/kVA	603 paise/kVAh	518/kVA
b)	Off Season				
	SP	690 paise/kWh	NA	645 paise/kWh	NA
	MS	731 paise/kVAh	NA	686 paise/kVAh	NA
	LS	740 paise/kVAh	NA	727 paise/kVAh	NA
C) ICE FACTORY & ICE CANDIES AND COLD STORAGE					
a)	April to July				
	SP	585 paise/kWh	782/kW	547 paise/kWh	782/kW
	MS	587 paise/kVAh	704/kVA	551 paise/kVAh	704/kVA
	LS	614 paise/kVAh	704/kVA	603 paise/kVAh	704/kVA
b)	August to March Next Year				
	SP	585 paise/kWh	157/kW	547 paise/kWh	157/kW
	MS	587 paise/kVAh	140/kVA	551 paise/kVAh	140/kVA
	LS	614 paise/kVAh	140/kVA	603 paise/kVAh	140/kVA
D) GOLDEN TEMPLE, AMRITSAR AND DURGIANA TEMPLE, AMRITSAR					
a)	First 2000 kWh	Free	NA	Free	NA
b)	Beyond 2000 kWh	532 paise/kWh	NA	532 paise/kWh	NA
E) TEMPORARY SUPPLY					
i)	Domestic	1139 paise/kWh (for loads upto 100kW)	₹965 or ₹192/kW whichever is higher	1139 paise/kWh (for loads upto 100kW)	₹965 or ₹192/kW whichever is higher
		1048 paise/kVAh (for loads exceeding 100kW)	₹965 or ₹173/kVA whichever is higher	1048 paise/kVAh (for loads exceeding 100kW/ kVA)	₹965 or ₹173/kVA whichever is higher

Sr. No.	Category of Consumers	Existing Tariff		Revised Tariff approved by the Commission w.e.f. August 01, 2016	
		Energy Rate	**MMC (₹)**	**Energy Rate**	**MMC (₹)**
ii)	NRS	1139 paise/kWh (for loads upto 100kW)	₹1932 or ₹484/kW whichever is higher	1139 paise/kWh (for loads upto 100kW)	₹1932 or ₹484/kW whichever is higher
		1048 paise/kVAh (for loads exceeding 100kW)	₹1932 or ₹436/kVA whichever is higher	1048 paise/kVAh (for loads exceeding 100kW/ kVA)	₹1932 or ₹436/kVA whichever is higher
iii)	Industrial (SP,MS & LS)	As per Tariff approved at A(7) above for permanent supply + 100%	₹774/kW for SP, ₹697 per kVA for MS & ₹697/kVA for LS	As per Tariff approved at A(7) above for permanent supply + 100%	₹774/kW for SP, ₹697 per kVA for MS & ₹697/kVA for LS
iv)	Wheat Threshers	As per Tariff approved at A(7) above for permanent supply + 100%	₹774/kW for SP, ₹697 per kVA for MS & ₹697/kVA for LS	As per Tariff approved at A(7) above for permanent supply + 100%	₹774/kW for SP, ₹697 per kVA for MS & ₹697/kVA for LS
v)	Fairs, Exhibition & Mela Congregations	Bulk Supply tariff as at A(8) + 50%	₹7730 per service	Bulk Supply tariff as at A(8) + 50%	₹7730 per service
vi)	**Touring Cinemas**				
a)	Lights and Fans	1139 paise/kWh	For (a) and (b), ₹1932 or ₹484/kW or ₹436/kVA of sanctioned load/demand, whichever is higher	1139 paise/kWh	₹1932 or ₹484/kW or ₹436/kVA of sanctioned load/demand, whichever is higher
b)	Motive Load	Rate for Industrial permanent supply as at A(7) + 100%		Rate for Industrial permanent supply as at A(7) + 100%	

Notes:

(i) The Schedules of Tariff with revised rates of tariff for various categories of consumers as approved by the Commission are as per Annexure II, Volume-II of this Tariff Order. These Schedules shall be read with the updated provisions of General Conditions of Tariff approved by the Commission as per Annexure I, Volume-II of this Tariff Order;

(ii) SC and Non SC BPL Domestic consumers with connected load upto 1000 watts will be given 200 units of free power per month in view of GoP subsidy;

(iii) AP consumers and consumers mentioned in (ii) above will not be charged meter rentals in view of Government Subsidy;

(iv) Cooperative Group Housing Societies/ Employers availing single point supply under PSERC (Single Point Supply to Cooperative Group Housing Societies/Employers) Regulations will be levied monthly minimum charges as applicable to Domestic Supply consumers with load exceeding 100 kW i.e. ₹47 per kVA.

(v) As per policy of Government of Punjab applicable to the industries, the energy charges for new/prospective industries which come up through Progressive Punjab Investors Summit, 2015, will be @ 499 paise per kVAh (excluding FCA). The other terms and conditions shall be as applicable to the relevant industrial tariff category. GoP shall pay subsidy for difference in tariff applicable to relevant industrial category as approved by the Commission in Table 9.1 and Special Tariff @ 499 paise per kVAh announced by the State Government.

(vi) Supply to Dairy Farming, Fish Farming (exclusive), Goat Farming and Piggery Farming shall be billed under AP metered tariff. GoP shall pay subsidy for the difference in tariff for the relevant industrial category and the AP metered tariff, as approved by the Commission in Table 9.1.

(vii) Consumers getting single point supply for providing electricity to ultimate users shall be eligible for rebate @ 12% of electricity consumption charges in case of the Residential Colonies/Co-operative Group Housing Societies/Employers Colonies and @10% of electricity consumption charges in

case of Commercial Complexes/Shopping Malls/Industrial Estates etc., in addition to other voltage rebates as may be applicable;

(viii) 10 paise/kVAh on pro-rata basis, on continuous process industries, shall continue to be levied as here-to-fore.

(ix) Rebate of 30 paise/kVAh to all consumers getting supply at 400/220/132 kV, 25 paise/kVAh to all consumers getting supply at 66/33 kV, 20 paise/kVAh to DS, NRS & MS consumers getting supply at 11 kV and 20 paise/kWh to AP/AP High-Technology, High Density Farming Compost Plants/Solid Waste Management Plants for Municipalities/ Urban Local Bodies consumers getting supply at 11 kV shall be allowed.

(x) NRS consumers running Marriage Palaces shall pay Annual Minimum Charges (AMC) @ ₹2280 per kW / ₹2052 per kVA of sanctioned load/demand per annum instead of Monthly Minimum Charges (MMC) of ₹190 per kW /₹171 per kVA per month.

9.3 Effect of revised tariff on cross subsidy

9.3.1 The Commission in its Tariff Regulations has defined cross subsidy for a consumer category as the difference between the average realisation per unit from that category and the combined average cost of supply, expressed in percentage terms. The cross subsidy levels for different categories of consumers as worked out for energy sales for FY 2016-17 at revised tariff are depicted in Table 9.2.

9.3.2 Category-wise MMC income has been computed by apportioning the same in the ratio of energy sale to different categories, except AP, Common Pool and Outside State sale. Non-tariff income has been apportioned in the ratio of energy sale to different categories, except Outside State sale, while PLEC has been loaded to the LS category only. Impact of High Voltage Rebate, ToD Tariff and ToD rebate for adjusting PLEC have been deducted from the revenue of relevant categories.

Table 9.2: Cross Subsidy Levels for Energy Sales of FY 2016-17 at Revised Tariff (Combined average cost of supply = 597.95 paise/unit)

Sr. No.	Consumer Category	Total Energy Sales (MU)	Energy Sales from April, 2016 to July, 2016 (MU)	Tariff from April, 2016 to July, 2016 (paise/ unit)	Revenue with Tariff from April, 2016 to July, 2016 (₹ crore)	Energy Sales from August, 2016 to March, 2017 (MU)	Revised Tariff from August, 2016 to March, 2017 (paise/ unit)	Revenue with Tariff from August, 2016 to March, 2017 (₹ crore)	PLEC + MMC etc. (₹ crore)	Non-Tariff Income (₹ crore)	Impact of High Voltage Rebate, ToD Tariff and ToD rebate for adjusting PLEC (₹ crore)	Total Revenue (₹ crore) (VI+IX+X+XI-XII)	Realisa-tion (Paise per unit)	Cross Subsidy Levels (%)
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
1.	**Domestic**													
a)	Upto 100 Units	5902.45	1967.48	452	889.30	3934.97	452	1778.61	77.64	153.35		2898.90	491.14	-17.86%
b)	Above 100 and upto 300 Units	4243.44	1414.48	614	868.49	2828.96	614	1736.98	55.82	110.25		2771.54	653.14	9.23%
c)	Above 300 Units	3382.73	1127.58	656	739.69	2255.15	656	1479.38	44.50	87.89	5.76	2345.70	693.43	15.97%
	Total	**13528.62**	**4509.54**		**2497.48**	**9019.08**		**4994.97**	**177.96**	**351.49**	**5.76**	**8016.14**		
2.	**NRS**													
	Upto 100 Units	701.84	233.95	653	152.77	467.89	653	305.53	9.23	18.23		485.76	692.12	15.75%
	Above 100 Units	2997.43	999.14	675	674.42	1998.29	675	1348.85	39.43	77.88	5.92	2134.66	712.16	19.10%
	Total	**3699.27**	**1233.09**		**827.19**	**2466.18**		**1654.38**	**48.66**	**96.11**	**5.92**	**2620.42**		
3.	**Public Lighting**	202.53	67.51	669	45.16	135.02	669	90.33	2.66	5.26		143.41	708.09	18.42%
4.	**Industrial**													
a)	Small Power	936.60	312.20	585	182.64	624.40	547	341.55	12.32	24.33		560.84	598.80	0.14%
b)	Medium Supply	2189.61	729.87	638	465.66	1459.74	599	874.38	28.80	56.89		1425.73	651.13	8.89%
c)	Large Supply	11611.47	3870.49	646	2500.34	7740.98	635	4915.52	518.24	301.70	482.29	7753.51	667.75	11.67%
	Total	**14737.68**	**4912.56**		**3148.64**	**9825.12**		**6131.45**	**559.36**	**382.92**	**482.29**	**9740.08**		
5.	**Bulk Supply**													
a)	HT	660.24	220.08	641	141.07	440.16	641	282.14	8.68	17.15	11.03	438.01	663.41	10.95%
b)	LT	36.94	12.31	668	8.22	24.63	668	16.45	0.49	0.96		26.12	707.09	18.25%
	Total	**697.18**	**232.39**		**149.29**	**464.79**		**298.59**	**9.17**	**18.11**	**11.03**	**464.13**		
6.	**Railway Traction**	166.79	55.60	675	37.53	111.19	675	75.05	2.19	4.33	5.00	114.10	684.09	14.41%
7.	**Common Pool**	312.00	104.00		48.52	208.00		97.03		8.11		153.66		
8.	**Outside State**	53.00	17.67		2.92	35.33		5.83		0.00		8.75		
9.	**AP**	11327	3775.67	458	1729.26	7551.33	458	3458.51		294.29		5482.06	483.98	-19.06%
10.	**Total**	**44724.07**	**14908.03**		**8485.98**	**29816.04**		**16806.15**	**800**	**1160.62**	**510.00**	**26742.75**	**597.95**	

9.3.3 The cross subsidy levels based on the energy sales determined for FY 2016-17 at revised tariffs, in percentage terms, are brought out in Column XV of Table 9.2 and are within ± 20%.

9.3.4 The Hon'ble APTEL in its judgement dated 17.12.2014 in Appeal No. 142 of 2013 and 168 of 2013 has directed the Commission to show the cross-subsidy for each category of consumer with respect to voltage wise cost of supply in the next tariff order. In compliance to the judgement of the Hon'ble APTEL, the cross-subsidy level for each category of consumer with respect to voltage wise cost of supply is shown in Appendix-II of this Tariff Order.

9.4 GoP Subsidies

9.4.1 After determining the ARR and tariff for FY 2016-17, the Commission in its D.O. letter No. PSERC/Secy/137-38 dated 19.07.2016 (Appendix-III) solicited the views of GoP regarding its intention to extend subsidy to any consumer or class of consumers under Section 65 of the Act. The said letter indicated the implications if GoP continued its present policy of subsidizing AP consumers, SC DS consumers, Non-SC BPL DS consumers, subsidized supply to dairy farming, fish farming (exclusive), goat farming and pig farming. The GoP was also requested to convey its commitment to pay subsidy to new/prospective industries which come up through Progressive Punjab Investors Summit, 2013 and 2015 as per policy of GoP.

AP Consumption: In the ARR for FY 2016-17, PSPCL projected AP consumption of 11697 MU, against which the Commission has determined the same to be 11327 MU. The revenue from AP consumption of 11327 MU @458 paisa/unit works out to ₹5187.77 crore. Thus, ₹5196.77 crore (inclusive of meter rentals of ₹9.00 crore) is payable by GoP as AP subsidy.

Scheduled Castes (SC) Domestic Supply (DS) Consumers: The Commission notes that as per the decision of GoP, Scheduled Castes DS consumers with a connected load up to 1000 watts are to be given free power up to 200 units per month. PSPCL has claimed subsidy of ₹1089.06 crore, inclusive of meter rentals of ₹17.19 crore.

Non-SC Below Poverty Line (BPL) DS Consumers: GoP has also decided to give free supply of power up to 200 units per month to Non SC BPL DS consumers with connected load up to 1000 watts. PSPCL has claimed subsidy of ₹77.96 crore, inclusive of meter rentals of ₹1.38 crore.

Supply to Dairy farming, Fish farming (exclusive), Goat farming and Pig farming: GoP has decided to provide subsidy to these categories for which PSPCL vide memo. no. 629/CC/DTR/Dy.CAO/246/Vol-II dated 13.05.2016 has claimed subsidy of ₹0.70 crore for FY 2016-17.

Accordingly, subsidy of ₹6364.49 (5196.77+1089.06+77.96+0.70) crore has been determined by the Commission as payable by GoP to PSPCL for FY 2016-17.

9.4.2 **Balance Subsidy of previous years:**

(i) Amount of Subsidy upto FY 2011-12:

As per para 9.4.2 of Tariff Order FY 2014-15, there was a surplus of subsidy of ₹655.55 crore upto FY 2011-12.

(ii) Amount of Subsidy for FY 2012-13 and FY 2013-14:

Besides, as discussed in Chapter 2 and Chapter 3 of this Tariff Order, there is a short fall of subsidy of ₹11.25 crore for FY 2012-13 and ₹73.39 crore for FY 2013-14 payable by GoP. As such, the total short fall for these two years works out to ₹84.64 crore.

(iii) Amount of Subsidy for FY 2014-15

As per Tariff Order FY 2014-15, subsidy of ₹5109.40 crore was payable by GoP for FY 2014-15. In the Tariff Order FY 2015-16, additional subsidy for FY 2014-15 was calculated as ₹234.84 crore. Therefore, the total subsidy payable by GoP to PSPCL was worked as ₹5344.24 crore for FY 2014-15.

The GoP has paid subsidy due to PSPCL in FY 2014-15 in staggered instalments. The Commission observed that there was delay in payment of subsidy to PSPCL in FY 2014-15. With a view to compensating PSPCL on this account, the Commission levies interest on the delayed payment of subsidy @11.30% (effective rate of interest on loans), which works out to ₹76.48 crore.

Accordingly, the subsidy payable for FY 2014-15, inclusive of interest on delayed payment of subsidy, is determined by the Commission at ₹5420.72 (5344.24+76.48) crore, against which GoP had paid subsidy of ₹4642.00 crore. As such, there is shortfall of ₹778.72 (5420.72-4642.00) crore of subsidy during FY 2014-15.

(iv) Amount of Subsidy for FY 2015-16

As discussed in Chapter 5 of this Tariff Order, there is a short fall of subsidy of ₹1025.80 crore payable by GoP to PSPCL for FY 2015-16.

Therefore, the total amount of balance subsidy of previous years works out to ₹1233.61 (84.64 + 778.72 + 1025.80 - 655.55) crore.

9.4.3 On the above basis, total subsidy payable by GoP during FY 2016-17 is detailed in Table 9.3.

Table: 9.3 Subsidy payable by GoP to PSPCL for FY 2016-17

(₹crore)

	AP + Meter rentals	**SC DS + Meter rentals**	**Non-SC BPL DS + Meter rentals**	**Dairy, Fish, Goat & Pig farming**	**Total**
Subsidy payable for FY 2016-17 for AP, SC DS, Non-SC BPL DS consumers and Dairy, Fish, Goat & Pig farming	5187.77 9.00	1071.87 17.19	76.58 1.38	0.70	6364.49
	5196.77	1089.06	77.96	0.70	
Balance subsidy payable for previous years					1233.61
Total subsidy payable by GoP during FY 2016-17					7598.10

The subsidy of ₹7598.10 crore is required to be paid in advance in 12 monthly installments @ ₹633.18 crore per month from April, 2016 to September, 2016 and ₹633.17 crore from October, 2016 to March, 2017.

Further, any change in the Fuel Cost Adjustment from the level approved by the Commission is to be passed on to the consumers as FCA as per Punjab State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005. The subsidy payable by GoP on account of levy of Fuel Cost Adjustment Surcharge, if any, will be in addition to the amount worked out above.

Government of Punjab, Department of Power (Power Reforms Wing) vide its letter no. 1/1/2016-EB(PR)139 dated 11th July, 2016, while submitting comments/ observations of the State Government on the ARR/Tariff Petition filed by PSPCL for FY 2016-17 intimated to the Commission that the State Government has announced to offer electricity @ 499 paise per kVAh (excluding FCA) to the new/prospective industries for a fixed period of 5 years which come up through Progressive Punjab Investors Summit, 2013 and 2015, as per policy of the Government of Punjab applicable to the industries. It was also intimated that the matter has been referred to the Finance Department, Punjab for making provisions for the funds in lieu of difference of tariff applicable to the existing industries and the special tariff @ 499 paise/kVAh announced by the State Government. The GoP was requested to convey its confirmation/commitment to pay the subsidy for difference of tariff applicable to existing industry and special tariff @ 499 paise/kVAh announced by the State Government, as per Section 65 of the Electricity Act, 2003. The GoP has conveyed, vide its letter no. 2/5/2015-PE2/2086 dated 25.07.2016 (Appendix-IV), to bear the burden on account of difference of tariff applicable to existing industries and special tariff @ 499 paise/kVAh to new/prospective industries which come through Progressive Punjab Investors Summit, 2015 and the fuel cost adjustment (FCA) surcharge as determined by the Commission from time to time shall be applicable/

payable by such industrial consumers in addition to special tariff @ 499 paise/kVAh. It has further been intimated that this special tariff @ 499 paise/kVAh shall be applicable for a fixed period of 5 years.

Further, GoP in its letter no. 2/5/2015-PE2/2085 dated 25.07.2016 (Appendix-V) has conveyed to continue its policy of providing subsidy to AP consumers, SC & Non SC BPL DS consumers and dairy farming, fish farming (exclusive), goat farming & pig farming during FY 2016-17. GoP vide its ibid letter has further conveyed that total AP subsidy amounting to ₹5196.77 crore, SC and Non SC BPL DS consumes subsidy amounting to ₹1167.02 crore and dairy farming, fish farming (exclusive), goat farming & pig farming subsidy amounting to ₹0.70 crore and shortfall of subsidy upto FY 2015-16 amounting to ₹1233.61 crore have been sanctioned by State Government for FY 2016-17.

Keeping in view the decision of GoP, the Commission has incorporated the same in the tariff structure in Table 9.1.

9.4.4 **The total amount of subsidy payable by GoP to PSPCL, including the amount outstanding for the previous years, works out to ₹7598.10 (6364.49-655.55+84.64+778.72+1025.80) crore during FY 2016-17.**

9.5 Renewable Energy

9.5.1 Background

The Act, under Section 86 (1)(e), mandates the Commission to promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specifies, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licensee. The National Electricity Policy and Tariff Policy formulated under the Act further provide that the share of electricity from non-conventional sources as specified by State Electricity Regulatory Commissions (SERCs) need to be progressively increased and such procurement by distribution licensees for future requirements shall be done, as far as possible, through competitive bidding process under section 63 of the Act.

In order to develop and promote new and renewable sources of energy (NRSE) based technologies, GoP notifies the NRSE Policy from time to time. Presently, NRSE Policy, 2012 is in vogue.

9.5.2 Tariff for Purchase of Electricity from Renewable Sources of Energy

The Commission has adopted the Central Electricity Regulatory Commission (Terms

& Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012 (CERC RE Regulations, 2012) with State specific modifications in its Order dated 19.07.2012 in petition no. 35 of 2012 (suo motu). Every year, the Commission determines the generic levellised tariff for purchase of electricity from various types of renewable energy power projects to be commissioned during the year. For FY 2012-13 and FY 2013-14, such tariff was determined by the Commission in its ibid Order dated 19.07.2012 and Order dated 25.06.2013 in Petition no. 37 of 2013 (suo motu) respectively. For FY 2014-15, the Commission determined the generic tariff vide its Order dated 05.09.2014 in Petition no. 42 of 2014 (suo motu) and also adopted, with State specific modifications, the First Amendment dated 18.03.2014 to the aforementioned CERC Regulations. For FY 2015-16, the Commission determined the generic levellised generation tariff for RE Projects vide its Order dated 24.07.2015 in petition no. 43 of 2015 (suo motu) by considering the Second Amendment, 2014 and Third Amendment, 2015 to the CERC RE Regulations, 2012 notified by CERC on 05.01.2015 and 10.07.2015 respectively. The Commission in its Order dated 22.03.2016 in Petition no. 3 of 2016 (suo motu), adopted the Fourth Amendment to CERC RE Regulations, 2012 notified by CERC on 07.10.2015 and determined the generic tariff for MSW based power projects and RDF based MSW power projects for FY 2015-16. For FY 2016-17, the Commission shall determine the generic tariff in due course. The tariff payable to the existing and new renewable energy generating stations is governed as per the Terms and Conditions of their respective Power Purchase Agreements (PPAs).

9.5.3 Renewable Purchase Obligation (RPO)

The Commission notified the Punjab State Electricity Regulatory Commission (Renewable Purchase Obligation and its compliance) Regulations, 2011 (RPO Regulations) on 03.06.2011, wherein Renewable Purchase Obligation (RPO) for the years 2011-12 to 2014-15, both Non-Solar & Solar, was specified for compliance by the Obligated Entities. Subsequently, the Commission amended the aforesaid RPO Regulations vide Notification No. PSERC/Secy./Reg.100 dated 06.05.2015, wherein RPO for the years 2011-12 to 2019-20, both Non-Solar & Solar, was specified for compliance by the Obligated Entities. As per the Regulations, the RPO can be complied with by the Obligated Entities by purchasing electricity from renewable sources of energy or alternatively Renewable Energy Certificates (RECs) from the Power Exchange(s) or a combination of both. However, in case an Obligated Entity fails to comply with the obligation to purchase the required percentage of electricity from renewable sources of energy or the RECs, it is liable for proceedings under section 142 of the Act.

In order to ensure that the RPO so specified by the Commission in the aforementioned Regulations is realistically achievable, it was finalized after consultative discussion with Punjab Energy Development Agency (PEDA) and PSPCL on the renewable energy capacity likely to be added / installed in the State and committed to PSPCL. While specifying the RPO, the Commission was mindful of the fact that the State of Punjab is not sufficiently endowed with various renewable energy resources except biomass, which is not fully available for power generation as the same is also used by other Industrial/Commercial establishments such as brick-kilns, paper/pulp industry, textile mills etc. Accordingly, the RPO was specified by the Commission at an achievable level.

9.5.4 **RPO for FY 2015-16**

The RPO specified by the Commission for FY 2016-17 is 4.1% (Non-Solar) and 1.3% (Solar) i.e. 5.4% (overall). PEDA, vide letter dated 17.05.2016 has furnished details of renewable energy power projects commissioned in FY 2015-16. As per the information available, the renewable energy capacity available to PSPCL as on 31.03.2016 and projections for renewable energy capacity to be added during FY 2016-17 for meeting the RPO is given in Table 9.4.

Table 9.4: Existing Renewable Energy Capacity and Projections for FY 2016-17

	Biomass (MW)	Non-fossil fuel Cogeneration (MW)	Small Hydro (MW)	Solar (MW)	Biogas+ Waste to Energy (MW)	Total (MW)
I	II	III	IV	V	VI	VII
Upto 31.03.2016	72.50	155	132	472.27	1 (0+1)	832.77
Projections for FY 2016-17	14	13.70	34.35	582	1 (1+0)	645.05

The Commission also notes that the generation/purchase from renewable energy power projects and RPO during FY 2016-17 has been projected to be 1859 MU [1050 MU (Non-Solar) and 809 MU (Solar)], while RPO during the same period shall be 2731.60 MU [2073.99 MU (Non-Solar) and 657.61 MU (Solar)] considering the energy available to PSPCL for distribution in its area as 50585 MU [50103 MU + 482 MU (energy sale at 220/132 KV voltage level)].

The Commission directs PSPCL to comply with the RPO specified in the RPO Regulations for FY 2016-17.

9.5.5 **Pooled Cost of Purchase of Electricity of PSPCL**

The Central Electricity Regulatory Commission (Terms and Conditions for recognition and issuance of Renewable Energy Certificate for Renewable Energy Generation) Regulations, 2010 provide for determination of 'Pooled Cost of Purchase' of electricity, for the purpose of eligibility for a generating company engaged in generation of electricity from renewable sources of energy to apply for registration for issuance of and dealing in renewable energy certificates. The ibid CERC Regulations, under Regulation-5 for 'Eligibility and Registration for Certificates', define the 'Pooled Cost of Purchase' as hereunder:

'Pooled Cost of Purchase' means the weighted average pooled price at which the distribution licensee has purchased the electricity including cost of self generation, if any, in the previous year from all the energy suppliers long-term and short-term, but excluding those based on renewable energy sources, as the case may be.'

As per the ibid CERC Regulations, a generating company engaged in generation of electricity from renewable sources of energy, on fulfilling the conditions specified there-under, one of them being to sell the electricity generated to the Distribution Licensee (PSPCL) of the area in which it is located, at a price not exceeding the pooled cost of purchase of the distribution licensee, shall be eligible to apply for registration for issuance of and dealing in Renewable Energy Certificates.

Accordingly, the Commission has determined the 'Pooled Cost of Purchase' (APPC) as ₹3.82 per kWh. This 'Pooled Cost of Purchase', based on the data for FY 2015-16, will be applicable during FY 2016-17.

9.6 Separate Tariff for each Function

9.6.1 The Commission vide its letter no. 7200 dated 12.10.2015 asked PSPCL as under, in the matter of determining separate tariffs for Generation and Distribution:-

The Commission is to determine separate tariffs for Generation and Distribution (Wheeling and Retail Supply) of electricity as per Electricity Act and the Tariff Regulations notified by the commission. Further, as per Orders of Hon'ble APTEL dated 11.09.2014, the Commission has been directed to determine separate tariffs for Generation and Distribution. As such, the audited details of costs/figures be filed separately for Generation (Plant wise), Wheeling and Retail Supply business for FY 2012-13, FY 2013-14 and FY 2014-15 and projections for FY 2015-16 and FY 2016-17, so that the Commission could determine the Generation Tariff (Plant wise Fixed/Capacity Charges and Energy Charges), Wheeling Charges and Retail Supply Charges separately. The existing performas may be used for this purpose, and for any left out information, additional performas may be designed at your level.

PSPCL commented as under in its ARR for FY 2016-17:-

The detail of segregated costs/figures for generation (plant wise), wheeling and retail supply business for FY 2012-13 has already been supplied vide this office memo no. 920/924/A-45 dated 27-10-14. So far as the information for FY 2013-14 is concerned, the information will be supplied after the approval/adoption in AGM, and for FY 2014-15, it was intimated that the accounts for FY 2014-15 are under preparation.

PSPCL has not supplied the station-wise/function-wise figures for FY 2015-16. Regulation 44 of the PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005 states as under:

> ***"Special Provisions***
>
> *During the period, the PSEB remains an integrated utility, the Commission may waive any of the provisions of these Regulations in any matter if, in the opinion of the Commission, it is impracticable or inexpedient to proceed as per these Regulations. In such a situation, after recording its reasons, the Commission may adopt any other approach which is reasonable and is consistent with the overall approach of these Regulations."*

PSPCL has submitted in the ARR petition that it is one of the 'Successor Companies' of the erstwhile Punjab State Electricity Board (Board) duly constituted under the Companies Act, 1956 on 16.04.2010 after restructuring of the Board by Govt. of Punjab vide Notification No. 1/9/08-EB(PR)/196 dated 16.04.2010, under the "Punjab Power Sector Reform Transfer Scheme". As per the transfer scheme, the erstwhile Punjab State Electricity Board (the predecessor) has been unbundled into two companies i.e. POWERCOM and TRANSCO. The POWERCOM has been named as Punjab State Power Corporation Limited and TRANSCO has been named as Punjab State Transmission Corporation Limited. As per the transfer scheme, the Govt. of Punjab has segregated the "Transmission Business of erstwhile Punjab State Electricity Board, concerning the transmission of electricity and the State Load Dispatch Center (SLDC) function. Hence, PSPCL is left with the Distribution, Generation and allied activities of the erstwhile PSEB. As per the PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005, [Regulation – 1(3)(k)], PSPCL is considered as an integrated utility since it is currently engaged in multiple functions, namely, Generation, Trading and Distribution of electricity. Now, since PSPCL is an integrated utility engaged in multiple functions of Generation, Trading and Distribution of electricity, it is impracticable to proceed as per PSERC (Terms and Conditions for Determination of Tariff) Regulations, 2005, in the matter of determination of station-wise/function-wise expenditure prudently and as such, in view of provisions of Regulation 44 of the ibid Regulations, the Commission decides to determine the station-wise/function-wise expenditure of PSPCL for FY 2016-17 on the same methodology as adopted by the Commission in its earlier Tariff Orders.

9.6.2 In this Order, the Commission is determining separate tariffs for generation and distribution functions of PSPCL. The segregation of the ARR for FY 2016-17 of PSPCL into generation and distribution functions has been carried out based on the information furnished by PSPCL in its letter no. 709 dated 21.06.2016 and the Audited Annual Accounts of FY 2013-14 of PSPCL.

9.6.3 The allocation under each head (generation and distribution) is detailed at Annexure-VI, Volume-II and RoE is bifurcated proportionately on the value of fixed assets of each function.

In addition, the consolidated gap & carrying cost of gap upto FY 2015-16, has been computed in proportion to the revenue requirement of each function.

9.6.4 The segregated ARR on the above basis is given in Table 9.5. The generation function has been further divided into thermal and hydel taking into account the fact that the Regulations for determining the tariff for these are different.

Table 9.5: Segregation of ARR for FY 2016-17

(₹crore)

Sr. No	Item of expense	Generation			Distribution	Total*
		Hydel	Thermal	Total		
I	II	III	IV	V	VI	VII
1.	Cost of fuel	0.00	2397.56	2397.56	0.00	2397.56
2.	Cost of Power purchase	0.00	0.00	0.00	14697.41	14697.41
3.	Employee cost	340.42	624.76	965.18	3870.40	4835.58
4.	R&M expenses	28.78	193.25	222.03	196.27	418.30
5.	A&G expenses	2.79	10.05	12.84	125.16	138.00
6.	Depreciation	291.00	225.91	516.91	546.68	1063.59
7.	Interest charges	13.83	304.51	318.34	1185.41	1503.75
8.	Return on Equity	241.50	275.90	517.40	425.22	942.62
9.	Provision for DSM fund	0.00	0.00	0.00	10.00	10.00
10.	Charges payable to GoP on Power from RSD	8.26	0.00	8.26	0.00	8.26
11.	Transmission charges payable to PSTCL	0.00	0.00	0.00	1151.01	1151.01
12.	**Total revenue requirement**	**926.58**	**4031.94**	**4958.52**	**22207.55**	**27166.07**
13.	Add: Consolidated Gap upto FY 2015-16	-8.43	-36.70	-45.14	-202.15	-247.29
14.	Add Carrying Cost of Revenue Gaps	0.51	2.22	2.73	12.20	14.93
15.	**Total of Consolidated Gap and carrying cost (13+14)**	**-7.93**	**-34.49**	**-42.41**	**-189.95**	**-232.36**
16.	**Gross revenue requirement (12+15)**	**918.65**	**3997.45**	**4916.11**	**22017.60**	**26933.71**

**Excluding recoverable O&M expenses of ₹191.09 crore on account of BBMB (as per sr. no. 6 of Table 6.30)*

9.7 Generation Tariff

9.7.1 PSERC Tariff Regulations specify that the generation tariff will have the same components as laid down in the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, as amended by CERC from time to time. CERC by its notification dated 21st February, 2014 has issued the Tariff Regulations for generation and transmission projects for the period 2014-19 by repealing its earlier Tariff Regulations.

9.7.2 As per CERC Regulations, generation tariff shall comprise of:

(i) Annual Fixed Charges (AFC), which include return on equity, interest on loan capital, depreciation, interest on working capital and O&M expenses;

(ii) Energy (variable) charges for recovery of Fuel Cost (primary and secondary fuel).

These charges are recoverable on the basis of norms for thermal plants and hydel plants and are specific for each power plant.

9.7.3 Full AFC is payable on achievement of normative plant availability as specified in CERC Tariff Regulations, 2014.

9.7.4 The Commission has assessed the plant wise AFC for FY 2016-17 on the basis of data provided by PSPCL during the processing of ARR of FY 2016-17, as reproduced at Annexure-VII, Volume-II, whereas proportion of generation cost under each head is given in Annexure-VIII, Volume-II. Accordingly, the total revenue requirement for each plant is computed and indicated in Annexure-IX, Volume-II. The plant wise AFC determined for FY 2016-17 is given in Table 9.6.

Table 9.6: Annual Fixed Charges-Generation for FY 2016-17

Sr. No.	Plant	Annual/Fixed Capacity Charges (₹crore)	Net Generation (MU)	Fixed Charges (Paise/unit)
I	II	III	IV	V
A	**Thermal Plants**	**1599.89**		
1.	GNDTP	451.43	817.29	552.35
2.	GGSSTP	613.58	3622.48	169.38
3.	GHTP	534.88	2868.37	186.48
B	**Hydel Plants**	**918.65**		
1.	Shanan	27.79	514.37	54.03
2.	UBDC	69.76	365.96	190.62
3.	RSD	469.61	1422.85	330.05
4.	Mukerian	81.64	1125.07	72.56
5.	Anandpur Sahib	53.52	714.96	74.86
6.	Micro Hydel	0.86	5.96	144.30
7.	Bhakhra Left Bank and Right Bank*			
8.	Beas & Extension*			

** AFC for hydel plants at Sr.No (B) 7 & 8 are determined by CERC.*

Accordingly, the total AFC recoverable in the case of thermal and hydel plants are:

i) Thermal - ₹1599.89 crore

ii) Hydel - ₹918.65 crore

9.7.5 The AFC for both thermal and hydel plants will be payable on achievement of target availability as discussed in para 9.7.3.

9.7.6 The variable (energy) charges for a thermal plant are the primary fuel cost and secondary fuel cost and is computed as cost per unit of ex-bus energy (energy sent out). As per approved ARR for FY 2016-17, the total fuel cost for all the three thermal plants is ₹2397.56 crore. These costs have been worked out plant wise and the variable charges per unit of energy for each plant are given in Table 9.7.

Table 9.7: Variable (Energy) Charges for FY 2016-17

Sr. No.	Particulars	GNDTP	GGSSTP	GHTP
I	II	III	IV	V
1.	Fuel cost (₹ crore)*	277.53	1180.27	939.76
2.	Net Generation (MU)	817.29	3622.48	2868.37
3.	Variable charge per unit of Net Generation (Paise/kWh)	339.57	325.82	327.63

** The plant wise fuel cost has been taken as approved by the Commission in para 6.7.*

9.8 Total charges for Generating Plants

The total charges (fixed and variable) for generating plants as determined by the Commission are given in Table 9.8.

Table 9.8: Total energy charges for FY 2016-17

Sr. No.	Plant	Fixed Charges (Paise/unit)	Variable Charges (Paise/unit)	Total Charges (Paise/unit)
I	II	III	IV	V = (III+IV)
A	**Thermal Plants**			
1.	GNDTP	552.35	339.57	891.92
2.	GGSSTP	169.38	325.82	495.20
3.	GHTP	186.48	327.63	514.11
B	**Hydel Plants**			
1.	Shanan	54.03	-	54.03
2.	UBDC	190.62	-	190.62
3.	RSD	330.05	-	330.05
4.	Mukerian	72.56	-	72.56
5.	Anandpur Sahib	74.86	-	74.86
6.	Micro Hydel	144.30	-	144.30

9.9 Distribution / Wheeling Charges

9.9.1 The gross revenue requirement for distribution for FY 2016-17 as per Table 9.5 is ₹6169.18 crore (excluding the power purchase cost and transmission charges). As per Tariff Regulations of the Commission, the distribution capacity for working out the wheeling charges shall be the sum of power imported at each interface point of exchange of power at electrical boundary of distribution licensee and generation from captive plants and cogeneration plants (to the extent fed into the distribution system) and plants injecting electricity generation from renewable sources of energy located in the area of such licensee. PSPCL intimated the total distribution capacity for working out the wheeling charges for FY 2016-17 as 11732 MW. The Commission has, however, worked out the total distribution capacity of PSPCL for FY 2016-17 as 12886.78 MW (net of transformation losses and auxiliary consumption).

9.9.2 The Commission in para 7.9.1 of the Tariff Order for FY 2015-16 determined the gross revenue requirement for distribution for FY 2015-16 as ₹5234.38 crore (excluding the power purchase cost and transmission charges), wheeling charges @ ₹353010/MW/month (108 paise/kWh). The revenue requirement for distribution for the period from April, 2016 to July, 2016 works out to ₹1744.79 crore (5234.38x4/12) on proportionate basis. Thus, revenue requirement for distribution for the balance period of FY 2016-17 i.e. August, 2016 to March, 2017 works out to ₹4424.39 crore (6169.18-1744.79).

9.9.3 The details regarding determination of wheeling charges for the period from August, 2016 to March, 2017 are given in Table 9.9.

Table 9.9: Wheeling Charges for FY 2016-17 (August, 2016 to March, 2017)

a)	Energy requirement at the distribution periphery during FY 2016-17 (as per Table 6.5 of the Tariff Order)	50103 MU
b)	Energy requirement at the distribution periphery from August, 2016 to March, 2017 (a x 8/12)	33402 MU
c)	Distribution capacity determined by the Commission.	12886.78 MW
d)	Revenue requirement for distribution from August, 2016 to March, 2017 (as per para 9.9.3)	₹4424.39 crore
e)	Wheeling charges for using distribution network from August, 2016 to March, 2017 (d x 1000/b)	132 paise/kWh
f)	Wheeling charges from August, 2016 to March, 2017per MW/month [(d x 10^7)/(c x 12)]	₹429160/MW/Month

Accordingly, the Commission determines wheeling charges as ₹429160/MW/ Month.

9.10 Open Access Charges

9.10.1 The Commission, in exercise of powers conferred under Section 42 read with Section 181 of the Electricity Act, 2003 (36 of 2003) and all other powers enabling the Commission in this behalf, based on the 'Statement of Reasons' issued vide No. PSERC/Secy./Reg.156 dated 29th June, 2011, framed the Punjab State Electricity Regulatory Commission (Terms and Conditions for Intra-state Open Access) Regulations, 2011 and notified the same vide Notification, the 1st July, 2011. These Regulations were amended vide Notification dated 4th May, 2012, wherein existing Regulation 25(5) was substituted as under:

"25(5) Long term, Medium term and short term Open Access customers availing supply at 220 kV, 132 kV, 66 kV, 33 kV or 11 kV, in addition to transmission charges, shall be liable to pay wheeling charges determined by the Commission as per the Tariff Order applicable for the year".

The Commission passed the Tariff Order dated 16.07.2012 for FY 2012-13 for PSPCL, and made wheeling charges applicable for Open Access customers as per amended Regulation 25 (5). Some Open Access customers filed Appeals, being No(s) 176, 191, 237, 245, all of 2012 against Tariff Order for FY 2012-13 and Appeal No(s) 142 and 168, both of 2013 against Tariff Order for FY 2013-14 challenging the wheeling charges payable by all Open Access consumers irrespective of the voltage level at which supply was being taken. The Hon'ble APTEL decided Appeal No(s) 245, 176, 237 and 191 of 2012 by common Judgment dated 12.09.2014.

Findings of the Hon'ble APTEL on the issue (Para 88 (i)) are as under:

> *"Wheeling Charges: We feel that the wheeling charges have been determined by the State Commission in contravention to the provisions of the Act, Tariff Policy, National Electricity Policy and its own Regulations. Therefore, we have no option but to set aside the impugned Order in respect of determination of wheeling charges applicable to Open Access customers for the period 7.5.2012 to 31.3.2013 with directions to re-determine the wheeling charges applicable to Open Access customers as per the above findings within 90 days of communication of this Judgment and pass on the consequential relief to the Appellants and other Open Access customers. The retrospective revision of the inter-state transmission charges and wheeling charges for short term inter-state Open Access transactions by Open Access customers is also set aside as it is a contravention to the Inter-state Open Access Regulations of the Central Commission. Accordingly, this issue is decided in favour of Appellants".*

The Commission initiated suo-motu proceedings vide Petition No.56 of 2014 to comply with the directions of the Hon'ble APTEL and called upon the parties to file written submissions with regard to the directions of the Hon'ble APTEL. During hearing on 11.11.2014, PSPCL submitted copies of Memorandum of Appeal filed under Section 125 of the Electricity Act, 2003 before the Hon'ble Supreme Court against the Order dated 12.09.2014 of the Hon'ble APTEL. The Commission, after hearing PSPCL on 16.12.2014, closed the hearing of the petition and reserved the Order.

The Hon'ble Supreme Court, in its Order dated 06.04.2015 had stayed the Judgment dated 12.09.2014 passed by the Hon'ble APTEL.

Similarly, some consumers of PSPCL had filed Appeal No.142 and 168 both of 2013 and had challenged the Tariff Order dated 10.04.2013 for FY 2013-14 for PSPCL, interalia on the ground of levy of wheeling charges as determined in the said Tariff Order in terms of Open Access Regulation 25 (5) as amended in 2012 on the Open Access customers irrespective of the voltage at which the supply was taken. The findings of the Hon'ble APTEL dated 17.12.2014 on the issue in these Appeals are the same as in its Order dated 12.09.2014 in Appeal No(s) 176, 191, 237 and 245, all of 2012.

PSPCL filed Appeal before the Hon'ble Supreme Court under Section 125 of the Electricity Act, 2003. The Hon'ble Supreme Court had admitted the Appeals (Civil Appeal No(s) 2151-2152 of 2015) and had stayed the impugned judgment vide Order dated 27.03.2015.

Since both the judgments (dated 12.09.2014 and 17.12.2014) of the Hon'ble APTEL on the issue of levy of wheeling charges on Open Access customers have been stayed by the Hon'ble Supreme Court, the directions of the Hon'ble APTEL vide these Judgments cannot be complied with in this Tariff Order. The wheeling charges in terms of Regulation 25(5) of Open Access Regulations as amended vide notification dated 4th May, 2012, shall continue to be payable by all Open Access customers.

9.10.2 As per the Open Access Regulations notified by the Commission, the wheeling charges for FY 2016-17 are ₹429160/MW/Month.

9.10.3 The energy requirement at the distribution periphery as per Table 6.5 of this Tariff Order for FY 2016-17 is 50103 MU. The energy required for the period from August, 2016 to March, 2017 has been worked out as 33402 MU in Table 9.9 on proportionate basis. On this basis, the wheeling charges for use of the distribution network from August, 2016 to March, 2017 are determined as 132 paise/kWh (119 paise/kVAh).

As per clause 25(5) of PSERC (Open Access) Regulations, 2011 (amended on 4th May, 2012), Short Term Open Access customers availing supply at 220 kV, 132 kV, 66 kV, 33 kV or 11 kV, in addition to transmission charges determined separately in the Tariff Order for PSTCL for FY 2016-17, shall also be liable to pay wheeling charges (i.e. of 132 paise/kWh (119 paise/kVAh)) determined by the Commission for the period from August, 2016 to March, 2017 in the Tariff Order for FY 2016-17.

Transmission and Wheeling charges for wheeling of NRSE power for consumption within the State shall be levied @ 2% of the energy injected into the State Grid, irrespective of distance. In case of wheeling of NRSE Power outside the State, full transmission and wheeling charges shall be leviable.

Provided that in case of wheeling of power for consumption within the State, generated from NRSE project in the State, achieving commercial operation (COD) from 09.07.2015 to 31.03.2017, no transmission and wheeling charges shall be leviable, irrespective of the distance, for a period of 10 (ten) years from its date of commercial operation (COD).

For Long-term and Medium-term Open Access (OA) customers availing supply at 220 kV, 132 kV, 66 kV, 33 kV or 11 kV, wheeling charges shall be ₹429160/MW/Month of the contracted capacity.

9.10.4 As per clause 30(2) of PSERC (Open Access) Regulations, 2011, the Open Access customers shall bear Transmission & Distribution losses as under:

(i)	OA customers at 132/220 kV	2.5%
(ii)	OA customers at 66/33 kV	15% of distribution losses (12.43%), which works out to 1.86%, in addition to Transmission Loss of 2.5%.
(iii)	OA customers at 11 kV	40% of distribution losses (12.43%), which works out to 4.97%, in addition to Transmission Loss of 2.5%.

9.10.5 As per clause 26(2) of PSERC (Open Access) Regulations, 2011, the cross subsidy surcharge for various categories of consumers, from August, 2016 to March, 2017, shall be as under:

Large supply	-	70 paise/kWh 67 paise/kVAh for Large Supply General Industry and 69 paise/kVAh for Large Supply PIU/Arc Furnace consumers)
Domestic supply	-	95 paise/kWh (87 paise/kVAh)
Non-Residential supply	-	114 paise/kWh (105 paise/kVAh)
Bulk supply	-	65 paise/kWh (62 paise/kVAh)
Railway Traction	-	86 paise/kWh (84 paise/kVAh)

9.10.6 In addition, other charges such as additional surcharge, operation charges, UI, reactive energy charges, shall be levied as per the Ospen Access Regulations/ Tariff Regulations notified by the Commission.

9.11 Date of Effect

The Commission notes that the ARR Petition of PSPCL for FY 2016-17 covers the complete financial year. The recovery of tariff, therefore, has to be such that the total revenue requirement of PSPCL for FY 2016-17 is recovered in this period.

For reasons brought out in para 9.2, the Commission decides to make the revised tariffs applicable from August 01, 2016 and the tariff structure determined above shall remain operative till March 31, 2017.

This Order is signed and issued by the Punjab State Electricity Regulatory Commission on this, the 27th day of July, 2016.

Date: July 27, 2016

Place: CHANDIGARH

Sd/-	Sd/-
(S.S. Sarna) MEMBER	(D.S. Bains) CHAIRMAN

Certified

Sd/-

Secretary
Punjab State Electricity Regulatory Commission,
Chandigarh.

APPENDIX - I

Minutes of the Meeting of State Advisory Committee of the Punjab State Electricity Regulatory Commission held on March 16, 2016

The meeting of the PSERC, State Advisory Committee was held in the office of the Commission at Chandigarh on March 16, 2016 to discuss ARRs and Tariff Petitions for FY 2016-17 filed by PSPCL and PSTCL. The following were present:

1	Sh. D.S.Bains, Chairperson, PSERC	Ex-officio Chairperson
2	Er. S.S.Sarna, Member, PSERC	Ex-officio Member
3	Sh. A Venu Prasad, Principal Secretary, Power Government of Punjab	Member
4	Sh. Jaspal Singh, Chief Engineer, PAU, Ludhiana	Member
5	Smt. Mona Puri, Asstt. Labour Commissioner, On behalf of Labour Commissioner	Member
6	Sh. H.S.Sandhu, SIEL Chemical Complex, On behalf of Chairman, CII, Punjab State Council, Sector 31-A, Chandigarh	Member
7	Sh. R.S.Sachdeva, Co-Chairman, PHDCCI, Punjab Committee, Sector 31-A, Chandigarh	Member
8	Er. D.R.Kataria, Jt. Director/Agri.(Engg.), On behalf of Director Agriculture	Member
9	Sh. P.S.Meena, Sr.DEE/TRD, Representative, Northern Railway, Baroda House, New Delhi	Member
10	Sh. Vinod Bansal, Financial Advisor, On behalf of Director/F&C, PSTCL	Member
11	Er. K.L.Sharma, Director/Distribution, PSPCL	Member
12	Er. Baldev Singh, Chief Engineer/ARR&TR, PSPCL	Member
13	Prof. R.S.Ghuman, Chair Professor, Nehru SAIL Chair & Head Panchayati Raj Unit, CRRID	Member
14	Sh. P Babu Raj, Zonal Manager REC, Panchkula	Member

15	Sh. Bhagwan Bansal, Punjab Cotton Factory, Ginners Association	Member
16	Er. Suresh Kumar Gupta, (Ex-Member PSEB)	Member
17	Sh. M.P.Singh, Joint Director, On behalf of Chief Executive Officer, Punjab Energy Development Agency(PEDA)	Member
18	Sh. A.S.Pabla, (Ex-Chief Engineer, PSEB) H. No.69, Phase-III A, SAS Nagar (Mohali)	Member
19	Er. S.C. Sharma, Xen (E), On behalf of Director, Local Govt. Deptt. Punjab, Chandigarh	Member
20	Sh. Rajiv Bhatia, Secretary, PSERC	Ex-officio Secretary

The Chairman welcomed the members of the State Advisory Committee and thanked everyone present for having spared time to attend the meeting. The Chairman thereafter requested the members to offer suggestions/comments on the ARR and Tariff Petitions for the financial year 2016-17 filed by PSPCL and PSTCL. He also requested the members to give their views/suggestions for utilization of surplus power available in the State of Punjab. Member, PSERC also welcomed State Advisory Committee Members and requested them to give their suggestions for promoting industries under “Make in India” programme. He also sought the views on implementation of Open Access Power policies and benefit to be given to the poor consumers in the State of Punjab.

1. Prof. R. S. Ghuman, Chair Professor, CRRID

Prof. R.S. Ghuman pointed out that revenue gap in the ARR petitions of PSPCL is increasing year by year. He stressed the need that it should be brought to zero, otherwise the utility will not survive, some revenue generating exercise must be done by PSPCL. He also informed that outstanding dues against the Government Departments are increasing and are very high (₹431 crore as per ARR) which need to be reduced because these are contributing towards the interest burden of the utility. He pointed out that amount of equity is same, whereas amount/share of loan is increasing. On the issue of surplus power, he suggested that MoU signed with the IPPs should be reviewed, if possible, and private generating plants should not have more than 50% share in power generation of the State. He further suggested the need that quality power should be supplied to the agriculture sector during paddy season, while the cost and subsidy paid to agriculture should be decreased to some extent to save depletion of ground water table. He further suggested that full form of abbreviations used in the ARR should also be provided at the start or at the end of ARR.

2. Er. S. K. Gupta, Ex-Member, PSEB

At the outset, he stated that transmission losses of PSTCL mentioned in the ARR for FY 2016-17 are about 4%. As the boundary metering has not become fully operational till now, the Commission should not allow more than 2.5% transmission losses to the PSTCL. He further informed that PSPCL is installing additional 48 RTUs on the Grid Sub-stations, instead of this, they should first complete the job of providing RTUs upto 132 kV sub-stations as many of 132 KV lines which formed closed loop of transmission system are being operated on radial mode now. If switching on and switching off control is available at SLDC, some of these lines can be operated in close loop so as to increase system stability and reduce transmission losses. SLDC is not fully equipped to have full control over transmission system as the system does not so far allow remote operations of transformers tap changers, control and operation of switchgear and opening and closing of transmission lines for optimum and most economical operation of the transmission system. All these operations should be prepared for centralized operation by modifications at grid stations so as to allow remote operation of tap changers and switch gear. He further pointed out that revenue gap and debt trap of PSPCL has increased 10 times from FY 2011-12 to FY 2016-17. The main culprit of this increasing revenue gap is adjustment of subsidy of ₹3075 crore against outstanding loan & non compliance by Punjab Govt. of the orders of the Commission to refund ₹426 crore of excess payment made by PSEB against Govt. loans. Now with the agreement signed by Govt. of Punjab with Govt. of India and PSPCL under UDAY (Ujwal Discom Assurance Yojna), State is to take over 50% of Discom debt in 2015-16 and 25% of Discom debt in 2016-17. PSERC should ensure the commitments made by the parties are honoured. There is a further rider that Banks/FIs may not lend more than 25% of Discoms previous year annual revenue as working capital loans or as per prudential norms. Projected working capital loan of PSPCL for year ending March, 2016 is ₹15000 crore. Revenue receipts projected by PSPCL for FY 2015-16 are ₹23871.16 crore. The ways and means will have to be found as to how PSPCL will meet its day to day requirements if it gets only ₹6000 crore as working capital loan against projected requirement of ₹15000 crore. On the issue of surplus power, he stated that 4 years back, he informed the Commission that IPPs in Punjab will add more woes than solving it. He stated that it will take some years to overcome this problem as power demand is not increasing more than 10% per year. The Chairman informed the members that PSPCL has been asked to release new connections expeditiously as a first step for the utilization of surplus power, and the regulations which are creating hurdles in the use of power by all categories of consumers need to be amended by the Commission. On this issue, Prof. Ghuman said that with the increase in 1% of GDP, power consumption increases by 1.5%. For utilizing surplus power, industrial growth is required in the State of Punjab and principle of marginal cost pricing needs to be applied. Shri K. K. Singla of PHD Chamber of Commerce suggested that night rebate of ₹1/- per unit in FY 2015-16 should be increased to ₹2.5 per unit in the financial year 2016-17. On this, Chairman pointed out that if some relief is given in the night rebate, then consumption of power should also increase and industry should give commitment for that. Mr. Gupta further stated that tariff rate for PIU and General Industry should be made same and some incentive should be given to the industry for consuming power more than a threshold limit, to be decided by the Commission. He further stated that in the lean period, the tariff should be less than the peak period and tariff rate should be adjusted quarterly as done in some States in India. For Domestic Category of consumers in the middle slab, some concessions in the tariff rate should be given so that they may consume more power during the year. On the use of surplus power, Joint Director/Agriculture, Government of Punjab, intervened and said that power should be consumed efficiently and it should not be wasted, otherwise it will lead to depletion of fossil fuels. The surplus power should be encouraged to be used in places where it will contribute towards the GDP of the Government. The Chairman suggested the need for setting up of a Sub Group consisting of Er. Gupta, Prof. R. S. Ghuman and a representative of the Industry for suggesting the incentives to be given to consumers for increasing the power consumption in the State. Chairman also suggested that Government of Local Bodies should also take steps to increase the consumption of power. On this, Er. K.L. Sharma pointed out that Government of Local Bodies is not paying their pending dues. Er K.L. Sharma also informed that upto January, 2016, there is a marginal increase of 0.17% in power consumption, in comparison to the previous year and out of ₹85 lakh meter connections in the State, 5 lakh connections are still pending to be shifted outside the premises of the consumers. On this, Shri R.S. Sachdeva of PHD Chamber of Commerce informed that more than 30% meters installed in Mohali circle are still inside their houses.

Er. Gupta further mentioned that agricultural based industries like Food Processing

Units, Cotton Ginning Units and Cold Storage Plants etc. should be encouraged to set up their Plants in Punjab. On behalf of Er. S.K. Anand, Member, SAC, (who could not attend the meeting), Er. Gupta informed that cross subsidy given to agriculture sector should be reduced and some tariff should be levied on rich farmers to earn more revenue for PSPCL. In case of GVK Power Plant at Govindwal Sahib, he said that no drawl has been shown in the ARR of PSPCL of FY 2016-17. On this issue, Er. K.L. Sharma, Director/Distribution informed that power purchase is done by PSPCL on merit order. So, at the time of power purchase, it will be ensured by PSPCL whether the power from GVK Plant is viable or not. He informed that COD has not been achieved so far by GVK Thermal Plant, Govindwal Sahib. Er. Gupta also stated that if PSPCL do not draw full energy as available from Talwandi Sabo TPS and Rajpura TPS and restrict it to PSPCL projections, it will still be paying fixed charges of ₹1243 crore to Talwandi Sabo and ₹376 crore to Rajpura Plant for energy not drawn. Over the years, generation from PSPCL Thermal Plants is going down and the cost of generation of PSPCL Plants is going up due to non sourcing of fuel by economical methods and uncontrolled low quality of coal being supplied by CIL. In absence of control over manipulating test results over tests done by CIL at sending end, PSPCL gets low quality of coal and has to pay cost for higher grade coal than what it actually receives. Third party testing at both sending and receiving end needs to be resorted. It will be prudent to draw as much energy as possible from Talwandi Sabo and NPL Rajpura and back down PSPCL plants as required in the merit order at the cost of projected cost generation. Er. Gupta also suggested that some units of the Govt. owned Thermal generating stations like GNDTP, Bathinda and GGSSSTP, Ropar, which are quite old and ineffective should be de-commissioned and either more efficient power generating units should be installed in their place or the land occupied by these generating stations should be given on lease for earning some revenue by the Utility. Mr. Gupta further pointed out that Hydel generation for FY 2015-16 has gone down in case of UBDC Hydel generating stations and PSPCL should analyse the causes for this. He also pointed out that Shanan Power House, Joginder Nagar will go to Himachal Pradesh as per agreement signed, in about 7 years from now. It should be given to H.P. in well maintained condition.

3. <u>Er. A. S.Pabla, Ex-Chief Engineer PSEB</u>

At the outset, Er. Pabla informed that as per ARR for FY 2016-17, ₹431 crore approx. is the defaulting amount outstanding against the Government departments, and pre-paid meters should be installed against connections of these departments, and cost of the meter should be recovered from the security deposited by these departments.

He expressed his concern at huge outstanding amount against various Government Departments and suggested that pre-paid meters may be introduced to check the tendency of the Government Departments not to pay electricity bills in time. He further pointed out that as per the status of compliance of directives issued by the Commission; it is evident that PSPCL has failed to execute any DSM project which is one of the important tools to reduce ARR. He specifically advocated the implementation of Agriculture DSM Programme which has a huge saving potential. Such project can be got executed through Energy Service Company (ESCO) on energy sharing basis. He pointed out that PSPCL has demanded ₹10.00 crore for FY 2016-17 to carry out various DSM activities. An investment of ₹10.00 crore in DSM Programme must reduce the ARR by ₹100 crore. He advocated that PSPCL should provide star rated motors to the farmers and recover the amount from the consumers.

4. Sh. Bhagwan Bansal, Punjab Cotton Factory Ginners Association

Shri Bansal informed that in Punjab, out of 422 Ginning Factories, only 60 Ginning factories are working at present and these are also on the verge of collapse due to several impediments, like role of the banks, red-tapism in the Government departments, lack of infrastructure and electricity tariff etc. These impediments are preventing the growth of industrial units in Punjab and the industrialists of Punjab are setting up/taking out their units to other states in India. He further stressed the need to remove monthly minimum charges (MMC) in case of Cotton Ginning Factories.

5. Sh. R.S. Sachdeva, Sh. Amarjit Goyal & Er. K.K. Singla, PHD Chamber of Commerce

Shri R.S.Sachdeva informed the Commission that the revenue gap projected by the PSPCL, is increasing year by year and there is a dire need to bridge the revenue gap. He suggested that old State owned Thermal Generating Stations should be disposed of. PSPCL is not utilizing the loans taken by it, resulting that the salaries of PSPCL employees are delayed. He further informed that PSPCL on one hand is backing down its own Thermal Plants and on the other hand is floating tenders for short term power purchase. On this, Er. K.L. Sharma stated that as work for development of Pachhwara Coal Mine allotted to PSPCL has not yet started, in order to meet the exigencies, the tender for short term power purchase has been floated by PSPCL and the power will be purchased only in exigencies.

Er. Gupta intervened to state that many States in India have surrendered costly power from the Central Pool and Govt. of India has accepted their requests. On this, Er. Sharma informed that PSPCL has also taken up the matter with the Government of India but the matter is still under consideration.

Shri R.S. Sachdeva pointed out that power should be utilized efficiently. Government of Punjab has taken no initiative for installing Solar Pump Sets, Solar Lamps and Energy Efficient fans etc. He further requested the Commission to increase the night rebate given to the industry from ₹1/- per unit to ₹2.50 per unit. He informed that the charges on open access power are more in Punjab and suggested that wheeling charges on open access power should be according to voltage level, and PLEC & ToD charges should be removed in the power surplus regime. Shri Amarjit Goyal informed that from the year 1991 to the year 2003, erstwhile PSEB have friendly relations with the consumers. But now the behavior and actions of PSPCL are anti consumer. He further stated that interest on security deposited by the consumers should be given to all the consumers and not to the consumers who have gone to the court. He further stressed the need that big industrial units and general industrial units should be encouraged to use more power and efforts should be made for setting up of new big industrial units in Punjab. Also, new industry to be set up in Punjab should not be given less tariff rate than the existing industry, otherwise existing industry will not be able to survive.

6. <u>Er. D.R. Kataria, Joint Director/Engg., Deptt. of Agriculture</u>

He stressed the need that PSPCL should provide Energy Efficient Pump Sets in place of existing pump sets in agriculture sector and the expenses incurred on this should be charged from the consumers. He also suggested that some charges should be levied on the agriculture consumption to stop misuse of running of agriculture pump sets, and in order to save already depleted ground water table. He further informed that Government of Maharashtra has adopted a scheme for installing Solar Pump Sets in the State. Government of Punjab should also think on the same lines. He further informed that according to the survey conducted by the Department of Agriculture (GoP), about 45 liter per hectare Diesel is consumed by the farmers during Paddy season. He further pointed out that in the ARR for FY 2016-17, PSPCL has projected 4.7% more agriculture consumption than the previous year. The Commission should carry out prudent check and allow reasonable increase, instead of 4.7%. He advocated efficient utilization of scare resources like power. He proposed that agriculture consumers must pay user charges and in return should be given a quality power supply. He expressed his concern at the depleting water table in Punjab and asserted that free power will only worsen the situation. He advocated the use of Solar power tube wells as has been encouraged in Maharashtra. He further pointed out that due to drought conditions the AP consumption during FY

2015-16 is on the higher side and should not be used as a base to allow AP consumption for FY 2016-17.

7. <u>Sh. H. S. Sandhu, CII</u>

Shri Sandhu stressed the need that agriculture consumption should be fixed, based upon average per acre consumption. He stated that load in the domestic sector is not likely to increase, as consumers have started using energy efficient devices. Some concession should be given in the tariff rate fixed for DS category of consumers in the middle slab for increasing consumption of power. Similarly, industrial consumers in Punjab have also started using energy efficient devices and power consumption in their case is also not likely to increase. He further suggested that PLEC should be removed, cross subsidy should be decreased in a phased manner and tariff should be fixed according to voltage level.

8. <u>Sh. P.S. Meena, Sr. DEE/TRP , Northern Railway, Ambala.</u>

He stated that some states in India have stopped taking ACD from Railways. Accordingly, PSPCL should not take ACD from the Railways. He also stated that demand surcharge on increase of load under certain exigencies, due to shifting of load from one section to other section by the Railways, should not be levied by PSPCL.

9. <u>Sh.M.P.Singh, Jt.Director, PEDA</u>

He informed that though PSPCL is likely to comply with the Solar RPO specified for FY 2015-16 & FY 2016-17 by the Commission in PSERC (Renewable Purchase Obligation and its compliance) Regulations, 2011 as amended in May, 2015, however, it may not be able to comply with the non Solar RPO for the said years. He informed that for the purpose PEDA is making efforts to facilitate commissioning of new generation projects based on renewable energy sources. It was further informed that PEDA has recently allotted two power projects of 15 MW each based on 100% use of rice straw as fuel for which petition(s) for tariff determination are likely to be filed soon by the developer(s). He requested the Commission to also determine generic tariff for such projects.

Sh. M.P. Singh further informed that in the revised tariff policy notified by Government of India on 28.01.2016, it has been provided that solar RPO trajectory may be suitably fixed/revised by SERCs so that it reaches 8% by March, 2022 and for calculating the same, consumption from Hydro generating stations is to be excluded. He requested the Commission to consider the same for revising the solar

RPO specified by the Commission in the aforesaid RPO Regulations.

10. **Sh. Vinod Bansal, PSTCL**.

Sh. Bansal raised the issue of provisions of PSERC Tariff Regulations. He suggested that rate of interest on short term loans should be allowed on the basis of short term loans only. He also expressed his views that the late payment surcharge should not be included in Non-Tariff Income. He further suggested that O&M expenses should be allowed on normative basis.

APPENDIX-II

Category-wise & Voltage-wise Cost of Supply and Cross Subsidy comparison with Cost of Supply: FY 2016-17			
Voltage level	**Consumer category**	**Cost of Supply**	**Cross subsidy level w.r.t. Cost of Supply**
kV		**₹/unit**	
I	**II**	**III**	**IV**
220 kV	Industrial	4.88	23.47%
	Traction	4.82	41.79%
132 kV	Industrial	4.94	21.98%
	Bulk	4.87	36.06%
	Traction	4.90	39.69%
66 kV	Industrial	5.38	12.02%
	NRS	5.64	22.28%
	Bulk	5.47	21.14%
33 kV	Industrial	5.73	5.15%
	Domestic	6.49	2.93%
	Bulk	4.93	34.38%
11 kV	Industrial LS	5.92	19.71%
	Domestic	5.82	14.67%
	NRS	5.28	30.79%
	Bulk	5.72	15.96%
LT	Industrial MS	6.75	-3.54%
	Industrial SP	7.25	-17.34%
	Domestic (0-100 Units)	6.02	-20.75%
	Domestic (Above 100 and upto 300 Units)	6.02	9.05%
	Domestic (Above 300 Units)	6.02	20.89%
	Agriculture	6.07	-20.32%
	NRS	6.54	8.51%
	Public Lighting	6.06	16.80%
	Bulk	5.75	22.95%

Punjab State Electricity Regulatory Commission
SCO : 220-221, Sector 34-A, Chandigarh-160 022
Tel. : 0172-2648321, Fax : 0172-2664758

DO No. PSERC/Secy/137-38
Dated : 19/07/2016

RAJIV BHATIA, IRS
Secretary

The Punjab State Power Corporation Limited (PSPCL) and the Punjab State Transmission Corporation Limited (PSTCL) have filed their Aggregate Revenue Requirements (ARR) for the year 2016-17 with the Commission. The ARR of PSPCL included proposal for review for FY 2015-16 based on revised estimates of the revenue requirement for its generation and distribution business. The ARR of PSTCL included a review for FY 2015-16 based on the revised estimates of revenue requirement for its transmission business (including SLDC business). With the ARR, both the corporations i.e. PSPCL & PSTCL have filed Annual Audited Accounts for FY 2012-13 and FY 2013-14.

2. The Commission has decided to undertake true up for FY 2012-13 and FY 2013-14 in case of PSPCL and PSTCL. However, the Commission shall undertake true up for FY 2014-15 when the Audited Annual Accounts for FY 2014-15 would be made available by the Corporations. The Commission has finalized the ARRs, both for PSPCL & PSTCL, after following the laid down procedure and completing all the requisite formalities. Combining the effect of determination of Annual Revenue Requirements for FY 2016-17, review for FY 2015-16 and true up for FY 2012-13 and FY 2013-14 (for both PSPCL & PSTCL), total revenue gap upto FY 2016-17 has been worked out & Tariff for various categories of consumers has been determined.

3. Subsidy for FY 2016-17

a) In the past, the State Government has been fully subsidizing Agriculture Pump set (AP) consumers and a section of SC Domestic supply (DS) and also Non-SC BPL DS consumers up to specified energy consumption. Besides, GoP has also decided to provide subsidy to dairy farming, fish farming (exclusive), goat farming and pig farming.

b) The requirement of subsidy in the current year will be as follows:

- For the year 2016-17, the Commission has determined subsidy of ₹5187.77 crore for AP supply. After adding subsidy of ₹9.00 crore on account of meter rentals etc. in respect of AP consumers, total subsidy payable by GoP works out to ₹5196.77 crore.
- Subsidy amounting to ₹1167.02 crore inclusive of meter rentals is payable on account of free supply upto 200 units per month to SC DS and Non-SC BPL DS consumers with a connected load up to 1000 watts.
- Subsidy amounting to ₹0.70 crore on account of supply to dairy farming, fish farming (exclusive), goat farming & pig farming is payable.
- Accordingly, total subsidy inclusive of meter rentals for the AP sector, SC DS & Non-SC BPL DS consumers and dairy farming, fish farming (exclusive), goat farming & pig farming payable by GoP is estimated to be ₹6364.49 (5196.77+1167.02+0.70) crore for the year 2016-17.

c) The Commission has determined shortfall of subsidy of ₹1233.61 crore payable by the Government to PSPCL upto FY 2015-16.

d) Therefore, subsidy of ₹7598.10 (6364.49+1233.61) crore is payable by GoP to PSPCL for the year 2016-17. The subsidy of ₹7598.10 crore is required to be paid in advance in 12 monthly instalments @ ₹633.18 crore per month from April, 2016 to September, 2016 and ₹633.17 crore from October, 2016 to March, 2017.

4. Further, any change in the Fuel Cost from the level approved by the Commission is to be passed on to the consumers as FCA as per Punjab State Electricity Regulatory Commission (Conduct of Business) Regulations, 2005. The subsidy payable by GoP on account of levy of Fuel Cost Adjustment Surcharge, if any, will be in addition to the amount worked out in para-3 above.

5. In case GoP intends to continue the present regime, it is requested that the commitment to pay the subsidy as detailed in the preceding paras and also the additional subsidy amount, if any, payable on account of Fuel Cost Adjustment during the year may kindly be conveyed.

6. Government of Punjab, Department of Power (Power Reforms Wing) vide its letter no. 1/1/2016-EB(PR)/139 dated 11th July, 2016, while submitting comments/observations of the State Government on the ARR/Tariff Petition filed by PSPCL for FY 2016-17 has intimated to the Commission that the State Government has announced to offer electricity @ 499 paise per kVAh (excluding FCA) to the new/prospective industries for a fixed period of 5 years which come up through Progressive Punjab Investors Summit, 2015 as per policy of the Government of Punjab applicable to the industries. It has further been intimated that this tariff has been approved by the Hon'ble Chief Minister and the matter has been referred to the Finance Department, Punjab for making provisions for the funds in lieu of difference of Tariff applicable to the existing industries and the Special Tariff @ 499 paise/ kVAh announced by the State Government. The confirmation/commitment of Government of Punjab to pay the subsidy for difference of Tariff applicable to the existing industries and special tariff @ 499 paise per kVAh announced by the State Government, as per Section 65 of the Electricity Act, 2003, be also conveyed to the Commission.

o/c Yours sincerely,

(Rajiv Bhatia)

Encl: Annexure-I

Sh. Sarvesh Kaushal, IAS,
Chief Secretary to Govt. of Punjab,
Chandigarh.

CC: along with enclosure to:

Sh. A Venu Prasad, IAS,
Principal Secretary to Govt. of Punjab,
Department of Power,
Punjab Civil Secretariat- II, Sector-9,
Chandigarh.

Annexure-I

SUBSIDY PAYABLE BY GOP TO PSPCL FOR FY 2016-17

(₹ in crore)

	AP + Meter rentals	SC DS + Meter rentals	Non-SC DS + Meter rentals	Dairy, Fish, Goat & Pig farming	Total
Subsidy payable for FY 2016-17 for AP, SC DS, Non-SC BPL DS consumers and Dairy, Fish, Goat & Pig farming	5187.77 9.00	1071.87 17.19	76.58 1.38	0.70	6364.49
	5196.77	1089.06	77.96	0.70	
Balance subsidy payable for previous years					1233.61
Total subsidy payable by GoP during FY 2016-17					7598.10

GOVERNMENT OF PUNJAB
DEPARTMENT OF POWER
(ENERGY BRACH)

To

The Secretary,
Punjab State Electricity Regulatory Commission,
SCO No. 220-21, Sector-34A,
Chandigarh.

Memo No.2/5/2015-PE2/2086
Dated Chandigarh the 25th July, 2016.

Subject : Special Tariff @ 499 Paise per unit to New Industry - Reg.

In continuation to this office letter No. 2/5/2015-PE-2/2085 dated 25.7.2016, it is hereby informed that the State Government has decided the special tariff 499 paise per KVAH to new/prospective industries which comes through Progressive Punjab Investors Summit, 2015. The State Government shall bear the burden on account of difference of tariff applicable to the existing industry and the special tariff @ 499 Paise per Kvah announced by it. The fuel cost adjustment (FCA) surcharge as determined by the Commission from time to time shall be applicable/payable by such Industrial consumers in addition to special tariff 499 paise per KVAH. Further, this special tariff of 499 paise per KVAH shall be applicable for a fixed period of five years.

Sakhvir 25-7-16
Superintendent ,Power

APPENDIX-V

GOVERNMENT OF PUNJAB
DEPARTMENT OF POWER
(ENERGY BRACH)

To

The Secretary,
Punjab State Electricity Regulatory Commission,
SCO No. 220-21, Sector-34A,
Chandigarh.

Memo No.2/5/2015-PE2/2085
Dated Chandigarh the 25th July, 2016

Subject:- **Annual Revenue Requirement filed by PSPCL for 2016-17.**

Please refer to your D.O.No. PSERC/Secy./138 dated 19.07.2016 on the subject cited above.

The State Government has decided to continue its policy of providing subsidy to AP Consumers, SC & Non SC BPL DS consumers and dairy farming, fish farming (exclusive), goat farming, pig farming during financial year 2016-17. The concurrence of Finance Department has also been obtained vide their I.D. No. 10/34/2016-2FE4/802755/1 dated 24.7.2016. In this regard, total AP subsidy amounting to Rs.5196.77 crore, SC & Non SC BPL DS consumers amounting to Rs.1167.02 crore and dairy farming, fish farming (exclusive), goat farming, pig farming amounting to Rs.0.70 crore and shortfall of subsidy upto FY 2015-16 amounting to Rs.1233.61 crore have been sanctioned by the State Government for financial year 2016-17.

Superintendent, Power
25-7-16