

Punjab State Power Corporation Limited

Aggregate Revenue Requirement & Tariff Petition
Up-to FY 2016-17 & MYT Petition for the Control Period from
FY 2017-18 to FY 2019-20

Volume –I(Part-2)
Main Text and Formats

Submitted to
Hon'ble Punjab State Electricity Regulatory Commission
Chandigarh

Submitted by :
PUNJAB STATE POWER CORPORATION LIMITED
The Mall, Patiala – 147001
November 2016



**BEFORE THE PUNJAB STATE ELECTRICITY REGULATORY COMMISSION,
CHANDIGARH**

Case No _____

IN THE MATTER OF: Filing of the Petition for the approval of PSPCL's MYT petition for MYT Control Period (FY 2017-18 to FY 2019-20) under Section 62 and 64 of the Electricity Act, 2003 read with Regulation 10 of PSERC (Terms and Conditions of Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2014

AND

IN THE MATTER OF: Punjab State Power Corporation limited (hereinafter referred as "PSPCL" or "the Petitioner")

The Petitioner respectfully submits as under: -

- 1) The Punjab State Power Corporation Limited (hereinafter referred to as PSPCL) is one of the "Successor Company" duly constituted under Companies Act, 1956 (on 16 April, 2010 Registration No: U40109PB2010SGC033813 - after restructuring of Punjab State Electricity Board (PSEB) by Government of Punjab vide notification dated 16 April, 2010 no; 1/9/08-FB(PR)/196 known as "Punjab Power sector reforms Transfer Scheme"
- 2) The Petitioner submits that the Hon'ble Commission has issued the PSERC (Terms and Conditions of Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2014 (hereinafter referred to as "PSERC MYT Regulations, 2014") in exercise of powers conferred on it by Section 61 read with Section 181(2) of the Electricity Act 2003 (No. 36 of 2003). The said Regulations shall be applicable to Generating Stations, Transmission system, SLDC and Distribution system where; tariff for generation and transmission is not determined under Section 63 of the Electricity Act, 2003 through transparent process of competitive bidding in accordance with the guidelines issued by the Central Government.
- 3) Accordingly, in line with the above provisions of the PSERC MYT Regulations 2014, the Petitioner is hereby filing MYT Petition for the Control Period from FY 2017-18 to FY 2019-20.
- 4) While filing the MYT application for D&RS Business, PSPCL has endeavoured to comply with the applicable legal and regulatory obligations, directions and stipulations contained in the D&RS License, Tariff Order, the Guidelines and previous ARR and Tariff Orders to the extent possible. In spite of the limitations in the accounting and information systems of the Licensee, inherited from the parent PSEB, it has taken all possible steps to compile and furnish the required details. However, every effort have been made to submit the MYT Petition but even then in case found not fully compliant in some respects, as are explained with reasons, and therefore, accordingly, PSPCL seeks necessary waivers and relaxation as per reason explained therein the MYT Petition.



PRAYER TO THE HON'BLE COMMISSION

The Petitioner respectfully prays to the Commission:

- a) To admit the Petition seeking approval of MYT for Generation and Distribution for FY 2017-18 to FY 2019-20 in accordance with the PSERC MYT Regulations, 2014;
- b) To approve the MYT petition for Generation & Distribution Business for FY 2017-18 to FY 2019-20 as proposed by the Petitioner in the above-said Petition;
- c) To pass any other order/s as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice;
- d) PSPCL also prays to the Hon'ble Commission to take the appropriate view on the revenue gap projected by PSPCL as per the PSERC MYT Regulations while determining the tariff for the Control Period.
- e) To condone any error/ omission and to give opportunity to rectify the same;
- f) The filing is being done based on the best available information and in case of any change, the Petitioner may be permitted to make further submissions, addition and alteration to this Petition as may be necessary from time to time.

Date:



BY THE APPLICANT THROUGH
Er. N.K. Gandhi,
Chief Engineer / ARR&TR,
PSPCL, Patiala.

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1 Introduction

1.1 Background

1.1.1 Multi Year tariff Regulations

Section 61(f) of the Act confers powers to State Electricity Regulatory Commission to specify the terms and conditions for determination of tariff on the basis of Multi Year Tariff principles. Most of the State Electricity Regulatory Commissions including the Hon'ble Commission have moved from an annual tariff framework to a multi-year tariff (MYT) regime, with an aim to bring about clarity on regulatory principles, to reduce regulatory risks and to incentivize efficient operations by Utilities. The MYT framework provides greater regulatory certainty by providing Utilities a longer period to plan, forecast and implement their efficiency improvement plan.

The Hon'ble Commission, in exercise of the powers conferred on it by section 181 of the Electricity Act 2003 (Act 36 of 2003) and all other powers, notified the PSERC (Terms and Conditions for Determination of Generation, Transmission, Wheeling and Retail Supply Tariff) Regulations, 2014 (hereinafter referred as "PSERC MYT Regulations, 2014") on July 1, 2014. Further, as per the Hon'ble Commission's Notification dated May 28, 2015, the effective date of enforcement of these Regulations shall be April 1, 2017 and the three year MYT Control Period is from FY 2017-18 to FY 2019-20.

Regulation 10.1 of PSERC MYT Regulations, 2014 specifies as under:

10.1. The Applicant shall file for approval of the Commission a business plan for its generation, transmission or distribution businesses, as the case may be, on or before 1st April of the year preceeding the first year of the control period for a duration covering at least the entire control period. The business plan shall cover details for each year of the control period.

As per the Regulations, the Distribution Licensee is required to file a Business Plan for Control Period of three financial years from April 1, 2017 to March 31, 2020. As per Regulation 10.1 read with Regulation 63 of PSERC MYT Regulations, 2014, PSPCL has to file the Business Plan on or before 1st April of the year preceding the first year of the Control Period, i.e., on or before April 1, 2016, for the Control Period from FY 2017-18 to FY 2019-20.

Meanwhile, PSPCL has signed Memorandum of Understanding (MOU) with Ministry of Power, Government of India and Government of Punjab for implementation of UDAY scheme in State of Punjab on March 04, 2016. Accordingly to signed MoU, financial restructuring has been undertaken from FY 2015-16 (H1) and operational targets have

been revised. These Operational targets have to be taken into account while preparing Capital Investment Plan and Business Plan. Hence, PSPCL has filed a Petition before Hon'ble Commission for seeking extension in timelines for filing of Capital Investment Plan and Business Plan, on account of implementation of UDAY scheme. Hon'ble Commission vide Order dated April 1, 2016 in Petition No. 23 of 2016 approved the extension of timeline for filing of present Petition upto May 31, 2016.

Accordingly, PSPCL filed the Business Plan for the MYT Control Period from FY 2017-18 to FY 2019-20, based on the available data for FY 2015-16 and previous years, for the kind consideration and approval of the Hon'ble Commission.

Further, Regulation 10.2 of PSERC MYT Regulations, 2014 specifies as under:

"10.2. The distribution licensee also carrying out the generation business shall file separate business plans for its generation and distribution businesses."

PSPCL is handling both Generation and Distribution Business. In accordance to that PSPCL had submitted the Business Plan for Generation and Distribution in separate sections. The said Petitions are pending before the Hon'ble Commission for approval.

1.1.2 Present Approach

The Hon'ble Commission notification dated May 28, 2015, the effective date of enforcement of these Regulations shall be April 1, 2017 and the three years MYT Control Period is from FY 2017-18 to FY 2019-20.

As per MYT regulation clause 4.2

"The Commission shall adopt Multi Year Tariff framework for determination of tariff for each year of the control period. The Commission shall notify the date for the commencement of Multi Year Tariff framework for determination of tariff in the State"

In line with the above, PSPCL is filing its Aggregate Revenue Requirement (ARR) for control period (FY 2018-19 & FY 2019-20) and Tariff Petition for FY 2017-18 for consideration of the Hon'ble Commission.

1.1.3 Approach and Methodology

The MYT petition for the Control Period considers the following:

- a) The Present petition has been prepared based on the following;
 - a. The Electricity Act, 2003;
 - b. National Electricity Policy;
 - c. National Tariff Policy;
 - d. PSERC MYT Regulations, 2014; and

- e. Other Regulations notified by PSERC
- b) Plan is prepared considering the recent changes in the sector as well as the growth projections of PSPCL.
- c) The load forecasting, loss reduction plan, generation plan, etc., have been incorporated as provided in Power for All and other relevant documents.
- d) For the projections of the ARR for the Control Period, FY 2015-16 is considered as Base Year and the provisional accounts of FY 2015-16 has been considered for the projection for the Control Period as per PSERC MYT Regulations, 2014.
- e) While preparing the MYT petition, PSPCL has proposed the norms that reflect the justified expenses projected to meet the operational needs.
- f) Baseline values for Projection of ARR

Regulation 8.1 of PSERC MYT Regulations, 2014 specifies as under:

"8. MYT APPROACH

8.1. Baseline Values

(a) The baseline values for the control period shall be determined by the Commission and the projections for the Control Period shall be based on these figures.

(b) The baseline values shall be inter-alia based on figures approved by the Commission in the past, latest audited accounts, estimate of the expected figures for the relevant year, industry benchmarks/norms and other factors considered appropriate by the Commission."

The baseline values for the Control Period shall be determined by the Hon'ble Commission and the projections for the Control Period shall be based on these figures. These baseline values shall be inter-alia based on figures approved by the Hon'ble Commission in the past, latest audited accounts, estimate of the expected figures for the relevant year, industry benchmarks/norms and other factors considered appropriate by the Hon'ble Commission.

In this regards, PSPCL submits that as per meeting held in PSERC, Chandigarh dated August 10, 2016; Hon'ble Commission has directed PSPCL to consider provisional audited figures for FY 2015-16 as a baseline value for projection of ARR for the control period. Hence, for projection of ARR for the Control period in this Petition, PSPCL has considered values for FY 2015-16 as per provisional account, as baseline values for projecting the ARR for the control period



PART IV – MYT PLAN FOR PSPCL

Sl. No.	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
01	Revenue	170	170	170	170	170	170
02	Capital	10	10	10	10	10	10
03	Grants	10	10	10	10	10	10
04	Subsidies	10	10	10	10	10	10
05	Other	10	10	10	10	10	10
06	Total	210	210	210	210	210	210

2 Operational Plan for Generation

2.1 Proposed Generation Capacity Addition

PSPCL has existing installed generation capacity of 3658 MW as on September 30, 2016 including 2640 MW of Thermal Generating Stations and 1018 MW of Hydro Generating Stations including new Hydro Generating Stations: Mukerian Hydro Project Stage -II (2 x 9MW)

2.1.1 Norms of Operation for Generating Stations

As per the Hon'ble Commission direction to PSPCL in the Tariff Order for FY 2014-15 and subsequent Tariff Orders

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 per the above direction of Hon'ble Commission, under the current petition PSPCL has projected own thermal generation based on merit order rather than plant availability.

Further PSPCL would like to say that GNDTP, Bathinda is an old generating station whose units have already outlived their useful life of 25 years.

Table 1: Age details of GNDTP Plant

Units	Capacity (MW)	COD	Age (Yrs)
U-1	110	22.09.74	43
U-2	110	19.09.75	42
U-3	110	29.03.78	39
U-4	110	31.01.79	38

Furthermore, as per power demand scenario in the State of Punjab, GNDTP, units remained under reserve outage for longer period and during running period units remained running on backing down for maximum time as per directions of PC, Patiala. During frequent stop/start after reserve outage and running of units under backing down affects the performance of units. During FY 2015-16, there are 32 no. stop/start ups of GNDTP units after reserve outages and total number of reserve outage during the

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FY 2015-16 was 23547 hours. During backing down, power generation is reduced but most of the auxiliaries remained running at nearly full load which results in increase in percentage auxiliary consumption. Under the above circumstances, the variable cost of the GNDTP goes higher as compare to other plants and no power has been scheduled in merit order projection for the control period.

PSPCL has not claimed and fuel cost against GNDTP during the control period, as no power has been scheduled in Merit Order Dispatched projection for control period. Furthermore, PSPCL would like to mention here that during the real time operation in control period any variable expense shall be claimed during the trued up.

Generation Plan for PSPCL generating stations for the control period i.e. FY 2017-13 to FY 2019-20 has been projected on the basis of various parameters such as plant load factor, Heat Rate and auxiliary consumption.

Regulation 36 of PSERC MYT Regulations, 2014 specify as under:

"36. NORMS FOR PERFORMANCE PARAMETERS

The norms for performance parameters for a generating company i.e. availability, load factor, station heat rate, specific oil consumption, auxiliary consumption etc. shall be as per the CERC norms or as determined by the Commission:

Provided that a generating unit which undergoes Renovation and Modernization, the Commission shall specify a separate set of norms to be adopted during the renovation and modernization period and for the subsequent period. These norms shall be specified by the Commission on case to case basis as part of the Renovation and Modernization Capital Investment approval. Consequently, the generation tariff shall be determined accordingly by the Commission."

As per the above said Regulations, performance parameters for PSPCL's Generating stations shall be as per CERC norms. Accordingly, the various performance parameters i.e., Plant Availability Factor, Plant Load Factor, Station heat Rate, Auxiliary Consumption, Transit loss and Secondary Fuel Oil Consumption is discussed in subsequent section:

2.1.2 Plant Availability Factor

The Plant Availability Factor for Thermal Generating Stations for past period is as under:

Table 2 Plant Availability Factor for PSPCL Thermal Generating Stations

Plant	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
	Actual	Actual	Actual	Provisional
GNDTP	87.37%	84.64%	81.93%	93.75%
GGSTP	92.11%	89.84%	92.50%	94.68%
GHTP	93.84%	97.30%	92.30%	91.68%

Regulation 36(A) of CERC (Terms and Conditions of Tariff) Regulations, 2014 (herein after referred as "CERC Tariff Regulations, 2014") specify Normative Plant Load Availability Factor (NAPAF) as 85% for full recovery of fixed cost. It is observed that most of the time PSPCL has maintained Plant Availability of more than 85% in past years as shown in the above table.

PSPCL has undertaken consistent & regular maintenance apart from timely renovation & overhaul of its Units to sustain the generation from each of thermal generating stations for the year 2016-17 and the continuing MYT control period at the target output level set by the CEA.

The plant availability for thermal generating stations has been estimated based on the planned maintenance schedule. The plant maintenance schedule for GNDTP, GHTP and GGSTP for the Control period is given in the following table:



Table 3 Plant Maintenance Schedule for Control Period

Plant Name with Unit	2017-18			2018-19			2019-20		
	Period	Days	Type of Maintenance	Period	Days	Type of Maintenance	Period	Days	Type of Maintenance
GNDTP (For PSPCL)									
Unit-I	01.11.17 to 30.11.17	30	AOH	0	0	0	01.11.19 to 30.11.19	30	AOH
Unit-II		0	0	01.04.18 to 30.04.18	30	AOH	0	0	0
Unit-III	01.04.17 to 30.04.17	30	AOH	0	0	0	01.04.19 to 30.04.19	0	AOH
Unit-IV	05.05.17 to 03.06.17	30	AOH	01.11.18 to 30.11.18	30	0	0	0	0
GGSTP (For PSPCL)									
Unit-I	14-2-18 to 30-3-18	45	Capital Mtc.	-	-	-	21-10-19 to 29-11-19	40	Capital Mtc.
Unit-II	15-11-17 to 14-12-17	30	Annual Mtc.	-	-	-	21-04-19 to 20-05-19	30	Annual Mtc.
Unit-III	-	-	-	16-4-18 to 30-5-18	45	Capital Mtc.	-	-	-
Unit-IV	16-4-17 to 30-5-17	45	Capital Mtc.	-	-	-	05-12-19 to 03-01-20	30	Annual Mtc.

Plant Name with Unit	2017-18		2018-19		2019-20	
	Period	Days	Type of Maintenance	Period	Days	Type of Maintenance
Unit-V	-	-	-	1-10-18 to 30-10-18	30	Annual Mtc.
Unit-VI	-	-	-	25-1-19 to 28-2-19	35	Capital Mtc.
GHTP (For PSPCL)						
Unit-I	01.04.17 to 20.04.17	20	Annual Mtc.	Continued from 01.03.18 to 14.04.18	45	Capital O/H HPT/IPT/L PT/Gen
Unit-II	01.03.18 to 14.04.18	45	Capital O/H HPT/IPT/L PT/Gen			
Unit-III	03.01.18 to 16.02.18	45	Capital O/H LPT/Gen			
Unit-IV	01.10.17 to 14.11.17	45	Capital O/H HPT/IPT			
				10.01.20 to 23.02.20	45	Capital O/H HPT/IPT
				01.04.19 to 20.04.19	20	Annual Mtc.
				01.10.19 to 20.10.19	20	Annual Mtc.



Based on the above maintenance schedule, PSPCL has projected the availability for its thermal generating stations for the Control Period as under:

Table 4 Plant Availability for Control Period

Plant	FY 2017-18	FY 2018-19	FY 2019-20
GNDTP	89.00%	91.00%	81.93%
GGSTP	91.02%	91.48%	91.95%
GHTP	90.65%	99.12%	93.95%

2.1.3 Plant Load Factor

The Plant Load factor for PSPCL thermal generating stations for past years is as under:

Table 5 Plant Load Factor for PSPCL Thermal Generating Stations

Plant	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
	Actual	Actual	Actual	Provisional
GNDTP	67.19%	54.91%	35.94%	22.73%
GGSTP	83.05%	72.53%	52.11%	35.77%
GHTP	89.53%	82.70%	55.93%	38.79%

The normative Plant Load Factor for availing the incentive as per CERC Tariff Regulations 2014 is 85%. It may be noted that PSPCL has projected the power procurement from own thermal plant as per Merit Order principal excluding one Unit for each GGSSTP and GHTP. On account of this, the plant load factor for control period has reduced for all plants. It would have been hardly achieved the normative plant load factor of 85%. Further, keeping in view of realistic scenario, PSPCL has considered PLF as per Merit Order Stack for the control period. Accordingly, Plant Load Factor projected for the control period is as under.

Table 6 Plant Load Factor for Control Period

Plant	FY 2017-18	FY 2018-19	FY 2019-20
GNDTP ²	0.00%	0.00%	0.00%
GGSTP	34.85%	35.35%	37.09%
GHTP	29.13%	26.74%	31.86%

² No power scheduled in MOD

2.1.4 Station Heat Rate

As regards GNDTP, Hon'ble Commission in previous Tariff Orders has approved Station Heat rate of 2750 kCal/kWh based on CERC norms for Tanda TPS (after its R&M), as specified in CERC Tariff Regulations, 2014. PSPCL submits that the GNDTP is much older plant and SHR approved by Hon'ble Commission is on the lower side as compared to that attained by PSPCL in its Bathinda Power Station as the station heat rate tends to increase due to lower plant load factor and higher partial load losses. GNDTP has achieved a Station Heat Rate of 2864.79 kcal/kwh during FY 2015-16.

As regards GGSSTP the normative Station Heat Rate approved by Hon'ble Commission as per CERC norms is 2450 kCal/kWh. For GGSSTP, the actual Station Heat Rate during FY 2015-16 is 2847.16 kcal/kwh. For GHTP, the actual Station Heat Rate during FY 2015-16 was 2512.15 kcal/kwh. The increasing life of the asset and lower Plant load factor affects the Station Heat Rate of the plant.

Further, it may be noted that CERC has recognised the fact that Station Heat Rate and Auxiliary Consumptions of the plant are affected on account of partial load. Regulation 6.3B of CERC (Indian Electricity Grid Code) (Fourth Amendment) Regulations, 2016 specifies as under:

"6.3B - Technical Minimum Schedule for operation of Central Generating Stations and Inter-State Generating Stations

1. The technical minimum for operation in respect of a unit or units of a Central Generating Station of inter-State Generating Station shall be 55% of MCR loading or installed capacity of the unit of at generating station.

.....

3. Where the CGS or ISGS, whose tariff is either determined or adopted by the Commission, is directed by the concerned RLDC to operate below normative plant availability factor but at or above technical minimum, the CGS or ISGS may be compensated depending on the average unit loading duly taking into account the forced outages, planned outages, PLF, generation at generator terminal, energy sent out ex-bus, number of start-stop, secondary fuel oil consumption and auxiliary energy consumption, in due consideration of actual and normative operating parameters of station heat rate, auxiliary energy consumption and secondary fuel oil consumption etc. on monthly basis duly supported by relevant data verified by RLDC or SLDC, as the case may be.

Provided that:

(i) In case of coal / lignite based generating stations, following station heat rate degradation or actual heat rate, whichever is lower, shall be considered for the purpose of compensation:

S. No.	Unit loading as a % of Installed Capacity of the Unit	Increase in SHR (for supercritical units) (%)	Increase in SHR (for sub-critical - - units) (%)
1	85-100	Nil	Nil
2	75-84.99	1.25	2.25
3	65-74.99	2	4
4	55-64.99	3	6

In view of the above, PSPCL has considered the Station Heat Rate based on projected loading of thermal generating stations during the Control period, as per CERC Tariff Regulations, 2014.

Table 7 Assumption of Station Heat Rate (kCal/kWh)

Plant	SHR as per CERC Norms	Increase in SHR as per CERC Norms	Actual FY 2015-16	SHR for Control Period
GNDTP	2750	6%	2,915	2,864.79
GGSTP	2450	6%	2,597	2,597.00
GHTP	2450	6%	2,597	2,512.15

Station Heat Rate projected for the Control Period is as under:

Table 8 Station Heat Rate (kCal/kWh) for Control Period

Plant	FY 2017-18	FY 2018-19	FY 2019-20
GNDTP	2,864.79	2,864.79	2,864.79
GGSTP	2,597.00	2,597.00	2,597.00
GHTP	2,512.15	2,512.15	2,512.15

Furthermore, as per power demand scenario in the State of Punjab, PSPCL own units remained under reserve outage for longer period and during running period units remained running on backing down for maximum time as per directions of PC, Patiala. During frequent stop/start after reserve outage and running of units under backing down affects the performance of units. During backing down, power generation is reduced but most of the auxiliaries remained running at nearly full load which results in increase in SHR. Under the above circumstances, PSPCL pays the Hon'ble Commission to consider the actual Station Heat Rate achieved at the time of Trued Up exercise.

2.1.5 Auxiliary Consumption

The auxiliary consumption for MYT control period for all the plants has been projected based on the normative parameters as 11.26 % for GNDTP, 9.05% for GGSSTP and 8.98% GHTP plant in line with CERC Tariff Regulations, 2014.

Furthermore, PSPCL submits that the norm for auxiliary consumption for GNDTP 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 further submits that Hon'ble ATE in its Judgment dated 18 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)

As regards the Auxiliary Consumption, Regulation 6.3B of CERC (Indian Electricity Grid Code) (Fourth Amendment) Regulations, 2016 also provides the compensation for auxiliary consumption on account of part load operations. The Regulation provides as under:

"6.3B - Technical Minimum Schedule for operation of Central Generating Stations and Inter-State Generating Stations

.....

(ii) In case of coal / lignite based generating stations, the following Auxiliary Energy Consumption degradation or actual, whichever is lower, shall be considered for the purpose of compensation:

S. No.	Unit Loading (% of MCR)	% Degradation in AEC admissible
1	85-100	Nil
2	75-84.99	0.35
3	65-74.99	0.65
4	55-64.99	1.00

"

In view of the above, PSPCL has considered the actual Auxiliary Consumption for FY 2015-16 as the base values for the projection of Control Period and further, based on projected loading of thermal generating stations during the Control period, Auxiliary Consumption applicable as per CERC Tariff Regulations, 2014 has consider for control period

Table 9 Assumptions for Control Period

Plant	AEC as per CERC Norms	Increase in SHR as per CERC Norm		FY 2015-16 Actual	A.C. for Control Period
GNDTP	12.00%	1.00%	13.00%	11.26%	11.26%
GGSTP	8.50%	1.00%	9.50%	9.05%	9.05%
GHTP	8.50%	1.00%	9.50%	8.98%	8.98%

Auxiliary Consumption projected for the Control Period is as under:

Table 10 Auxiliary Consumption (%) for Control Period

Plant	FY 2017-18	FY 2018-19	FY 2019-20
GNDTP	11.26%	11.26%	11.26%
GGSTP	9.05%	9.05%	9.05%
GHTP	8.98%	8.98%	8.98%

Furthermore, as per power demand scenario in the State of Punjab, PSPCL own unit's remained under reserve outage for longer period and during running period units remained running on backing down for maximum time as per directions of PC, Patiala. During frequent stop/start after reserve outage and running of units under backing down affects the performance of units. During backing down, power generation is reduced but most of the auxiliaries remained running at nearly full load which results in increase in percentage aux. consumption. Under the above circumstances, PSPCL pays the Hon'ble Commission to consider the actual Auxiliary Consumption at the time of Trued Up exercise.

2.1.6 Secondary Fuel Oil Consumption

The Secondary Fuel Oil Consumption for all three Thermal Generating Stations has been considered as 0.5 ml/kWh in line with CERC Tariff Regulations, 2014.

2.1.7 Transit Loss

From past trends, it is observed that the coal transit losses are inconsistent for all three plants. The actual transit losses for the past years are stipulated in the table given below:

Table 11 Transit Loss (%) for PSPCL Thermal Generating Stations

Plant	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16
	Actual	Actual	Actual	Provisional
GNDTP	2.8%	2.7%	-0.2%	1.3%
GGSTP	-0.1%	0.0%	-0.7%	0.2%
GHTP	2.3%	0.9%	-0.3%	1.2%

PSPCL submits that the coal transit losses are not within the control of it and attributable to the following reasons:

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

Hence, PSPCL has considered the normative transit losses of 1.5% for GNDTP and 1% for GHTP and GGSTP in line with the Business Plan submitted for control period. The normative transit loss projected for the Control period is as under:

Table 12 Transit Loss (%) for Control Period

Plant	FY 2017-18	FY 2018-19	FY 2019-20
GNDTP	1.5%	1.5%	1.5%
GGSTP	1.0%	1.0%	1.0%
GHTP	1.0%	1.0%	1.0%

2.1.8 Generation from Generating Stations

After MOD, the Gross Generation and Net generation for Thermal Generating Stations has been projected for the control period as under:

Table 13 Generation (MUs) for Thermal Generating stations for Control Period

Plant	Gross Generation (MUs)			Net Generation (MUs)		
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18	FY 2018-19	FY 2019-20
GNDTP ³						
GGSTP	3,500.90	3,468.60	3,774.88	3,184.06	3,154.70	3,433.26
GHTP	2,093.20	2,103.23	2,387.12	1,905.23	1,914.36	2,172.75

Generation for Hydro Generating Stations

As regards the Hydro Generating Stations, PSPCL has considered the actual month-wise average Generation achieved/likely to be achieved during the corresponding months of the preceding 3 years from FY 2014-15 to FY 2016-17. PSPCL has considered the generation of 82.90 MUs for Mukerian Hydro Stage II for the Control period.

As regards the auxiliary consumption and transformation losses (MUs), PSPCL has considered the auxiliary consumption of 0.41 MUs for MHP Stage-II new plant Further, HP share has been estimated at 4.45% in gross generation of Ranjit Sagar Dam.

Table 14 Auxiliary consumption and transformation losses (MUs)

HYDEL STATION	FY 2017-18	FY 2018-19	FY 2019-20
MHP Stage-II (9*2 = 18 MW)	0.41	0.41	0.41
SHANAN	1.04	1.04	1.04
UBDC	1.05	1.05	1.05
MHP	5.93	5.93	5.93
ASHP	0.89	0.89	0.89
RSPP	3.06	2.85	3.04
Micro	0.29	0.29	0.29
Total	12.68	12.47	12.66

³ No power scheduled in MOD

Accordingly, the generation from the hydro generating Station has been projected as under:

Table 15 Generation (MUs) for Hydro Generating Stations for Control Period

Gross Generation (MUs)	FY 2017-18	FY 2018-19	FY 2019-20
MHP Stage-II (9*2 = 18 MW)	82.90	82.90	82.90
SHANAN	519.00	519.00	519.00
UBDC Stage 1	168.00	168.00	168.00
UBDC Stage 2	168.00	168.00	168.00
Total UBDC	336.00	336.00	336.00
MHP	1,185.00	1,185.00	1,185.00
ASHP	720.00	720.00	720.00
RSPP	1,702.00	1,680.00	1,704.00
Micro	5.09	5.09	5.09
Total	4,549.99	4,527.99	4,551.99
Aux Consumption + Transformation Losses (MUs)	12.68	12.47	12.66
Net Hydel Generation (MUs)	4,537.31	4,515.52	4,539.33

The total generation available from Thermal and Hydro Generating Station during the Control Period is given in the following Table:

Table 16 Generation (MUs) for Thermal Generating stations for Control Period

Particular	FY 2017-18	FY 2018-19	FY 2019-20
Net thermal generation	5089.29	5069.05	5606.01
GNDTP	0.00	0.00	0.00
GGSTP	3184.06	3154.70	3433.26
GHTP	1905.23	1914.36	2172.75
Net Hydel Generation (MU)	4537.31	4515.52	4539.33



3 Operational Plan for Distribution

The projections for various business parameters for the Distribution Plan for Period from FY 2017-18 to FY 2019-20 have been made based on the past trends, future changes in scenario anticipated and the corresponding business drivers. The projections of parameters are based on the values for Provisional Accounts of FY 2015-16 as directed by Hon'ble Commission.

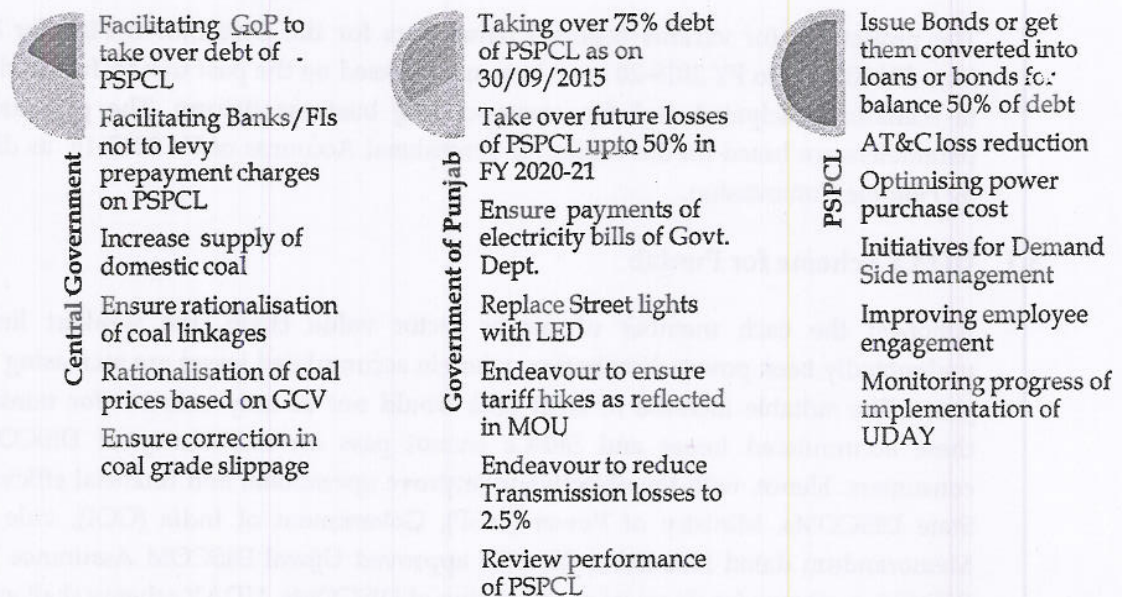
3.1 UDAY Scheme for Punjab

Amongst the each member of power sector value chain, the weakest link has undoubtedly been power distribution, wherein accumulated losses are increasing in past years. The suitable increase in tariff hike would not be only solution for minimising these accumulated losses and SERCs cannot pass on inefficiency of DISCOMs to consumers. Hence, with the objective to improve operational and financial efficiency of State DISCOMs, Ministry of Power (MoP), Government of India (GOI), vide Office Memorandum dated November 20, 2015 approved Ujjwal DISCOM Assurance Yojana (UDAY), a scheme for financial restructuring of DISCOMs. UDAY scheme shall apply to State DISCOMs only and participating States would have to undertake operational and financial turnaround of DISCOM in the specified areas such as metering, consumer indexing, DSM initiatives, etc.

PSPCL has suffered from financial stress and revenue deficit of around Rs. 1839 Cr and accumulated losses to the level of Rs. 3374 Cr were expected at the end of FY 2015-16. Government of Punjab (GOP) in the Cabinet meeting held on February 25, 2016 approved adoption of UDAY Scheme. Subsequently, Memorandum of Understanding (MoU) amongst MoP, GOP and PSPCL was signed on March 4, 2016. MoU assigned various obligations to MoP, GOP and PSPCL wherein role of GOP is to undertake the financial restructuring and PSPCL to achieve to operation efficiency targets. The key Obligations are highlighted in the following figure:



Figure 1 Stakeholders Obligation under UDAY scheme of Punjab



Under financial restructuring under UDAY Scheme, GOP will take over 75% of debt of PSPCL as on September 30, 2015 (50% in FY 2015-16 and 25% in FY 2016-17) and GOP will issue non-SLR including SDL Bonds in market or directly to banks/FIs holding DISCOM debt. The Financial restructuring and its status of implementation will be discussed in detailed in Financial Plan for Distribution.

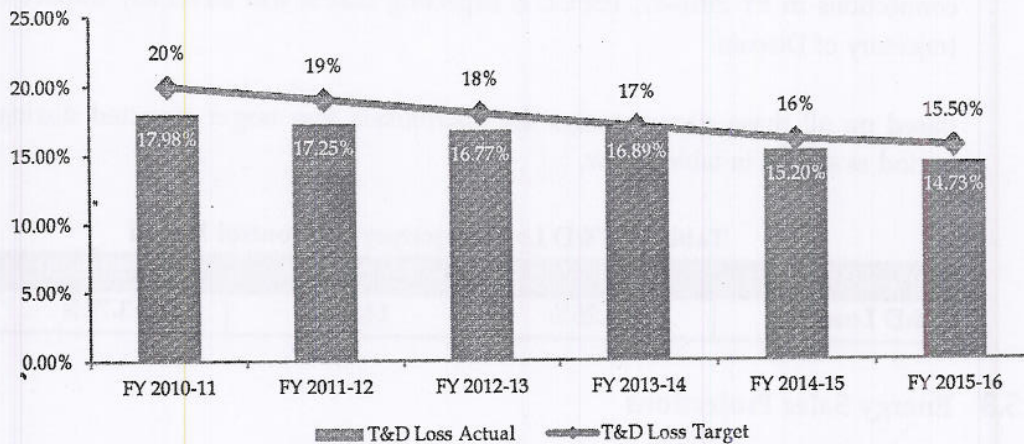
UDAY Scheme outlines three pronged approach of cleaning up of past dues, defining roadmap for achieving AT&C loss reduction and establishing deterrents for GOP to monitor performance of PSPCL.

3.2 T&D Loss trajectory

The actual values of T&D loss achieved by PSPCL in past years vis-à-vis target T&D loss set by Hon'ble Commission is given in the following figure:



Figure 2 T&D loss - Target vis-à-vis actual (%)



From the above figure, it is observed that PSPCL has reduced the T&D loss from 17.98% to 14.73% i.e., by 3.25% from FY 2010-11 to FY 2015-16. It is appreciated that consistently, PSPCL has been able to reduce T&D losses below target of T&D losses set by Hon'ble Commission. PSPCL has been taking steps to reduce the distribution loss through various loss reduction and network planning initiatives. Considering the geographical spread of the service area and consumer base of PSPCL, loss level of 14.73% has been achieved during FY 2015-16 indicates the efficient and consistent performance of the PSPCL. Further, Hon'ble Commission under the Tariff Order for FY 2016-17 has set the T&D loss target for FY 2016-17 as 14.50%.

PSPCL has been taking steps to reduce the distribution loss through various loss reduction and network planning initiatives. It is further submitted that driven by the targets and directives given by the Hon'ble Commission, the 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. Efforts to reduce losses below these levels would require huge investments and appropriate cost benefit analysis is essential as return in the form of loss reduction.

The Distribution loss reduction targets for the business plan had been set based on the mandatory conditions as per the central UDAY scheme for receiving matching grant due to accelerated AT & C loss reduction. The main assumption is to continue to pursue the loss reduction programs initiated in earlier years and also increasingly use the technology to target erring consumers and reduce the losses further during the projection period. The investments being made under sub transmission and distribution strengthen schemes are also expected to aid in the reduction of distribution loss both in



urban and rural areas. However, due to the estimated increase of 1.65 lac's AP connections in FY 2016-17, PSPCL is expecting that it will adversely impact T&D loss trajectory of Discom.

Based on all these circumstances the distribution loss target expected during control period as shown in table below.

Table 17 T&D Loss Trajectory for Control Period

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
T&D Loss	14.25%	14.00%	13.75%

3.3 Energy Sales Projections

3.3.1 Energy sales for metered category

In ARR Petition, PSPCL has been projecting the energy sales on the basis of Compound Aggregate Growth Rate (CAGR) method. It has been observed from the past experience that the CAGR method has proved to be a reasonably accurate and well accepted method for estimating sales. In light of the above, PSPCL has estimated energy consumption for various consumer categories based on the CAGR trends during past years.

PSPCL has projected the energy sales for the Control period after analyzing actual sales data from FY 2011-12 to FY 2015-16 and CAGR for different periods. The CAGR for different period computed has been shown as under:

Table 18 CAGR for the Energy Sales (%)

Categories	1st Half		2nd Half		Annual	
	3 Year	4 years	3 Year	4 years	3 Year	4 years
Domestic	9.51%	12.32%	7.12%	7.18%	8.41%	8.22%
Commercial (NRS)	7.53%	9.69%	8.62%	6.69%	8.03%	6.95%
Industrial						
Small Supply	2.14%	2.83%	1.38%	1.66%	1.76%	1.89%
Medium Supply	4.53%	4.16%	5.09%	4.40%	4.81%	3.75%
Large Supply	1.43%	6.80%	2.17%	0.96%	1.79%	2.91%
Total	1.94%	6.06%	2.57%	1.54%	2.25%	2.97%
Street Lighting	9.69%	12.77%	12.02%	9.92%	11.01%	9.71%



Categories	1st Half		2nd Half		Annual	
	3 Year	4 years	3 Year	4 years	3 Year	4 years
Bulk Supply	3.93%	6.20%	6.20%	4.81%	5.05%	4.71%
Railway Traction	8.06%	8.59%	5.93%	2.83%	7.03%	4.62%
Total Metered Sales	5.72%	9.06%	5.08%	4.27%	5.41%	5.52%
AP Consumption	3.87%	8.92%	-2.10%	-4.99%	2.20%	2.96%
Total Sales	5.05%	9.01%	3.69%	2.34%	4.39%	4.48%

It is observed that growth in energy sales for domestic and commercial categories is higher in last three years; however, growth in sales for industrial categories has been reduced in recent years. The overall growth in metered sales is slower in recent years. PSPCL finds it appropriate to consider the 3 year CAGR for projection of energy sales for the control period as it caters the economic changes in recent years.

Further, for the projection of energy sales for the Large Supply category, the impact of Hon'ble Commission order dated August 11, 2016 has been considered attached as Annexure II.

It has been observed that as per the impact of said order, the OA sales for the month of September 16 have shown reduction of 86.59% w.r.t. to OA sales in the month of September 15. Assuming the same reduction during the second half, energy sales for the LS category consumers has been projected. Further, for the projection of LS category sales for FY 2017-18, impact of reduction of OA reduction during the first half has also been considered.

After applying the 3 Year CAGR, the energy sales for the Control period has been projected, which are shown in the following table:

Table 19-Metered Energy Sales for Control Period (MU)

Consumer Category	FY 2017-18	FY 2018-19	FY 2019-20
	Total	Total	Total
Domestic	14,387.66	15,597.33	16,908.72
Commercial (NRS)	4,190.92	4,527.60	4,891.33
Industrial	-	-	-
Small Supply	1,005.93	1,023.63	1,041.64
Medium Supply	2,310.47	2,421.70	2,538.28

Consumer Category	FY 2017-18	FY 2018-19	FY 2019-20
	Total	Total	Total
Large Supply	12,072.94	12,289.62	12,510.18
Total	15,389.33	15,734.94	16,090.10
Street Lighting	255.47	283.59	314.80
Bulk Supply	744.99	782.65	822.21
Railway Traction	187.22	200.38	214.46
Total Metered Sales	35,155.59	37,126.49	39,241.62

3.3.2 Energy sales for Agriculture

PSPCL has analysed the actual sales for Agriculture category for FY 2010-11 to FY 2015-16. The growth in actual sales (on the basis of sampled metered) for Agriculture category observed as under:

- 3 year CAGR - 2.20%,
- 4 Year CAGR - 2.96% and;
- 5 Year CAGR - 2.57%

It is observed that monsoon plays an important role in determining electricity consumption by agricultural consumers. A good monsoon spell reduces the reliance on agriculture pumpsets and accordingly lowers the Agriculture consumption. In past years, all across India, the variability of monsoon was observed in growth of agriculture consumption for different period.

As per the State Policy of Punjab; 165000 agricultural connections were to be released in FY 2016-17. Thus, the impacts of additional 165000 new connections have been considered over the previous year while projecting the number of connections for Agriculture Metered.

Further, as per Hon'ble Commission observation in Tariff Order FY 2016-17 for PSPCL, Hon'ble Commission has put their observation as under

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 tube well 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 (ad hoc) 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.

In view of the above, for the projection of AP sales for FY 2016-17, PSPCL has projected the energy sales for Agriculture consumption for the second half of the FY 2016-17 over and above 7.5% after at CAGR of second half of the 3 years. Further, for the projection of AP sales for FY 2017-18, only 3 year CAGR at FY 2016-17 will not shown real impact of AP connection released during first half.

AP release of AP connection has started from January 2016, thus PSPCL has taken 3.75% increased over and above the 3 Years CAGR of FY 2016-17 for the projection of AP sales for FY 2017-18.

In view of the above, PSPCL has projected the energy sales for Agriculture consumption as shown in the following table:

Table 20 Energy Sales for Agriculture Category for Control Period (MU)

Consumer Category	FY 2017-18	FY 2018-19	FY 2019-20
Agriculture	12,336.54	12,608.25	12,885.96

3.3.3 Total Energy sales

The approach and assumptions adopted for projecting the sales for various categories of consumers has been discussed above. The total energy sales for Control Period are submitted as under:



Table 21 Energy Sales for Control Period (MU)

Consumer Category	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
	Total	Total	Total	Total
Total Metered Sales	32,467.46	35,155.59	37,126.49	39,241.62
AP Consumption	12,265.37	12,336.54	12,608.25	12,885.96
Total Sales within State	44,732.83	47,492.13	49,734.74	52,127.57
Common Pool	310.05	311.68	341.64	333.72
Outside State	118.72	128.40	127.46	128.52
Total Sales	45,161.60	47,932.21	50,203.84	52,589.82

3.4 Energy Balance for Control Period

The energy balance for the control period is projected on the basis of the following:

- The projected energy sales for metered and Agriculture category
- Distribution loss trajectory as discussed in the above section
- Net power scheduled from Own Thermal as per MOD and
- Hydro Generation Stations generation as discussed under subsequent section
- Net generation available as share from BBMB.

It is to mention here that the BBMB share has been considered as per the estimated generation target and PSPCL share as provided by BBMB attached as **Annexure III**.

The energy balance projected for the Control period is given below:

Table 22 Energy Balance for Control Period (MU)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
ENERGY REQUIREMENT			
Energy sales to metered category	35155.59	37126.49	39241.62
Energy sales to AP	12336.54	12608.25	12885.96
Total sales within the State	47492.13	49734.74	52127.57
T&D losses			



Particulars	FY 2017-18	FY 2018-19	FY 2019-20
%	14.25%	14.00%	13.75%
MU	7892.28	8096.35	8310.19
Sub-total	55384.41	57831.10	60437.77
Sales to common pool consumers	311.68	341.64	333.72
Sales outside state	128.40	127.46	128.52
Sale to outside states		0.00	0.00
Add: Royalty to HP from Shannan	52.66	52.66	52.66
Add: Share from RSD to HP	75.74	74.80	75.86
Total Energy Requirement	55824.49	58300.20	60900.01
ENERGY AVAILABILITY			
Net thermal generation	5089.29	5069.05	5606.01
GNDTP	0.00	0.00	0.00
GGSSTP	3184.06	3154.70	3433.26
GHTP	1905.23	1914.36	2172.75
Hydel Generation (own+shared)	4537.31	4515.52	4539.33
Net power purchase	42735.58	44920.49	47047.49
BBMB Share (Including Common Pool)	3462.30	3795.14	3707.18
Net BBMB Share	3150.62	3453.49	3373.45
Common Pool	311.68	341.64	333.72
Total Energy Availability	55824.49	58300.20	60900.01

3.5 Power Procurement Plan

Demand of power is met by procurement of power from Central Generating Stations and other external sources apart from state's own Generation. The major sources from which PSPCL procures Power are:

- Central Generating Stations viz. NTPC, NHPC, NPC, SJVNL and THDC
- IPP's
- Co-Generation Plants
- Banking Arrangements
- Traders

As per Hon'ble Commission direction time to time PSPCL has projected to procure power from different sources including own thermal generation plants on Merit Order Dispatch Principle. PSPCL has estimated the purchase of power for Control Period as per Merit Order Principle wherein; 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 merit order dispatch after due consideration for contractual obligations and technical constraints, have been proposed for approval.

3.5.1 Energy Availability and Energy Purchase

The energy availability from PSPCL's Own Thermal and Hydro generating Stations has been considered based on Generation Plan prepared for the Control Period. PSPCL has projected the power procurement from own thermal plant as per Merit Order principal excluding one Unit for each GGSSTP and GHTP. The Royalty to HP from Shanan and Share to HP from RSD has been taken as the same %age of Gross Generation for the corresponding period of previous year.

In addition to the availability from own Thermal and Hydro generation, PSPCL also procures power from CGS, PTC, NVVNL (NTPC Vidyut Vyapar Nigam Limited) and other sources to meet its energy requirement. 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.

Projected energy availability from all existing Central Hydro Generating Stations and BBMB stations has been taken as per target provided by Central Hydro Generating Stations and BBMB stations for the control period. Projected energy availability from all existing Central Thermal & Nuclear Generating stations has been taken same as the actual energy availability for the year i.e. 2016-17. Inter-State Transmission losses have been taken same % age of actual grid losses to the Gross power import for March 2016.

Projected Energy from the New Hydro and Thermal projects has been calculated in accordance to the CEA regulations / Designed Energy as mentioned in the PPA.

Furthermore, State of Punjab is also purchasing the power from Independent Power Producers (IPPs) including Talwandi Sabo, Rajpura TPS (NPL), Goindwal Sahib, etc. The projected energy availability from IPPs in the State of Punjab has been taken same as the actual energy availability for the year i.e. 2016-17.

However it should be noted that during the Control period, PSPCL is projected to have surplus energy available from tied up sources. In order to manage demand and maintain energy balance, the surplus energy has been projected to be surrendered. Surrendering has been projected as per Merit Order of power purchase from existing thermal and gas stations on monthly basis. Merit Order is based upon the variable rates of September 2016. After surrender of energy, only variable charges have been reduced and fixed/other charges are assumed same. Accordingly, the surplus power available from thermal and gas stations has been surrendered as per merit order schedule.

For the projection of energy availability capacity and allocation of new/upcoming power plants have also considered. Details and likely COD of new/upcoming plants is shown in the following table:

Table 23 Energy Availability from New Projects in MYT Period

New Projects During Control Period			
Name of the Plant	Plant Capacity (MW)	PSPCL Share Gross (MW)	Commissioning Schedule
New Projects in 2017-18			
Mukerian Hydel Project Stage-II	9x2 = 18 MW	18 MW	Unit-1 =October, 2016 Unit-2 =March, 2017
Bokaro TPS -A (DVC)	1*500 MW	200 MW	November, 2016
Meja TPS	2*660 = 1320 MW	33 MW	Unit-1 = March, 2017 Unit-2 =October, 2017
Tiesta 3-HEP	6*200 = 1200 MW	340MW	March, 2017 (All Units)
New Projects in 2018-19			
Tanda Stage-II TPS	2*660 = 1320 MW		October, 2018
Parbati-II HEP	800 MW	80 MW	December, 2018
Vishnugad Pipalkoti HEP	4*111 = 444 MW	44 MW	October, 2018
New Projects in 2019-20			
North Karanpura STP	3*660 = 1980 MW	70 MW	October, 2019
Tapovan Vishnugad HEP	4*130 = 520 MW	52 MW	October, 2019



Further, as per the directions of the Hon'ble Commission regarding the Short Term Power Purchase plan, PSPCL submits that as per the current estimates being projected in ARR, there is no deficit for short term procurement. In case, any requirement is assessed it will be procured on day-to-day basis.

The energy availability and estimated purchase for the Control period is shown in the following table:

Table 24 Energy Availability and Net Purchase for Control Period (MUs)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Energy Availability from various sources	80708	84337	85857
Estimated Net Purchase	55824	58300	60900
Surplus of power	24884	26037	24957

The source of estimated Energy availability and Net purchase has been detailed under Format D-7.



3.6 Financial Plan for Generation and Distribution

3.6.1 Financial Plan for Generation

Regulation 14 of PSERC MYT Regulations, 2014 specifies the components of tariff for Generation Business as under:

"14. COMPONENTS OF TARIFF FOR GENERATION BUSINESS

14.1. The tariff for sale of electricity from a generating plant shall comprise of two parts, namely,

- a. Annual Fixed Charges (Capacity Charges);
- b. Variable Charges (Energy Charges). "

PSPCL has projected the generation tariff for the Control period in the subsequent sections.

3.6.2 Projection of Energy Charges

Regulation 39 of PSERC MYT Regulations, 2014 specifies as under:

"39. RECOVERY OF ENERGY CHARGES (VARIABLE CHARGES)

39.1 The Energy (Variable) Charges for a thermal generating plant shall cover the primary fuel cost and secondary fuel cost, and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the energy charge rate of the month (with fuel price adjustment).

39.2 The Energy Charge for generating plants of the distribution licensee/generating companies for the month shall be worked out on the basis of scheduled ex-bus energy to be sent out from the generating plant in accordance with the following formula:

Energy (Variable) Charge (Rs.) = Energy Charge Rate (Rs. /kWh) x Scheduled Energy (ex-bus) for the month (kWh)

39.3 Variations between actual net injection and scheduled net injection for the generating stations, and variations between actual net drawal and scheduled net drawal for the beneficiaries shall be treated as their respective deviations and such deviations shall be governed by the Indian Electricity Grid Code & ABT, as implemented by the

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Central Electricity Regulatory Commission, and charges for such deviations shall be governed by the Central Electricity Regulatory Commission (Deviation Settlement Mechanism and Related Matters) Regulations, 2014, as amended from time to time or any subsequent re-enactment thereof.

39.4 Energy Charge Rate (ECR) in Rupees per kWh on ex-power plant basis for coal based thermal power plant shall be determined to three decimal places in accordance with the following formulae:

$$ECR = \{(SHR - SFC \times CVSF) \times (LPPF / CVPF) + SFC \times LPSF\} \times 100 / (100 - AUX)$$

Where,

- AUX = Normative auxiliary energy consumption in percentage;
- CVPF = Weighted Average Gross calorific value of primary fuel as received, in kCal per kg or per litre or per cubic meter as applicable;
- CVSF = Weighted Average Calorific value of secondary fuel, in kCal per ml;
- ECR = Energy charge rate, in Rupees per kWh sent out;
- SHR = Station Heat rate, in kCal per kWh;
- SFC = Specific fuel oil consumption, in ml per kWh;
- LPPF = Weighted average landed price of primary fuel, in Rupees per kg or per litre or per cubic meter as applicable;
- LPSF = Weighted Average Landed Price of Secondary Fuel in Rs./ml. "

In view of the above said Regulations, PSPCL has projected the Energy Charge Rate for all thermal generating stations by considering the normative parameters as projected in earlier section and latest audited Gross Calorific Value and Price of Fuel.

3.6.3 Availability of Fuel

At present, PSPCL has available fuel linkages for its own thermal generating stations from Coal India Limited subsidiaries i.e., Central Coalfields Ltd., Bharat Coking Coal Ltd., South Eastern Coalfields Ltd.; and own Pachhwara Central Coal mine.

As regards Pachhwara Central Coal mine, it is submitted that Global tender enquiry was floated by PSPCL on August 31, 2015 for selection of Mine Developer cum Operator (MDO) for development and operation of Pachhwara Central open cast Coal mining project, Dist. Pakur, Jharkhand. The techno commercial bids submitted were opened on September 12, 2015 and evaluated by PSPCL. However, in the meanwhile the process of



appointment of MDO has held up as various bidders have filed the Civil Writ Petitions in Hon'ble Punjab & Haryana High Court Chandigarh against MDO tender enquiry. Hon'ble High Court has also stayed the opening of pricing bids and the matter is subjudice. Ministry of Coal, Government of India, has provided the coal linkage of 7 million tones per annum from Pachhwara Central Coal mine to PSPCL for its own thermal generating stations. In case, Writ Petitions are decided expeditiously and MDO gets appointed, then the coal will likely to be available during FY 2017-18 onwards. In the present Petition, PSPCL has envisaged optimistic scenario and coal of 7 million tones has been considered from Pachhwara Central Coal Mine. The allocation of Coal available from Pachhwara Central Coal Mine has been considered as 0.90 million tones for GNDTP, 3.59 million tones for GGSSTP and 2.51 million tones for GHTP.

The annual coal allocation for PSPCL from various coal linkages is given in the following table:

Table 25 Annual Coal Allocation for PSPCL

Source	Annual Coal Allocation (in million tones)
CCL (Rail + Road Mode)	4.595
BCCL Rail Mode	1.000
SECL (Rail + Road Mode)	1.005
Pachhwara Central	7.000
Grand Total	13.60

It is further submitted that at present, since the coal from Pachhwara Coal mines is not available as the matter is subjudice before the Hon'ble High Court. Hence, there would be shortage of coal of about 3.5 rakes per day during the paddy seasons as against the daily requirement of 9 rakes per day. PSPCL has already requested Ministry of Coal and Coal India Ltd. for availability of additional coal during paddy season. In this regards, Ministry of Coal and Coal India Ltd. has given the assurance to PSPCL in the meeting held on April 22, 2016 to supply an additional coal during paddy season.

In case, the coal from Pachhwara Coal mines would not be available during the Control Period in view of pending appeals before Hon'ble High Court, PSPCL will make its best possible efforts for arrangement of coal from Ministry of Coal and Coal India Ltd.

3.6.4 GCV and Price of Fuel

Regulation 39.4 of PSERC MYT Regulations, 2014 requires considering the GCV of Primary Fuel i.e. Coals received basis. As there is large variation in the actual GCV received during the year. Hence, PSPCL has considered the actual GCV as received

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during Q1 of FY 2016-17 at each Thermal Generating stations. The GCV of Coal and Oil considered by PSPCL for the Control Period is as under:

Table 26 GCV (kCal/kWh) for Coal and Oil for Control period

Plant	GCV of Coal (kCal/kg)	GCV of Oil (kCal/lit)
GNDTP	4266.57	9400
GGSTP	4207.00	9900
GHTP	4097.00	9500

As regards the landed price of fuel, PSPCL has considered the actual landed price of Fuel as on Q1 of FY 2016. Further, PSPCL has not considered any upward rise in price of fuel for the projection of energy charges for the control period.

PSPCL understands that any change in fuel cost from the level approved by the Hon'ble Commission shall be determined in accordance with the fuel cost adjustment (FCA) formula specified by the Hon'ble Commission in the Conduct of Business Regulations, and recovered from the consumers after following the procedure detailed in the Conduct of Business Regulations.

The landed price of Fuel considered for projection of energy charges is given in the following table:

Table 27 Landed Price of fuel for Thermal Generating stations for Control Period

Plant	Landed Price of Coal (Rs./MT)			Landed Price of Oil (Rs./kL)		
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18	FY 2018-19	FY 2019-20
GNDTP	4,855.00	4,855.00	4,855.00	40,410.00	40,410.00	40,410.00
GGSTP	5,181.04	5,181.04	5,181.04	22,478.46	22,478.46	22,478.46
GHTP	5,495.00	5,495.00	5,495.00	35,825.00	35,825.00	35,825.00

3.6.5 Energy Charges

For projection of energy charges, PSPCL has not considered any requirement of imported coal. PSPCL has projected the energy charges for GNDTP, GGSTP and GHTP as per the Regulation 39.4 and projected normative parameters, GCV and Price of fuel price.

Fuel Cost, per unit cost of generation and energy charge as given in the following table:

PSPCL MYT for FY 2017-18 to FY 2019-20, APR for FY 2016-17 & True-up for FY 2014-15



Table 28 Energy Charges for Thermal Generating stations for Control Period

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Fuel Cost (Rs. Cr)			
GNDTP			
GGSTP	1132.66	1122.21	1221.31
GHTP	714.73	718.15	815.09
Cost of Generation (Rs./kWh)			
GNDTP			
GGSTP	3.235	3.235	3.235
GHTP	3.415	3.415	3.415
Energy Charge Rate (Rs./kWh)			
GNDTP			
GGSTP	3.557	3.557	3.557
GHTP	3.751	3.751	3.751

As per the Hon'ble Commission direction PSPCL has projected the power procurement from own thermal plant as per Merit Order principal excluding one Unit for each GGSTP and GHTP plants.

As per power demand scenario in the State of Punjab, GNDTP, units remained under reserve outage for longer period and during running period units remained running on backing down for maximum time as per directions of PC, Patiala. During frequent stop/start after reserve outage and running of units under backing down affects the performance of units. During FY 2015-16, there are 32 no. stop/start ups of GNDTP units after reserve outages. And total number of reserve outage during the FY 2015-16 was 23547 hours. Similarly during FY 2016-17, till the month of September 22 no. stop/start ups have been recorded including 10892 hours of reserve outage. Under the above circumstances, the variable cost of the GNDTP goes higher compare to other plants and no power has been scheduled in merit order projection for control period.

PSPCL has not claimed any fuel cost against the GNDTP during the control period, as no power has been scheduled in Merit Order Dispatched projection for control period. Furthermore, PSPCL would like to mention here that during the real time operation in Control Period any variable expense on actual basis shall be claimed during the trued up for the relevant years of Control Period.



Furthermore, PSPCL understands that any change in fuel cost from the level approved by the Hon'ble Commission shall be determined in accordance with the fuel cost adjustment (FCA) formula specified by the Hon'ble Commission in the Conduct of Business Regulations, and recovered from the consumers after following the procedure detailed in the Conduct of Business Regulations.

3.7 Baseline values for Projection of ARR

Regulation 8.1 of PSERC MYT Regulations, 2014 specifies as under:

"8. MYT APPROACH

8.1. Baseline Values

- (a) The baseline values for the control period shall be determined by the Commission and the projections for the Control Period shall be based on these figures.*
- (b) The baseline values shall be inter-alia based on figures approved by the Commission in the past, latest audited accounts, estimate of the expected figures for the relevant year, industry benchmarks/norms and other factors considered appropriate by the Commission."*

The baseline values for the Control Period shall be determined by the Hon'ble Commission and the projections for the Control Period shall be based on these figures. These baseline values shall be inter-alia based on figures approved by the Hon'ble Commission in the past, latest audited accounts, estimate of the expected figures for the relevant year, industry benchmarks/ norms and other factors considered appropriate by the Hon'ble Commission.

In this regards, PSPCL submits that as per meeting held in PSERC dated 10.08.2016, Hon'ble Commission has directed PSPCL to consider provisional audited figures for FY 2015-16 as a baseline value for projection of ARR for the control period. . Hence, for projection of ARR for the Control period in this Petition, PSPCL has considered values for FY 2015-16 as per provisional account, as baseline values for projecting the ARR for the control period.

3.8 Segregation of Accounts

As regards the segregation of accounts for Generation and Distribution, Regulation 5 of PSERC MYT Regulations, 2014 specifies as under:

"5. SEGREGATION OF ARR OF GENERATION AND DISTRIBUTION BUSINESSES

5.1. The distribution licensee shall segregate the accounts of the Company into generation business and distribution business. The distribution licensee, based on segregated accounts, shall submit separate ARRs for generation and distribution businesses. The ARR for generation shall be used to determine generation tariff and the ARR for distribution business to determine wheeling charges and retail tariffs.

5.2. For such period until accounts are segregated, distribution licensee shall prepare an Allocation Statement to apportion costs and revenues to respective businesses.

5.3. The Allocation Statement shall be considered by the Commission only if it is approved by the Board of Directors and validated by a certificate of the Statutory Auditors of the distribution licensee, and it shall be accompanied with an explanation of the methodology which shall be consistent over the control period."

In this regards, PSPCL submits that Punjab Power Sector Reforms Transfer Scheme dated April 16, 2010 vested the functions of generation and distribution to PSPCL. At present, PSPCL has been maintaining the combined accounts for generation and distribution and preparing financial statements combined for both generation and distribution as per the provisions of the Companies Act, 2013. PSPCL understands the importance of the segregation of generation and distribution business in view of segregation of licensed and non-licensed business. However, the larger purpose of the segregation is to separate ARRs so as to determine the separate tariff for Generation and Distribution business. Since, the accounts has not yet been segregated, PSPCL has relied on the allocation of costs and revenues between generation and distribution based on latest account for FY 2015-16. PSPCL understands that separate tariff has been indicated in Tariff Orders for respective years based on the allocation statement submitted by PSPCL.

In the present Petition, PSPCL has considered the allocation of the expenses between the Generation and Distribution business on the basis of the allocation statement for FY 2015-16, attached under Annexure IV. Further, PSPCL has estimated the opening GFA, closing Capital work in progress by segregating the Gross fixed Assets as on April 1, 2016 into Generation Assets and Distribution Assets based on the function wise trial balances and the same has been considered for projecting the ARR for Generation and Distribution Business.

As regards the segregation of accounts for Wheeling and Retail Supply Business, Regulation 6 of PSERC MYT Regulations, 2014 specifies as under:

"6. SEGREGATION OF WHEELING AND RETAIL SUPPLY BUSINESS

6.1. The distribution licensee shall segregate the accounts of the distribution business into wheeling business and retail supply business. The ARR for wheeling business shall be used to determine Wheeling Charges and the ARR for retail supply business to determine Retail Supply Tariffs.

6.2. For such period until accounts are segregated, the distribution licensee shall prepare an Allocation Statement to apportion costs and revenues to respective businesses.

6.3. The Allocation Statement, approved by the Board of Directors and validated by the certificate of the Statutory Auditors of the distribution licensee, shall be accompanied with an explanation of the methodology which shall be consistent over the control period.

"

In this regards, PSPCL submits that at this stage it would be difficult to segregate the accounts in wheeling and retail supply business wherein the accounts are already not segregated in Generation and Distribution. Further, it may be understood that, at present, PSPCL is handling the combined business of wheeling and retail supply. The boundary between these two businesses is ambiguous, wherein multiple and complex activities are involved.

PSPCL understands that as per the provisions of the Act, the Hon'ble Commission is required to determine the Wheeling charges for use of Distribution system of the Distribution Licensee. For determination of Wheeling charges, the Hon'ble Commission requires separate ARR of the Distribution Licensee for the Wheeling Business. Since, the segregation of accounts is yet pending; PSPCL is required to project the allocation for segregation of ARR components between Wheeling Business and Retail Supply Business. For the allocation matrix, PSPCL has referred Maharashtra Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2015 wherein the allocation matrix has been specified in case complete accounting segregation has not been done between the Wheeling Business and Retail Supply Business of the Distribution Licensee.

In view of the above, the projected ARR of PSPCL Distribution for the Control period has been apportioned between the Wheeling Business and Retail Supply Business in accordance with the following Allocation Matrix:

Table 29 Allocation matrix for Segregation of Wheeling and Retail Supply Business

Particulars	Wheeling Business (%)	Retail Supply Business (%)
Power Purchase Expenses	0%	100%
Inter-State Transmission Charges	0%	100%
Intra-State Transmission Charges	0%	100%



Particulars	Wheeling Business (%)	Retail Supply Business (%)
Operation & Maintenance Expenses	65%	35%
Depreciation	90%	10%
Interest on Long-term Loan Capital	90%	10%
Income Tax	90%	10%
Return on Equity	90%	10%
Non-Tariff Income	10%	90%

3.9 Projection of Annual Fixed Charges

Regulation 14.3 of PSERC MYT Regulations, 2014 specifies the components of Annual Fixed Charges as under:

"14.3. The Fixed Cost of a generating plant (thermal or hydro) shall include the following elements:

- a. Return on Equity;*
- b. Interest and Finance Charges on Loan Capital;*
- c. Interest Charges on Working Capital;*
- d. Depreciation;*
- e. Operation and Maintenance Expenses;*
- f. All statutory levies and taxes, if any. "*

3.10 Power Purchase Expenses

The power purchase cost for each station is estimated as per the capacity charges and the variable charges for the respective station.

Basis of fixation of Annual Fixed Charges:

PSPCL has scheduled its power procurement plan based on merit order principles, capacity charges payable on the basis of allocated share and contractual obligations have been considered in-spite of the fact that power procurement from various sources has been regulated on the basis of load demand vis-a vis per unit cost from the generating sources.

CERC Tariff Regulations, 2014 are effective from April 1, 2014 for a period of 5 years i.e. up to March 31, 2019. The generating companies or the transmission licensees are allowed to recover the shortfall or refund the excess Annual Fixed Charge 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

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the CERC. Further, Annual Fixed Charges 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 along with the tariff petition filed for the next tariff period. Accordingly, the revised AFC's as calculated by various central sector generators and charged in their bills have been considered. AFC's for Control Period for various plants have been assumed same as applicable for FY 2015-16.

For tariff block period from FY 2014-19, as regards NTPC Stations, CERC has issued final Tariff Orders for many plants, except for Rihand III and IGSTPS Jhajjar. Hence, the provisional Tariff Order issued by CERC are applicable for these plants, which have been considered for projections.

For other CGS Stations such as Nathpa Jhakeri HEP, Tehri HEP, Koteshwar HEP, final orders are yet to be issued by CERC. Therefore generators are raising the bills as per provisional tariff. After award of final orders, generators shall claim the arrear amount. For Durgapur TPS, DVC is provisionally raising the bills, as final CERC Tariff Order is yet to be issued. Also, For Pragati-III Gas plant, PPCL is provisionally raising the bills, as final CERC Tariff Order is yet to be issued. Accordingly, the provisional Tariff Orders have been considered for projections for Control period.

The Tariff for NAPP/RAPP plants are governed by the guidelines of Department of Atomic Energy, which has been considered for projections for the Control Period.

Basis for Fixation of Variable Charges

PCPCL has not considered any upward rise in cost for the projection of energy charges for the control period. PSPCL understands that any change in cost from the level approved by the Hon'ble Commission shall be determined in accordance with the fuel cost adjustment (FCA) formula specified by the Hon'ble Commission in the Conduct of Business Regulations, and recovered from the consumers after following the procedure detailed in the Conduct of Business Regulations.

Variable charges (VC) for the month of Sept. 2016 for all thermal, gas and nuclear plants already supplying power under long term contracts have been assumed the same during the control period. For existing hydro plants, VC is based upon the applicable AFC. Moreover, for the projection of control period rate of energy from Tala HEP, Mallara-II has been taken same during the control period as applicable for the month of Sept. 2016.

The variable rate of 2017-18 to 2019-20 has been assumed same as that of H2 without any escalation.



The variable rates of new plants whose rates have been quoted by the company have escalated by 5% every year from quotation to the COD, after words the same rates have been assumed.

The variable rates of new plants whose rates have not been quoted have been assumed maximum rates of Thermal & Hydro Plants i.e. Jhajhar and Tehri.

For Sasan UMPP, tariff has been considered as per PPA. Fixed charges are calculated on the basis of normative availability of 80%. For Mundra UMPP, VC for control period taken equal to the month of Sept. 16 actual and further no escalation assumed during the control period. Fixed charges are calculated as per PPA on the basis of normative availability of 80%.

For Pragati Bawana, VC for control period taken equal to the month of Sept. 16 actual and further no escalation assumed during the control period. FC charges have been considered on the basis of normative availability.

VC for GVK TPS, NPL has been assumed as 294 paisa/ unit, 264.05 paisa/unit and 227.80 paisa /unit during the Control Period on the basis of normative availability of 80%.

The surplus energy has been surrendered. Surrendering has been done as per the merit order of power purchase from own generation, existing thermal and gas plants. After surrender of energy, only variable charges are reduced and fixed/other charges are assumed to be the same.

Basis of fixation of transmission charges

Long term inter-state transmission charges recovered by PGCIL are being charged as per PoC (Point of connection) methodology w.e.f. June 01, 2011. The PGCIL charges for 2017-18 to 2019-20 have been escalated by 5% every year from 2016-17.

Intra-state transmission charges payable to PSTCL is estimated as actual payable approved for FY 2016-17 as per PSERC tariff order for FY 2016-17, and expenses for the Control Period has been considered by applying escalation of 5% to expenses approved for FY 2016-17.

Based on above, projections for power purchase cost for the Control period have been summarized in following table:

Table 30 Power Purchase Cost for the Control Period (Rs. Cr)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Power purchase cost	17,988.67	19,159.52	19,959.34
Intra-state transmission charges (PSTCL)	1,208.56	1,268.99	1,332.44
Total Power Purchase Cost	19197.23	20428.51	21291.78

The details of source-wise cost of purchase of power are attached as Format 7 this document.

3.10.1 Capital Investment

PSPCL has considered the capital expenditure in line with the Capital Investment Plan submitted to the Hon'ble Commission. The capital expenditure for Generation for the Control Period is as under:

Table 31 Capital Investment for the Generation Business (Rs. Cr)

Name of Project	FY 2017-18	FY 2018-19	FY 2019-20	Total (Cr.)
GNDTP	2.05	-	-	2.05
GHTP	2.88	1.27	1.55	5.70
GGSSTP	64.82	118.55	42.50	225.87
Anandpur Sahib Hydel Project	2.31	11.35	-	13.66
Mukerian Hydel Project	50.59	57.04	24.84	132.47
Ranjit Sagar Dam HEP	16.13	12.30	13.63	42.06
Shanan Power House Hydel Project	34.42	1.76	3.97	40.15
Uppar Bari Doab Canal HEP	9.90	7.00	4.15	21.05
Total	183.10	209.27	90.64	483.01

Table 32 Capital Investment for the Distribution Business (Rs. Cr)

Name of Scheme/Project	FY 2017-18	FY 2018-19	FY 2019-20
Sub-transmission works	565.27	366.32	233.89
Civil Works of Grid Substations	10	10	25
Work relating to R-APDRP-II Part-B	350	267	100



Integrated Power Development Scheme (IPDS)	200	70	28.99
Din Dayal Upadhyay Gram Jyoti Yojana (DDUGJY)	150.5	25	-
Distribution System Strengthening Schemes	758	795.9	835.6
Providing 11 kV manual operative switched capacitors	9.96	8.83	13
Release of Tubewell connections for General Connections	211.86	196.38	201
Shifting of meters outside consumer premises	231	120	-
Implementation of SAP-ERP and other IT initiatives	60	20	20
Construction of Multistoried Integrated Office Complex with corporate culture at PSPCL land at Badungar for the office of PSPCL	45	30	-
Grand Total	2,591.59	1,909.43	1,457.50

3.10.2 Gross Fixed Assets

PSPCL has estimated the Gross Fixed Assets by segregating the Gross fixed Assets of the FY 2015-16 as Generation Assets and Distribution Assets based on the function wise trial balances. As per the provisional account of FY 2015-16, PSPCL has total assets of Rs. 46414.56 Cr comprising Rs. 23711.56 Cr for Generation and Rs.22703 Cr for distribution business respectively.

Gross Fixed Assets for the Control Period has been estimated by taking into account the projected capital investment and addition of GFA during the Control period as under:

Table 33 Gross Fixed Assets for PSPCL for the Control Period

Particular	FY 2017-18 Projected	FY 2018-19 Projected	FY 2019-20 Projected
Opening GFA	49,332.76	52,347.19	54,824.19
Add: During the year	3,014.43	2,476.99	1,919.73

Closing GFA	52,347.19	54,824.19	56,743.92
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Table 34 Gross Fixed Assets for Generation for the Control Period

Particular	FY 2017-18 Projected	FY 2018-19 Projected	FY 2019-20 Projected
Opening GFA	23,866.56	24,267.40	24,553.29
Add: During the year	400.84	285.90	168.74
Closing GFA	24,267.40	24,553.29	24,722.04

Table 35 Gross Fixed Assets for Distribution for the Control Period

Particular	FY 2017-18 Projected	FY 2018-19 Projected	FY 2019-20 Projected
Opening GFA	25,466.20	28,079.80	30,270.89
Add: During the year	2,613.60	2,191.10	1,750.99
Closing GFA	28,079.80	30,270.89	32,021.88

3.10.3 Depreciation

As regards the Depreciation, Regulation 21 of PSERC MYT Regulations, 2014 specifies as under:

"For the purpose of tariff determination, depreciation shall be calculated in the following manner:

21.1. The value base for the purpose of depreciation shall be historical cost of the assets, that is actual expenses limited to approved capital cost where such capital cost has been approved by the Commission:

Provided that the land is not a depreciable asset and its cost shall be excluded from the capital cost while computing depreciation;

Provided that the depreciation has been calculated after deduction of consumer contributions, capital subsidies/Government grants as per methods prescribed in Accounting Standards issued by The Institute of Chartered Accountants of India.

21.2. The residual/salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of historical capital cost of the asset: Provided that in case of hydro generating stations, the salvage value shall be as provided in the

agreement signed by the developers with the State Government for creation of the site; Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under longterm power purchase agreement at regulated tariff.

21.3. The depreciation for generation, transmission and distribution assets shall be calculated annually based on straight line method over the useful life of the asset at the rates specified in CERC Regulations, as amended from time to time. The depreciation for distribution assets not covered in CERC Regulations shall be as per the rates notified in the Companies Act, as may be revised from time to time: Provided that the 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 of the assets.

21.4. Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

21.5. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

As per PSERC MYT Regulations 2014, salvage value of asset is considered at 10 per cent of the allowable capital cost and depreciation is allowed up to a maximum of 90 per cent of the allowable capital cost of the asset. As provided in the PSERC MYT Regulations, 2014, PSPCL has used the rate of depreciation as specified in CERC Tariff Regulations, 2014. The following depreciation rates have been used for calculating depreciation:

Table 36 Asset wise Depreciation rate

Asset Type	Rate of Depreciation
Buildings	3.34%
Hydraulic Works	5.28%
Other Civil Works	3.34%
Plant & Machinery	5.28%
Lines, Cables, Networks etc.	5.28%
Vehicles	18.00%
Furniture & Fixtures	6.33%
Office Equipments	6.33%

PSPCL has computed Depreciation by applying the above said depreciation rate on Opening GFA for full year and addition of GFA for half year period. PSPCL has not

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computed the depreciation on the land. The depreciation charges for the Control Period are given in the following table:

Table 37 Depreciation for PSPCL for Control Period (Rs. Cr)

Particular PSPCL	FY 2017-18	FY 2018-19	FY 2019-20
	Projected	Projected	Projected
Opening GFA	49,332.76	52,347.20	54,824.18
Closing GFA	52,347.20	54,824.18	56,743.92
Depreciation	1,575.66	1,670.98	1,742.31

Table 38 Depreciation for Generation for Control Period (Rs. Cr)

Particular Genco	FY 2017-18	FY 2018-19	FY 2019-20
	Projected	Projected	Projected
Opening GFA	23,866.56	24,267.40	24,553.29
Closing GFA	24,267.40	24,553.29	24,722.04
Depreciation	587.47	594.12	599.65

Table 39 Depreciation for Distribution for Control Period (Rs. Cr)

Particular Discom	FY 2017-18	FY 2018-19	FY 2019-20
	Projected	Projected	Projected
Opening GFA	25,466.20	28,079.80	30,270.89
Closing GFA	28,079.80	30,270.89	32,021.88
Depreciation	988.19	1,076.86	1,142.66

3.10.4 Return on Equity

Regulation 20 of PSERC MYT Regulations, 2014 provides for recovery of Return on Equity which is reproduced hereunder:

"20. RETURN ON EQUITY

Return on Equity shall be computed at the rate of 15.5% on the paid up equity capital determined in accordance with regulation 19: Provided that assets funded by consumer contributions, capital subsidies/Govt. grants shall not form part of the capital base for the purpose of calculation of Return on Equity"

The Hon'ble Commission has approved a return on equity for FY 2015-16 at the rate of 15.5% worked out at Rs. 942.62 Cr on an equity base of Rs. 6081.43 Cr.

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PSPCL submits that it is facing immense cash crunch due to huge disallowances against actual expenses being incurred by it. In order to achieve the desired operational and financial outcomes/ efficiencies that it is essential for the PSPCL to make necessary investments in the Generation as well as the Distribution business on a year on year basis.

It is assumed that there will be no addition in equity during the Control period. PSPCL as per the allocation matrix for FY 2015-16 attached as Annexure-IV has estimated the Return on Equity Rs. 577.90 Cr and 364.72 Cr for the PSPCL Generation and distribution business respectively during the control period which has been tabulated below:

Table 40 Return on Equity for Generation for Control Period (Rs. Cr)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Return on Equity PSPCL	942.62	942.62	942.62
Return on Equity for Generation	577.90	577.90	577.90
Return on Equity for Distribution	364.72	364.72	364.72

3.10.5 Interest on Long Term loan

Regulation 24 of PSERC MYT Regulations, 2014 provides for recovery of Interest on Loan Capital which is reproduced hereunder:

"24. INTEREST ON LOAN CAPITAL

For existing loan capital, interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the actual rate of interest and the schedule of repayment as per the terms and conditions of relevant agreements. The rate of interest shall be the actual rate of interest paid/payable (other than working capital loans) on loans by the licensee or the State Bank of India Advance Rate as on April 1 of the relevant year, whichever is less.

24.2. Interest and finance charges on the actual loan capital for new investments shall be computed on the loans, duly taking into account the actual rate of interest and the schedule of repayment as per the terms and conditions of relevant agreements. The rate of interest shall be the actual rate of interest paid/payable (other than working capital loans) on loans by the licensee or the State Bank of India Advance Rate as on April 1 of the relevant year, whichever is less.

24.3. The repayment for each year of the tariff period shall be deemed to be equal to the depreciation allowed for the corresponding year. In case of de-capitalisation of assets, the repayment shall be adjusted by taking into account cumulative depreciation made to the extent of decapitalisation.

24.4. The Commission shall allow obligatory taxes on interest, finance charges (including guarantee fee payable to the Government) and any exchange rate difference arising from foreign currency borrowings, as finance cost.

24.5. The interest on excess equity treated as loan shall be serviced at the weighted average interest rate of actual loan taken from the lenders."

The interest expenditure on account of long-term loans depends on the outstanding loan, repayments, and prevailing interest rates on the outstanding loans. Further, the projected capital expenditure and the funding of the same also have a major impact on the long-term interest expenditure. PSPCL has considered the estimated outstanding loans as on March 31, 2017 as opening loan balance for FY 2017-18. The addition of loan has been considered towards the capital investment proposed during the Control period. The interest expenses have been computed considering repayment of actual loans and applicable interest rate for loan. The Interest Charges for Control period FY 2017-18 to FY 2019-20 is projected as tabulated below:

Table 41 Interest Expenses for Generation for Control Period (Rs. Cr)

GENERATION	FY 2017-18	FY 2018-19	FY 2019-20
Opening Balance of year	686.89	685.72	683.07
Addition during the year	183.10	209.27	90.64
Repayment during year	184.27	211.92	68.16
Closing Balance of year	685.72	683.07	705.55
Interest Rate (%)	11.53%	12.35%	12.17%
Interest Charges	79.12	84.54	84.48

Further, as per PSERC MYT Regulations, 2014 specified quantum of long term loan as normative. As discussed earlier, outstanding debt as on September 30, 2015 has been restructured under the implementation of UDAY Scheme. As a result of this, interest liability of PSPCL has been reduced in subsequent years. PSPCL expects that this benefit of reduction in interest liability shall be passed on to the consumers. Hence, PSPCL has proposed interest expenses for the Control period on actual basis.



PSPCL has considered the estimated outstanding loans for generation schemes as on March 31, 2017 as opening loan balance for FY 2017-18. The addition of loan has been considered towards the capital investment proposed during the Control period. The interest expenses have been computed considering estimated repayment of actual loans outstanding and applicable rate of interest.

Further, PSPCL has projected the increase in consumer security deposit after taking into account the growth in energy sales and revenue.

The Interest Charges for control period FY 2017-18 to FY 2019-20 is projected as tabulated below:

Table 42 Interest Expenses for Distribution for Control Period (Rs. Cr)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Loans covered under UDAY	1796.64	1796.64	1796.64
GOP LOANS(UDAY BONDS)	1306.95	1306.95	1306.95
DISCOM Bonds	489.69	489.69	489.69
Loans covered not under UDAY			
Long Term Loan	95.98	92.82	87.19
PFC-R-APDRP	40.36	38.81	37.25
PFC-Sultanpur Lodhi Scheme	0.00	0.00	0.00
LTL-COMMERCIAL BANKS	51.32	50.41	47.04
CSS Loans-APDRP	4.30	3.60	2.90
WC Loan	1164.78	1408.75	1559.53
Liability for GPF	102.15	84.21	66.26
CC/OD Limits	74.78	76.22	70.22
NON - SLR BONDS	15.30	10.07	0.45
Interest on Consumers Security Deposit	357.15	385.93	416.08
Total	3606.77	3854.64	3996.38
Add: Finance charges	44.83	20.38	18.26
Less: Interest Capitalized	183.09	169.06	140.18
Total	3462.61	3699.58	3868.09

3.10.6 Interest on Working Capital

Regulation 34.1(a) and Regulation 34.1(c) of PSERC MYT Regulations, 2014 provides for recovery of Interest on working Capital Loan which is reproduced hereunder:

"34.1. Components of Working Capital

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a. Coal-based Thermal Generating Plants:

The Working Capital shall cover the following:

- i. Fuel Cost for 2 months corresponding to the normative annual plant availability factor;*
- ii. Operation and maintenance (O&M) Expenses for 1 month;*
- iii. Maintenance spares @ 15% of the O&M expenses;*
- iv. Receivables equivalent to two (2) months of fixed and variable charges for sale of electricity calculated on the normative annual plant availability factor*

... ..

c. Hydro based generating stations:

The Working Capital shall cover the following:

- i. Maintenance spares @ 15% of operation and maintenance expenses;*
- ii. Operation & maintenance expenses for 1 month;*
- iii. Receivables equivalent to 2 months of fixed cost."*

PSPCL has calculated the interest on working capital for MYT Control Period as per PSERC MYT Regulations 2014 separately for Thermal and Hydro Generating Stations. The projected components of ARR have been allocated between Thermal and Hydro as per the allocation matrix considered in above section. The interest on the average loans has been computed considering the minimum of weighted average rate of interest for FY 2015-16 i.e., 11.31 % and SBAR as on April 1, 2016 i.e. 14.60% for the projection period. PSPCL has computed the interest on working capital for Generation business for the MYT Control Period is as follows:

Table 43 Interest on Working Capital for Generation for Control Period (Rs. Cr)

THERMAL		FY 2017-18	FY 2018-19	FY 2019-20
Cost of Fuel	2 months	307.90	306.73	339.40
O&M expenses	1 month	88.11	91.07	94.45
Maintenance Spares	15% of O&M	158.59	163.93	170.01
Receivables	2 months	609.09	614.81	656.26
Total Working Capital		1,163.69	1,176.55	1,260.12
Weighted average rate of interest(Actual)		11.31%	11.31%	11.31%
Interest on Working Capital		131.61	133.07	142.52
HYDRO		FY 2017-18	FY 2018-19	FY 2019-20
O&M expenses	1 month	16.43	30.14	31.45
Maintenance Spares	15% of O&M	29.57	54.25	56.61
Receivables	2 months	142.32	145.54	147.48
Total Working Capital		188.32	229.93	235.53

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Weighted average rate of interest (Actual)		11.31%	11.31%	11.31%
Interest on Working Capital		21.30	26.01	26.64
Grand Total Interest on Working Capital- Generation		152.91	159.07	169.16

3.10.7 O&M Expenses

Regulation 26 of the PSERC MYT Regulations, 2014 and its subsequent first amendment specifies as under:

"26.1. The O&M expenses for the nth year of the Control Period shall be approved based on the formula shown below:

$$O\&M_n = (R\&M_n + EMP_n + A\&G_n) \times (1 - X_n)$$

Where,

R&M_n – Repair and Maintenance Costs of the Applicant for the nth year;

EMP_n – Employee Cost of the Applicant for the nth year;

A&G_n – Administrative and General Costs of the Applicant for the nth year;

The above components shall be computed in the manner specified below:

(i) $R\&M_n + A\&G_n = K * GFA * (WPI_n / WPI_{n-1})$

Where,

"K" is a constant (expressed in %) governing the relationship between R&M and A&G expenses and Gross Fixed Assets (GFA) for the nth year. The value of "K" will be specified by the Commission in the MYT order.

'GFA' is the average value of the gross fixed assets of the nth year.

WPI_n means the average rate (on monthly basis) of Wholesale Price Index (all commodities) over the year for the nth year.

(ii) $EMP_n = (EMP_{n-1}) * (INDEX_n / INDEX_{n-1})$

INDEX_n - Inflation Factor to be used for indexing the Employee Cost.

This will be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) of nth year and shall be calculated as under:-

$$INDEX_n = 0.50 * CPI_n + 0.50 * WPI_n$$

'WPI_n' means the average rate (on monthly basis) of Wholesale Price Index (all commodities) over the year for the nth year.

'CPI_n' means the average rate (on monthly basis) of Consumer Price Index (Industrial workers) over the year for the nth year.

... ..

(iii) X_n is an efficiency factor for nth year

The value of Xn shall be determined by the Commission in its first MYT order for the Control Period."

The projection of Employee Expenses, R&M Expenses and A&G Expenses is discussed as under:

3.10.8 Employee Expenses

Employee cost is the most important constituent of O&M expenses. Employee cost includes the cost incurred on working employees as well as retirees. The cost of working employees includes salary, dearness allowance payable to them and other allowances such as HRA, LTC, medical reimbursement etc. In the case of retired employees and those retiring during the year, the Nigam has to discharge liabilities towards pension, gratuity and leave encashment benefits etc, as applicable.

Inflation factor


Since, WPI index are available till September, 2016 and CPI Index till August, 2016, the escalation index has been computed as per provisions of PSERC MYT Regulations, 2014 as shown in the following Table:

Table 44: Computation of Escalation Index

Period	FY 2015-16	FY 2016-17	Increase/ (Decrease)
CPI Index (Apr- Aug)	260.40	276.20	106.07%
WPI Index (Apr- Sep)	177.35	181.83	102.53%
CPI:WPI Index (50:50)	218.88	229.02	104.30%

Accordingly, the inflation factor for the Control Period as per PSERC MYT Regulations, 2014 works out to 4.30 %. This is grossly inadequate considering even the average rise in salaries and other expenses. The Hon'ble Commission would appreciate that in any industry with poachable talent, it is important that salaries are raised at least at par with the industry average to retain employees. Considering the fact that Employee Expenses form the biggest chunk in the overall operational expenditure, a mere 4.30 % hike in Employee Expenses is grossly insufficient to maintain salaries even at industry average.

Moreover, Employee Expenses are driven primarily by retail inflation, i.e. CPI. The Dearness Allowances in the salaries of the employees is linked to CPI Industrial Workers index numbers. PSERC MYT Regulations, 2014 has linked employee expenses to 50% CPI and 50% WPI Index. The Employee expense forecast will be approved for a period



of three years. Correspondingly, the escalation factor considered should also be based on longer-term data and should not rely only on short-term data. Employing a short-term inflation to forecast employee expenses has the potential of leaving the Company out of pocket and short of cash to pay its employees or incur appropriate level of general and operational expenses.

Further, PSPCL submits that the Hon'ble Commission has been disallowing the employee costs on the grounds that the erstwhile PSEB and PSPCL have not taken adequate steps to control the same. It was further pointed out by the Hon'ble Commission that overall productivity of the employees is not demonstrated by PSPCL.

The PSPCL further submits that it is a State Government owned entity and is liable to follow the statutory provisions of the rules and regulations as laid down by the State Government. Accordingly, any increase in employee cost due to revision in DA, arrears of pay, etc. have to be borne by PSPCL and beyond its control. Hon'ble APTEL in its Judgment dated October 18, 2016 in Appeal Nos. 7, 46 and 122 of 2011 also held as under:

"...In the case of the employees of the PSPCL, they are regular staff of the Corporation and it being a Govt. company, they are to be governed by the rules and regulations of the Govt..."

...Reduction of Rs. 100 Crs does not appear to be based on specific premises. Again, reduction as usual on regular basis in terms of the practice of the past by 28.48% does not appear to be justified. Our finding on this issue is the same plus the observation that in course of true up in respect of Tariff Order for FY 2011-12 the Commission will review the matter. The issue is answered in favour of the appellant."

Hon'ble APTEL vide its Judgment dated September 11, 2014 in Appeal No. 174 of 2012 and its subsequent judgment dated March 30, 2015 in review Petition No. 6 of 2015 pertaining to the employees cost had held (paragraph 11 of the Judgment dated March 30, 2015) as under:

"This Appellate Tribunal while dealing with the issue of Wholesale Price Index framed the said issue and discussed the same at length and then decided the said issue. This Appellate Tribunal in its previous judgment also considered the Regulations and the Wholesale Price Index and held that actual costs need to be considered. We after considering the previous judgment and discussion on the said issue at length in our judgment dated 11.09.2014 in the said Appeal No. 174 of 2012, after referring to the decision of the State Commission on the Wholesale Price Index, directed that the actual amount spent, subject to prudence check, is to be considered. We do not find any error apparent on the face of our judgment dated 11.09.2014 warranting us to



review our aforesaid judgment. For a moment, if we accept the contention of the Review Petitioner/State Commission that the finding in para no. 40.1. of our judgment dated 11.09.2014 is to be deleted, then it would result in the Issue No. (ii) framed being rendered without any finding and would also result in the previous decisions also being overruled/reversed. While disposing of the Issue Nos. (i) & (ii) in our judgment in Appeal No. 174 of 2012, we expressed our view in para nos. 17 & 18 of our judgment which we have already quoted above"

In view of the above, PSPCL has proposed the employee expenses for the Control period on the basis of actual expenses of past years. PSPCL humbly request the Hon'ble Commission to allow the employee expenses as projected by PSPCL.

PSPCL has projected the employee expenses on the basis of the following:

- **Basic Pay:** As per actual considering the impact of retiree and new joining during the year
- **Overtime:** Normal 5% increase on amount of previous year
- **Dearness Allowance:** DA as on January 01, 2016 has been increased from 119% to 125%, however the same is payable from November 01, 2016. As such arrear at 6% from November 01, 2016 to March 31, 2017 for 5 month has been considered. Further, D.A. from July 01, 2016 is also due which has been considered as 6%. Accordingly same has been considered for 9 months i.e. from July 01, 2016 to March 31, 2017. The arrear of 6% (i.e. from 119% to 125%) from January 01, 2016 to October 31, 2016 has been considered in FY 2017-18. Further during the FY 2017-18 the DA is due from January 01, 2017 and from July 01, 2017 which is considered as 6%. As such the DA has been increased at 6% from 15 months i.e. from July 01, 2017 to March 31, 2018 and at 6% for 9 months i.e. from July 01, 2017 to March 31, 2018 similar approach has been applied in FY 2018-19 and FY 2019-2020.
- **Fixed medical Allowance:** Fixed medical allowance has been projected according to the expected number of employees during the Control Period.
- **Convene and Other Allowances:** Conveyance and other allowances have been taken in similar ratio of Basic Pay of last year.
- **Generation incentive:** Normal 5% increase on amount of previous year
- **Medical Expenses Reimbursement:** Increases as per past trends
- **Earned Leave Encashment:** Based upon actual no. of retirees during the year.
- **Gratuity:** based upon actual no. of retirees during the year.
- **Workman's compensation:** As actual FY 2016-17

Further, PSPCL has not considered the provision for Progressive Funding during the control period since the matter is pending before Hon'ble APTEL. PSPCL has also not considered impact of wage revision of 7th Pay Commission during the Control Period. PSPCL craves leave to submit these expenses on actual basis, since these expenses are being allowed on actual basis.

Further, as regards share of BBMB expenses, PSPCL submits that, tariff for Generation Stations and Transmission assets of BBMB will be determined by CERC as per CERC Tariff Regulations, 2014. BBMB is yet to file the Petition for the determination of tariff for block period from FY 2014-15 to FY 2018-19. Hence, in the present Petition, share of BBMB expenses has been considered by applying escalation of 5% to expenses estimated for FY 2016-17.

Accordingly, PSPCL has considered the employee expenses for Distribution and Generation for Control Period as under:



Table 45: Employee Expenses for Control Period (Rs. Cr)

Item	2017-18	2018-19	2019-20	2017-18	2018-19	2019-20	2017-18	2018-19	2019-20
	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
	PSPCL			Generation			Distribution		
Basic Pay	1170.22	1182.23	1194.41	177.17	179.03	180.91	993.04	1,003.20	1,013.50
Overtime	17.79	18.68	19.61	2.69	2.82	2.96	15.10	15.86	16.65
Dearness Allowance	1603.27	1721.87	1863.61	213.50	225.30	238.08	1,389.77	1,496.57	1,625.53
Other Allowances							-	-	-
Fixed medical Allowance	31.12	29.28	27.54	4.70	4.42	4.16	26.42	24.86	23.38
Conveyance Allowance	31.89	32.21	32.54	4.81	4.86	4.91	27.07	27.35	27.63
Other Allowances	154.29	155.87	157.47	23.30	23.54	23.78	130.99	132.33	133.70
Generation incentive (for generation only)	16.80	17.64	18.52	16.80	16.80	16.80	-	0.84	1.72
Medical Expenses Reimbursement	21.13	22.31	23.57	3.19	3.37	3.56	17.94	18.94	20.01

Item	2017-18	2018-19	2019-20	2017-18	2018-19	2019-20	2017-18	2018-19	2019-20
	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
	PSPCL			Generation			Distribution		
Total	3046.49	3180.09	3337.28	446.16	460.13	475.15	2600.33	2719.96	2862.12
Terminal Benefits									
Earned Leave Encashment	151.54	144.36	145.16	22.88	21.80	21.92	128.66	122.56	123.24
Gratuity	245.78	234.89	248.10	37.11	35.47	37.46	208.67	199.42	210.64
Commutation of Pension	-	-	-	-	-	-	-	-	-
Workman's compensation	0.26	0.26	0.26	0.04	0.04	0.04	0.22	0.22	0.22
Total Pension Payments	397.58	379.51	393.52	60.03	57.31	59.42	337.55	322.21	334.10
Basic Pension									
Dearness pension	1630.03	1716.44	1805.93	260.46	273.90	287.81	1,369.56	1,442.54	1,518.12
Dearness Allowance									
Any other expense	164.14	179.74	196.82	24.40	26.84	29.53	139.73	152.90	167.30
Total (15 & 16)	1,794.17	1,896.18	2,002.75	284.87	300.75	317.34	1,509.30	1,595.43	1,685.42

Item	2017-18	2018-19	2019-20	2017-18	2018-19	2019-20	2017-18	2018-19	2019-20
	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
	PSPCL			Generation			Distribution		
Total Expenses	5,238.24	5,455.78	5,733.55	791.06	818.19	851.91	4,447.18	4,637.60	4,881.64
Amount capitalised	127.93	133.24	140.02	19.32	19.98	20.81	108.61	113.26	119.22
Net amount	5,110.31	5,322.54	5,593.52	771.74	798.21	831.11	4,338.57	4,524.34	4,762.42
BBMB share	258.23	271.14	284.70	258.23	271.14	284.70	-	-	-
Net Employee's Cost	5368.54	5593.68	5878.22	1029.97	1069.34	1115.80	4,338.57	4,524.34	4,762.42

(Signature)

3.10.9 Efficiency Factor

As per Regulation 26.1 (iii), Efficiency Factor will be determined by the Hon'ble Commission in the MYT Order for the Control Period. However, PSPCL would like to submit that the concept of Efficiency Factor is an international concept and is a relatively new concept which is yet to be utilized to its full extent in the Indian Power Sector. It is a known fact that there are various issues pertaining to data availability, uncertainties in sales projection, issues in power purchase availability, volatility in fuel prices, irregularity in tariff filings, deferred recoveries, dynamic statutory levies etc and all these are uncontrollable factors for the distribution licensee.

PSPCL time and again has putting its efforts to perform better and live up to the expectations of the consumer and the Hon'ble Commission. PSPCL understands the expectations of the consumer of having uninterrupted and reliable power supply. PSPCL has left no stone unturned in its quest to achieve the fulfillment of expectation of the consumers and shall continue to do so.

3.10.10 R&M and A&G Expenses

It may be noted that R&M expenses and A&G Expenses has been linked to K factor and WPI index. K is the constant governing the relationship between R&M and A&G Expenses and Gross Fixed Assets. For computing K, PSPCL has analysed R&M and A&G expenses and GFA for FY 2015-16, as given in the following table:

Table 46: Computation of K for the Control period

Particulars	FY 2015-16 Generation	FY 2015-16 Distribution	FY 2015-16 PSPCL
Opening GFA	23545.91	20896.20	44442.11
Closing GFA	23711.56	22703.00	46414.56
R&M Expenses	193.53	195.32	388.85
A&G Expenses	21.44	165.15	186.59
R&M and A&G Exp. as % of GFA	0.91%	1.65%	1.27%
K factor	0.91%	1.65%	1.27%

In view of the above, PSPCL has considered K-factor as 1.65% and 0.91% for distribution and generation business respectively for the Control period respectively. Further, PSPCL

has considered the license fees and fees for determination of tariff as Rs 12.68 Cr⁴ for the Control period over and above these expenses.

The increase in WPI index works out to 2.53% as per PSERC MYT Regulations, 2014. Hence, for the purpose of R&M and A&G Expenses, PSPCL has considered the escalation index of 2.53 % (i.e., average of increase in WPI from FY 2015-16 to FY 2016-17 as per latest data available).

Accordingly, PSPCL has projected combined R&M and A&G expenses for Generation and Distribution as under:

Table 47: R&M and A&G Expenses for Generation Business (Rs. Cr)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Generation			
Opening GFA	23866.56	24267.40	24553.29
Closing GFA	24267.40	24553.29	24722.04
Average GFA	24066.98	24410.35	24637.66
K factor	0.91%	0.91%	0.91%
Escalation factor	2.53%	2.53%	2.53%
R&M and A&G Expenses	224.49	227.70	229.82

Table 48: R&M and A&G Expenses for Distribution Business (Rs. Cr)

Distribution	FY 2017-18	FY 2018-19	FY 2019-20
Opening GFA	25466.20	28079.80	30270.89
Closing GFA	28079.80	30270.89	32021.88
Average GFA	26773.00	29175.35	31146.39
K factor	1.65%	1.65%	1.65%
Escalation factor	2.53%	2.53%	2.53%
License fees and fees for determination of tariff	12.68	12.68	12.68
R&M and A&G Expenses	466.58	507.31	540.73



⁴ Shown under the distribution R&M and A&G head for accounting purpose

3.10.11 Non-tariff Income

Regulation 28 of PSERC MYT Regulations, 2014 specifies various heads to be considered under Non-tariff Income as under:

"28. NON TARIFF INCOME -

28.1. Following components of income shall be treated as non-tariff income for the generation, transmission and distribution business, as applicable:

- a. Meter/metering equipment/service line rentals;
- b. Service charges;
- c. Customer charges;
- d. Revenue from late payment surcharge;
- e. Miscellaneous charges (except PLEC charges);
- f. Incentives from CGSs;
- g. Miscellaneous receipts;
- h. Interest on advances to suppliers/contractors;
- i. Interest on staff loans and advances;
- j. Income from trading;
- k. Income from staff welfare activities;
- l. Excess found on physical verification;
- m. Interest on investments, fixed and call deposits and bank balances;
- n. Net recovery from penalty on coal liaison agents;
- o. Prior period income;
- p. Income from open access charges i.e. application fee, cross subsidy surcharge, additional surcharge, transmission and/or wheeling charges, scheduling charges etc.;
- q. Any other income not included above."

PSPCL has projected the Non-tariff income for the Control period based on past year trend and increase in energy sales and revenue. The Non-tariff income projected for the Control period is as under:

Further, for the projection of Wheeling charges from Open Access, PSPCL has considered the impact of PSERC order dated 11th August 2016 attached as Annexure-II, has been considered. OA sales for the month of September 16 have shown reduction of 86.59% wrt to OA sales of September 15. Assuming the same reduction during the second half, wheeling charges has been projected.

Table 49: Non-tariff Income for Distribution for Control Period (Rs. Cr)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Meter/service rent	101.81	106.64	111.70

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
Late payment surcharge	78.04	78.04	78.04
Misc. receipts	402.94	402.94	402.94
Misc. charges (except PLEC)	24.20	24.20	24.20
Wheeling charges	55.06	55.06	55.06
Interest on staff loans & advance	55.32	55.32	55.32
Income staff welfare activities	0.05	0.05	0.05
Investments & bank balances	11.64	11.64	11.64
Depreciation from Consumer Contribution	35.03	35.03	35.03
Total income	764.09	768.92	773.98
Total non tariff income	764.09	768.92	773.98
Less: Late Payment surcharge	78.04	78.04	78.04
Less: Rebate for timely payment for Power Purchase	68.35	68.35	68.35
Net Non-tariff Income	617.70	622.53	627.59

3.10.12 DSM Fund

PSERC has notified DSM regulations on 16 March 2012. As per Regulation 1.8, PSPCL is allowed to recover costs incurred in any DSM related activity including planning, conducting load survey / research, designing, implementing, monitoring and evaluating DSM programs by adding the costs to the Aggregate Revenue Requirement (ARR) to enable their funding through tariff structure or by implementing programs at the consumer premises that would attract appropriate return on investment. Regulation 15 of the DSM Regulations reads as under:

"In order to qualify for cost recovery, each DSM programme must be
(i) approved by the Commission prior to implementation
(ii) implemented in accordance with approved DSM plan; and
(iii) Implemented cost effectively."

PSPCL submits that for implementation of demand side measures to manage demand efficiently, it requires to take measures from technical experts in this field and active participation of consumers. PSPCL has proposed to create a DSM fund for funding the DSM activities and amount of Rs. 10 Cr has been proposed for FY 2016-17. PSPCL has projected the contribution of Rs. 10 Cr towards DSM fund in each year of the Control Period. Further as this expenditure is to be incurred to provide benefits to end consumers to reduce their bills by managing demand effectively.

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3.10.13 Revenue from existing Tariff

Revenue from sale of power for Control Period has been determined based on the energy sales estimated and category wise tariff approved by the Commission in its Tariff Order for FY 2016-17. Furthermore the observation of Hon'ble Commission in the Tariff Order for FY 2016-17 as under:

.....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.

As per the above Hon'ble Commission direction, for the projection of revenue for Industrial consumers, maximum threshold sales of last two years have been considered for ABR and further, revenue from any additional sales beyond the threshold limit has been computed @Rs. 4.99 / unit for 50% of additional sales assuming rest of the 50% sales beyond the threshold limit due to sales growth.

Actual PLEC and HV Rebate, TOD tariff and TOD Rebate for adjusting PLEC etc. recorded during FY 2015-16 were Rs. 569.43 Cr and 275.13 Cr respectively and same has considered for control period.

The revenue projected at existing tariff is shown as under:

Table 50 Revenue from Sale of Power for Distribution for Control Period (Rs. Cr)

Consumer Category	Revenue (Rs. Cr)		
	FY 2017-18	FY 2018-19	FY 2019-20
Domestic	7,968.21	8,638.16	9,364.43
Commercial (NRS)	2,811.38	3,037.24	3,281.23
Industrial			
Small Supply	501.96	510.79	519.78
Medium Supply	1,374.02	1,435.08	1,499.09
Large Supply	7,599.96	7,722.82	7,847.88
Street Lighting	170.91	189.72	210.60
Bulk Supply	478.60	502.79	528.20
Railway Traction	126.37	135.25	144.76
Sub-total	21,031.41	22,171.85	23,395.98
AP Consumption	5,650.13	5,774.58	5,901.77
Total within State	26,681.55	27,946.43	29,297.74
Common Pool	145.40	159.37	155.68
Outside State	21.19	21.03	21.21
Total Sales	26,848.13	28,126.83	29,474.63
Add: PLEC, MMC etc.	569.43	569.43	569.43
Less HV Rebate, TOD tariff and TOD Rebate for adjusting PLEC	-275.13	-275.13	-275.13
Grand Total	27,142.43	28,421.14	29,768.93



3.11 Projected ARR for PSPCL

Particulars	Generation + Distribution				Generation				Distribution			
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18	FY 2018-19	FY 2017-18	FY 2018-19	FY 2019-20	FY 2019-20
Fuel Cost	1,847.39	1,840.37	2,036.39	1,847.39	1,840.37	2,036.39	-	-	-	-	-	-
Cost of power purchase	17,988.67	19,159.52	19,959.34	-	-	-	17,988.67	19,159.52	19,959.34	19,959.34	19,959.34	19,959.34
Employee cost	5,368.54	5,593.68	5,878.22	1,029.97	1,069.34	1,115.80	4,338.57	4,524.34	4,762.42	4,762.42	4,762.42	4,762.42
R&M and A&G Expenses	691.08	735.01	770.54	224.49	227.70	229.82	466.58	507.31	540.73	540.73	540.73	540.73
Depreciation	1,575.66	1,670.98	1,742.31	587.47	594.12	599.65	988.19	1,076.86	1,142.66	1,142.66	1,142.66	1,142.66
Interest Charges	3,541.73	3,784.12	3,952.57	79.12	84.54	84.48	3,462.61	3,699.58	3,868.09	3,868.09	3,868.09	3,868.09
Return on Equity	942.62	942.62	942.62	577.90	577.90	577.90	364.72	364.72	364.72	364.72	364.72	364.72
Interest on Working Capital	152.91	159.07	169.16	152.91	159.07	169.16	-	-	-	-	-	-
Transmission Charges Payable to PSTCL	1,208.56	1,268.99	1,332.44	-	-	-	1,208.56	1,268.99	1,332.44	1,332.44	1,332.44	1,332.44
Provision for DSM fund	10.00	10.00	10.00	-	-	-	10.00	10.00	10.00	10.00	10.00	10.00
Royalty Paid by RSD to GoP	9.19	9.07	9.20	9.19	9.07	9.20	-	-	-	-	-	-
Total Revenue Requirement	33,336.34	35,173.43	36,802.79	4,508.44	4,562.11	4,822.40	28,827.91	30,611.32	31,980.39	31,980.39	31,980.39	31,980.39
Less Non-Tariff income	617.70	622.53	627.59	-	-	-	617.70	622.53	627.59	627.59	627.59	627.59

PSPCL MYT for FY 2017-18 to FY 2019-20, APR for FY 2016-17 & True-up for FY 2014-15

Net Revenue Requirement	32,718.64	34,550.90	36,175.19	4,508.44	4,562.11	4,822.40	28,210.21	29,988.80	31,352.80
Less Revenue from existing tariff	27,142.43	28,421.14	29,768.93	-	-	-	27,142.43	28,421.14	29,768.93
Gap (+) / surplus (-) for the year	5,576.21	6,129.76	6,406.26	4,508.44	4,562.11	4,822.40	1,067.77	1,567.66	1,583.86
Past Period Gaps	5,999.32	-	-	-	-	-	-	-	-
Total Revenue Gap	11,575.53	6,129.76	6,406.26	4,508.44	4,562.11	4,822.40	1,067.77	1,567.66	1,583.86

The cumulative GAP for FY 2017-18 has been estimated as Rs. 11,575.53 Cr. and the GAP of Rs. 6,129.76 Cr. and Rs. 6,406.26 Cr. has been estimated for the year FY 2018-19 and FY 2019-20 respectively. The gap has been computed on the basis of tariff applicable for FY 2016-17.

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3.12 Projected ARR for Generation

The projected ARR for Generation for the Control Period is summarised in the following table:

Table 51 Projected ARR for Generation for Control Period (Rs. Cr)

Particulars	Generation				Hydro				Thermal			
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18	FY 2018-19	FY 2017-18	FY 2018-19	FY 2019-20	FY 2019-20
Annual Fixed Charges												
Employee cost	1,029.97	1,069.34	1,115.80	174.18	180.84	188.70	855.79	888.50	927.11			
R&M and A&G Expenses	224.49	227.70	229.82	22.98	23.31	23.53	201.51	204.38	206.29			
Depreciation	587.47	594.12	599.65	300.61	304.02	306.85	286.85	290.10	292.80			
Interest charges	79.12	84.54	84.48	63.59	67.95	67.90	15.52	16.59	16.58			
Return on Equity	577.90	577.90	577.90	262.04	262.04	262.04	315.86	315.86	315.86			
Interest on Working Capital	152.91	159.07	169.16	21.30	26.01	26.64	131.61	133.07	142.52			
Maintenance charges payable to GoP on account of RSD	9.19	9.07	9.20	9.19	9.07	9.20	-	-	-			
Total	2,661.05	2,721.74	2,786.00	853.90	873.23	884.85	1,807.15	1,848.51	1,901.15			
Energy Charges												
Fuel Cost	1,847.39	1,840.37	2,036.39				1,847.39	1,840.37	2,036.39			
Net ARR	4,508.44	4,562.11	4,822.40	853.90	873.23	884.85	3,654.54	3,688.87	3,937.55			

PSPCL humbly requests the Hon'ble Commission to approve the ARR projected for Generation for the Control Period as per PSERC MYT Regulations, 2014.

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Sl. No.	Particulars	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2035-36	2036-37	2037-38	2038-39	2039-40	2040-41	2041-42	2042-43	2043-44	2044-45	2045-46	2046-47	2047-48	2048-49	2049-50	2050-51	2051-52	2052-53	2053-54	2054-55	2055-56	2056-57	2057-58	2058-59	2059-60	2060-61	2061-62	2062-63	2063-64	2064-65	2065-66	2066-67	2067-68	2068-69	2069-70	2070-71	2071-72	2072-73	2073-74	2074-75	2075-76	2076-77	2077-78	2078-79	2079-80	2080-81	2081-82	2082-83	2083-84	2084-85	2085-86	2086-87	2087-88	2088-89	2089-90	2090-91	2091-92	2092-93	2093-94	2094-95	2095-96	2096-97	2097-98	2098-99	2099-00	2100-01	2101-02	2102-03	2103-04	2104-05	2105-06	2106-07	2107-08	2108-09	2109-10	2110-11	2111-12	2112-13	2113-14	2114-15	2115-16	2116-17	2117-18	2118-19	2119-20	2120-21	2121-22	2122-23	2123-24	2124-25	2125-26	2126-27	2127-28	2128-29	2129-30	2130-31	2131-32	2132-33	2133-34	2134-35	2135-36	2136-37	2137-38	2138-39	2139-40	2140-41	2141-42	2142-43	2143-44	2144-45	2145-46	2146-47	2147-48	2148-49	2149-50	2150-51	2151-52	2152-53	2153-54	2154-55	2155-56	2156-57	2157-58	2158-59	2159-60	2160-61	2161-62	2162-63	2163-64	2164-65	2165-66	2166-67	2167-68	2168-69	2169-70	2170-71	2171-72	2172-73	2173-74	2174-75	2175-76	2176-77	2177-78	2178-79	2179-80	2180-81	2181-82	2182-83	2183-84	2184-85	2185-86	2186-87	2187-88	2188-89	2189-90	2190-91	2191-92	2192-93	2193-94	2194-95	2195-96	2196-97	2197-98	2198-99	2199-00	2200-01	2201-02	2202-03	2203-04	2204-05	2205-06	2206-07	2207-08	2208-09	2209-10	2210-11	2211-12	2212-13	2213-14	2214-15	2215-16	2216-17	2217-18	2218-19	2219-20	2220-21	2221-22	2222-23	2223-24	2224-25	2225-26	2226-27	2227-28	2228-29	2229-30	2230-31	2231-32	2232-33	2233-34	2234-35	2235-36	2236-37	2237-38	2238-39	2239-40	2240-41	2241-42	2242-43	2243-44	2244-45	2245-46	2246-47	2247-48	2248-49	2249-50	2250-51	2251-52	2252-53	2253-54	2254-55	2255-56	2256-57	2257-58	2258-59	2259-60	2260-61	2261-62	2262-63	2263-64	2264-65	2265-66	2266-67	2267-68	2268-69	2269-70	2270-71	2271-72	2272-73	2273-74	2274-75	2275-76	2276-77	2277-78	2278-79	2279-80	2280-81	2281-82	2282-83	2283-84	2284-85	2285-86	2286-87	2287-88	2288-89	2289-90	2290-91	2291-92	2292-93	2293-94	2294-95	2295-96	2296-97	2297-98	2298-99	2299-00	2300-01	2301-02	2302-03	2303-04	2304-05	2305-06	2306-07	2307-08	2308-09	2309-10	2310-11	2311-12	2312-13	2313-14	2314-15	2315-16	2316-17	2317-18	2318-19	2319-20	2320-21	2321-22	2322-23	2323-24	2324-25	2325-26	2326-27	2327-28	2328-29	2329-30	2330-31	2331-32	2332-33	2333-34	2334-35	2335-36	2336-37	2337-38	2338-39	2339-40	2340-41	2341-42	2342-43	2343-44	2344-45	2345-46	2346-47	2347-48	2348-49	2349-50	2350-51	2351-52	2352-53	2353-54	2354-55	2355-56	2356-57	2357-58	2358-59	2359-60	2360-61	2361-62	2362-63	2363-64	2364-65	2365-66	2366-67	2367-68	2368-69	2369-70	2370-71	2371-72	2372-73	2373-74	2374-75	2375-76	2376-77	2377-78	2378-79	2379-80	2380-81	2381-82	2382-83	2383-84	2384-85	2385-86	2386-87	2387-88	2388-89	2389-90	2390-91	2391-92	2392-93	2393-94	2394-95	2395-96	2396-97	2397-98	2398-99	2399-00	2400-01	2401-02	2402-03	2403-04	2404-05	2405-06	2406-07	2407-08	2408-09	2409-10	2410-11	2411-12	2412-13	2413-14	2414-15	2415-16	2416-17	2417-18	2418-19	2419-20	2420-21	2421-22	2422-23	2423-24	2424-25	2425-26	2426-27	2427-28	2428-29	2429-30	2430-31	2431-32	2432-33	2433-34	2434-35	2435-36	2436-37	2437-38	2438-39	2439-40	2440-41	2441-42	2442-43	2443-44	2444-45	2445-46	2446-47	2447-48	2448-49	2449-50	2450-51	2451-52	2452-53	2453-54	2454-55	2455-56	2456-57	2457-58	2458-59	2459-60	2460-61	2461-62	2462-63	2463-64	2464-65	2465-66	2466-67	2467-68	2468-69	2469-70	2470-71	2471-72	2472-73	2473-74	2474-75	2475-76	2476-77	2477-78	2478-79	2479-80	2480-81	2481-82	2482-83	2483-84	2484-85	2485-86	2486-87	2487-88	2488-89	2489-90	2490-91	2491-92	2492-93	2493-94	2494-95	2495-96	2496-97	2497-98	2498-99	2499-00	2500-01	2501-02	2502-03	2503-04	2504-05	2505-06	2506-07	2507-08	2508-09	2509-10	2510-11	2511-12	2512-13	2513-14	2514-15	2515-16	2516-17	2517-18	2518-19	2519-20	2520-21	2521-22	2522-23	2523-24	2524-25	2525-26	2526-27	2527-28	2528-29	2529-30	2530-31	2531-32	2532-33	2533-34	2534-35	2535-36	2536-37	2537-38	2538-39	2539-40	2540-41	2541-42	2542-43	2543-44	2544-45	2545-46	2546-47	2547-48	2548-49	2549-50	2550-51	2551-52	2552-53	2553-54	2554-55	2555-56	2556-57	2557-58	2558-59	2559-60	2560-61	2561-62	2562-63	2563-64	2564-65	2565-66	2566-67	2567-68	2568-69	2569-70	2570-71	2571-72	2572-73	2573-74	2574-75	2575-76	2576-77	2577-78	2578-79	2579-80	2580-81	2581-82	2582-83	2583-84	2584-85	2585-86	2586-87	2587-88	2588-89	2589-90	2590-91	2591-92	2592-93	2593-94	2594-95	2595-96	2596-97	2597-98	2598-99	2599-00	2600-01	2601-02	2602-03	2603-04	2604-05	2605-06	2606-07	2607-08	2608-09	2609-10	2610-11	2611-12	2612-13	2613-14	2614-15	2615-16	2616-17	2617-18	2618-19	2619-20	2620-21	2621-22	2622-23	2623-24	2624-25	2625-26	2626-27	2627-28	2628-29	2629-30	2630-31	2631-32	2632-33	2633-34	2634-35	2635-36	2636-37	2637-38	2638-39	2639-40	2640-41	2641-42	2642-43	2643-44	2644-45	2645-46	2646-47	2647-48	2648-49	2649-50	2650-51	2651-52	2652-53	2653-54	2654-55	2655-56	2656-57	2657-58	2658-59	2659-60	2660-61	2661-62	2662-63	2663-64	2664-65	2665-66	2666-67	2667-68	2668-69	2669-70	2670-71	2671-72	2672-73	2673-74	2674-75	2675-76	2676-77	2677-78	2678-79	2679-80	2680-81	2681-82	2682-83	2683-84	2684-85	2685-86	2686-87	2687-88	2688-89	2689-90	2690-91	2691-92	2692-93	2693-94	2694-95	2695-96	2696-97	2697-98	2698-99	2699-00	2700-01	2701-02	2702-03	2703-04	2704-05	2705-06	2706-07	2707-08	2708-09	2709-10	2710-11	2711-12	2712-13	2713-14	2714-15	2715-16	2716-17	2717-18	2718-19	2719-20	2720-21	2721-22	2722-23	2723-24	2724-25	2725-26	2726-27	2727-28	2728-29	2729-30	2730-31	2731-32	2732-33	2733-34	2734-35	2735-36	2736-37	2737-38	2738-39	2739-40	2740-41	2741-42	2742-43	2743-44	2744-45	2745-46	2746-47	2747-48	2748-49	2749-50	2750-51	2751-52	2752-53	2753-54	2754-55	2755-56	2756-57	2757-58	2758-59	2759-60	2760-61	2761-62	2762-63	2763-64	2764-65	2765-66	2766-67	2767-68	2768-69	2769-70	2770-71	2771-72	2772-73	2773-74	2774-75	2775-76	2776-77	2777-78	2778-79	2779-80	2780-81	2781-82	2782-83	2783-84	2784-85	2785-86	2786-87	2787-88	2788-89	2789-90	2790-91	2791-92	2792-93	2793-94	2794-95	2795-96	2796-97	2797-98	2798-99	2799-00	2800-01	2801-02	2802-03	2803-04	2804-05	2805-06	2806-07	2807-08	2808-09	2809-10	2810-11	2811-12	2812-13	2813-14	2814-15	2815-16	2816-17	2817-18	2818-19	2819-20	2820-21	2821-22	2822-23	2823-24	2824-25	2825-26	2826-27	2827-28	2828-29	2829-30	2830-31	2831-32	2832-33	2833-34	2834-35	2835-36	2836-37	2837-38	2838-39	2839-40	2840-41	2841-42	2842-43	2843-44	2844-45	2845-46	2846-47	2847-48	2848-49	2849-50	2850-51	2851-52	2852-53	2853-54	2854-55	2855-56	2856-57	2857-58	2858-59	2859-60	2860-61	2861-62	2862-63	2863-64	2864-65	2865-66	2866-67	2867-68	2868-69	2869-70	2870-71	2871-72	2872-73	2873-74	2874-75	2875-76	2876-77	2877-78	2878-79	2879-80	2880-81	2881-82	2882-83	2883-84	2884-85	2885-86	2886-87	2887-88	2888-89	2889-90	2890-91	2891-92	2892-93	2893-94	2894-95	2895-96	2896-97	2897-98	2898-99	2899-00	2900-01	2901-02	2902-03	2903-04	2904-05	2905-06	2906-07	2907-08	2908-09	2909-10	2910-11	2911-12	2912-13	2913-14	2914-15	2915-16	2916-17	2917-18	2918-19	2919-20	2920-21	2921-22	2922-23	2923-24	2924-25	2925-26	2926-27	2927-28	2928-29	2929-30	2930-31	2931-32	2932-33	2933-34	2934-35	2935-36	2936-37	2937-38	2938-39	2939-40	2940-41	2941-42	2942-43	2943-44	2944-45	2945-46	2946-47	2947-48	2948-49	2949-50	2950-51	2951-52	2952-53	2953-54	2954-55	2955-56	2956-57	2957-58	2958-59	2959-60	2960-61	2961-62	2962-63	2963-64	2964-65	2965-66	2966-67	2967-68	2968-69	2969-70	2970-71	2971-72	2972-73	2973-74	2974-75	2975-76	2976-77	2977-78	2978-79	2979-80	2980-81	2981-82	2982-83	2983-84	2984-85	2985-86	2986-87	2987-88	2988-89	2989-90	2990-91	2991-92	2992-93	2993-94	2994-95	2995-96	2996-97	2997-98	2998-99	2999-00	3000-01	3001-02	3002-03	3003-04	3004-05	3005-06	3006-07	3007-08	3008-09	3009-10	3010-11	3011-12	3012-13	3013-14	3014-15	3015-16	3016-17	3017-18	3018-19	3019-20	3020-21	3021-22	3022-23	3023-24	3024-25	3025-26	3026-27	3027-28	30
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3.13 Projected ARR for Distribution

The summary of ARR projected for the Control period is shown in the following table:

Table 52 Projected ARR for Distribution for Control Period (Rs. Cr)

Particulars	DISTRIBUTION				WHEELING				RETAIL SUPPLY			
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18	FY 2018-19	FY 2017-18	FY 2018-19	FY 2019-20	FY 2019-20
Cost of Purchase for Own Generation	4,508.44	4,562.11	4,822.40	-	-	-	-	-	4,508.44	4,562.11	4,822.40	4,822.40
Cost of power purchase	17,988.67	19,159.52	19,959.34	-	-	-	-	-	17,988.67	19,159.52	19,959.34	19,959.34
Employee cost	4,338.57	4,524.34	4,762.42	2,820.07	2,940.82	3,095.57	2,820.07	2,940.82	1,518.50	1,583.52	1,666.85	1,666.85
R&M and A&G Expenses	466.58	507.31	540.73	303.28	329.75	351.47	303.28	329.75	163.30	177.56	189.25	189.25
Depreciation	988.19	1,076.86	1,142.66	889.37	969.18	1,028.39	889.37	969.18	98.82	107.69	114.27	114.27
Interest Charges	3,462.61	3,699.58	3,868.09	3,116.35	3,329.62	3,481.28	3,116.35	3,329.62	346.26	369.96	386.81	386.81
Return on Equity	364.72	364.72	364.72	328.25	328.25	328.25	328.25	328.25	36.47	36.47	36.47	36.47
Transmission Charges Payable to PSTCL	1,208.56	1,268.99	1,332.44	-	-	-	-	-	1,208.56	1,268.99	1,332.44	1,332.44
Provision for DSM fund	10.00	10.00	10.00	1.00	1.00	1.00	1.00	1.00	9.00	9.00	9.00	9.00
Total Revenue Requirement	33,336.34	35,173.43	36,802.79	7,458.32	7,898.62	8,285.96	7,458.32	7,898.62	25,878.02	27,274.81	28,516.82	28,516.82
Less Non-Tariff income	617.70	622.53	627.59	61.77	62.25	62.76	61.77	62.25	555.93	560.27	564.83	564.83
Net Revenue Requirement	32,718.64	34,550.90	36,175.19	7,396.55	7,836.37	8,223.20	7,396.55	7,836.37	25,322.09	26,714.54	27,951.99	27,951.99
Less Revenue from existing tariff	27,142.43	28,421.14	29,768.93									
Gap (+)/surplus (-) for the year	5,576.21	6,129.76	6,406.26									



3.14 ACS-ARR Gap

In view of the above said projection of ARR, the gap between Average Cost of Supply (ACS) and Average Revenue Realisation (ARR) has been projected as shown in the following table:

Table 53 ACS-ARR Gap for Control Period (Rs./kWh)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20
ACS	6.83	6.88	6.88
ARR	5.66	5.66	5.66
Gap (+)/Surplus (-)	1.16	1.22	1.22

ACS for Control period shown in above table is based on Standalone Aggregate Revenue Requirement. PSPCL has not considered any past revenue gap in this gap. It may be noted that PSPCL in the APR Petition for FY 2016-17 is submitting the revenue gap of Rs. 5999.32 Cr. arising out of past year revenue gaps. The treatment of this revenue gaps will be expected in Tariff Order for FY 2017-18. Further, it may also be noted that Average Revenue Realisation has been projected based on Tariff issued for FY 2016-17. This estimated revenue ACS-ARR gap for the control period shall be reduced through suitable tariff hike during the FY 2017-18.

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4 Subsidy

4.1 Determination of Subsidy

As per the current policy of the Govt. of Punjab, Domestic consumers belonging to SC category with connected load up to 1000 watts will be given 200 units of free power per month. Similarly, Non-SC BPL Domestic Consumers with connected load up to 1000 watts will be given 200 units free power per month. Also AP consumers are given free power in view of Govt. policy.

The following tables provide summary of subsidy receivable during control period as per the projections for the period.

Further, In FY 2016-17, Govt. of Punjab proposes to reduce the tariff of Large supply consumers who consume power above threshold limit, the Commission accepted the proposal to charge Rs. 4.99 per unit for every consumption above threshold limit. Apart from this proposal Govt. of Punjab also proposed to charge all small power industrial consumers at Rs. 4.99 per unit to bring more industries into the State, the govt. is providing relaxation to all companies which are coming through Punjab Investor Summit.

Based on the new schemes of Govt. to bring industries, for calculating subsidy following consumptions was taken

- AP consumption- The total sale of respective year and Average Billing rate of FY 2016-17 is considered for calculation of subsidy for the control period.
- Backward Class DS Consumer- As per PSERC order dated October 14, 2016 attached as Annexure-V on Electricity Concession of 200 units per month to Backward Class DS consumers with sanctioned load upto 1 kW, the same subsidy is considered for the control period.
- Small Power Consumer- As per PSERC order dated October 14, 2016 attached as Annexure-VI on supply power industrial consumers at concessional tariff of Rs. 4.99 per unit, so the total unit consumption is considered for calculation of subsidy.
- Medium Power Consumer- As per PSERC Tariff Order FY 2016-17, all new medium supply consumers will get power at concessional tariff of Rs. 4.99 per unit, For subsidy calculation, half of the increase in sale of power is considered as consumption for new MS consumers.



- Large Power Consumer- As per PSERC Tariff Order FY 2016-17, all Large supply consumers will get power at concessional tariff of Rs. 4.99 per unit if industry is able to consume more than threshold limit and also new large supply consumers will get power @ Rs. 4.99 per unit . For subsidy calculation, half of the increase in sale of power is considered as consumption for new LS consumers

For calculating threshold consumption of FY 2016-17, the consumption of FY 2014-15 and FY 2015-16 was considered and the same was considered for calculating access demand for FY 2017-18 to FY 2019-20.

Table 54 Subsidy for Control period FY 2017-18 to FY 2019-20

FY 2017-18				
Consumer Category	Consumption (MU)	Subsidy Required *(Rs. Crore)	Subsidy actually received (Rs. Crore)	Amount of subsidy due from GOP (Rs. Crore)
AP Consumers	12680.03	5807.45	0.00	5807.45
Scheduled Castes DS Consumers	1950.96	1203.57	0.00	1203.57
Non- SC BPL DS Consumers	151.73	92.73	0.00	92.73
Backward Class DS Consumer				756.00
SP	1005.93	61.03	0.00	61.03
MS	199.03	11.25	0.00	11.25
LS	975.77	68.30	0.00	68.30
Total				8000.33

FY 2018-19				
Consumer Category	Consumption (MU)	Revenue Required *(Rs. Crore)	Revenue actually received (Rs. Crore)	Amount of subsidy due from GOP (Rs. Crore)
AP Consumers	12959.31	5935.37	0.00	5935.37
Scheduled Castes DS Consumers	2085.73	1286.71	0.00	1286.71
Non- SC BPL DS Consumers	174.29	106.52	0.00	106.52

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Backward Class DS Consumer				756.00
SP	1023.63	62.10	0.00	62.10
MS	310.26	17.53	0.00	17.53
LS	1192.45	83.47	0.00	83.47
Total				8247.69
FY 2019-20				
Consumer Category	Consumption (MU)	Revenue Required *(Rs. Crore)	Revenue actually received (Rs. Crore)	Amount of subsidy due from GOP (Rs. Crore)
AP Consumers	16908.72	6066.10	0.00	6066.10
Scheduled Castes DS Consumers	2229.80	1375.59	0.00	1375.59
Non- SC BPL DS Consumers	200.20	122.35	0.00	122.35
Backward Class DS Consumer				756.00
SP	1041.64	63.19	0.00	63.19
MS	426.84	24.12	0.00	24.12
LS	1413.01	98.91	0.00	98.91
Total				8506.25



5 Renewable Purchase Obligation and its compliance

The Commission has notified Punjab State Electricity Regulatory Commission (Renewable Purchase Obligation and its compliance) (Amendment- 1) Regulations, 2015 on May 06, 2015. The Commission has given the RPO target up to FY 2019-20 considered procurement of power from renewable energy sources through PPA or short term market to ensure RPO compliance.

The relevant section of the Punjab State Electricity Regulatory Commission (Renewable Purchase Obligation and its compliance) Regulations, 2011 is reiterated below:

"Every obligated entity shall purchase electricity from renewable energy sources including solar, not less than a percentage specified by the Commission from time to time, of its consumption of electricity (energy input in the system of obligated entity at its boundary) under the Renewable Purchase Obligation (RPO);

Provided that a specified percentage out of the renewable purchase obligation so specified shall be procured from generation based on solar as renewable energy source only;

The RPO Target as per Commission is

Table 55 RPO Target FY 2016-17 to FY 2019-20

Year	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20
Non-Solar RPO (%)	4.1	4.2	4.3	4.5
Solar RPO (%)	1.3	1.8	2.2	2.5
Total	5.4	6.0	6.5	7.0

Renewable energy is increasingly becoming an important source of the energy mix - meeting the twin objectives of energy security and clean energy considerations. Punjab has good potential for promotion and development of renewable and non conventional energy projects, particularly Solar, Biomass / Bagasse and Mini Hydel Projects. Good explorable options and potential exists for power generation from irrigation canal drops, solar including solar PV on canal top, biomass cogeneration etc. State has already issued liberal policies for promotion of renewable energy generation.



Government of Punjab is keen to tap renewable power potential of the state to meet the growing demand of power in an environmental friendly and sustainable manner. The area of studies are

- Renewable energy plan especially for Solar, Biomass and Bagasse based power projects
- Grid connected and off grid Roof Top Solar scheme
- Solar water pumping scheme particularly for agricultural consumers
- Action plan of the state
- Fund Requirements
- GoI/ State Govt Interventions

The current scenario of solar and non-solar power purchase is given below:-



Table 56 Obligation & Compliance Status of RPO

Description	Obligation/Compliance Status								
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (Projected)	2017-18 (Projected)	2018-19 (Projected)	2019-20 (Projected)
Input Energy (MUs)	41530	43548	42726	46531	46389	52,319.10	53114	55770	58558
RPO Targets									
i) Non-Solar (%)	2.37	2.83	3.37	3.81	3.9	4.1	4.2	4.3	4.5
ii) Solar (%)	0.03	0.07	0.13	0.19	1	1.3	1.8	2.2	2.5
iii) Non-Solar(MUs)	984.26	1232.41	1439.87	1772.83	1809.17	2145.08	2230.80	2398.11	2635.13
iv) Solar(MUs)	12.46	30.48	55.54	88.41	463.89	680.15	956.06	1226.94	1463.96
NRSE Power									
Procured/ projected									
i) Non-Solar (MUs)	698.91	1117.61	1020.67	1050.93	1083.18	1210	1426	1678	2447
ii) Solar (MUs)	4.67	12.49	44.75	123.32	386.48	880	927	1792	3540
RECs Purchased (Equivalent Energy)									
i) Non-Solar(MUs)	285.35	0	483.33	0	0	0	0	0	0
ii) Solar(MUs)	0	0	0	0	0	0	0	0	0
Total Equivalent NRSE Energy (3+4)									
i) Non-Solar(MUs)	984.26	1117.61	1504	1050.93	1083.18	1210	1426	1678	2447
ii) Solar(MUs)	4.67	12.49	44.75	123.32	386.48	880	927	1792	3540
Shortfall excluding compliance of carry forward of previous FY									
i) Non-Solar (MUs)	0.00	-114.80	64.13	-721.90	-725.99	-935.08	-804.80	-720.11	-188.13
ii) Solar (MUs)	-7.79	-17.99	-10.79	34.91	-77.41	199.85	-29.06	565.06	2076.04

PSPCL MYT for FY 2017-18 to FY 2019-20, APR for FY 2016-17 & True-up for FY 2014-15

The above table clearly states that state is able to fulfill its solar RPO very easily while to fulfill its non-solar RPO, PSPCL has to buy RECs from the open market.

Table 57 Growth of NRSE Power

MW	MUs	Total	Average tariff	Remark
255.27	382.90	3233.98	8.45	Up to March 2015
211.00	316.50	3258.78	7.45	FY 2015-16
157.50	236.25	1509.44	6.39	FY 2016-17
407	607.5	3410.40	5.61	Upcoming FY 2016-17
1028.77	1543.15	10512.61	6.81	
1050	1575	7875	5.00	Projects as per PEDAs projection for FY 2017-18 with assumed tariff Rs. 5 per unit
2078.77	3118.16	18387.61	5.90	TOTAL

Probable Average Weighted Rate for Solar Power during the Control Period

Table 58 Average Weighted Rate for Solar Power

Year	Rs. / kWh
FY 2017-18	5.90
FY 2018-19	5.90
FY 2019-20	5.90

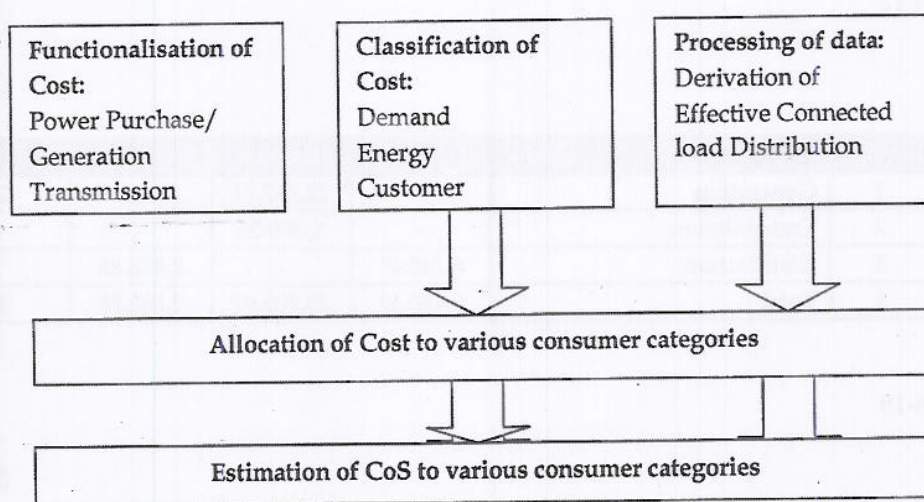
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6 Additional Submission to Hon'ble Commission

6.1 Cost of Supply for control period

6.1.1 Methodology for determination of Cost of Supply

Hon'ble Commission in Tariff Order for FY 2013-14 has stipulated the methodology (as referred as Methodology-II in Order) for determination of voltage-wise category-wise cost of supply. The methodology has been depicted as under:



Accordingly, PSPCL has determined the voltage-wise category wise cost of supply for the Control Period from FY 2017-18 to FY 2019-10 as discussed under:

6.1.2 Functionalization of Cost of Supply of PSPCL into various functions

The projected Aggregate Revenue Requirement for the Control Period has been allocated to the different functions viz. Generation (Cost of own generation and power purchase), Transmission (Cost of intra-State Transmission System) and Distribution as shown in the following Table:

(in Rs. Crore)

Sl. No.	Function	FY 2017-18	FY 2018-19	FY 2019-20
1	Generation	22,497.11	23,721.63	24,781.74
2	Transmission	1,208.56	1,268.99	1,332.44
3	Distribution	9,629.29	10,181.44	10,687.25
4	Total	33,334.96	35,172.05	36,801.43

The PSPCL submits that, in the MYT Petition, it has considered the past Revenue Gaps of Rs. 5999.32 Crore. It is proposed to recover such past Revenue Gaps during FY 2017-18. The above said Table has not included the past Revenue Gaps; however, the Voltage-wise category wise cost of Supply has been determined separately for FY 2017-18 including the past Revenue Gaps in this document subsequently.

6.1.3 Classification of cost into Demand, Energy and Customer related cost

The cost of different functions has been classified into cost related to Demand, Energy and Customer as per the methodology stipulated, as shown in the following Table:

FY 2017-18

(in Rs. Crore)

Sr. No.	Function	Demand	Energy	Customer	Total Cost
1	Generation	-	22,497.11	-	22,497.11
2	Transmission	-	1,208.56	-	1,208.56
3	Distribution	6,740.41	-	2,888.88	9,629.29
4	Total	6,740.41	23,705.67	2,888.88	33,334.96

FY 2018-19

(in Rs. Crore)

Sr. No.	Function	Demand	Energy	Customer	Total Cost
1	Generation	-	23,721.63	-	23,721.63
2	Transmission	-	1,268.99	-	1,268.99
3	Distribution	7,132.87	-	3,048.57	10,181.44
4	Total	7,132.87	24,990.61	3,048.57	35,172.05

FY 2019-20

(in Rs. Crore)

Sr. No.	Function	Demand	Energy	Customer	Total Cost
1	Generation	-	24,781.74	-	24,781.74
2	Transmission	-	1,332.44	-	1,332.44
3	Distribution	7,483.02	-	3,204.23	10,687.25
4	Total	7,483.02	26,114.81	3,204.23	36,801.43

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6.2 COST OF SUPPLY FOR FY 2017-18

6.2.1 Allocation of Demand related cost for FY 2017-18

Allocation of Demand Related Cost								
Voltage of supply	Consumer category	Connected Load	Demand Factor	Effective Connected Load	% Share in Total Connected Load of Utility	Distribution	Retail supply	Total (Rs. Crore)
220 kV	Industry	524,880	75%	393,659.96	2.65%	1.47	6.62	8.09
	Traction	57,504	100%	57,504.00	0.39%	0.21	0.97	1.18
132 kV	Industrial	1,426,213	75%	1,069,659.66	7.19%	7.42	18.00	25.42
	Bulk	42	60%	25.42	0.00%	0.00	0.00	0.00
	Traction	85	100%	84.66	0.00%	0.00	0.00	0.00
66 kV	Industrial	3,967,127	75%	2,975,345.06	20.00%	1003.86	50.05	1053.92
	Bulk	388,473	75%	291,354.75	1.96%	98.30	4.90	103.20
	Commercial	9,740	40%	3,895.86	0.03%	1.31	0.07	1.38
33 kV	Industrial	1,340	60%	804.27	0.01%	0.29	0.01	0.30
	Domestic	6	60%	3.80	0.00%	0.00	0.00	0.00
	Bulk	-	60%	-	0.00%	0.00	0.00	0.00
11 kV	Industry LS	530,551	60%	318,330.82	2.14%	175.64	5.36	181.00
	Domestic	201,684	30%	60,505	0.41%	33.38	1.02	34.40
	Commercial	68,367	30%	20,510	0.14%	11.32	0.35	11.66
	Bulk	523	60%	314	0.00%	0.17	0.01	0.18
LT	Industry SP	1,014,520	45%	456,534	3.07%	242.99	7.68	250.67
	Industry MS	1,638,890	60%	983,334	6.61%	523.39	16.54	539.93
	Domestic (0-100)	6,488,990	30%	1,946,697	13.08%	1036.14	32.75	1068.89
	Domestic (101-300)	3,621,718	30%	1,086,515	7.30%	578.31	18.28	596.58
	Domestic (above 300)	1,726,713	30%	518,014	3.48%	275.72	8.71	284.43
	Agriculture	9,286,185	33%	3,095,085	20.80%	1647.38	52.07	1699.45

Allocation of Demand Related Cost								
Voltage of supply	Consumer category	Connected Load	Demand Factor	Effective Connected Load	% Share in Total Connected Load of Utility	Distribution	Retail supply	Total (Rs. Crore)
	Commercial	3,876,514	40%	1,550,606	10.42%	825.32	26.09	851.41
	Public Lighting	85,810	60%	51,486	0.35%	27.40	0.87	28.27
	Bulk	201	40%	80	0.00%	0.04	0.00	0.04
	Total	34,916,078		14,880,350		6,490	250.33	6740.41

6.2.2 Allocation of Energy and Customer related cost for FY2017-18

Voltage of supply	Consumer category	Sales (MU)	% losses	Division of losses (MU)	Total Power Purchased	% share in Net power purchase	Energy Related Cost	Total (Rs. Crore)
220 kV	Industry	1013	2.50%	33	1038.90	1.89%	447.71	447.71
	Traction	255	2.50%	8	261.64	0.48%	112.75	112.75
132 kV	Industrial	2752	2.50%	90	2822.93	5.13%	1216.54	1216.54
	Bulk	0	2.50%	0	0.08	0.00%	0.04	0.04
	Traction	0	2.50%	0	0.39	0.00%	0.17	0.17
66 kV	Industrial	7656	4.26%	434	7996.77	14.61%	3462.70	3462.70
	Bulk	744	4.26%	42	776.63	1.42%	336.29	336.29
	Commercial	10	4.26%	1	10.78	0.02%	4.67	4.67
33 kV	Industrial	3	4.26%	0	2.70	0.00%	1.17	1.17
	Domestic	0	4.26%	0	0.01	0.00%	0.00	0.00
	Bulk	0	4.26%	0	0.00	0.00%	0.00	0.00
11 kV	Industry LS	893	7.20%	88	961.77	1.77%	419.76	419.76
	Domestic	241	7.20%	24	259.73	0.48%	113.36	113.36
	Commercial	72	7.20%	7	78.07	0.14%	34.08	34.08

Voltage of supply	Consumer category	Sales (MU)	% losses	Division of losses (MU)	Total Power Purchased	% share in Net power purchase	Energy Related Cost	Total (Rs. Crore)
	Bulk	1	7.20%	0	1.08	0.00%	0.47	0.47
LT	Industry SP	997	14.25%	211	1162.56	2.18%	517.00	517.00
	Industry MS	2076	14.25%	439	2421.16	4.54%	1076.71	1076.71
	Domestic (0-100)	7755	14.25%	1641	9043.54	16.97%	4021.74	4021.74
	Domestic (101-300)	4328	14.25%	916	5047.50	9.47%	2244.66	2244.66
	Domestic (above 300)	2064	14.25%	437	2406.48	4.51%	1070.18	1070.18
	Agriculture	12337	14.25%	2611	14386.63	26.99%	6397.85	6397.85
	Commercial	4108	14.25%	869	4790.84	8.99%	2130.53	2130.53
	Public Lighting	187	14.25%	40	218.33	0.41%	97.09	97.09
	Bulk	0	14.25%	0	0.45	0.00%	0.20	0.20
	Total	47,492	14.25%	7892	53,688.96		23705.67	23705.67

6.2.3 Voltage wise-category wise Cost of supply for the FY2017-18

Voltage of Supply	Consumer Category	Cost of Supply (Rs Crore)		Cost of Supply (Rs / kWh)		
		Demand	Energy /Customer	Demand	Energy /Customer	Total
A	B	C	D	E	F	G = E+F
220 kV	Industry	8.09	447.71	0.08	4.42	4.50
	Traction	1.18	112.75	0.05	4.42	4.47
132 kV	Industrial	25.42	1216.54	0.09	4.42	4.51
	Bulk	0.00	0.04	0.07	4.42	4.49
	Traction	0.00	0.17	0.05	4.42	4.47
66 kV	Industrial	1053.92	3462.70	1.38	4.52	5.90

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Voltage of Supply	Consumer Category	Cost of Supply(Rs Crore)		Cost of Supply(Rs / kWh)		
		Demand	Energy /Customer	Demand	Energy /Customer	Total
A	B	C	D	E	F	G = E+F
33 kV	Bulk	103.20	336.29	1.39	4.52	5.91
	Commercial	1.38	4.67	1.34	4.52	5.86
	Industrial	0.30	1.17	1.18	4.52	5.70
	Domestic	0.00	0.00	1.90	4.52	6.42
	Bulk	0.00	0.00	0.00	0.00	0.00
11 kV	Industry LS	181.00	419.76	2.03	4.70	6.73
	Domestic	34.40	113.36	1.43	4.70	6.13
	Commercial	11.66	34.08	1.61	4.70	6.31
	Bulk	0.18	0.47	1.78	4.70	6.49
LT	Industry SP	250.67	517.00	2.51	5.19	7.70
	Industry MS	539.93	1076.71	2.60	5.19	7.79
	Domestic (0-100)	1068.89	4021.74	1.38	5.19	6.56
	Domestic (101-300)	596.58	2244.66	1.38	5.19	6.56
	Domestic (above 300)	284.43	1070.18	1.38	5.19	6.56
	Agriculture	1699.45	6397.85	1.38	5.19	6.56
	Commercial	851.41	2130.53	2.07	5.19	7.26
	Public Lighting	28.27	97.09	1.51	5.19	6.70
	Bulk	0.04	0.20	1.15	5.19	6.33
Total		6740.41	23705.67	30446.08		

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6.3 COST OF SUPPLY FOR FY 2018-19

6.3.1 Allocation of Demand related cost for FY 2018-19

Allocation of Demand Related Cost								
Voltage of supply	Consumer category	Connected Load	Demand Factor	Effective Connected Load	% Share in Total Connected Load of Utility	Distribution	Retail supply	Total (Rs. Crore)
220 kV	Industry	537,767	75%	403,325.32	2.63%	1.53	6.99	8.53
	Traction	59,955	100%	59,954.84	0.39%	0.23	1.04	1.27
132 kV	Industrial	1,461,230	75%	1,095,922.54	7.15%	7.75	19.00	26.75
	Bulk	42	60%	25.42	0.00%	0.00	0.00	0.00
	Traction	88	100%	88.27	0.00%	0.00	0.00	0.00
66 kV	Industrial	4,064,530	75%	3,048,397.38	19.90%	1057.17	52.85	1110.01
	Bulk	388,473	75%	291,354.75	1.90%	101.04	5.05	106.09
	Commercial	10,202	40%	4,080.91	0.03%	1.42	0.07	1.49
33 kV	Industrial	1,373	60%	824.02	0.01%	0.31	0.01	0.32
	Domestic	7	60%	4	0.00%	0.00	0.00	0.00
	Bulk	-	60%	-	0.00%	0.00	-	0.00
11 kV	Industry LS	544,392	60%	326,635.45	2.13%	185.06	5.66	190.72
	Domestic	209,003	30%	62,700.98	0.41%	35.52	1.09	36.61
	Commercial	71,615	30%	21,484.42	0.14%	12.17	0.37	12.54
	Bulk	523	60%	313.84	0.00%	0.18	0.01	0.18
LT	Industry SP	1,032,975	45%	464,838.97	3.03%	253.90	8.06	261.96
	Industry MS	1,686,865	60%	1,012,119	6.61%	552.83	17.55	570.37
	Domestic (0-100)	6,724,473	30%	2,017,342	13.17%	1101.89	34.97	1136.86
	Domestic (101-300)	3,753,149	30%	1,125,945	7.35%	615.00	19.52	634.52
	Domestic (above 300)	1,789,374	30%	536,812	3.50%	293.21	9.31	302.52
	Agriculture	9,510,590	33%	3,169,880	20.69%	1731.41	54.95	1786.36



Allocation of Demand Related Cost								
Voltage of supply	Consumer category	Connected Load	Dem and Factor	Effective Connected Load	% Share in Total Connected Load of Utility	Distribution	Retail supply	Total (Rs. Crore)
	Commercial	4,060,646	40%	1,624,258	10.60%	887.18	28.16	915.34
	Public Lighting	89,860	60%	53,916	0.35%	29.45	0.93	30.38
	Bulk	201	40%	80	0.00%	0.04	0.00	0.05
	Total	35,997,334		15,320,303		6867.28	265.59	7132.87

6.3.2 Allocation of Energy and Customer related cost for FY2018-19

Voltage of supply	Consumer category	Sales (MU)	% losses	Division of losses (MU)	Total Power Purchased	% share in Net power purchase	Energy Related Cost	Total (Rs. Crore)
220 kV	Industry	1031	2.50%	33	1057.55	1.84%	460.02	460.02
	Traction	283	2.50%	9	290.43	0.51%	126.33	126.33
132 kV	Industrial	2802	2.50%	91	2873.60	5.00%	1249.97	1249.97
	Bulk	0	2.50%	0	0.09	0.00%	0.04	0.04
	Traction	0	2.50%	0	0.43	0.00%	0.19	0.19
66 kV	Industrial	7793	4.23%	435	8137.10	14.23%	3555.55	3555.55
	Bulk	781	4.23%	44	815.57	1.43%	356.37	356.37
	Commercial	11	4.23%	1	11.64	0.02%	5.09	5.09
33 kV	Industrial	3	4.23%	0	2.75	0.00%	1.20	1.20
	Domestic	0	4.23%	0	0.01	0.00%	0.00	0.00
	Bulk	0	4.23%	0	0.00	0.00%	0.00	0.00
11 kV	Industry LS	916	7.10%	88	985.59	1.74%	433.89	433.89
	Domestic	261	7.10%	25	281.26	0.50%	123.82	123.82
	Commer	78	7.10%	8	84.26	0.15%	37.09	37.09



Voltage of supply	Consumer category	Sales (MU)	% losses	Division of losses (MU)	Total Power Purchased	% share in Net power purchase	Energy Related Cost	Total (Rs. Crore)
	LT							
	LT							
	Bulk	1	7.10%	0	1.13	0.00%	0.50	0.50
	Industry SP	1014	14.00%	209	1179.57	2.12%	528.59	528.59
	Industry MS	2176	14.00%	448	2530.34	4.54%	1133.89	1133.89
	Domestic (0-100)	8407	14.00%	1730	9775.40	17.53%	4380.53	4380.53
	Domestic (101-300)	4692	14.00%	966	5455.97	9.78%	2444.92	2444.92
	Domestic (above 300)	2237	14.00%	460	2601.22	4.66%	1165.65	1165.65
	Agriculture	12608	14.00%	2595	14660.76	26.29%	6569.75	6569.75
	Commercial	4438	14.00%	913	5160.67	9.25%	2312.59	2312.59
	Public Lighting	200	14.00%	41	233.00	0.42%	104.41	104.41
	Bulk	0	14.00%	0	0.47	0.00%	0.21	0.21
	Total	49,735	14.00%	8096	56,138.80		24990.61	24990.61

6.3.3 Voltage wise-category wise Cost of supply for FY2018-19

Voltage of Supply	Consumer Category	Cost of Supply (Rs Crore)		Cost of Supply (Rs / kWh)		
		Demand	Energy / Customer	Demand	Energy / Customer	Total
A	B	C	D	E	F	G = E+F
220 kV	Industry	8.53	460.02	0.08	4.46	4.88
	Traction	1.27	126.33	0.04	4.46	4.82
132 kV	Industrial	26.75	1249.97	0.10	4.46	4.94
	Bulk	0.00	0.04	0.07	4.46	4.87
	Traction	0.00	0.19	0.05	4.46	4.90

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Voltage of Supply	Consumer Category	Cost of Supply (Rs Crore)		Cost of Supply (Rs / kWh)		
		Demand	Energy / Customer	Demand	Energy / Customer	Total
A	B	C	D	E	F	G = E+F
66 kV	Industrial	1110.01	3555.55	1.42	4.56	5.38
	Bulk	106.09	356.37	1.36	4.56	5.64
	Commercial	1.49	5.09	1.33	4.56	5.47
33 kV	Industrial	0.32	1.20	1.22	4.56	5.73
	Domestic	0.00	0.00	1.86	4.56	6.49
	Bulk	0.00	0.00	0.00	0.00	4.93
11 kV	Industry LS	190.72	433.89	2.08	4.74	5.92
	Domestic	36.61	123.82	1.40	4.74	5.82
	Commercial	12.54	37.09	1.60	4.74	5.28
	Bulk	0.18	0.50	1.74	4.74	5.72
LT	Industry SP	261.96	528.59	2.58	5.21	7.25
	Industry MS	570.37	1133.89	2.62	5.21	6.75
	Domestic (0-100)	1136.86	4380.53	1.35	5.21	6.02
	Domestic (101-300)	634.52	2444.92	1.35	5.21	6.02
	Domestic (above 300)	302.52	1165.65	1.35	5.21	6.02
	Agriculture	1786.36	6569.75	1.42	5.21	6.07
	Commercial	915.34	2312.59	2.06	5.21	6.54
	Public Lighting	30.38	104.41	1.52	5.21	6.06
	Bulk	0.05	0.21	1.12	5.21	5.75
Total		7132.87	24990.61	32123.49		


6.4 COST OF SUPPLY FOR FY 2019-20

6.4.1 Allocation of Demand related cost for FY 2019-20

Allocation of Demand Related Cost

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Voltage of supply	Consumer category	Connected Load	Dem and Factor	Effective Connected Load	% Share in Total Connected Load of Utility	Distribution	Retail supply	Total (Rs. Crore)
220 kV	Industry	550,971	75%	413,227.98	2.62%	1.60	7.30	8.90
	Traction	62,510	100%	62,510	0.40%	0.24	1.10	1.35
132 kV	Industrial	1,497,107	75%	1,123,830	7.12%	8.09	19.84	27.92
	Bulk	42	60%	25	0.00%	0.00	0.00	0.00
	Traction	92	100%	92	0.00%	0.00	0.00	0.00
66 kV	Industrial	4,164,324	75%	3,123,243	19.80%	1103.13	55.17	1158.30
	Bulk	388,473	75%	291,355	1.85%	102.91	5.15	108.05
	Commercial	10,687	40%	4,275	0.03%	1.51	0.08	1.59
33 kV	Industrial	1,407	60%	844	0.01%	0.32	0.01	0.33
	Domestic	7	60%	4	0.00%	0.00	0.00	0.00
	Bulk	-	60%	-	0.00%	0.00	0.00	0.00
11 kV	Industry LS	558,616	60%	335,170	2.12%	193.21	5.92	199.13
	Domestic	216,588	30%	64,976	0.41%	37.46	1.15	38.60
	Commercial	75,016	30%	22,505	0.14%	12.97	0.40	13.37
	Bulk	523	60%	314	0.00%	0.18	0.01	0.19
LT	Industry SP	1,053,786	45%	474,203	3.01%	263.52	8.38	271.90
	Industry MS	1,736,245	60%	1,041,747	6.60%	578.91	18.40	597.31
	Domestic (0-100)	6,968,501	30%	2,090,550	13.25%	1161.74	36.93	1198.67
	Domestic (101-300)	3,889,349	30%	1,166,805	7.40%	648.40	20.61	669.02
	Domestic (above 300)	1,854,310	30%	556,293	3.53%	309.14	9.83	318.96
	Agriculture	9,740,417	33%	3,246,481	20.58%	1804.10	57.35	1861.45
	Commercial	4,253,523	40%	1,701,409	10.79%	945.49	30.06	975.55
	Public Lighting	94,101	60%	56,460	0.36%	31.38	1.00	32.37
	Bulk	201	40%	80	0.00%	0.04	0.00	0.05
	Total	37,116,795		15,775,401		7204.34	278.68	7483.62



6.4.2 Allocation of Energy and Customer related cost for FY2019-20

Volta ge of suppl y	Consum er category	Sales (MU)	% losses	Divisio n of losses (MU)	Total Power Purchased	% share in Net power purchase	Energy Related Cost	Total (Rs. Crore)
220 kV	Industry	1050	2.50%	34	1076.53	1.79%	468.12	468.12
	Traction	314	2.50%	10	322.39	0.54%	140.19	140.19
132 kV	Industrial	2852	2.50%	92	2925.17	4.87%	1271.98	1271.98
	Bulk	0	2.50%	0	0.09	0.00%	0.04	0.04
	Traction	0	2.50%	0	0.47	0.00%	0.21	0.21
66 kV	Industrial	7933	4.19%	435	8279.90	13.85%	3615.82	3615.82
	Bulk	821	4.19%	45	856.46	1.43%	374.01	374.01
	Commercial	12	4.19%	1	12.57	0.02%	5.49	5.49
33 kV	Industrial	3	4.19%	0	2.80	0.00%	1.22	1.22
	Domestic	0	4.19%	0	0.01	0.00%	0.00	0.00
	Bulk	0	4.19%	0	0.00	0.00%	0.00	0.00
11 kV	Industry LS	939	7.00%	89	1010.17	1.70%	444.27	444.27
	Domestic	283	7.00%	27	304.58	0.51%	133.95	133.95
	Commercial	85	7.00%	8	90.93	0.15%	39.99	39.99
	Bulk	1	7.00%	0	1.19	0.00%	0.52	0.52
LT	Industry SP	1032	13.75%	207	1196.84	2.05%	535.27	535.27
	Industry MS	2281	13.75%	456	2644.47	4.53%	1182.70	1182.70
	Domestic (0-100)	9114	13.75%	1823	10566.58	18.10%	4725.77	4725.77
	Domestic (101-300)	5087	13.75%	1018	5897.55	10.10%	2637.60	2637.60
	Domestic (above 300)	2425	13.75%	485	2811.75	4.82%	1257.52	1257.52
	Agricult	12886	13.75%	2578	14940.24	25.59%	6681.83	6681.83

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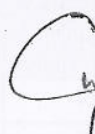
Voltage of supply	Consumer category	Sales (MU)	% losses	Division of losses (MU)	Total Power Purchased	% share in Net power purchase	Energy Related Cost	Total (Rs. Crore)
	ure							
	Commercial	4795	13.75%	959	5559.10	9.52%	2486.23	2486.23
	Public Lighting	214	13.75%	43	248.65	0.43%	111.21	111.21
	Bulk	0	13.75%	0	0.49	0.00%	0.22	0.22
	Total	52,127.57	13.75%	8310	58,748.93		26114.18	26114.18

6.4.3 Voltage wise-category wise Cost of supply for the FY 2019-20

Voltage of Supply	Consumer Category	Cost of Supply (Rs Crore)		Cost of Supply (Rs / kWh)		
		Demand	Energy /Customer	Demand	Energy /Customer	Total
A	B	C	D	E	F	G = E+F
220 kV	Industry	8.90	468.12	0.08	4.46	4.88
	Traction	1.35	140.19	0.04	4.46	4.82
132 kV	Industrial	27.92	1271.98	0.10	4.46	4.94
	Bulk	0.00	0.04	0.07	4.46	4.87
	Traction	0.00	0.21	0.05	4.46	4.90
66 kV	Industrial	1158.30	3615.82	1.46	4.56	5.38
	Bulk	108.05	374.01	1.32	4.56	5.64
	Commercial	1.59	5.49	1.32	4.56	5.47
33 kV	Industrial	0.33	1.22	1.25	4.56	5.73
	Domestic	0.00	0.00	1.82	4.56	6.49
	Bulk	0.00	0.00	0.00	4.93	4.93
11 kV	Industry LS	199.13	444.27	2.12	4.73	5.92
	Domestic	38.60	133.95	1.36	4.73	5.82
	Commercial	13.37	39.99	1.58	4.73	5.28
	Bulk	0.19	0.52	1.69	4.73	5.72



Voltage of Supply	Consumer Category	Cost of Supply (Rs Crore)		Cost of Supply (Rs / kWh)		
		Demand	Energy /Customer	Demand	Energy /Customer	Total
A	B	C	D	E	F	G = E+F
LT	Industry SP	271.90	535.27	2.63	5.19	7.25
	Industry MS	597.31	1182.70	2.62	5.19	6.75
	Domestic (0-100)	1198.67	4725.77	1.32	5.19	6.02
	Domestic (101-300)	669.02	2637.60	1.32	5.19	6.02
	Domestic (above 300)	318.96	1257.52	1.32	5.19	6.02
	Agriculture	1861.45	6681.83	1.44	5.19	6.07
	Commercial	975.55	2486.23	2.03	5.19	6.54
	Public Lighting	32.37	111.21	1.51	5.19	6.06
	Bulk	0.05	0.22	1.09	5.19	5.75
Total		7483.02	26114.18	33597.19		



6.5 COST OF SUPPLY FOR FY 2017-18 INCLUDING PAST REVENUE GAPS

6.5.1 Allocation of Demand related cost for the Period 2017-18 (With Carrying Cost)

Allocation of Demand Related Cost									
Voltage of supply	Consumer category	Connected Load	Demand Factor	Effective Connected Load	% Share in Total Connected Load of Utility	Demand Distribution Cost	Distribution	Retail supply	Total (Rs. Crore)
220 kV	Industry	524,880	75%	393,659.96	2.65%	2.73	2.39	10.75	13.13
	Traction	57,504	100%	57,504.00	0.39%	2.73	0.35	1.57	1.92
132 kV	Industrial	1,426,213	75%	1,069,659.66	7.19%	12.05	12.05	29.21	41.25
	Bulk	42	60%	25.42	0.00%	12.05	0.00	0.00	0.00
	Traction	85	100%	84.66	0.00%	12.05	0.00	0.00	0.00
66 kV	Industrial	3,967,127	75%	2,975,345.06	20.0%	1,790.97	1629.29	81.24	1710.53
	Bulk	388,473	75%	291,354.75	1.96%	1,790.97	159.55	7.96	167.50
	Commercial	9,740	40%	3,895.86	0.03%	1,790.97	2.13	0.11	2.24
33 kV	Industrial	1,340	60%	804.27	0.01%	0.47	0.47	0.02	0.49
	Domestic	6	60%	3.80	0.00%	0.47	0.00	0.00	0.00
	Bulk	-	60%	-	0.00%	0.47	0.00	0.00	0.00
11 kV	Industry LS	530,551	60%	318,330.82	2.14%	357.90	285.07	8.69	293.76
	Domestic	201,684	30%	60,505	0.41%	357.90	54.18	1.65	55.84
	Commercial	68,367	30%	20,510	0.14%	357.90	18.37	0.56	18.93
	Bulk	523	60%	314	0.00%	357.90	0.28	0.01	0.29
LT	Industry SP	1,014,520	45%	456,534	3.07%	8,369.45	394.38	12.47	406.85
	Industry MS	1,638,890	60%	983,334	6.61%	8,369.45	849.47	26.85	876.32
	Domestic (0-100)	6,488,990	30%	1,946,697	13.08%	8,369.45	1681.69	53.15	1734.84

Allocation of Demand Related Cost									
Voltage of supply	Consumer category	Connected Load	Demand Factor	Effective Connected Load	% Share in Total Connected Load of Utility	Demand Distribution Cost	Distribution	Retail supply	Total (Rs. Crore)
	Domestic (101-300)	3,621,718	30%	1,086,515	7.30%	8,369.45	938.61	29.67	968.27
	Domestic (above 300)	1,726,713	30%	518,014	3.48%	8,369.45	447.50	14.14	461.64
	Agriculture	9,286,185	33%	3,095,085	20.80%	8,369.45	2673.74	84.51	2758.25
	Commercial	3,876,514	40%	1,550,606	10.42%	8,369.45	1339.52	42.34	1381.86
	Public Lighting	85,810	60%	51,486	0.35%	8,369.45	44.48	1.41	45.88
	Bulk	201	40%	80	0.00%	8,369.45	0.07	0.00	0.07
	Total	34,916,078		14,880,350			10,534	406.30	10939.88

6.5.2 Allocation of Energy and Customer related cost for period 2017-18

Voltage of supply	Consumer category	Sales (MU)	% losses	Division of losses (MU)	Total Power Purchased	% share in Net power purchase	Energy Related Cost	Total (Rs. Crore)
220 kV	Industry	1013	2.50%	33	1038.90	1.89%	447.71	447.71
	Traction	255	2.50%	8	261.64	0.48%	112.75	112.75
132 kV	Industrial	2752	2.50%	90	2822.93	5.13%	1216.54	1216.54
	Bulk	0	2.50%	0	0.08	0.00%	0.04	0.04
	Traction	0	2.50%	0	0.39	0.00%	0.17	0.17
66 kV	Industrial	7656	4.26%	434	7996.77	14.61%	3462.70	3462.70
	Bulk	744	4.26%	42	776.63	1.42%	336.29	336.29
	Commercial	10	4.26%	1	10.78	0.02%	4.67	4.67

Voltage of supply	Consumer category	Sales (MU)	% losses	Division of losses (MU)	Total Power Purchased	% share in Net power purchase	Energy Related Cost	Total (Rs. Crore)
33 kV	Industrial	3	4.26%	0	2.70	0.00%	1.17	1.17
	Domestic	0	4.26%	0	0.01	0.00%	0.00	0.00
	Bulk	0	4.26%	0	0.00	0.00%	0.00	0.00
11 kV	Industry LS	893	7.20%	88	961.77	1.77%	419.76	419.76
	Domestic	241	7.20%	24	259.73	0.48%	113.36	113.36
	Commercial	72	7.20%	7	78.07	0.14%	34.08	34.08
	Bulk	1	7.20%	0	1.08	0.00%	0.47	0.47
LT	Industry SP	997	14.25%	211	1162.56	2.18%	517.00	517.00
	Industry MS	2076	14.25%	439	2421.16	4.54%	1076.71	1076.71
	Domestic (0-100)	7755	14.25%	1641	9043.54	16.97%	4021.74	4021.74
	Domestic (101-300)	4328	14.25%	916	5047.50	9.47%	2244.66	2244.66
	Domestic (above 300)	2064	14.25%	437	2406.48	4.51%	1070.18	1070.18
	Agriculture	12337	14.25%	2611	14386.63	26.99%	6397.85	6397.85
	Commercial	4108	14.25%	869	4790.84	8.99%	2130.53	2130.53
	Public Lighting	187	14.25%	40	218.33	0.41%	97.09	97.09
	Bulk	0	14.25%	0	0.45	0.00%	0.20	0.20
	Total	47,492	14.25%	7892	53,688.96		23705.67	23705.67

6.5.3 Voltage wise-category wise Cost of supply for the Period 2017-18 (With Carrying Cost)

Voltage of Supply	Consumer Category	Cost of Supply (Rs Crore)		Cost of Supply (Rs / kWh)		
		Demand	Energy / Customer	Demand	Energy / Customer	Total

A	B	C	D	E	F	G = E + F
220 kV	Industry	13.13	447.71	0.13	4.42	4.88
	Traction	1.92	112.75	0.08	4.42	4.82
132 kV	Industrial	41.25	1216.54	0.15	4.42	4.94
	Bulk	0.00	0.04	0.12	4.42	4.87
	Traction	0.00	0.17	0.09	4.42	4.90
66 kV	Industrial	1710.53	3462.70	2.23	4.52	5.38
	Bulk	167.50	336.29	2.25	4.52	5.64
	Commercial	2.24	4.67	2.17	4.52	5.47
33 kV	Industrial	0.49	1.17	1.91	4.52	5.73
	Domestic	0.00	0.00	3.08	4.52	6.49
	Bulk	0.00	0.00	0.00	0.00	4.93
11 kV	Industry LS	293.76	419.76	3.29	4.70	5.92
	Domestic	55.84	113.36	2.32	4.70	5.82
	Commercial	18.93	34.08	2.61	4.70	5.28
	Bulk	0.29	0.47	2.89	4.70	5.72
LT	Industry SP	406.85	517.00	4.08	5.19	7.25
	Industry MS	876.32	1076.71	4.22	5.19	6.75
	Domestic (0-100)	1734.84	4021.74	2.24	5.19	6.02
	Domestic (101-300)	968.27	2244.66	2.24	5.19	6.02
	Domestic (above 300)	461.64	1070.18	2.24	5.19	6.02
	Agriculture	2758.25	6397.85	2.24	5.19	6.07
	Commercial	1381.86	2130.53	3.36	5.19	6.54
	Public Lighting	45.88	97.09	2.45	5.19	6.06
	Bulk	0.07	0.20	1.86	5.19	5.75
Total		10939.88	23705.67	34645.55		

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6.6 Summary - Cost of Supply for control period

Voltage of Supply	Consumer Category	FY 2016-17 (Tariff Order)	FY 2017-18	FY 2018-19	FY 2019-20	FY 2017-18 (Including Carrying Cost)
220 kV	Industry	4.88	4.50	4.54	4.54	4.55
	Traction	4.82	4.47	4.51	4.50	4.50
132 kV	Industrial	4.94	4.51	4.56	4.56	4.57
	Bulk	4.87	4.49	4.53	4.53	4.54
	Traction	4.90	4.47	4.51	4.51	4.51
66 kV	Industrial	5.38	5.90	5.99	6.02	6.76
	Bulk	5.64	5.91	5.92	5.87	6.78
	Commercial	5.47	5.86	5.89	5.87	6.69
33 kV	Industrial	5.73	5.70	5.78	5.80	6.43
	Domestic	6.49	6.42	6.43	6.37	7.60
	Bulk	4.93	4.93	4.93	4.93	4.93
11 kV	Industry LS	5.92	6.73	6.82	6.85	7.99
	Domestic	5.82	6.13	6.14	6.09	7.02
	Commercial	5.28	6.31	6.34	6.31	7.32
	Bulk	5.72	6.49	6.48	6.42	7.60
LT	Industry SP	7.25	7.70	7.79	7.82	9.27
	Industry MS	6.75	7.79	7.83	7.80	9.41
	Domestic (0-100)	6.02	6.56	6.56	6.50	7.42
	Domestic (101-300)	6.02	6.56	6.56	6.50	7.42
	Domestic (above 300)	6.02	6.56	6.56	6.50	7.42
	Agriculture	6.07	6.56	6.63	6.63	7.42
	Commercial	6.54	7.26	7.27	7.22	8.55
	Public Lighting	6.06	6.70	6.73	6.69	7.64
	Bulk	5.75	6.33	6.33	6.27	7.05

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7 Submission to the Hon'ble Commission

PSPCL submits that the performance of generation and distribution is a function of several input parameters, viz., economic changes, change in demand, energy transactions, vintage and technological advancement across its network etc. PSPCL has made sustained efforts to streamline its processes over the years as inherited from the erstwhile PSEB period.

PSPCL humbly submits that it has prepared the Petition considering the factors which are within control of PSPCL, however, PSPCL further requests the Hon'ble Commission to allow submission of further information and/or revision due to change in any accountable and non-accountable or uncontrollable parameters for future years as part of the subsequent submissions. The projections of ARR for Control Period from FY 2017-18 to FY 2019-20, are in accordance with PSERC MYT Tariff Regulations, 2014.

Further, PSPCL humbly requests the Hon'ble Commission to admit this Petition for Generation and Distribution and approve the Aggregate Revenue Requirement for the Control Period from FY 2017-18 to FY 2019-20, as provided in Petition.



8 Prayers

The Petitioner respectfully prays to the Hon'ble Commission:

- a) To admit the Petition seeking approval of MYT for Generation and Distribution for FY 2017-18 to FY 2019-20 in accordance with the PSERC MYT Regulations, 2014;
- b) To approve the MYT petition for Generation & Distribution Business for FY 2017-18 to FY 2019-20 as proposed by the Petitioner in the above-said Petition;
- c) To pass any other order/s as the Hon'ble Commission may deem fit and appropriate under the circumstances of the case and in the interest of justice;
- d) PSPCL also prays to the Hon'ble Commission to take the appropriate view on the revenue gap projected by PSPCL as per the PSERC MYT Regulations while determining the tariff for the Control Period.
- e) To condone any error/ omission and to give opportunity to rectify the same;
- f) The filing is being done based on the best available information and in case of any change, the Petitioner may be permitted to make further submissions, addition and alteration to this Petition as may be necessary from time to time.





9 Annexure

9.1 Annexure-I – Allocation Matrix for FY 2014-15

9

Source wise cost of Power Generation/ Purchase for the year 2014-15

Source wise cost of Power Generation/ Purchase for the year 2014-15																	
Source	Net Gen. in Mus	Fuel/ Power Purchase	Salary			Repair & Mtc.		Admin. & General Exp.			Depreciation			Interest & Finance Charges			
			Actual	Segregated	Total	Actual	Segregated	Total	Actual	Segregated	Total	Actual	Segregated	Total			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
GNDTP, Bathinda	1272.69	393.73	96.49	62.73	159.22	25.32	0.02	25.34	1.39	0.33	1.71	36.76	0.00	36.76	0.00	279.09	
GGSTP, Ropar	5260.71	1761.25	155.43	101.04	256.48	71.09	0.06	71.15	3.71	0.88	4.60	25.27	0.00	25.27	0.00	224.57	
GHTP, Lehra Mohabbat	4117.34	1071.78	54.70	35.56	90.27	58.21	0.05	58.26	2.80	0.66	3.47	139.85	0.00	139.85	0.00	233.79	
Total Thermal/ Average	10650.74	3226.76	306.62	199.33	505.96	154.62	0.12	154.74	7.90	1.87	9.78	201.88	0.00	201.88	0.00	737.44	
Shaman	500.44	0.00	13.81	11.99	25.81	1.57	0.00	1.57	0.22	0.06	0.29	6.79	0.00	6.79	0.00	6.18	
UBDC	381.60	0.00	22.78	19.78	42.57	1.37	0.00	1.37	0.37	0.11	0.48	6.49	0.00	6.49	0.00	56.74	
RSD	1858.75	20.00	11.61	10.08	21.69	0.76	0.00	0.76	0.61	0.17	0.78	192.56	0.00	192.56	0.00	474.30	
MHP	1029.68	0.00	22.82	19.82	42.64	0.51	0.00	0.51	1.13	0.32	1.45	12.70	0.00	12.70	0.00	50.64	
ASHP	611.71	0.00	10.00	8.68	18.68	1.93	0.00	1.93	0.56	0.16	0.71	13.62	0.00	13.62	0.00	39.55	
Micro	6.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	
SVL	0.00	0.00	0.42	-0.42	0.00	0.00	0.00	0.00	0.10	-0.10	0.00	0.00	0.00	0.00	0.00	0.00	
Own Hydro Total / Average	4389.13	20.00	81.45	69.93	151.38	6.13	0.01	6.14	2.99	0.72	3.71	232.18	0.00	232.18	0.00	628.38	
BBMB Total/ Average	3860.26	0.00	210.40	0.00	210.40	20.29	0.00	20.29	3.46	0.00	3.46	17.47	0.00	17.47	0.00	14.10	
Total Own/ BBMB Hydro	8249.39	20.00	291.85	69.93	361.78	26.43	0.01	26.44	6.45	0.72	7.17	249.65	0.00	249.65	0.00	642.48	
Total Generation Cost	18900.13	3246.76	598.47	269.27	867.73	181.05	0.13	181.17	14.35	2.60	16.95	451.53	0.00	451.53	0.00	1379.92	
Power Purchase	10645.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total Gen/Power Purchase	18900.13	13892.63	598.47	269.27	867.73	181.05	0.13	181.17	14.35	2.60	16.95	451.53	0.00	451.53	0.00	1379.92	
Transmission Loss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Transmission Charges to PSTCL	1738.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cost at Transmission End	18900.13	15631.02	598.47	269.27	867.73	181.05	0.13	181.17	14.35	2.60	16.95	451.53	0.00	451.53	0.00	1379.92	
Distribution Loss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Distribution Exp	0.00	0.00	1794.75	1413.98	3208.73	203.81	0.44	204.25	100.00	43.00	142.99	479.50	0.38	479.88	0.00	1043.90	
Head Office	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Cost at Consumer End	18900.13	15631.02	2393.21	1683.25	4076.46	384.86	0.56	385.43	114.35	45.59	159.94	931.03	0.38	931.41	0.00	2423.83	

Note: 1 The figures of SYL and RSTP, Jalkheri have been included in distribution function.

2 The figure of Other Debits amounting to Rs. 18.58 crore pertaining to Distribution has not been shown in the above data.

3 The return on equity has been apportioned on the basis of Gross Assets as on 31-3-13 of resective function.

4 The figure of equity of the functions is based on the FRP.

5 The total cost is based on the accounts.

6 The debt services of the company are at corporate level therefore the interest has been segregated on the basis of net assets as on 31-3-13.

7 The column 'Segregated' shows the Corporate expenses. The segregated column of Salary mainly shows the terminal benefits.

Source	Fixed Cost				Total Cost (Actual)				[Rs. in crores]			
	Actual		Segregated		Total		Actual		Segregated		Total	
	18	19	20	21	22	23	24	25	26	27	28	29
	(3+6+9+12+15)	(4+7+10+13+16)	(18+19)	(21+24+18)	(22+19)	(23)	(24+23+10/1)	(25)	(26+23+25)	(27+26+10/1)		
GNDP, Bathinda	159.95	342.16	502.11	553.68	342.16	895.84	7.04	94.37	990.22	7.78		
GGSTP, Ropar	255.51	326.55	582.05	2016.75	326.55	2343.30	4.45	96.09	2439.39	4.64		
GHIP, Lehra Mohabbat	255.57	270.06	525.63	1327.35	270.06	1597.41	3.88	117.68	1715.10	4.17		
Total Thermal/ Average	671.02	938.77	1609.79	3897.79	938.77	4836.56	4.54	308.15	5144.70	4.83		
Shanau	22.39	18.24	40.63	22.39	18.24	40.63	0.81	2.39	43.02	0.86		
UBDC	31.02	76.63	107.65	31.02	76.63	107.65	2.82	21.61	129.26	3.59		
RSD	205.54	484.56	690.10	275.54	484.56	710.10	3.82	195.47	909.58	4.89		
MHP	37.17	70.78	107.95	37.17	70.78	107.95	1.05	24.51	132.46	1.29		
ASHP	26.10	48.39	74.50	26.10	48.39	74.50	1.22	13.34	87.84	1.44		
Micro	0.00	0.96	0.96	0.00	0.96	0.96	1.39	2.08	3.04	4.38		
SVL	0.52	-0.52	0.00	0.52	-0.52	0.00	0.00	2.57	2.57	0.00		
Own Hydro Total / Average	322.75	699.04	1021.79	342.75	699.04	1041.79	2.37	265.98	1307.77	2.98		
BMB Total/ Average	0.00	14.10	265.72	0.00	14.10	14.10	0.04	5.19	19.29	0.05		
Total Own/ BMB Hydro	322.75	713.14	1287.52	342.75	713.14	1055.90	1.28	271.17	1327.06	1.61		
Total Generation Cost	993.77	1651.92	2897.31	4240.54	1651.92	5892.45	3.12	579.31	6471.77	3.42		
Power Purchase	0.00	0.00	0.00	10645.87	0.00	10645.87	0.00	0.00	10645.87	0.00		
Total Gen/Power Purchase	993.77	1651.92	2897.31	14886.41	1651.92	16538.32	8.75	579.31	17117.64	9.06		
Transmission Loss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Transmission Charges to PSTCL	0.00	0.00	0.00	1738.38	0.00	1738.38	0.00	0.00	1738.38	0.00		
Cost at Transmission End	993.77	1651.92	2897.31	16624.79	1651.92	18276.71	9.67	579.31	18856.02	9.98		
Distribution Loss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Distribution Exp	2578.06	2501.70	5079.76	2578.06	2501.70	5079.76	0.00	363.31	5443.07	0.00		
Head Office	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Cost at Consumer End	3571.83	4153.62	7977.07	19202.85	4153.62	23356.47	12.36	942.62	24299.09	12.86		

9.2 Annexure-II - PSERC order on the matter of Additional Surcharge

9

Order in Petition No. 28 of 2016

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

**Petition No. 28 of 2016
Date of Order: 09.08.2016**

Present: Shri D.S. Bains, Chairman
Er. S.S. Sarna, Member

In the matter of: Petition under Section 42 (4) of the Electricity Act, 2003 read with Regulation 27 of the PSERC (Terms and Conditions for Intra-State Open Access) Regulations, 2011 for determination of additional surcharge payable by the short-term open access consumers situated within the area of supply of Punjab State Power Corporation Limited and purchasing power from within/outside the said area of supply/State periphery.

AND

In the matter of: Punjab State Power Corporation Limited, The Mall, Patiala-147001.

Petitioner

ORDER

The present Petition has been filed by the Punjab State Power Corporation Limited (PSPCL) under Section 42 (4) of the Electricity Act, 2003 read with Regulation 27 of the PSERC (Terms and Conditions for Intra-State Open Access) Regulations, 2011 for determination of additional surcharge payable by the short-term open access consumers situated



- c) Slot-wise (Hourly) Power Scheduled (Maximum/Minimum/Average).
- d) Slot-wise (Hourly) Surrendered Power (Maximum/Minimum/Average).
- e) Slot-wise open access power (Maximum/Minimum/Average).

The Commission has determined the Additional Surcharge to be paid by the Open Access Consumers on the open access power brought by them as ₹ 1.13 per kWh, on the basis of data submitted by PSPCL for the period from 1st April, 2015 to 30th September, 2015 (Annexure-I). This Additional Surcharge of ₹ 1.13 per kWh is ordered to be charged prospectively from the date of issue of this order upto 30th September, 2016.

PSPCL is directed to file petition with the Commission for levy of Additional Surcharge on Open Access Consumers as per Regulation 27 of the PSERC (Terms & Conditions for Intra-State Open Access) Regulations, 2011 for the period from April to September of a financial year by 31st December of the previous year, and for the period from October to March of a financial year by 30th June of the financial year. The Commission has already directed PSPCL vide its letter No. 3621 dated 15.07.2016 to file petition for levy of Additional Surcharge for the period from 1st October, 2016 to 31st March, 2017. PSPCL should submit its working out of Additional Surcharge on



the pattern of Annexure-I appended with this Order and supported with the data details as brought out above.

The Petition is disposed of accordingly.

Sd/-
S.S. Sarna
(Member)



Sd/-
D.S. Bains
(Chairman)

Chandigarh

Dated: 09.08.2016

Annexure-I

Calculation of Additional Surcharge based on data for the period from April, 2015 to September, 2015.		
(i)	Average Contracted Capacity	11027.27 - MW
(ii)	Maximum Availability	9639 MW
(iii)	Minimum Availability	5210 MW
(iv)	Average Availability	8228 MW
(v)	Maximum Scheduled	9414 MW
(vi)	Minimum Scheduled	2373 MW
(vii)	Average Scheduled	6019 MW
(viii)	Capacity not availed (Maximum)	5421 MW
(ix)	Capacity not availed (Minimum)	0 MW
(x)	Capacity not availed (Average)	2210 MW
(xi)	Open Access Allowed (Maximum)	658 MW
(xii)	Open Access Allowed (Minimum)	0 MW
(xiii)	Open Access Allowed (Average)	224 MW
(xiv)	Capacity Stranded due to open access	224 MW
(xv)	Fixed Charges	₹ 4115.17 crore
(xvi)	Fixed Charges per MW available (xv÷iv)	₹ 0.50 crore
(xvii)	Fixed Charges of Stranded Capacity (xvi × xiv)	₹ 112 crore
(xviii)	Open Access energy Scheduled	985.11 MU
(xix)	Additional Surcharge (xvii ÷ xviii)	₹ 1.13 per kWh.

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9.3 Annexure III - BBMB letter

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निदेशक /विद्युत विनियम
भाखड़ा ब्यास प्रबन्ध बोर्ड
Director/ Power Regulation
Bhakra Beas Management Board
SLDC Complex, Industrial Area Phase - I
Chandigarh - 160002. Tel/Fax.: 0172 2652820
E-mail: dirpr@bbmb.nic.in

ASE / PR
ASE / Sch.
ASE / OA
PA
DY. CE / PR



From

Director /Power Regulation

✓ To

The Dy. Chief Engineer/Power Regulation,
Punjab State Power Corporation Ltd.
O/o Chief Engineer/Power Purchase & Regulation
Patiala.

Memo No. 1574 /BMC-58A

Dated 7-10-16

Subject: Data required for the preparation of MYT for the control period 1st April 2017 to 31st March 2020: Month-wise Projected Generation Targets of BBMB Hydro Plants for the period FY 2016-17 (Oct.-Mar) FY 2017-18 to FY 2019-20.

Ref: Your office memo No. 741/HD dated 15.9.2016.

Data required as per subject cited above is as per Annexure-A attached herewith.

Encl: As above.

Director /Power Regulation
BBMB, Chandigarh.

Annexure--- "A"

Month/Year	BBMB Gross Generation in MUs	PSPCL Share from BBMB Gross Generation In MUs
Oct-16	752	276.63
Nov-16	618	221.04
Dec-16	612	219.17
Jan-17	569	206.14
Feb-17	546	199.72
Mar-17	619	227.56
Total	3716	1350.26
Apr-17	481	177.83
May-17	775	296.79
Jun-17	952	368.28
Jul-17	1027	390.80
Aug-17	1107	424.64
Sep-17	968	367.76
Oct-17	685	247.21
Nov-17	558	194.69
Dec-17	540	187.55
Jan-18	506	178.47
Feb-18	486	173.37
Mar-18	557	200.33
Total	8642	3207.73
Apr-18	517	193.19
May-18	832	320.70
Jun-18	1026	398.76
Jul-18	1111	424.33
Aug-18	1203	463.21
Sep-18	1049	400.19
Oct-18	748	271.74
Nov-18	614	216.37
Dec-18	599	210.54
Jan-19	561	200.61
Feb-19	539	194.63
Mar-19	610	221.81
Total	9409	3516.09
Apr-19	506	188.59
May-19	817	314.34
Jun-19	1007	390.87
Jul-19	1088	415.13
Aug-19	1178	453.13
Sep-19	1028	391.64
Oct-19	730	264.73
Nov-19	599	210.46
Dec-19	591	207.70
Jan-20	546	194.47
Feb-20	523	187.42
Mar-20	596	216.11
Total	9209	3434.58

Q

Ashwani /
PBE/Commercial

ASE/Commercial.



निदेशक /विद्युत विनियम
भाखड़ा ब्यास प्रबन्ध बोर्ड
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Chandigarh - 160002. TelFax.: 0172 2652820.
E-mail: dirpr@bbmb.nic.in

ASE / PR
ASE / Sch.
ASE / OA
PA
DY. CE / PR



From

Director /Power Regulation

To

The Dy. Chief Engineer/Power Regulation,
Punjab State Power Corporation Ltd.
O/o Chief Engineer/Power Purchase & Regulation
Patiala.

Memo No. 1573

/BMC-58A

Dated 7-10-16

Subject: Data required for the preparation of ARR for FY 2017-18 : PSPCL share in the Sale of common pool consumers by BBMB for the period FY 2014-15 (Actual), FY 2015-16 (Actual) FY 2016-17 (Apr-Sept) (Actual) and Projection for FY 2016-17 (Oct-Mar) & FY 2017-18.

Ref: Your office memo No. 740/HD dated 15.9.2016.

Requisite information as per subject cited above is as per given below :-

Period	PSPCL 's share in the Sale to common pool consumers by BBMB (in Mus)
FY 2014-15 (Actual)	306.48
FY 2015-16 (Actual)	294.51
FY 2016-17 (Apr-Sept) (Actual)	154.64
FY 2016-17 (Oct-Mar) (Projection)	155.41
FY 2017-18. (Projection)	311.68

Q

Director /Power Regulation
BBMB, Chandigarh.

9.4 Annexure IV- Allocation Matrix for FY 2015-16

9

Source wise cost of Power Generation/ Purchase for the year 2015-16

Source	Net Gen. in Mns	Fuel/ Power Purchase	Salary			Repair & Mtc.			Admn. & General Exp.			Depreciation		
			Actual	Segregated	Total	Actual	Segregated	Total	Actual	Segregated	Total	Actual	Segregated	Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
GNDRP, Bathinda	814.86	316.21	97.94	63.67	161.61	27.09	0.02	27.11	1.48	0.52	2.00	44.20	0.00	44.20
GESSTP, Ropar	3600.70	1440.54	147.56	95.93	243.49	62.08	0.06	62.14	3.96	1.39	5.35	22.87	0.00	22.87
GHTP, Lehra Mohabbat	2853.46	1039.43	64.81	42.13	106.94	47.00	0.05	47.05	4.81	1.68	6.49	142.56	0.00	142.56
Total Thermal/ Average	7269.02	2796.18	310.31	201.73	512.04	136.17	0.13	136.30	10.25	3.59	13.84	209.63	0.00	209.63
Shanan	525.99	0.00	10.94	9.50	20.44	1.42	0.00	1.42	0.53	0.19	0.72	2.93	0.00	2.93
UBDC	318.02	0.00	17.17	14.91	32.08	1.12	0.00	1.12	0.27	0.09	0.36	5.94	0.00	5.94
RSD	1951.70	6.50	14.45	12.55	27.00	2.50	0.00	2.50	0.56	0.20	0.76	192.22	0.00	192.22
MHP	1146.94	0	22.92	19.901436	42.821436	12.46	0	12.46	0.4	0.14	0.54	16.34	0	16.34
ASHP	666.13	0	15.82	13.736506	29.556506	0.5	0	0.5	0.12	0.042	0.162	11.11	0	11.11
Micro	5.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
SYL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Own Hydro Total / Average	4616.39	6.50	81.30	70.59	151.89	18.00	0.00	18.00	1.88	0.66	2.54	228.54	0.00	228.54
BMB Total/ Average	4294.72	0.00	234.24	0.00	234.24	28.40	0.00	28.40	4.94	0.00	4.94	8.45	0.00	8.45
Total Own/ BMB Hydro	4294.72	0.00	234.24	0.00	234.24	28.40	0.00	28.40	4.94	0.00	4.94	8.45	0.00	8.45
Total Generation Cost	16180.13	2802.68	625.85	272.33	898.18	182.57	0.13	182.70	17.07	4.25	21.32	446.62	0.00	446.62
Power Purchase	32233.68	12198.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Total Gen/Power Purchase	48413.81	15001.51	625.85	272.33	898.18	182.57	0.13	182.70	17.07	4.25	21.32	446.62	0.00	446.62
Transmission Loss	7084.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Transmission Charges including pa	0.00	1416.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Cost at Transmission End	41329.66	16418.05	625.85	272.33	898.18	182.57	0.13	182.70	17.07	4.25	21.32	446.62	0.00	446.62
Distribution Loss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Distribution Exp	0.00	0.00	2097.95	1401.00	3498.95	183.95	0.44	184.39	121.20	43.00	164.19	603.34	0.00	603.34
Head Office	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0
Cost at Consumer End	41329.66	16418.05	2723.80	1673.33	4397.13	366.52	0.57	367.09	138.27	47.24	185.51	1049.96	0.00	1049.96

(Rs. in crores)

Source	Interest & Finance Charges					Fixed Cost			Total Cost (Actual)			Cost per unit without	Return on equity	Grand Total	Cost per unit including
	Actual	Segregated	Total	Interest capitaliza	Total Interest on Long Term	Intt. & Finance Charges on	Total Interest & Finance	Actual	Segregated	Total	Actual	Segregated	Total		
	15	16	17	18	19	20	21	22	23	24 (22+23)	25 (24+22)	26 (23)	27	28 (27+29)	31 (30+10/1)
GNDTP, Bahinda	32.63	7.37	40.00		40.00		40.00	170.71	414.82	585.53	486.92	414.82	901.74	101.25	12.31
GGSTP, Ropar	10.69	1.67	12.36		12.36		12.36	236.47	337.36	573.83	1677.01	337.36	2014.37	90.66	5.85
GHP, Lebra Mohabat	94.21	12.08	106.29		106.29		106.29	259.18	304.97	564.15	1298.61	304.97	1603.58	117.82	6.03
Total Thermal/ Average	137.53	21.11	158.64		158.64		158.64	666.36	1057.15	1723.51	3462.54	1057.15	4519.69	309.73	6.64
Shanan	0.20	0.06	0.26		0.26		0.26	15.82	17.42	33.24	15.82	17.42	33.24	2.58	0.68
UBDC	0.30	0.10	0.40		0.40		0.40	24.50	84.36	108.86	24.50	84.36	108.86	22.54	4.13
RSD	0.00	0.00	0.00		0.00		0.00	209.73	548.45	758.18	216.23	548.45	764.68	197.12	4.93
MHP	0.00	53.86	53.86		53.86		53.86	52.12	73.90	126.02	52.12	73.90	126.02	23.20	1.30
ASHP	0.00	46.71	46.71		46.71		46.71	27.55	60.49	88.04	27.55	60.49	88.04	13.37	1.52
Micro	0.00	1.25	1.25		1.25		1.25	0.00	1.25	1.25	0.00	1.25	1.25	0.70	3.48
SYL	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.53	0.00
Own Hydro Total / Average	0.00	714.63	714.63		714.63		714.63	329.72	785.88	1115.60	336.22	785.88	1122.10	262.04	3.00
BBMB Total/ Average	0.00	15.81	15.81		15.81		15.81	276.03	276.03	291.84	276.03	15.81	291.84	6.13	0.69
Total Own/ BBMB Hydro	0.00	15.81	15.81		15.81		15.81	276.03	15.81	291.84	276.03	15.81	291.84	6.13	0.69
Total Generation Cost	0.00	1582.14	1582.14		1582.14		1582.14	1272.11	1858.84	3130.95	4074.79	1858.84	5933.63	577.90	4.02
Power Purchase	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	12198.83	0.00	12198.83	3.78	3.78
Total Gen/Power Purchase	0.00	1582.14	1582.14		1582.14		1582.14	1272.11	1858.84	3130.95	16273.62	1858.84	18132.46	577.90	3.86
Transmission Loss	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Charges including pa	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	1416.54	0.00	1416.54	0.00	0.00
Cost at Transmission End	0.00	1582.14	1582.14		1582.14		1582.14	1272.11	1858.84	3130.95	17690.16	1858.84	19549.00	577.90	4.87
Distribution Loss	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Distribution Exp	0.00	1306.3	1306.3		1306.30		1306.30	3006.45	2750.73	5757.17	3006.45	2750.73	5757.18	364.72	0.00
Head Office	0.00	0.00	0.00		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cost at Consumer End	0.00	2888.44	2888.44		2888.44		2888.44	4278.56	4609.58	8888.13	20696.61	4609.58	25306.18	942.62	6.35

9.5 Annexure V- PSERC order dated October 14, 2016 on "Electricity Concession of 200 Units per month to Backward Class DS consumers with sanctioned load up to 1kW"

9

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

Date of Order: 14.10.2016

Present:

Sh. D.S. Bains, Chairperson
Sh. S.S. Sarna, Member

In the matter of:

Electricity Concession of 200 Units per month
to Backward Class Domestic (DS) consumers
with sanctioned load upto 1 kW.

ORDER

Govt. of Punjab (GoP), Department of Power (Energy Branch)
vide Memo No. 2/22/2016-PE2/2725 dated 10.10.2016 has intimated
as under:

*"The State Government has decided to grant free power upto
200 Units per month to all Backward-Class Domestic consumers
with load upto 1 kW on the same terms as already being given to
SC/ST Domestic consumers. The subsidy on account of this
shall be borne by the State Government. The concurrence of
Finance Department has also been obtained vide their I.D. No.
10/91/2016-2FE4/310 dated 06.10.2016."*

Further in continuation to ibid letter Govt. of Punjab (GoP),
Department of Power (Energy Branch) vide letter no. 2/22/2016-
PE2/2746 dated 12.10.2016 has further intimated as under:

*"In continuation to this office Memo No. 2/22/2016-PE2/2725
dated 10.10.2016 it is intimated that Department of Finance,
Government of Punjab vide I.D. dated 06.10.2016 has conveyed
its concurrence for provision of additional funds (Estimated to be*

approximately ₹315 crore) to be paid as subsidy to PSPCL for the FY 2016-17 in lieu of electricity concession of 200 Units per month to Backward Class Domestic (DS) consumers with sanctioned load upto 1 kW in the State on the pattern of SC/BPL DS consumers."

Section 65 of the Electricity Act, 2003 provides as under:

"Provision of subsidy by State Government – If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the State Commission under section 62, the State Government shall, notwithstanding any direction which may be given under section 108, pay in advance and in such manner as may be specified, the amount to compensate the person affected by the grant of subsidy in the manner the State Commission may direct, as a condition for the licence or any other person concerned to implement the subsidy provided for by the State Government:

Provided that no such direction of the State Government shall be operative if the payment is not made in accordance with the provisions contained in this section and the tariff fixed by the State Commission shall be applicable from the date of issue of orders by the Commission in this regard."

The Commission notes that as per Act, State Govt. can provide subsidy to any consumer or class of consumers in the tariff determined by the Commission under section 62 of the Act. Accordingly, the Commission approves the proposal of the GoP to provide 200 units per month free of cost to Backward Class Domestic (DS) consumers with sanctioned load upto 1 kW in the State, on the pattern of SC/BPL DS consumers on the condition that the GoP

provides the subsidy to PSPCL amounting to ₹315 crore. This subsidy is payable in 5 equal instalments from November, 2016 to March, 2017 in addition to the subsidy determined by the Commission in the Tariff Order for FY 2016-17.

The proposal will be applicable from the date of issue of this order.

Sd/-

(S.S. Sarna)
Member

Sd/-

(D.S. Bains)
Chairperson



Chandigarh

Dated: 14.10.2016

9.6 PSERC order dated October 14, 2016 on "To Supply electricity to SP consumers at Concessional Tariff"

9

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

Date of Order: 14.10.2016

Present: Sh. D.S. Bains, Chairperson
Sh. S.S. Sarna, Member

In the matter of: To Supply electricity to Small Power Industrial
consumes at concessional tariff of 499 paise
per unit during the year 2016-17.

ORDER

Govt. of Punjab (GoP), Department of Power (Power Reforms Wing) vide Memo No. 1/34/2015-EB(PR)/905 dated 26.09.2016 has intimated as under:

"The State Government has accorded its In-principal approval to supply electricity to Small power Industrial consumers at concessional tariff of 499 Paise per Unit during the year 2016-17 to promote Industry in the State. The matter has been referred to the Finance Department, Punjab for making provisions for the funds in lieu of the difference of existing tariff for Small Power Industrial consumers and the concessional tariff of 499 Paise per Unit announced by the state Government."

Further, Govt. of Punjab (GoP), Department of Power (Energy Branch) vide letter no. 1/34/2015-EB(PR)/2747 dated 12.10.2016 has intimated as under:

"The State Government has decided to supply electricity to Small Power Industrial consumers at concessional tariff of 499 paise per unit in the year 2016-17 to promote industries in the State."

Q

The subsidy on account of this (estimated to be approximately 29.97 crore) shall be borne by the State Government. The concurrence of Finance Department has also been obtained vide their I.D. 10/34/2016-2FE4/311 dated 10.10.2016."

Section 65 of the Electricity Act, 2003 provides as under: -

"Provision of subsidy by State Government – If the State Government requires the grant of any subsidy to any consumer or class of consumers in the tariff determined by the State Commission under section 62, the State Government shall, notwithstanding any direction which may be given under section 108, pay in advance and in such manner as may be specified, the amount to compensate the person affected by the grant of subsidy in the manner the State Commission may direct, as a condition for the licence or any other person concerned to implement the subsidy provided for by the State Government:

Provided that no such direction of the State Government shall be operative if the payment is not made in accordance with the provisions contained in this section and the tariff fixed by the State Commission shall be applicable from the date of issue of orders by the Commission in this regard."

The Commission notes that as per Act, State Govt. can provide subsidy to any consumer or class of consumers in the tariff determined by the Commission under section 62 of the Act. Accordingly, the Commission approves the proposal of the GoP to supply electricity to Small Power Industrial Consumers at concessional tariff of 499 paise per unit during FY 2016-17, on the condition that the GoP provides the subsidy to PSPCL amounting to ₹29.97 crore. This subsidy is payable in 5 equal instalments from

November, 2016 to March, 2017 in addition to the subsidy already determined by the Commission in the Tariff Order for FY 2016-17 and in its subsequent order.

The proposal will be applicable from the date of issue of this order.

Sd/-

(S.S. Sarna)
Member

Sd/-

(D.S. Bains)
Chairperson



Chandigarh

Dated: 14.10.2016

