



उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ० प्र० सरकार का उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)

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No. 2974 /RAU/ MYT

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Dated: 31 August, 2017

The Secretary,
U.P. Electricity Regulatory Commission,
Kisan Mandi Bhawan,
2nd Floor, Gomti Nagar,
Lucknow.

Subject: Additional Deficiencies/Queries (2nd Set) in the Business Plan,MYT & True-up Petition.

Sir,


Replies of above mentioned Deficiencies/Queries, in reference to Commission's e-mail dated 17.08.2017, were submitted to Hon'ble Commission through e-mail dated 22.08.2017 and has been discussed with the Officers of the Commission.

The Hard Copy of replies is being enclosed herewith for the Consideration of the Hon'ble Commission.

Thanking You,

Encl: As Above.

Yours faithfully,


(Niraj Agrawal)
Chief Engineer(RAU)

Additional Deficiencies / Queries (2nd Set) in the Business Plan, MYT & True-up Petition

Note:

- 1) Petitioner should submit the replies in soft copy and hard copy. (5 Nos.)
- 2) All the letters/correspondence / annexures should be submitted in scanned PDF copies.
- 3) In case any submission has already been made to the Commission earlier, the same should be re-submitted to make it part of the present proceedings.

A. True-Up of FY 2014-15

1. It is observed that for FY 2014-15, the Energy Handled as claimed by UPPTCL is 82,413 MU whereas, energy at DISCOM end as submitted in MYT Petition is 81,927 MU. The petitioner should submit reconciliation for the same.

Licensee's Response:

The Petitioner humbly submits that its submission of 81,927 MU's being energy handled by UPPCL for FY 2014-15 is matching with the UPPCL's Audited Balance Sheet submitted by the Petitioner along with its MYT Petition. Further the Petitioner submits the following reconciliation received from UPPTCL for the difference in energy reflected in UPPCL and UPPTCL books:

Energy Handled for FY 2014-15 (MU)	
Energy Handled (As per UPPTCL Books)	82,413.86
UPPCL (All Licensee except NPCL) (As per UPPCL Books)	81,927.01
Other LTCs through LTOA	328.44
Other States (Net Inter-State Drawal of UP at CTU-STU periphery)	158.41
Total	82,413.86

2. In Note-9, of Balance Sheet for FY 2014-15 for DVVNL (additions in FY 2014-15 is Rs 25.31 Cr) certain assets are mentioned as "Assets not pertaining to DVVNL." Provide the details for the same.

Licensee's Response:

The Petitioner humbly submits that the asset addition in FY 2014-15 to the tune of Rs 25.31 Cr stated under the head "Assets not pertaining to DVVNL" is on account of the payments made to UPPTCL for Construction of Bay capitalized during the year and amortization of the same has been made over the useful life of the Assets. Since the amount received by UPPTCL from DVVNL is shown as the consumer contribution in its books of account and assets have been capitalized as created through deposit works being shown under Fixed Assets by UPPTCL. Thus the same

well

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has been shown in the books of DVVNL as assets capitalized and the depreciation has been claimed accordingly, being the same not claimed by UPPTCL.

3. In Form F-40, the closing loan of FY 2014-15 is not matching with opening loan of FY 2015-16 in case of all the DISCOMs. Submit clarification for the same. In case of error, submit the revised calculations.

Licensee's Response:

The Petitioner humbly submits that updated Form F-40 has already been attached in reply to the 1st Deficiency note issued by the Hon'ble Commission.

4. The opening CWIP of FY 2014-15 is not matching with closing CWIP of FY 2013-14 for all the Discoms. The Petitioner must submit the justification and revised calculation for the same.

Licensee's Response:

The Petitioner humbly submits that the said query has already been addressed in the reply to the 1st Deficiency note issued by the Hon'ble Commission. Further to submit the major reason for the difference in opening and closing CWIP of FY 2014-15 and 2013-14 respectively is regrouping of sub-accounts in line with the provisions of New Companies Act, 2013 for the purpose of CFS. In this case, the accounting head "Advance to Supplier/contractor" has been re-grouped under the head "Other Non-Current Assets".

5. In the audited accounts of PuVVNL for FY 2014-15, the depreciation for FY 2014-15 as shown in the Note-24 is Rs 238.05 Cr. However, in Note-9 the figure is Rs 533.17 Cr. The Petitioner must submit the clarification / reconciliation for the same.

Licensee's Response:

The Petitioner humbly submits that the difference between amount shown in Note 9 of Rs. 533.17 Cr. and Note 24 of Rs. 238.05 Cr. is due to change in Accounting Policies relating to depreciation for the Financial Year 2014-15 in line with the provisions of Companies Act, 2013. The amount shown in Note-24 represent depreciation for the year and differential amount of Rs. 295.12 Cr. is accounted for under deduction part of Note-9. The same has also been disclosed in Point No. 8 of "Notes on Accounts".

6. The Petitioner must submit the reconciliation of revenue billed for the year as submitted in Form-54 of the Petition for FY 2014-15 with the Audited accounts for FY 2014-15.

Licensee's Response:

The Petitioner humbly submits the revenue billed for the year as submitted in Form-54 of the Petition is including of Delayed Payment Surcharge which is matching with the Audited accounts for FY 2014-15. The details of the same are provided in the table below:

Particulars	MVVNL (Rs. Crore)	DVVNL (Rs. Crore)	PVVNL (Rs. Crore)	PuVVNL (Rs. Crore)	Kesco (Rs. Crore)
Revenue from Tariff	5,949.66	6,611.55	10,231.21	6,052.56	1,678.94

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Revenue from Delayed Payment Surcharge	405.09	137.48	138.99	274.67	10.31
Total Revenue	6,354.75	6,749.03	10,370.21	6,327.23	1,689.26

7. In the audited accounts of PuVVNL for FY 2014-15, the subsidy amount is Rs 1838.04 Cr, however in Table 2-17 of the MYT Petition the figure is Rs 2948.08 Cr. The Petitioner must submit clarification and revised computation for the same.

Licensee's Response:

The Petitioner humbly submits that the above stated difference of Rs. 1110.04 crore has been shown as the Subsidy received towards operational losses in the Profit/(Loss) account of PuVVNL.

8. The opening GFA of FY 2015-16 in the Provisional accounts is not matching with the audited accounts of closing GFA of FY 2014-15 for PuVVNL. The Petitioner must submit the clarification for the same.

Licensee's Response:

The Petitioner humbly submits that there is a time gap between the preparation of provisional accounts for FY 2015-16 and audited accounts for FY 2014-15, resulting into such difference of GFA for FY 2014-15 in both the balance sheets. The Opening GFA for FY 2015-16 shall be considered equivalent to the closing GFA of 2014-15.

9. The Petitioner must submit the breakup of Consumer contribution i.e. Additions and Amortizations for FY 2015-16 and FY 2016-17.

Licensee's Response:

The Petitioner humbly submits that the breakup of Consumer contribution i.e. Additions and Amortizations from FY 2014-15 and FY 2019-20 for each disocm is provided in the table below:

DVVNL	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Audited	Provisional	Estimated	Projected	Projected	Projected
Opening Balance of Consumer Contributions, Grants and Subsidies towards Cost of Capital Assets	1,185.10	1,474.30	1,653.36	1,569.71	1,603.30	1,619.39
Additions during the year	342.32	234.37	233.57	269.63	327.21	173.07
Less: Amortisation	53.12	55.31	317.22	236.04	311.12	393.36
Closing Balance	1,474.30	1,653.36	1,569.71	1,603.30	1,619.39	1,399.10

MVVNL	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Audited	Provisional	Estimated	Projected	Projected	Projected

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Opening Balance of Consumer Contributions, Grants and Subsidies towards Cost of Capital Assets	1,003.99	1,216.68	1,329.90	1,455.59	1,644.35	1,611.40
Additions during the year	260.38	173.86	280.02	338.01	170.06	168.80
Less: Amortisation	47.69	60.64	154.32	149.25	203.01	247.83
Closing Balance	1,216.68	1,329.90	1,455.59	1,644.35	1,611.40	1,532.38

PVVNL	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Audited	Provisional	Estimated	Projected	Projected	Projected
Opening Balance of Consumer Contributions, Grants and Subsidies towards Cost of Capital Assets	1,329.47	1,523.08	1,642.42	1,749.23	2,501.03	2,612.49
Additions during the year	336.04	203.13	370.58	907.80	372.29	220.08
Less: Amortisation	142.43	83.79	263.78	156.00	260.83	349.36
Closing Balance	1,523.08	1,642.42	1,749.23	2,501.03	2,612.49	2,483.21

PuVVNL	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Audited	Provisional	Estimated	Projected	Projected	Projected
Opening Balance of Consumer Contributions, Grants and Subsidies towards Cost of Capital Assets	1,108.86	1,244.28	1,511.19	1,489.02	1,731.19	1,893.22
Additions during the year	223.62	333.89	165.99	381.47	346.98	143.13
Less: Amortisation	88.20	66.98	188.15	139.31	184.94	230.56
Closing Balance	1,244.28	1,511.19	1,489.02	1,731.19	1,893.22	1,805.79

Kesco	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Audited	Provisional	Estimated	Projected	Projected	Projected
Opening Balance of Consumer Contributions, Grants and Subsidies	150.59	169.48	179.36	170.03	188.78	194.91

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towards Cost of Capital Assets						
Additions during the year	101.73	9.88	11.23	30.98	23.24	21.00
Less: Amortisation	82.85	-	20.55	12.23	17.10	22.49
Closing Balance	169.48	179.36	170.03	188.78	194.91	193.43

B. Business Plan and MYT for the control period FY 2017-18 to FY 2019-20

10. The Petitioner must submit the basis of computation of category wise connected load, consumer sales and load factor as considered in the load forecast model for FY 2017-18 to FY 2019-20.

Licensee's Response:

The Petitioner humbly submits that it has already provided its detailed methodology for computation of category wise connected load, consumer sales and load factor as considered in the load forecast model for FY 2017-18 to FY 2019-20 in its Business Plan. The same is been reiterated for kind consideration of the Hon'ble Commission:

The following methodology was followed for Sales and Load Forecasting:

Consumer category wise commercial data of each discom comprising Number of consumers/ Connected load (kW)/ Energy sales (billed energy): kWh, split between rural/urban consumers was tabulated for the past years. Further as the provisional billing determinants were available for FY 2016-17, the same has been considered while computing the multiplying factor for the purpose of projection of demand, connected load and no. of consumers for the MYT period. Also it would be imperative to mention that since all UPPCL discoms have been moving aggressively towards the target of 24x7 Power for All by Oct, 2018 and accordingly in the last financial year the supply hours for rural and domestic consumer have also been increased as a first step. Thus wherever the billing determinants in terms of Connected Load per Consumer, Consumption per connected Load, Consumer per consumer, etc being considered as a CAGR for previous year is low in comparison to the no. so derived for FY 2016-17, the Petitioner for the purpose of MYT Projections has considered the FY 2016-17 as the norms for determining the billing determinants for the MYT period.

3 years' (2013-14 to 2015-16) compounded annual growth rate (CAGR) was determined for the following parameters consumer sub-category wise:

- Number of consumers

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- Connected load: kW
- Energy sales (billed energy): kWh

CAGR for each of three major commercial parameters for 3/5/7/10 years was determined consumer category-wise.

Running hour factor: Load shedding affects different consumer categories differently. Its effect was taken into account through a factor of present running hour supply and projected hour supply.

However, no adjustment on account of load shedding was made in case of the following:

a) Following consumer categories:

- Industrial
- Agricultural (assuming that the water output of agricultural pump sets in the limited hours of supply is enough for meeting the irrigation requirements)
- Railway traction

The Energy Billed was calculated by applying the factor to the remaining consumer categories in all areas. This was done step-wise as follows:

- Projecting the running hours supply;
- Obtaining the factor of running hours supply between present supply hours and projected hours supply;
- Sub-category Energy billed in % tabulated by way of Mahanagar, Commissioner, Districts, Bundelkhand and Rural Area according to the prevailing classification of the Areas; and

Projected Hours of Supply

Description	2017-18	2018-19	2018-19	2019-20
	Apr-Mar	Apr-Sep	Oct-Mar	Apr-Mar
Mahanagar – M	24:00	24:00	24:00	24:00
District – D	24:00	24:00	24:00	24:00
Commissionary - C	24:00	24:00	24:00	24:00
Rural – R	18:00	18:00	24:00	24:00
Bundelkhand - B	20:00	20:00	24:00	24:00

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Demand Side Management - Category wise energy Billed was calculated by applying the DSM factor.

Following three ratios were determined for each set of commercial data of a given consumer category/ sub-category for each year:

- e) Energy sales per consumer
- f) Connected load per consumer
- g) Energy sales/Connected load

Sales Forecasting: LV Consumers – Sub-category-wise

a) Number of consumers:

Adopted appropriate value of CAGR in the following manner:

- Normally 3 years' CAGR of number of consumers (sub-category wise) was adopted
- Wherever calculated value of 3 years' CAGR of number of consumers seemed unreasonably high or low, the most reasonable calculated value between 5/7/10 years' CAGR was adopted. The adopted value of CAGR was applied across all sub-categories within a given consumer category.
- Applied the CAGR so adopted to determine forecasted values of number of consumers, taking 2016-17 as the base year.

b) Connected load:


Multiplied number of consumers by the highest ratio of connected load per consumer calculated for the last three years to determine consumer sub-category wise connected load forecasts corresponding to forecasted values of number of consumers.

c) Energy Sales:

i. LMV 1 & LMV 10 Consumer categories:

Forecasted value of energy sales for each consumer sub-category was determined by multiplying the number of consumers by the highest value of energy sales per consumer for the last three years. Wherever the highest value of energy sales per consumer was found to be unreasonably high, the second highest value of the above ratio was adopted

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as the multiplier for determining energy sales corresponding to the forecasted value of number of consumers.

ii. LMV Consumer categories (metered) other than LMV1 & LMV10 consumer categories:

Adopted the highest value of energy sales per kW connected load for a given consumer sub-category for the last three years as the multiplier to obtain forecasted value of energy sales corresponding to the forecasted value of connected load.

iii. LMV: Unmetered consumers (except rural state tube wells):

Forecasted value of energy sales for a given consumer sub-category was obtained by multiplying the forecasted value of connected load by the standard value of energy sales per kW connected load laid down in the norms.

iv. Rural state tube wells:

Forecasted value of energy sales was obtained by multiplying the forecasted value of number of consumers by the standard value of energy sales per consumer laid down in the norms as below:

Consumption Determinant for Un-Metered Consumer

Sr.No	Category of Un-Metered Consumer	Units	Consumption of Energy Per Month
1	Private Tube Well	KWh/KW/Month	183.32
2	Domestic Rural Consumers	KWh/KW/Month	144
3	Rural Commercial Consumers	KWh/KW/ Month	144
4	Rural State Tube Well	KWh/Consumer or Pump/Month	7124.71
5 -A	Street Light - Rural Area	KWh/KW/Month	300
5 -B	Street Light - Urban Area	KWh/KW/Month	360

Sales Forecasting: HV Consumers – Sub-category-wise

a) Connected Load:

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Forecasted value of connected load for a given sub-category for a given year was determined by applying the 3 years' CAGR of connected load calculated for the particular consumer sub-category, taking 2016-17 as the base year. Wherever the 3 years' CAGR appeared unreasonably high or low, the figure from amongst CAGR of connected load for a given consumer category calculated for 5/7/10 years that seemed most reasonable, was adopted as the CAGR to be used for forecasting. This value of CAGR was applied to all sub-categories comprising a given consumer category.

b) Number of consumers:

Forecasted number of consumers corresponding to the forecasted value of connected load for a consumer sub-category in a given year was determined by dividing connected load by the value of connected load per consumer calculated of the preceding year.

c) Energy sales:

- Year wise and sub-category wise energy sales forecasts were obtained by multiplying the forecasted value of connected load by the highest ratio of energy sales per kW connected load of the last three years.
- Year wise and sub-category wise energy sales forecasts were obtained by multiplying the forecasted value of sales MU by the running hour factors.
- Year wise and sub-category wise energy sales forecasts were obtained by multiplying the forecasted value of sales MU by the DSM factors.

CONSUMER ADDITION

Considering the projections as per census, there are 2.89 crore rural households in the state. Out of them, 0.92 crore rural households already exist in UP Discom's records. Further the total no. of consumers for the DVVNL discom as on 31st March, 2017 is 0.37 crore. The State undertook a survey in FY 15 to map habitations having drinking water supply. This survey also captured the status of electrification and accordingly, was considered during finalization of DDUGJY scheme. As per the survey, 0.25 crore households were being served through existing network. Also, under various ongoing rural electrification schemes, about 1.09 crore un-electrified households (or approximately 1,62,000 habitations) were targeted to be served through additional network being created.

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Thus there are around 1.12 crore un-electrified rural households in the State. Also around 0.15 crore unelectrified households also exists in urban areas. State also envisages to target the electrification of these remaining 0.15 crore urban households by September 2018 after undertaking appropriate augmentation/ extension of the existing network of urban areas. In addition to the above, Discoms also have a challenging task to regularize and meter around 84 Lakh electricity consumers. Accordingly, the Discoms under the Power for All agreements has formulated a plan for adding the aforementioned consumers in the Distribution Network of Discoms by FY 19. The Year-wise, Quarter-wise Targets for each discom for adding these consumers as considered in the MYT Projections is tabulated below:

Discom wise Consumer Addition Plan

Particulars	FY 18				FY 19				TOTAL
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
DVVNL									
Connecting the unconnected (Urban)	15061	15061	15061	15061	60245	60245	60245	60245	301226
Connecting the unconnected (Rural)	248146	248146	248146	248146	301393	301393	301393	301393	2198154
Regularisation on electrified households	312108	312108	312108	312108	78027	78027	78027	78027	1560541
PuVVNI									
Connecting the unconnected (Urban)	15061	15061	15061	15061	60245	60245	60245	60245	301226
Connecting the unconnected	147816	147816	147816	147816	67504	67504	67504	67504	861282

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Particulars	FY 18				FY 19				TOTAL
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
(Rural)									
Regularisation on electrified households	236505	236505	236505	236505	59126	59126	59126	59126	1182525
PVVNL									
Connecting the unconnected (Urban)	25102	25102	25102	25102	100409	100409	100409	100409	502043
Connecting the unconnected (Rural)	459059	459059	459059	459059	571949	571949	571949	571949	4124033
Regularisation on electrified households	570891	570891	570891	570891	142723	142723	142723	142723	2854454
MVVNL									
Connecting the unconnected (Urban)	19078	19078	19078	19078	76311	76311	76311	76311	381553
Connecting the unconnected (Rural)	455168	455168	455168	455168	551637	551637	551637	551637	4027219
Regularisation on electrified households	573035	573035	573035	573035	143259	143259	143259	143259	2865175
Total									
Connecting the	74302	74302	74302	74302	297210	297210	297210	297210	1486048

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Particulars	FY 18				FY 19				TOTAL
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
unconnected (Urban)									
Connecting the unconnected (Rural)	1310189	1310189	1310189	1310189	1492483	1492483	1492483	1492483	11210688
Regularisation on electrified households	1692539	1692539	1692539	1692539	423135	423135	423135	423135	8462695

The above consumer addition plan has, in line with the 24x7 Power for All agreement signed between the Government of India and State Govt. Further, for the purpose of the energy estimation during the control period, the Consumer addition has been considered to be spread over the year and accordingly the addition in connected load and energy sales has been worked out for each individual discom.

100% METERING OF CONSUMERS

There is a large proportion of electrified domestic registered consumers who haven't installed meters. As per FY 17 data, unmetered domestic consumers account for around 40% (70 Lakh) of the total domestic registered consumers. The unmetered consumption is one of the reason behind the high loss levels in the state and hence it is of utmost importance. Though the Discoms have already submitted a 100% metering plan before the Hon'ble Commission, however since now the category and sub-category wise provisional no. of consumers till March, 2017 is available, the Discoms is under process of submitting a revised 100% metering plan to the Hon'ble Commission. It is planned to achieve 100% metering at all levels (consumers/DTs/feeders) to facilitate energy audit and extensive use of technology to improve efficiency and facilitate near real time monitoring and interventions to reduce AT&C losses. The Discoms have planned to get all the consumers metered by FY 2019. Accordingly, the Year-wise, Discom wise 100% metering plan is tabulated below:

Discom wise Metering Plan

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Particulars	FY 2017-18	FY 2018-19	Total
DVVNL	7,48,366	2161	7,50,527
PuVVNL	27,70,830	2,09,877	29,80,707
PVVNL	8,85,108	10,59,077	19,44,185
MVVNL	7,66,155	5,87,313	13,53,468
Total	51,70,459	18,58,427	70,28,886

11. The total Power Purchase required and billed energy (MU) as provided in Table 5-1-4 of DVVNL for computation of the Bulk Supply Tariff of MYT petition does not match with similar table for rest of the DISCOMs. The petitioner may provide clarification / justification / reconciliation for the same.

Licensee's Response:

The petitioner humbly submits that the following table shall be referred for the purpose of computation of the Bulk Supply Tariff for the MYT period, which is in line with the table submitted in the MYT Petition for MVVNL, PVVNL, PuVVNL and Kesco:

Particulars	Derivation	2017-18	2018-19	2019-20
Purchases Required & Billed Energy (MU)	A	128,908	153,577	172,955
Periphery Loss (Up to inter connection Point) (%)	B	1.69%	1.41%	1.14%
Energy Available at State periphery for Transmission (MU)	C = A* (1-B)	126,731	151,415	170,983
Intra -State Transmission losses %	D	3.79%	3.79%	3.79%
Energy Input into Transmission-Distribution Interface (MU)	E=C* (1-D)	121,928	145,677	164,503
Power Purchase Cost (Rs. Crore)	F	52,919	66,033	77,433
PGCIL Inter-State transmission charges (Rs. Crore)	G	1,868	2,317	3,031
Total Power Procurement Cost (Rs. Crore)	H=F+G	54,787	68,350	80,465
Bulk Supply Tariff (Rs./Unit)	I= (H/E)*10	4.49	4.69	4.89

12. The must run generating stations as submitted are Khara, Matatila, Obra (Hydel), Rihand, UGC Power stations, Belka & Babail and Sheetla for procurement of power. The petitioner should submit the reasons / basis for considering these as **must run** generating stations.

Licensee's Response:

The petitioner hereby submits that for procurement of power generating stations namely Khara, Matatila, Obra (Hydel), Rihand, UGC Power stations, Belka & Babail and Sheetla has been considered as must run generating stations because of the reason, that the State is already deprived of the Hydro Power, which are cheaper in comparison to the power procured through thermal power plants resulting into higher average power purchase cost for Discoms. The Cost of average power procured from these stations is even below Rs. 1/kWh, thus the same have been categorized as must-run stations in the merit order dispatch for the MYT period.

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13. The petitioner to submit in details that under what circumstances is MOD not followed and illustrate the same with an actual historical incident.

Licensee's Response:

The Petitioner humbly submits that MOD is being duly followed by SLDC for procurement of power.

14. The petitioner need to clarify/confirm whether the MOD for the MYT Control period, i.e. FY 2017-18 to FY 2019-20 is prepared considering only variable cost or total cost i.e. fixed and variable charges.

Licensee's Response:

The petitioner hereby clarifies that the MOD for the MYT Control period, i.e. FY 2017-18 to FY 2019-20 has been prepared considering only variable cost. However if the Hon'ble Commission desires the Petitioner can also prepare and submit the same on Total Cost i.e. fixed and variable charges.

15. The petitioner to submit to how marginal cost concept is being used in "MERIT" portal of Ministry of Power, Government of India and how the same is being implemented in the State of Uttar Pradesh.

Licensee's Response:

The Petitioner humbly submits that presently the State Load Dispatch Centre is procuring power on the basis Merit order dispatch schedule approved by the Hon'ble Commission and the same is being updated of the "MERIT" portal of Ministry of Power, Government of India on time to time basis.

16. In reference to the recent cancellations of PPAs and the new strategy & planning adopted by UPPCL. The Petitioner must submit the source-wise detailed revised power purchase plan for the MYT Control Period from FY 2017-18 to FY 2019-20. This is important as the FPPCA will depend upon the monthly approved power purchase costs.

Licensee's Response:

The Petitioner humbly submits that present that recently UPPCL has sent a notice to BEPL for termination of PPA and does not plan to procure any power from them in the future. In this respect, the shortfall in the energy procurement due to termination of BEPL PPA, would be met through Energy Exchange/ DEEP Portal. The source-wise detailed revised power purchase plan for the MYT Control Period from FY 2017-18 to FY 2019-20 is detailed and annexed herewith marked as Annexure-A.

17. It is observed that the Petitioner has claimed bank charges (for MVVNL) amounting to Rs. 27.76 Cr, Rs. 28.84 Cr, Rs. 29.96 Cr for FY 2017-18, FY 2018-19 and FY 2019-20 respectively where as it is Rs. 0.11 Cr for FY 2014-15. Hence, the petitioner is required to submit the justification for claiming such high Bank Charges for the MYT Period.

Licensee's Response:

The petitioner humbly submits that the bank charges (for MVVNL) amounting to Rs. 27.76 Cr, Rs. 28.84 Cr, Rs. 29.96 Cr for FY 2017-18, FY 2018-19 and FY 2019-20 respectively have been claimed based upon the bank charges of FY 2015-16 shown at Rs. 25.72 crore in the Balance Sheet of MVVNL.





18. It is observed that the petitioner (for MVVNL) has claimed Interest on Long term loan in the petition as Rs. 145.24 Cr, whereas in the format it has claimed Rs. 168.60 Cr. Hence, the petitioner is required to remove the discrepancy and submit the claimed value and may provide clarification / justification for the same.

Licensee's Response:

The Petitioner humbly submits that updated Form 1 and F-40 has already been attached in reply to the 1st Deficiency note issued by the Hon'ble Commission, addressing the above issue.

19. For DVVNL MYT petition, the figure of Equity funded, is not matching in Table 5.1-22: Financing of the Capital Investment and in Table-5-1-34: Return on Equity during the MYT Period, as shown below:

Table 5.1-22: Financing of the Capital Investment

Particulars	2017-18	2018-19	2019-20
Investment	3,106.25	2,825.41	1,165.48
Less: Consumer contribution	381.47	346.98	143.13
Investment funded by debt and equity	2,724.78	2,478.43	1,022.36
Debt Funded	1,907.34	1,734.90	715.65
Equity Funded*	817.43	743.53	306.71

Table-5-1-34: Return on Equity during the MYT Period

Particulars	2017-18	2018-19	2019-20
Opening Balance of Equity Base	2,096.36	2,600.56	3,241.18
Gross Additions during the Year	586.28	744.91	646.55
Less: allocated balance of consumer contribution, capital subsidies / grants	82.08	104.29	90.52
Net Equity Additions *	504.20	640.62	556.04

*Note- Variation in figures

Similar discrepancies have been observed in MVVNL, PVVNL, PuVVNL and KESCO petitions. The petitioner must submit the reason for this variation, along with detailed revised calculations.

Licensee's Response:

The Petitioner humbly submits that firstly the equity related data provided by the Hon'ble Commission for DVVNL does not match the submissions made in the DVVNL Petition. The Hon'ble Commission has mistakenly considered the figures of PuVVNL Discom. Further the Petition submits that the difference on Equity Investment and Equity Addition considered for computing the eligible return on equity for each year of the MYT Control period is on the account that the Petitioner has considered the equity capitalized during the year and not the

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equity invested, which as per the understanding of the Petitioner, is a rightful approach for calculation of return on equity.



Chief Engineer (R.A.U.)
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14, Ashok Marg, Lucknow

SUMMARY OF POWER PURCHASE COST FY 2017-18

Source of Power	MW Available	MU	Fixed Cost		Variable Cost		Total Cost		Average Cost (Rs. / kWh)
			(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	
Procurement of power from State Sector Generating Stations									
Thermal Stations									
Anpara A	630	3,535	0.79	280	2.57	909	3.36	1,188	3.36
Anpara B	1,000	7,304	0.67	490	2.08	1,519	2.75	2,008	2.75
Harduaganj	105	370	2.35	87	3.80	141	6.15	228	6.15
Obra A	194	306	1.76	54	2.45	75	4.21	129	4.21
Obra B	1,000	3,560	0.69	247	2.35	837	3.05	1,084	3.05
Panki	210	747	1.63	122	3.80	284	5.43	405	5.43
Parichha	220	430	1.06	45	3.80	163	4.86	209	4.86
Parichha Extn.	420	2,411	1.35	324	3.80	916	5.15	1,240	5.15
Parichha Extn. Stage II	500	3,189	1.81	577	3.80	1,212	5.61	1,789	5.61
Harduaganj Ext.	500	3,189	1.97	627	3.80	1,212	5.77	1,839	5.77
Anpara D	1,000	5,779	2.23	1,288	2.33	1,348	4.56	2,636	4.56
Sub total - Thermal	5779	30819		4141		8615		12757	4.14
Per unit Avg Rate of Thermal Generation								4.14	
Hydro Stations									
Khara	58	217	0.81	18			0.81	18	0.81
Matatila	20	81	0.75	6			0.75	6	0.75
Obra (Hydel)	99	217	0.70	15			0.70	15	0.70
Rihand	255	469	0.64	30			0.64	30	0.64
UGC Power Stations	14	22	2.39	5			2.39	5	2.39
Belka & Babail	6	2	2.25	0			2.25	0	2.25
Sheetla	4	2	2.84	1			2.84	1	2.84
Sub total - Hydro	455	1009		75.07		0.00		75.07	0.74
Purchase Per unit Avg Rate from hydro generating stations									
Sub-Total Own generation	6234	31828		4,216.56		8,615.08		12,831.64	4.03
Procurement of power from Central Sector Generating Stations									
Anta	119	254	2.44	62	2.84	72	5.27	134	5.27
Auriya	244	310	2.96	92	3.40	105	6.36	197	6.36
Dadri Thermal	84	536	0.94	50	3.54	190	4.48	240	4.48
Dadri Gas	272	970	1.12	109	2.75	267	3.88	376	3.88
Dadri Extension	135	838	1.81	152	3.28	275	5.09	426	5.09
Rihand-I	360	2,394	0.88	211	1.85	444	2.74	655	2.74
Rihand-II	333	2,655	0.78	206	1.68	447	2.46	653	2.46
Singrauli	822	6,031	0.59	354	1.71	1,032	2.30	1,385	2.30
Tanda	440	2,985	1.19	355	3.34	996	4.52	1,350	4.52
Unchahar-I	255	1,670	0.89	148	3.07	513	3.96	661	3.96
Unchahar-II	146	1,142	0.77	88	3.09	352	3.86	441	3.86
Unchahar-III	72	570	1.18	67	3.36	192	4.54	259	4.54
Farakka	35	242	0.86	21	2.77	67	3.63	88	3.63
Kahalgaon St. I	77	553	0.97	54	2.60	144	3.58	198	3.58
Kahalgaon St. II Ph.I	252	1,851	1.09	202	2.33	432	3.43	634	3.43
Koldam (Hydro)	101	699	4.29	300	2.21	155	6.51	455	6.51
Rihand-III	361	2,823	1.36	385	1.72	486	3.08	871	3.08
Sub-Total NTPC	4109	26523		2856		6167		9023	3.40
Chamera	109	434	0.94	41	1.27	55	2.21	96	2.21
Chamera-II	86	401	1.27	51	1.38	55	2.65	106	2.65
Chamera-III	62	240	2.55	61	2.42	58	4.97	119	4.97
Dhauliganga	75	246	1.74	43	2.48	61	4.22	104	4.22
Salal I&II	48	225	0.64	14	1.82	41	2.46	55	2.46
Tanakpur	21	63	2.55	16	2.52	16	5.06	32	5.06
Uri	96	548	0.88	48	1.47	81	2.35	129	2.35
Dulhasti	111	628	2.74	172	3.48	218	6.22	390	6.22
Sewa-II	35	134	3.00	40	2.45	33	5.45	73	5.45
Uri-II	60	371	2.74	102	4.06	150	6.80	252	6.80
Parbati ST-III	140	180	2.32	42	2.87	52	5.19	93	5.19

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SUMMARY OF POWER PURCHASE COST FY 2017-18

Source of Power	MW Available	MU	Fixed Cost		Variable Cost		Total Cost		Average Cost (Rs. / kWh)
			(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	
Kishanganga HEP	64	277	2.50	69	2.40	66	4.90	136	4.90
Sub-Total NHPC	908	3746		699		886		1585	4.23
NAPP	166	1,148	-	-	2.75	316	2.75	316	2.75
RAPP #3&4	80	543	-	-	3.20	174	3.20	174	3.20
RAPP#5&6	115	715	-	-	3.86	276	3.86	276	3.86
Sub-Total NPCIL	361	2407				766.63		766.63	3.19
NATHPA JHAKRI HPS	287	1,498	1.63	245	1.46	219	3.10	464	3.10
RAMPUR	96	375	2.03	76	1.75	66	3.78	142	3.78
TALA POWER	45	158	-	-	2.11	33	2.11	33	2.11
Koteshwar	173	569	2.03	116	1.97	112	4.01	228	4.01
Srinagar	290	1,135	3.25	369	2.59	294	5.84	663	5.84
Sasan	495	3,686	0.17	63	1.76	650	1.93	713	1.93
MB Power	350	2,453	2.88	706	2.10	514	4.98	1,220	4.98
KSK	505	2,415	2.21	533	2.72	657	4.93	1,190	4.93
TRN Energy	150	489	1.90	93	1.41	69	3.31	162	3.31
Karcham-Wangtoo	200	870	-	-	4.13	359	4.13	359	4.13
VISHNUPRAYAG	352	2,082	0.76	158	1.45	302	2.21	460	2.21
TEHRI STAGE-I	418	1,447	2.91	421	2.86	414	5.77	834	5.77
Rosa Power Project	600	4,066	1.76	717	3.27	1,329	5.03	2,046	5.03
Rosa Power Project	600	4,066	1.76	717	3.27	1,330	5.04	2,047	5.04
Bara	1,782	9,910	1.68	1,663	2.49	2,467	4.17	4,130	4.17
Anpara 'C'	1,100	7,453	0.92	689	3.00	2,233	3.92	2,922	3.92
IGSTPP, Jhajhjar	51	266	2.58	69	4.35	116	6.93	184	6.93
*Bajaj Hindusthan	450	607	2.34	142	4.18	254	6.52	396	6.52
Lalitpur	1,782	9,386	2.07	1,946	2.97	2,785	5.04	4,730	5.04
RKM Powergen	350	1,996	2.40	480	1.53	306	3.94	786	3.94
Teesta	200	806	2.30	185	2.30	185	4.60	371	4.60
Sub-Total IPP/JV	10275	55731		9386		14694		24080	4.32
Captive and Cogen	-	3,412	-	-	5.18	1,766	5.18	1,766	5.18
Inter system exchange (Bilateral & PXIL, IEX) / UI	-	4,356	-	-	3.80	1,655	3.80	1,655	3.80
Renewable Energy	-	553	-	-	6.46	358	6.46	358	6.46
NVVN Coal Power	-	352	-	-	5.12	180	5.12	180	5.12
Sub-Total : Co-Generation & Other Sources	-	8673				3,958.70		3,958.70	4.56
Grand Total of Power Purchase	21887	128908	1.33	17,156.95	2.72	35,087.7	4.05	52,244.63	4.05

*The energy procured at actual from April 17 to June 17 has been considered.

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SUMMARY OF POWER PURCHASE COST FY 2018-19

Source of Power	MW Available	MU	Fixed Cost		Variable Cost		Total Cost		Average Cost
			(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)
Procurement of power from State Sector Generating Stations									
Thermal Stations									
Anpara A	630	4,292	0.79	340	2.67	1,148	3.46	1,487	3.46
Anpara B	1,000	7,055	0.69	486	2.16	1,526	2.85	2,011	2.85
Harduaganj	105	535	2.43	130	3.95	211	6.38	342	6.38
Obra A	94	519	3.76	195	2.55	132	6.30	327	6.30
Obra B	1,000	6,328	0.72	454	2.45	1,548	3.16	2,002	3.16
Panki	105	581	3.37	196	3.95	230	7.32	425	7.32
Parichha	220	1,291	1.08	139	3.95	510	5.03	650	5.03
Parichha Extn.	420	2,846	1.34	382	3.95	1,125	5.29	1,507	5.29
Parichha Extn. Stage II	500	3,388	1.79	607	3.95	1,339	5.74	1,946	5.74
Harduaganj Ext.	500	3,388	1.94	659	3.95	1,339	5.90	1,998	5.90
Anpara D	1,000	7,018	2.23	1,568	2.43	1,702	4.66	3,270	4.66
Sub total - Thermal	5574	37240		5155		10809		15964	4.29
Per unit Avg Rate of Thermal Generation								4.29	
Hydro Stations									
Khara	58	217	0.85	18			0.85	18	0.85
Matatila	20	81	0.78	6			0.78	6	0.78
Obra (Hydel)	99	217	0.73	16			0.73	16	0.73
Rihand	255	469	0.66	31			0.66	31	0.66
UGC Power Stations	14	22	2.49	5			2.49	5	2.49
Belka & Babail	6	2	2.25	0			2.25	0	2.25
Sheetla	4	2	2.95	1			2.95	1	2.95
Sub total - Hydro	455	1009		78.05		0.00		78.05	0.77
Purchase Per unit Avg Rate from hydro generating stations								0.77	
Sub-Total Own generation	6029	38250		5,232.65		10,809.37		16,042.02	4.19
Procurement of power from Central Sector Generating Stations									
Anta	119	304	0.75	64	2.98	91	3.72	155	5.09
Auriya	244	414	0.54	96	3.57	148	4.11	243	5.87
Dadri Thermal	84	536	0.94	52	3.68	197	4.62	249	4.66
Dadri Gas	272	1,039	0.58	113	2.89	301	3.47	414	3.98
Dadri Extension	135	860	1.77	158	3.41	293	5.18	451	5.24
Rihand-I	360	2,451	0.92	220	1.93	472	2.84	692	2.82
Rihand-II	333	2,655	0.97	215	1.75	464	2.72	679	2.56
Singrauli	822	6,031	0.68	368	1.78	1,073	2.46	1,441	2.39
Tanda	440	2,985	1.31	369	3.47	1,035	4.78	1,404	4.71
Unchahar-I	255	1,670	0.91	154	3.19	533	4.10	687	4.12
Unchahar-II	146	1,142	0.95	92	3.21	367	4.16	458	4.01
Unchahar-III	72	570	1.48	70	3.50	199	4.97	269	4.72
Farakka	35	242	0.92	22	2.88	70	3.80	91	3.78
Kahalgaoon St. I	77	553	1.10	56	2.71	150	3.81	206	3.72
Kahalgaoon St. II Ph. I	252	1,851	1.26	210	2.43	449	3.69	660	3.56
Koldam (Hydro)	101	699	1.56	312	2.30	161	3.86	473	6.77
Rihand-III	361	2,823	1.67	400	1.79	505	3.46	906	3.21
Uchchahar-IV	117	626	1.48	93	3.50	219	4.97	312	4.97
Sub-Total NTPC	4226	27452		3063		6727		9790	3.57
Chamera	109	434	0.98	42	1.32	57	2.30	100	2.30
Chamera-II	86	401	1.32	53	1.44	58	2.75	110	2.75
Chamera-III	62	240	2.65	64	2.51	60	5.16	124	5.16
Dhauliganga	75	246	1.81	45	2.58	64	4.39	108	4.39
Salal I&II	48	225	0.66	15	1.89	43	2.55	57	2.55
Tanakpur	21	63	2.65	17	2.62	16	5.27	33	5.27
Uri	96	548	0.91	50	1.53	84	2.44	134	2.44
Dulhasti	111	628	2.85	179	3.62	227	6.47	406	6.47
Sewa-II	35	134	3.12	42	2.55	34	5.67	76	5.67
Uri-II	60	371	2.85	106	4.22	156	7.07	262	7.07
Parbati ST-III	140	180	2.42	43	2.98	54	5.40	97	5.40

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 UPPCL, Shakti Bhawan Ext
 14, Ashok Marg, Lucknow

SUMMARY OF POWER PURCHASE COST FY 2018-19

Source of Power	MW Available	MU	Fixed Cost		Variable Cost		Total Cost		Average Cost
			(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)
Kishanganga HEP	64	277	2.45	68	2.60	72	5.05	140	5.05
Parbati II	155	671	2.45	164	2.60	174	5.05	339	5.05
Sub-Total NHPC	1063	4417		887		1099		1986	4.50
NAPP	166	1,148	-	-	2.86	329	2.86	329	2.86
RAPP #3&4	80	543	-	-	3.33	181	3.33	181	3.33
RAPP#5&6	115	765	-	-	4.02	307	4.02	307	4.02
Sub-Total NPCIL	361	2456				817.30		817.30	3.33
NATHPA JHAKRI HPS	287	1,498	1.70	255	1.52	228	3.22	482	3.22
RAMPUR	96	416	2.11	88	1.82	76	3.93	164	3.93
TALA POWER	45	197	-	-	2.19	43	2.19	43	2.19
Koteshwar	173	749	2.11	158	2.05	154	4.17	312	4.17
Srinagar	290	1,261	3.38	426	2.69	339	6.07	766	6.07
Sasan	495	3,686	0.18	65	1.83	676	2.01	741	2.01
MB Power	350	2,606	2.99	780	2.18	568	5.17	1,348	5.17
KSK	505	3,221	2.30	739	2.83	911	5.12	1,650	5.12
TRN Energy	150	855	1.98	169	1.47	125	3.45	295	3.45
Karcham-Wangtoo	200	870	-	-	4.29	374	4.29	374	4.29
VISHNUPRAYAG	352	2,082	0.79	164	1.51	314	2.30	478	2.30
TEHRI STAGE-I	418	1,809	3.02	547	2.97	538	6.00	1,085	6.00
Rosa Power Project	600	4,066	1.83	745	3.40	1,382	5.23	2,127	5.23
Rosa Power Project	600	4,066	1.83	745	3.40	1,384	5.24	2,129	5.24
Bara	1,782	12,572	1.75	2,194	2.59	3,254	4.33	5,449	4.33
Anpara 'C'	1,100	7,453	0.96	717	3.12	2,323	4.08	3,039	4.08
IGSTPP, Jhajhjar	51	368	2.69	99	4.52	166	7.21	265	7.21
Bajaj Hindusthan	-	-	-	-	-	-	-	-	#DIV/0!
Lalitpur	1,782	12,274	2.16	2,646	3.09	3,787	5.24	6,433	5.24
RKM Powergen	350	2,424	2.50	606	1.60	387	4.09	992	4.09
Teesta	200	967	2.39	231	2.39	231	4.78	463	4.78
NTPC Meja	458	2,239	2.23	500	2.30	515	4.53	1,015	4.53
Sub-Total IPP/JV	10283	65678		11876		17775		29651	4.51
Captive and Cogen	-	3,412	-	-	5.38	1,837	5.38	1,837	5.38
Inter system exchange (Bilateral & PXIL, IEX) / UI	-	9,561	-	-	4.00	3,825	4.00	3,825	4.00
Renewable Energy	-	1,999	-	-	5.04	1,008	5.04	1,008	5.04
NVVN Coal Power	-	352	-	-	5.33	187	5.33	187	5.33
Sub-Total : Co-Generation & Other Sources	-	15324				6,856.32		6,856.32	4.47
Grand Total of Power Purchase	21962	153577	1.37	21,057.98	2.87	44,084.8	4.24	65,142.78	4.24

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SUMMARY OF POWER PURCHASE COST FY 2019-20

Source of Power	MW Available	MU	Fixed Cost		Variable Cost		Total Cost		Average Cost (Rs. / kWh)
			(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	
Procurement of power from State Sector Generating Stations									
Thermal Stations									
Anpara A	630	4,292	0.82	353	2.78	1,194	3.60	1,547	3.60
Anpara B	1,000	7,055	0.72	505	2.25	1,587	2.97	2,092	2.97
Harduaganj	105	535	2.53	135	4.11	220	6.64	355	6.64
Obra A	94	519	3.91	203	2.65	137	6.55	340	6.55
Obra B	1,000	6,328	0.75	472	2.54	1,610	3.29	2,082	3.29
Panki	105	581	3.51	204	4.11	239	7.62	442	7.62
Parichha	220	1,291	1.12	145	4.11	531	5.23	676	5.23
Parichha Extn.	420	2,846	1.40	397	4.11	1,170	5.51	1,567	5.51
Parichha Extn. Stage II	500	3,388	1.86	631	4.11	1,392	5.97	2,024	5.97
Harduaganj Ext.	500	3,388	2.02	685	4.11	1,392	6.13	2,077	6.13
Anpara D	1,000	7,018	2.32	1,631	2.52	1,770	4.85	3,401	4.85
Sub total - Thermal	5574	37240		5361		11242		16603	4.46
Per unit Avg Rate of Thermal Generation								4.46	
Hydro Stations									
Khara	58	217	0.88	19			0.88	19	0.88
Matatila	20	81	0.81	7			0.81	7	0.81
Obra (Hydel)	99	217	0.76	16			0.76	16	0.76
Rihand	255	469	0.69	32			0.69	32	0.69
UGC Power Stations	14	22	2.59	6			2.59	6	2.59
Belka & Babail	6	2	2.34	0			2.34	0	2.34
Sheetla	4	2	3.07	1			3.07	1	3.07
Sub total - Hydro	455	1009		81.17		0.00		81.17	0.80
Purchase Per unit Avg Rate from hydro generating stations								0.80	
Sub-Total Own generation	6029	38250		5,441.96		11,241.75		16,683.70	4.36
Procurement of power from Central Sector Generating Stations									
Anta	119	304	0.78	67	3.13	95	3.90	162	5.33
Auriya	244	414	0.57	99	3.74	155	4.31	254	6.15
Dadri Thermal	84	536	0.98	54	3.83	205	4.81	259	4.84
Dadri Gas	272	1,039	0.60	118	3.04	316	3.64	434	4.17
Dadri Extension	135	860	1.84	164	3.54	305	5.38	469	5.45
Rihand-I	360	2,451	0.95	228	2.00	491	2.96	720	2.94
Rihand-II	333	2,655	1.01	223	1.82	483	2.83	706	2.66
Singrauli	822	6,031	0.70	383	1.85	1,116	2.55	1,498	2.48
Tanda	440	2,985	1.36	384	3.61	1,077	4.97	1,461	4.89
Unchahar-I	255	1,670	0.95	160	3.32	555	4.27	715	4.28
Unchahar-II	146	1,142	0.98	95	3.34	381	4.32	476	4.17
Unchahar-III	72	570	1.54	73	3.64	207	5.17	280	4.91
Farakka	35	242	0.95	23	3.00	73	3.95	95	3.93
Kahalgaon St. I	77	553	1.14	58	2.82	156	3.96	214	3.87
Kahalgaon St. II Ph. I	252	1,851	1.31	219	2.52	467	3.83	686	3.71
Koldam (Hydro)	101	699	1.56	324	2.39	167	3.95	492	7.04
Rihand-III	361	2,823	1.74	416	1.86	526	3.60	942	3.34
Tanda Stage-II	155	830	1.36	113	3.61	299	4.97	412	4.97
Uchchahar-IV	117	819	1.55	127	3.67	301	5.22	428	5.22
Sub-Total NTPC	4381	28474		3329		7374		10703	3.76
Chamera	109	434	1.02	44	1.38	60	2.39	104	2.39
Chamera-II	86	400	1.37	55	1.49	60	2.87	115	2.87
Chamera-III	62	240	2.76	66	2.61	63	5.38	129	5.38
Dhauliganga	75	245	1.89	46	2.69	66	4.57	112	4.57
Salal I&II	48	225	0.69	15	1.97	44	2.66	60	2.66
Tanakpur	21	63	2.76	17	2.72	17	5.48	34	5.48
Uri	96	548	0.95	52	1.59	87	2.54	139	2.54
Dulhasti	111	626	2.97	186	3.76	236	6.73	422	6.73
Sewa-II	35	133	3.25	43	2.65	35	5.90	79	5.90
Uri-II	51	314	3.50	110	4.39	138	7.88	248	7.88
Parbati ST-III	104	134	3.38	45	3.10	42	6.48	87	6.48

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Chief Engineer (R.A.U.)
UPPCL, Shakti Bhawan Ex
14, Ashok Marg, Lucknow

SUMMARY OF POWER PURCHASE COST FY 2019-20

Source of Power	MW Available	MU	Fixed Cost		Variable Cost		Total Cost		Average Cost (Rs. / kWh)
			(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	(Rs. / kWh)	(Rs. Cr.)	
Tapovan Vishnu Gad	101	262	2.45	64	2.60	68	5.05	132	5.05
Kishanganga HEP	64	277	2.45	71	2.70	75	5.15	145	5.25
Vishnugarh Pipalkoti	166	431	2.45	106	2.60	112	5.05	218	5.05
Parbati II	155	671	2.45	171	2.70	181	5.15	352	5.25
Kameng	55	143	2.45	35	2.60	37	5.05	72	5.05
Sub-Total NHPC	1339	5146		1127		1320		2448	4.76
NAPP	166	1,148	-	-	2.98	342	2.98	342	2.98
RAPP #3&4	80	543	-	-	3.47	188	3.47	188	3.47
RAPP#5&6	115	765	-	-	4.18	320	4.18	320	4.18
RAPP#7&8	162	634	-	-	4.18	265	4.18	265	4.18
Sub-Total NPCIL	523	3090				1115		1115	3.61
NATHPA JHAKRI HPS	287	1,498	1.77	265	1.58	237	3.35	502	3.35
RAMPUR	96	499	2.20	110	1.89	95	4.09	204	4.09
TALA POWER	45	236	-	-	2.28	54	2.28	54	2.28
Koteshwar	173	898	2.20	198	2.14	192	4.33	389	4.33
Srinagar	290	1,514	3.51	532	2.80	424	6.31	955	6.31
Sasan	495	3,686	0.18	68	1.91	703	2.09	771	2.09
MB Power	350	2,606	3.11	811	2.27	591	5.38	1,402	5.38
KSK	505	3,221	2.39	769	2.94	947	5.33	1,716	5.33
TRN Energy	150	978	2.06	201	1.53	149	3.58	350	3.58
Karcham-Wangtoo	200	1,131	-	-	4.47	505	4.47	505	4.47
VISHNUPRAYAG	352	2,296	0.82	188	1.57	361	2.39	549	2.39
TEHRI STAGE-I	418	2,786	3.14	876	3.09	861	6.24	1,737	6.24
Rosa Power Project	600	4,066	1.91	775	3.54	1,437	5.44	2,213	5.44
Rosa Power Project	600	4,066	1.91	775	3.54	1,439	5.45	2,214	5.45
Bara	1,782	12,572	1.82	2,282	2.69	3,385	4.51	5,666	4.51
Anpara 'C'	1,100	7,453	1.00	745	3.24	2,415	4.24	3,161	4.24
IGSTPP, Jhajhjar	51	368	2.80	103	4.70	173	7.50	276	7.50
Bajaj Hindusthan	-	-	-	-	-	-	-	-	#DIV/0!
Lalitpur	1,782	12,274	2.24	2,752	3.21	3,939	5.45	6,691	5.45
RKM Powergen	350	2,424	2.60	630	1.66	402	4.26	1,032	4.26
Teesta	200	967	2.49	241	2.49	241	4.98	481	4.98
NTPC Meja	916	6,343	2.32	1,474	2.39	1,517	4.72	2,991	4.72
Sub-Total IPP/JV	10741	71881		13794		20066		33860	4.71
Captive and Cogen	-	3,412	-	-	5.60	1,910	5.60	1,910	5.60
Inter system exchange (Bilateral & PXIL, IEX) / UI	-	18,709	-	-	4.20	7,858	4.20	7,858	4.20
Renewable Energy	-	3,641	-	-	4.80	1,747	4.80	1,747	4.80
NVVN Coal Power	-	352	-	-	5.54	195	5.54	195	5.54
Sub-Total : Co-Generation & Other Sources	-	26114				11,709.85		11,709.85	4.48
Grand Total of Power Purchase	23013	172955	1.37	23,692.34	3.05	52,826.9	4.42	76,519.24	4.42

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