

**AGENDA FOR THE MEETING TO BE HELD ON 30.04.2019 REGARDING
VOLUME – II OF 19TH ELECTRIC POWER SURVEY- DELHI (NCR)**

Background:

Periodic Electric Power Survey (EPS) of the country is conducted by Central Electricity Authority (CEA) to assess all-India electricity demand of the country on medium and long term basis. So far, 18 such exercises have already been conducted and the 19th edition of Electrical Power Survey is in progress at present. In the first meeting of 19th Electric Power Survey Committee (EPSC) held in July 2015, it was decided that the report of 19th EPSC would be brought out in four volumes. The first volume covering DISCOM-wise, state/UT-wise, region-wise, and all-India electricity demand projection by partial end use method (PEUM) was published in January 2017. At present, the second volume viz. “Electric Power Survey of National Capital Region (NCR)” is under preparation.

CEA has written to all DISCOMs catering to the need of electric power of NCR on 02.12.2016 to furnish data/information of areas coming under their respective jurisdictions (Annexure-I). A format for this purpose was also shared therewith (Annexure-II). Thereafter, the matter has been regularly followed up through letters/telecom/emails. A meeting with all concerned was also conveyed under the chairmanship of Chief Engineer (PSLF) on 27th November 2018 in CEA headquarter. However, the requisite information is still not available till date. In some cases, data/information has not been received whereas in some cases, the information submitted was found incomplete. Also, in some cases, clarifications on inconsistency found in submitted data/information have been called for that still remains unaddressed. Also, it has been noticed that the input data sent by the utilities for the previous EPS, i.e. 18th EPS, does not match with the data provided by utilities for the preparation of 19th EPS. Report of 18th EPS-Delhi (NCR) is attached as Annexure-III. The meeting aims to resolve all such issue so that the second volume of Electric Power Survey may be finalized without any further delay. It may be appreciated that adequate and reliable electricity supply is one of the primary requirement for development and the whole planning depends on the accurate forecasting that in turn depends on reliable past data/information & future plans.

Agenda #1: PASCHIMANCHAL VIDHYUT VITRAN NIGAM LTD. (PVVNL)

Paschimanchal Vidhyut Vitran Nigam Ltd. (PVVNL) was requested to furnish the detailed information/input data in respect of total 8 districts of Uttar Pradesh- Ghaziabad, Hapur, Bulandshar, Muzzafarnagar, Bagpat, Meerut, Gautam Budh Nagar and Shamli. While the data of Gautam Budh Nagar was received in proper format in the month of November 2018, **still no data has been received from Bagpat, Meerut and Shamli**. The data received from Ghaziabad, Hapur, Bulandhar, Muzzafarnagar and Gautam Budh Nagar (Annexure-1A, 1B and 1C) suffers from some inconsistency and it was communicated subsequently for clarification (Annexure-1D). The same is mentioned below:

a) GHAZIABAD, HAPUR, BULANDSHAHAH (Annexure-1A)

- Data of Public Water Works is not included in the Summary Sheet.
- The summary sheet is incomplete. Data of Energy Requirement, T&D Losses, Peak Load, and Annual Load Factor needs to be provided.
- Inclusion in the “others” category needs to be specified.
- PWW (>1 MW) and Lift Irrigation: Format is blank.

b) MUZZAFARNAGAR (Annexure-1B)

- Summary Sheet is blank. Data of Energy Requirement, T&D Losses, Load Factor, Peak Load needs to be provided.
- PWW (< 1 MW) & (>1 MW): Format is blank.
- Industries (HT<1MW) & (>1 MW): Format is blank.
- Traction: Format is blank.
- Bulk Supply: Format is blank.

c) GAUTAM BUDH NAGAR (Annexure- 1C)

- Electricity Consumption in Domestic Category is increasing from 1146.8 MU in 2015-16 to 1305.6 MU in 2016-17 with a CAGR of 13.84%. Reason for such high growth needs to be explained.

- Electricity Consumption in Commercial Category, Public Lighting is increasing at a higher rate from 2014-15 to 2016-17. Reason needs to be provided.
- In case of Bulk- supply , the consumption figure provided in Summary Sheet does not match with the sheet of Connected Load and their corresponding electricity consumption. Needs to be rectified.
- PWW (<1MW & >1MW): Format is blank.
- Formula applied in calculating Annual Load Factor and Peak Load seems to be incorrect. Actual value of Peak Load needs to be given from 2009-10 to 2016-17.

In the meeting held on 27.11.2018, representatives/concerned Officers from only two districts of PVVNL (Gautam Budh Nagar and Ghaziabad) were present and district of Hapur, Bulandshar, Muzzafarnagar, Bagpat & Meerut remained unrepresented.

Also, the input data sent for the 18th EPS, does not match with the data provided for the preparation of 19th EPS. (Noida: Annexure-1E)

Agenda #2 Jaipur Vidyut Vitran Nigam Limited

Jaipur Vidyut Vitran Nigam Limited was requested to furnish the detailed information/input data in respect of total 2 districts of Rajasthan- Alwar, and Bharatpur. Data received from these districts (Annexure-2A and 2B) have certain discrepancies, and the same was communicated subsequently for clarification via email (Annexure-2C). The issues are mentioned below:

a) ALWAR (Annexure-2A)

- T& D losses of Alwar has increased drastically in 2013-14 and are hovering at about 28 % for 03 consecutive years from 2013-14 to 2015-16.

b) BHARATPUR (Annexure-2B)

- Railway traction: Consumption from 2017-18 is reducing to zero. Is traction shifting to open access?
- Data of Public Water Works (LT) is not added in the Summary Sheet.
- T&D Losses does not show a decreasing trend. Reason needs to be provided.

Agenda #3 Dakshin Haryana Bijli Vitran Nigam

Dakshin Haryana Bijli Vitran Nigam was requested to furnish the detailed information/input data in respect of total 9 districts of Haryana- Bhiwani, Faridabad, Gurgaon, Jind, Mahendargarh, Mewat, Palwal, Rewari and Charkhi Dadri. Data received from 6 districts- Bhiwani, Faridabad, Gurgaon, Jind, Palwal, and Rewari districts have certain discrepancies, whereas partial data has been received from Mahendargarh and Mewat (Annexure-3A, 3B, 3C, 3D, 3E, 3F, 3G and 3H) and **no data has been received from Charkhi Dadri**. The same was communicated subsequently for clarification via email (Annexure-3I). The issues are mentioned below:

a) **BHIWANI** (Annexure-3A)

- Industries LT: Consumption has increased at a very high rate (66%) from 2010-11 to 2011-12 whereas it has decreased at a higher rate (-35%) from 2011-12 to 2012-13.
- Industries HT (< 1 MW): Consumption has increased at a very high rate (34%) from 2012-13 to 2013-14. Any specific reason for such increase needs to be provided.

b) **FARIDABAD** (Annexure-3B)

- The electricity consumption data in respect of Public Water Works is decreasing from 2012-13 to 2016-17 and the electricity consumption in Irrigation category is decreasing from 2011-12 to 2015-16 as shown below:

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Public waterworks		101.66	45.94	23.34	28.91	37.37
Irrigation	430.05	328.17	307.90	132.67	77.75	120.02

- T&D Losses (%) are decreasing from 28% in 2006-07 to 10.32% in 2013-14 and then increasing to 12.6% in 2016-17.
- Inclusion in the “Others” category needs to be specified.

c) GURGAON (Annexure-3C)

- Domestic Category – Electricity Consumption per consumer per day is coming out to be too high (around 14 units).
- Commercial Category - Electricity Consumption per consumer is coming out to be too high (around 90 units).
- There is no relation between Electricity consumption, T&D Losses and Electrical Energy Requirement. T&D losses in MU and in % do not match.
- Industries (HT < 1 MW): Connected load is increasing but electricity consumption is decreasing.

	Connected Load (kW)	Electricity Consumption (MU)
2014-15	890834	1936.20
2015-16	923034	1764.33
2016-17	957624	1532.83

- Please clarify whether electricity Demand in Traction category is only for Metro Rail or it also includes Indian Railways. Further electricity consumption in this category is increasing at 16.3 % per annum.
- Irrigation: Electricity consumption is increasing progressively, though at a slow pace. In Greater Noida, we had observed the electricity consumption in Irrigation to decrease drastically as the agricultural land was being converted into housing units. Is this not the case in Gurgaon?
- As per the data provided, the load factor is in the range of 33% to 35 %. It may not be so low.

d) JIND (Annexure-3D)

- HT Industries: Values of electricity consumption as shown in the summary sheet does not match with the value of electricity consumption shown in the relevant sheet.
- The growth rate of electrical energy requirement for the forecast period works out to about 20 % per annum, which is much higher than the national average of about 6%. Please explain the developmental activities

envisaged in Jind, which would support such a high growth rate of electrical energy requirement.

- No relation between T&D Losses and Load Factor. Load factor provided is very low, around 17%.

e) PALWAL (Annexure-3E)

- Figures of electrical energy consumption as given in the summary sheet do not match with the figures of electrical energy consumption in the Individual category sheet. (for example in the Domestic category, electricity consumption as shown in the summary sheet is 2026-27 is shown as 23,308.32 MU whereas, in the sheet showing details of the domestic category, electricity consumption is shown as 394.18 MU. This discrepancy has been observed in almost all consumer categories. Please check the data.
- There is no relation between T&D losses and Energy Requirement.
- Load Factor provided is greater than 100%.

f) REWARI (Annexure-3F)

- Actual data has not been provided up to 2011-12.
- Public Lighting: Data for consumption for 2013-14 and 2014-15 is very much on lower side vis-à-vis prior and succeeding year.
- Industries LT: Data for consumption for 2013-14 is on very higher side vis-à-vis prior and succeeding year.
- Industries HT (> 1 MW): Format is blank.
- Traction: Format is blank.

g) MAHENDARGARH (Annexure-3G)

- Commercial Category:
 - i) The growth of consumption has increased drastically from 2014-15 to 2015-16 and from 2015-16 to 2016-17. The number of consumers is increasing @ 34 % from the year 2015-16 to 2016-17.

ii) Specific energy consumption has been constantly negative from 2006-07 to 2014-15.

- Public Lighting: There is no change in the data for Public Lighting from 2006-07 to 2013-14 and then there has been a drastic increase in connected load from 2013-14 to 2014-15.
- PWW: Connected load is increasing continuously where nos. of hours of operation is decreasing.
- Irrigation: Format is blank
- Lift Irrigation: Connected Load is constant whereas consumption is increasing.
- Industries LT: Connected Load and Consumption has reduced drastically from 2013-14 to 2014-15.
- Traction: Format is blank.
- Bulk Supply: Format is blank.
- Industries HT (> 1 MW): Format is blank.
- Energy Requirement figures are the same as Electricity Consumption. T&D losses (%) figures not provided from 2006-07 to 2013-14.
- Peak Load and Load Factor data not provided from 2006-07 to 2013-14.

h) MEWAT (Annexure-3H)

- Actual data has not been provided up to 2013-14. Only 3 years' data are present. (2014-15 to 2016-17)
- Annual Load Factor is very low (around 1.5%). There seems to be a problem in the data of energy requirement or peak demand.
- Public Lighting: There is no change in the data for Public Lighting from 2006-07 to 2013-14.
- PWW (> 1 MW): Format is blank
- Irrigation: Format is blank
- Lift Irrigation: Format is blank
- Industries HT (> 1 MW): Format is blank.

Also, the input data sent for the 18th EPS, does not match with the data provided for the preparation of 19th EPS. (Annexure-3J)

Agenda#4 Uttar Haryana Bijli Vitran Nigam

Uttar Haryana Bijli Vitran Nigam was requested to furnish the detailed information/input data in respect of total 5 districts of Haryana- Jhajjar, Karnal, Panipat, Rohtak, and Sonapat. Data received from 2 districts- Rohtak and Sonapat have certain discrepancies, whereas partial data has been received from Jhajjar, Karnal, and Panipat (Annexure- 4A, 4B, 4C,4D and 4E). The same was communicated subsequently for clarification via email (Annexure-4F). The issues are mentioned below:

a) ROHTAK (Annexure-4A)

- In the Public Lighting category, connected load increases from 2.47 MW in 2015-16 to 2.6 MW in 2016-17 whereas electricity consumption decreases from 100.4 LU in 2015-16 to 28.5 LU in 2016-17. Reason for the same needs to be provided.
- Inclusion in the “Others” category needs to be specified.
- In the PWW category, electricity consumption decreases from 321.88 LU in 2014-15 to 289.72 LU in 2015-16.
- The format of railway traction is blank. If any electrification of railway traction is envisaged in future, the same may please be mentioned.

b) SONEPAT (Annexure-4B)

- In some categories, electricity consumption is provided in LU's whereas in some categories it is mentioned in MU's (eg. in Public Lighting). We suppose that electricity consumption in the Public Lighting category is also in LU.
- In Public Lighting Category, there is a decrease (of 7 %) in connected load in 2015-16 but the connected load increases by 34 % in 2016-17. The connected load increases from 1288 kW in 2015-16 to 1955 kW in 2016-17.
- Public Water Works (LT) - electricity consumption is decreasing from 2012-13 to 2015-16, though the connected load is increasing in the same period.

- Public Water Works HT (< 1 MW) - electricity consumption is decreasing from 2012-13 to 2015-16, though the connected load is increasing in the same period.
- Industries (LT): Average hours of operation of Industry works out to about 2 hours per day. It appears to be too low.
- Industries HT (< 1 MW): Average hours of operation of Industry is less than 3 hours per day. It appears to be too low.
- Irrigation: Figures of electricity consumption in Irrigation category as given in detailed annexure do not match with the values in the summary sheet.
- Bulk Supply category: Figures of electricity consumption in Bulk supply category as given in detailed annexure do not match with the values in the summary sheet. Eg. For 2026-27, the electricity consumption as per detailed annexure is (386.69 LU; 374.78 LU in non-Industrial category & 11.91 LU in Licensee), whereas, in the summary sheet, the consumption in Bulk Supply category is shown as 76.53 LU.
- HT Industries: Figures of electricity consumption in this category as given in detailed annexure do not match with the values in the summary sheet.
- HT Industries (> 1 MW): Electricity consumption figures are not filled in.
- Summary sheet: Peak load & load factor values not filled in.

c) JHAJJAR (Annexure-4C)

- Please provide actual data for the year 2015-16 and 2016-17 in place of provisional data.
- There is no relation between T&D Losses and Electrical Energy Requirement. If we add the electricity consumption and T&D loss, we do not get the figure of Electrical Energy Requirement.
- Load factor has not been provided.
- Electricity consumption in Domestic, Commercial, Public Lighting, PWW is decreasing in the year 2015-16 when compared to 2014-15. Reason needs to be provided.
- HT Industries: Figure of electricity consumption as shown in the summary sheet does not match with the figures in the corresponding annexure. For example, the electricity consumption in HT Industries

during 2014-15, as per the summary sheet is 78.09 MU. If we refer to the detailed sheets, the electricity consumption during 2014-15 in HT Industries (< 1 MW) is 315.23 MU and the electricity consumption in HT Industries (> 1 MW) during 2014-15 is 72.53 MU.

- Lift Irrigation: There is a huge increase in electricity consumption from 176.73 MU in 2014-15 to 683.48 MU in 2015-16. The figures for 2015-16 have been indicated as provisional.
- LT Industries: Decrease in connected load and electricity consumption from 2013-14 to 2014-15.

d) KARNAL (Annexure-4D)

- Commercial Category: Electricity consumption per consumer per day (kWh) shows a decreasing trend from 17 units in 2003-04 to 11 units in 2016-17. Please explain.
- Public Lighting: Average hours of operation per day of street lights are very low, around 3-4 hours. Hours of operation must be around 10-11 hours.
- Public waterworks (LT); Public waterworks (with demand < 1 MW): Average hours of operation per day is decreasing. Reason needs to be provided. (11 hrs to 5 hrs)
- LT Industries: Average hours of operation per day is very low, (less than one hour).
- HT Industries (<1MW): Average Hours of operation per day working out to be more than 24 hours.
- T&D loss figures are provided in % form & therefore could not be calculated without the requirement values.
- Please provide the values of electrical energy requirement, peak load, etc. for the years 2003-04 to 2026-27.

e) PANIPAT (Annexure-4E)

- Domestic category: Electricity consumption figures appear to be too high. The average electricity consumption per consumer works out to more than 15 units per day.

- Commercial category: The average electricity consumption per consumer works out to more than 60 units per day (90 units in 2008-09 to 70 units in 2015-16).
- Public Lighting: The hours of operation cannot be more than about 4000 hours per annum (about 11 hours per day). However, based on the data provided, the hours of operation are greater than 10,000 hours per annum.
- Industries (LT): Based on the data provided, Hours of operation per annum works out to about 12,000 hours, which is not possible.
- Industries (HT < 1 MW): Average hours of operation per annum is too high (more than hours in a year).
- Irrigation: Format is filled in but in the summary sheet the electricity consumption in irrigation category is shown as zero.
- Lift Irrigation: Format is blank.
- Public Water Works (With demand > 1MW): Format is blank.
- PWW (LT): Hours of operation is too high.
- PWW (< 1 MW): Based on the data provided, the hours of operation is more than 10,000 hours per annum.
- The data in the summary sheet provided does not match with the consumption in different category sheets. (PWW, Irrigation, LT & HT Industries)
- There is no relation between T&D Losses and Energy Requirement. T&D losses in MU and in % do not match.
- There is no relation between Load Factor and Peak Load.
- Electricity consumption figures corresponding to LT Industries as mentioned in the summary sheet do not match with the figures in corresponding formats. Same is true for HT Industries.
- Please check the summary sheet and ensure that the electricity consumption figures of each consumer category in the summary sheet match with the electricity consumption figures in corresponding detailed formats.

Also, the input data sent for the 18th EPS, does not match with the data provided for the preparation of 19th EPS. (Annexure-4G)

Agenda #5 - Furnishing of Other information closely related to electricity demand:

A small write up covering brief of the city, climate and rainfall in the city, Policy Initiatives of Government affecting electricity demand economy, Industrial or infrastructure development in the city etc. is also required as a part of this report.

Agenda #6 Any other issue:
