#### BEFORE

# THE HON'BLE BIHAR ELECTRICITY REGULATORY COMMISSION VIDYUT BHAWAN -II, PATNA

#### Petition

For

Submission of Business Plan For Control Period FY 2019-22

For State Load Dispatch Center (SLDC) Patna

4<sub>rth</sub> Floor, Vidyut Bhawan Bailey Road Patna – 800 021 **November 05, 2018** 

#### BEFORE, THE BIHAR ELECTRICITY REGULATORY COMMISSION,

### IN THE MATTER OF

Filing of the Petition for submission of Business Plan for control period from FY 2019-20 to FY 2021-22 under Bihar Electricity Regulatory Commission (Multiyear Transmission Tariff and SLDC Charges) Regulations, 2018 along with other governing regulations including Bihar Electricity Regulatory Commission (Conduct of Business) Regulations 2005, Bihar Electricity Regulatory Commission (Fees, Fines and Charges) Regulations 2005 and Bihar Electricity Regulatory Commission (Procedure for filing Capital investment and Capitalization plan) Regulations, 2018

#### AND

#### IN THE MATTER OF

STATE LOAD DESPATCH CENTER (hereinafter referred to as "SLDC" or "Petitioner" which shall mean for the purpose of this Petition, the Licensee), having its registered office at 4th Floor, Vidyut Bhawan, Bailey Road, Patna - 800021.

The Petitioner respectfully submits as under:

- The petitioner is a statutory body set up under Section 31 of the Electricity Act, 2003 and performs the functions specified under Section 32 of the Electricity Act, 2003. The working/ functions of the SLDC are governed by the Electricity Act 2003, Regulations/ Directions of Appropriate Government/CERC/ BERC as amended from time to time.
- Pursuant to Section 5.1 of Bihar Electricity Regulatory Commission (Multiyear Transmission Tariff and SLDC Charges) Regulations 2018, SLDC is filing the Business Plan for Control Period FY 2019-20 to FY 2021-22 as per procedures outlined in the governing regulations thereof.

- The Multi-year Tariff (MYT) petition for control period FY 2013-14 to FY 2015-16 was filed on 14.11.2012 by BSPHCL on behalf of all companies and accordingly the Hon'ble Commission had issued common order for all entities (tariff order dated March 15, 2013).
- The Hon'ble Commission in the MYT Order dated 21 March, 2016, had directed SLDC to file separate Petition for Determination of Aggregate Revenue Requirement.
- In compliance of the BERC Regulations and Directives, BSPTCL for the first time filed separate petition for ARR of FY 2017-18 for SLDC function on 30.11.2016 and the Hon'ble Commission had issued Order on the same on March 9, 2017.
- In compliance of the BERC Regulations and Directives, BSPTCL for the second time filed separate petition for ARR of FY 2018-19 for SLDC function on 15.11.2017 and the Hon'ble Commission had issued Order on the same on March 7, 2018.
- 7. SLDC, for the first time is filing its Business Plan for Control Period FY 2019-20 to FY 2021-22.in accordance with Section 5.1 of Bihar Electricity Regulatory Commission (Multiyear Transmission Tariff and SLDC Charges) Regulations 2018 and Bihar Electricity Regulatory Commission (Procedure for filing Capital investment And Capitalisation plan) Regulations, 2018.
- 8. As per the MYT Regulations, Business Plan shall comprise assessment of infrastructure requirement.
- 9. This instant Petition is being filed before the Hon'ble Commission for approval of its Business Plan for the control period FY 2019-20 to FY 2021-22.
- 10. This Petition has been prepared in accordance with the directions under Sec 5 of Bihar Electricity Regulatory Commission (Multiyear Transmission Tariff and SLDC Charges) Regulations, 2018. Computation of Aggregate Revenue Requirement (ARR) will be based on the Business Plan.
- 11. As part of this petition, SLDC is submitting the relevant data and information to the extent applicable and would make available any further information/additional data as may be required by the Hon'ble Commission during the course of the proceedings.

### **Prayers to the Commission:**

The Petitioner respectfully prays that the Hon'ble Commission may:

a) Admit this Petition;

b) Examine the proposal submitted by the Petitioner in the enclosed Petition for a favorable dispensation;

c) Pass suitable orders with respect to the approval of Capital investments and capitalization proposed during the Control Period FY 2019-20 to FY 2021-22

d) Pass suitable orders with respect to the approval of other related expenses as forecasted in the business plan for operating the transmission system for Control Period FY 2019-20 to FY 2021-22.

e) Condone any inadvertent omissions, errors, short comings and permit SLDC to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date; and

f) Pass such Order as the Hon'ble Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.

Declaration that the subject matter of the petition has not been raised by the petitioner before any other competent forum, and that no other competent forum is currently seized of the matter or has passed any orders in relation there to

Dated: November 03, 2018

(G.K.Choubey) Chief Engineer (System Operation)

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### 1 Background

### 1.1 About SLDC

SLDC is a statutory body set up under Section 31 of the Electricity Act, 2003 and performs the functions specified under Section 32 of the Electricity Act, 2003. The working/ functions of the SLDC are governed by the Electricity Act 2003, Regulations of CERC/ BERC/ any other government body as amended from time to time.

### 1.2 Background

Bihar State Electricity Board ("Board" or "BSEB") originally constituted on 1stApril1958 under Section 5 of the Electricity (Supply) Act, 1948 and was engaged in the management of electricity generation, transmission, distribution and related activities in the State of Bihar.

Under the new "Bihar State Electricity Reforms Transfer Scheme 2012", the BSEB has been unbundled into five companies: Bihar State Power (Holding) Company Limited (BSPHCL), Bihar State Power Transmission Company Limited (BSPTCL), Bihar State Power Generation Company Limited (BSPGCL), South Bihar Power Distribution Company Limited (SBPDCL) and North Bihar Power Distribution Company Limited (NBPDCL) with effect from 1st November" 2012 vide notification dated 30.10.2012.

- a) **"Bihar State Power (Holding) Company Limited" or "BSP(H)CL"** means the Company that will own shares of newly incorporated reorganized four companies i.e. Bihar State Power Generation Company Limited, Bihar State Power Transmission Company Limited, South Bihar Power Distribution Company Limited, and North Bihar Power Distribution Company Limited.
- b) **"Bihar State Power Generation Company Limited" or "BSPGCL"** means the Generating Company to which the Generating Undertakings of the Board are to be transferred in accordance with this Scheme.

- c) **"Bihar State Power Transmission Company Limited" or "BSPTCL"** means the Transmission Company to which the Transmission Undertakings of the Board are to be transferred in accordance with this Scheme. BSPTCL has been operating SLDC.
- d) "South Bihar Power Distribution Company Limited" or "SBPDCL" and "North Bihar Power Distribution Company Limited" or "NBPDCL" collectively mean the Distribution Companies, to which the Distribution Undertakings of the Board are to be transferred in accordance with this Scheme.

### 1.3 Constitution of State Load Despatch Centre

Section 31 of the Electricity Act, 2003, provides for constitution of State Load Despatch Centre (SLDC):

*"31. (1) The State Government shall establish a Centre to be known as the State Load Despatch Centre for the purposes of exercising the powers and discharging the functions under this Part.* 

(2) The State Load Despatch Centre shall be operated by a Government company or any authority or corporation established or constituted by or under any State Act, as may be notified by the State Government.

Provided that until a Government company or any authority or corporation is notified by the State Government, the State Transmission Utility shall operate the State Load Despatch Centre: Provided further that no State Load Dispatch Centre shall engage in the business of trading in electricity."

### **1.4 Main Functions of SLDC**

The Electricity Act, 2003 prescribes the following functions of SLDC:

- (1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.
- (2) The State Load Despatch Centre shall -
  - (a) Be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State;
  - (b) Monitor grid operations;
  - (c) Keep accounts of the quantity of electricity transmitted through the State grid;
  - (d) Exercise supervision and control over the intra-State transmission system; and
  - (e) Be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.
  - (3) The State Load Despatch Centre may levy and collect such fee and charges from the generating companies and licensees engaged in intra-State transmission of electricity as may be specified by the State Commission.

### Further, the Electricity Act, 2003, under section 33 states the following:

### Compliance of directions: ----

(1) The State Load Despatch Centre in a State may give such directions and exercise such supervision and control as may be required for ensuring the integrated grid operations and for achieving the maximum economy and efficiency in the operation of power system in that State.

(2) Every licensee, generating company, generating station, sub-station and any other person connected with the operation of the power system shall comply with the directions issued by the State Load Dispatch Centre under sub-section (1).

(3) The State Load Despatch Centre shall comply with the directions of the Regional Load Despatch Centre.

(4) If any dispute arises with reference to the quality of electricity or safe, secure and integrated operation of the State grid or in relation to any direction given under subsection (1), it shall be referred to the State Commission for decision:

(5) Provided that pending the decision of the State Commission, the directions of the State Load Despatch Centre shall be complied with by the licensee or generating company.

If any licensee, generating company or any other person fails to comply with the directions issued under sub-section(1), he shall be liable to a penalty not exceeding rupees five lacs.

### 2. BUSINESS OVERVIEW OF SLDC

### 2.1 Objectives

Primary objective of the SLDC Business is to ensure integrated operation of power system in the state in a reliable, economical and efficient way. SLDC is committed towards carrying out real time operations for grid control and despatch of electricity within the region through secure and economic operation of the regional grid in accordance with the Grid Standards and the Grid Code.

### 2.2 CURRENT INFRASTRUCTURE DETAILS

It is submitted that the assets of SLDC are not owned by BSPTCL. The same are owned by PGCIL who recovers cost through tariff charged to the Distribution Companies namely, South Bihar Distribution Company Private Limited and North Bihar Distribution Company Private Limited. The supporting documents i.e. the Minutes of the Meeting of ERPC meeting where it was decided that the SLDC assets will be created by PGCIL had already been submitted to the Hon'ble Commission with the Tariff Petition for FY 2017-18 dated 30 November, 2016.

Recently, BRBCL has equipped the Bihar SLDC with various hardware and software to facilitate operationalisation of Open Access. Brief of the software are as follows:

- Energy Scheduling Software
- Meter data Management Software
- Deviation Accounting Software
- RTDA (Regional Transmission Deviation Account), Reactive, REA (Regional Energy Accounts) Accounting Software
- > UI (Unscheduled Interchange) Disbursement management Software
- Open Access Software

### 2.3 Current Scenario

Over the years, the responsibility of SLDC has increased manifold with commencement of open access, integration of grids at regional and national level, growing penetration of renewable energy sources, increasing inter-state and intra-state energy transactions, etc. At present, SLDC is carrying out real time operations for grid control and dispatch of electricity within the region through secure and economic operation of the regional grid in accordance with the EA, 2003, Grid Standards and the Grid Code. SLDC ensures the reliable operation of the grid network and administers the electricity transactions in accordance with law/ regulations/ directions of the government.

Details of Peak Demand Met for the Month of September '18

Date 29th September '18, Time -19:59 hrs.
Total Demand Met of Bihar - 5139 MW
Total Demand Met of North Bihar - 2443 MW.
Total Demand Met of South Bihar - 2696 MW
Total Drawl from Central Sector and bilateral & other transactions etc 5053 MW
Total Generation in the State Generating Units(Thermal + Hydro+RE) - 86 MW

### 2.4 Key challenges for SLDC

### Key challenges that the SLDC is facing are as follows:

- SLDC relies on the real-time data for grid monitoring and decision making in day to day Grid Operation. Real-time data acquisition from various sources is a challenging task. SLDC needs to be equipped with latest tools to facilitate real time data acquisition and decisions making process.
- The complexity of power system has increased manifold and the business environment is changing rapidly. The challenge in front of SLDC is to adapt to the changing paradigm and to facilitate the functioning of the electricity market without compromising grid security and reliability.
- Increasing penetration of Renewable, expanding power system network, uneven loading of transmission lines, frequency fluctuations, etc. are the few other challenges that the SLDC is facing.
- The power market is evolving day by day and its complexity is increasing. Accordingly, there is a need to enhance the skill sets of the employees.

#### 3 BUSINESS PLAN FOR BSPTCL FOR CONTROL PERIOD FY 19-20 – FY 21-22

The Petitioner, in compliance with Section 5.1 of the Bihar Electricity Regulatory Commission (Multiyear Transmission Tariff and SLDC Charges) Regulations 2018 has prepared the Business Plan for the three-year control period beginning FY 2019-20 to FY 2021-22. The objective of the business plan is to project the capital investments that are proposed to be done during the control period of FY 2019-20 – FY 2021-22.

#### **BUSINESS SCOPE:**

Considering the duties and functions of SLDC illustrated in the Electricity Act, 2003, the business scope for SLDC aims to enhance the infrastructure of SLDC so that a robust, scalable and dispute free scheduling, metering, accounting and settlement of transaction in electricity can take place.

#### Approach to Development of Business Plan:

The Business Plan comprise of infrastructure required by SLDC to perform robust, scalable and dispute free scheduling, metering, accounting and settlement of transaction in electricity. The business plan have been developed considering the growing penetration of renewable energy sources and increasing transaction of electricity at intra-state and inter-state level. A rational approaches been followed for ascertaining various data points using practical assumptions wherever required.

The components of Business Plan depends upon various factors such as historical data, current and future financial estimates, growth estimates, economic, financial and business related assumptions, current operational requirements, other foreseeable changes/ requirements in future etc. Any deviations due to a number of uncontrollable externalities shall be brought to the notice of the Commission in accordance with the provisions of MYT Regulations. The Business Plan may need to

be updated periodically in accordance with various schemes/ policy initiatives of the Government and in order to comply the directions of the Government/ Hon'ble Commission, as the case may be. Thus, SLDC would like to submit that the business plan is a dynamic document which may need to be updated at various intervals in order to align it with the goals and objectives of the company and various schemes/ directions of the Central and State Government. Further, due to changing electricity market trends and various internal and external factors, the business plan may need to be updated.

### **Key Objectives**

### The primary objectives for developing the business plan are as follows:

- Providing a tool for Strategic Planning: The Business Plan is intended to chart the Company's way forward. The key objective for developing the business plan is to analyze and anticipate the major requirements of infrastructure to operate the power market in an integrated manner. Business Plan has been envisaged to ensure Integrated Operation of power system in the state and to facilitate transfer of electric power within and across the regions with Reliability, Security and Economy.
- For the regulatory compliance of submission of Business Plan as mandated by BERC MYT Regulations, 2018.
- Aid in Decision Making and better operational efficiency: The Business Plan may aid in decision making while planning and execution of the project. Business plan may prove to a help for the Management, all stakeholders, Hon'ble Commission and various government bodies.

### 3.2 Capital Investment Plan

The Petitioner submits that the due to changing business environment and the regulations governing the power market, the capital investment plan may need to be updated at various intervals in accordance with the policy initiatives/ directions of the government and to align the growth path of the company with the external business environment and internal factors affecting the business / operations of the company.

### **Upcoming Projects:**

### SAMAST (Scheduling, Metering and settlement of Transmission in Electricity):

Aim of the project: To implement a robust, scalable and transparent framework of scheduling, metering, accounting and settlement of energy transactions at intra-state as well as interstate level, achieve operational excellence and Reduce margin of errors while quantifying the scheduling, metering, accounting and settlement of energy transactions.

S.No.	Project Details	Estimated Cost in Rs.
1	Appointment of agency for implementation of	25,91,24,582.72
	balance work of SAMAST in Bihar (including	
	AMC & Manpower cost for 05 year)	

### Payment Terms:-

	Rs Crores		
Parameter	FY 2018-19		
IRF	0.96		
PSDF	0.24		
Total	1.20		

		Rs Crores
FY2019-20	FY2020-21	FY2021-22
(Projected)	(Projected)	(Projected)
Under	Under warranty	1.06*
implementation	period	
11.51	-do-	N/A
11.51		1.06
	(Projected) Under implementation 11.51	(Projected)(Projected)Under implementationUnder warranty period11.51-do-

\*IRF for FY18-19 excluding civil work (0.66cr) utilize in 1st year AMC (1.72 cr) for S/W in FY 21-22

# 4. Operations and Maintenance Expenses

The petitioner submits that the Operation and Maintenance Expenses have been further categorized under three major heads:

- Employee Expenses
- Repair and Maintenance
- Administrative and General Expenses

### **Employee Expenses**

The employee expenses primarily comprise of Salaries and Wages, Dearness Allowances, perks, performance related pay, bonus, staff welfare and medical benefits, leave travel allowance, earned leave encashment and retirement benefits such as provident fund, gratuity, pension etc

The commission, as per the Clause 21.1 of BERC (Multiyear Transmission Tariff and SLDC Charges) 2018 has directed the Employee Costs to be forecasted as follows:

"Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the TransmissionLicenseeandonetimeexpectedexpenses, such as recovery / adjustment of terminal benefits, implications of pay commission, arrears and Interim Relief, governed by the following formula:

EMPn = (EMPb \* CPI inflation) + Provision

Where:

EMPn: Employee expense for the year n

EMPb: Employee expense as per the norm

CPI inflation: is the average increase in the Consumer Price Index (CPI) for

immediately preceding three years

Provision: Provision for expenses beyond control of the Transmission Licensee

and expected one-time expenses as specified above.

Till the norms are specified by the Commission the employee cost shall be determined on the basis of actual historical cost."

As per the aforesaid regulations, the CPI index for the preceding three years has been shown in the table below:

### CPI index

Parameter	FY 2015-16	FY 2016-17	FY 2017-18
Average Annual CPI Index (Mar 31')	126.0	130.9	136.5
Y-o Y Increase		3.89%	4.28%
Average Increase		4.08%	

The Petitioner submits that the actual employee expenses in the year FY 18 have been Rs 3.39 Crore. Considering the average increase in CPI (4.08%), the overall employee expenses over the control period are summarized below:

Rs Crore

Parameter	FY2019-20 (Projected)	FY2020-21 (Projected)	FY2021-22 (Projected)
Employee	3.67	3.82	3.98
Expense			

In this regard, the petitioner submits that the overall projected employee expenses are yet to stabilize in company of the transmission assets are currently under development phase. The Petitioner will therefore approach the Hon'ble Commission to consider the actual employee expenses pursuant to completion of the projects/true-up petitions based on audited accounts.

The Petitioner further pleads that before the Hon'ble Commission that although O&M expenses are classified as controllable under Clause 8.2 of BERC (Multiyear Transmission Tariff and SLDC Charges) 2018, the same needs to be considered as uncontrollable due to the following reasons:

- $\circ$   $\;$  Increase in the salaries of employees including dearness allowance,
- Increase in salaries due to recruitment of new employees and contractual appointments; and
- Provision of retirement dues on the basis of actuarial valuation from current financial year.

The petitioner would, thus, request the Hon'ble Commission to consider the impact of aforesaid parameters as uncontrollable and provide favorable dispensation at the time of truing up based on actual cost as per audited accounts.

### Repair and Maintenance Expenses (R&M)

The Repair and Maintenance Activities are primarily directed towards the upkeep of the transmission system and related office works

As per Clause 21.2 of the BERC (Multiyear Transmission Tariff and SLDC Charges) 2018, R&M will be calculated as follows

"Repairs and Maintenance expense shall be calculated as percentage (as per the norm determined) of Opening Gross Fixed Assets excluding land cost for the year governed by following formula:

R&Mn = Kb \* GFAn

Where:

R&Mn: Repairs & Maintenance expense for nth year

GFAn: Opening Gross Fixed Assets for nth year

Kb : Percentage point as per the norm"

Considering the R&M Expenses to be indexed @ 3.99 %, the petitioner would like to submit the R&M expenses as follows:

**Rs** Crores

Parameter	FY2019-20 (Projected)	FY2020-21 (Projected)	FY2021-22 (Projected)
R&M			
Expense	0.64	0.66	0.69

In this regard, the petitioner submits that the overall projected Repair and Maintenance Expenses are yet to stabilize since many of the transmission assets are currently under development phase. The Petitioner will therefore approach the Hon'ble Commission to consider the actual Repair and Maintenance expenses pursuant to completion of the projects/true-up petitions based on audited accounts.

# Administrative and General Expenses (A&G)

Administration and General expenses mainly comprise costs towards insurance charges, security expenses, professional charges, conveyance and travelling allowances, holding charges and other debits.

As per Clause 21.3 of the BERC (Multiyear Transmission Tariff and SLDC Charges) 2018, A&G will be calculated as follows:

"A&G expense shall be computed as per the norms escalated by whole sale price index (WPI) and Consumer Price Index (CPI) in the ratio 60:40 and adjusted by provisions for confirmed initiatives (IT etc. initiatives as proposed by the Transmission Licensee and validated by the Commission) or other expected one-time expenses, and shall be governed by following formula:

A&Gn = (A&Gb\*WPIinflation) + Provision

Where:

A&Gn: A&G expense for the year n

A&Gb: A&G expense as per the norm

WPI inflation: is the average increase in the Wholesale Price Index (WPI) for immediately preceding three years

Provision: Cost for initiatives or other one-time expenses as proposed by the Transmission Licensee and validated by the Commission .Till the norms of A&G expenses is specified by the Commission, the actual historical cost will be considered for determination of A&G expenses."

As per the aforesaid regulations, the WPI and CPI index for the preceding three years has been shown in the table below:

Parameter	FY 2015-16	FY 2016-17	FY 2017-18
Average Annual CPI	126.00	130.90	136.50
Index (Mar 31)			
Average Annual WPI	107.70	113.20	116.30
Index (Mar 31)			
Indexed (60: 40)	115.02	120.28	124.38
Increase		4.6%	3.4%
Average Increase		3.99%	

Accordingly, the petitioner would like to submit the A&G Expenses as follows:

#### Rs Crore

Parameter	FY2019-20	FY2020-21	FY2021-22
	(Projected)	(Projected)	(Projected)
A&G Expense	0.55	0.57	0.60

In this regard, the petitioner submits that the overall projected Administrative and General Expenses are yet to stabilize since many of the transmission assets are currently under development phase. The Petitioner will therefore approach the Hon'ble Commission to consider the actual Administrative and General Expenses pursuant to completion of the projects/true-up petitions based on audited accounts.

### **Summary of O&M Expenses**

The summary of the O&M expenses is tabulated below for reference:

Rs Crore

FY2019-20	FY2020-21	FY2021-22
(Projected)	(Projected)	(Projected)
3.67	3.82	3.98
.64	.66	.69
.55	.57	.60
4.86	5.05	5.27
	3.67 .64	3.67     3.82       .64     .66       .55     .57

# **Annual Revenue Requirement**

Accordingly, ARR for the control period from 2019-20 to 2021-22 is calculated as follows:

Parameter	FY 2019-20	FY 2020-21	FY 2021-22
O&M			
Employee Expenses	<mark>3.67</mark>	<mark>3.82</mark>	<mark>3.98</mark>
R&M	<mark>0.64</mark>	0.66	0.69
A&G	<mark>0.55</mark>	0.57	<mark>0.60</mark>
Total ARR	4.86	5.05	5.27

The petitioner submits that the abovementioned ARR figures are indicative. The ARR for the relevant year will be submitted in accordance with applicable regulations as part of the MYT petition.