

[C.S.P.D.C.L]

# Capital Investment Plan for MYT Control Period FY 2022-23 to FY 2024-25

---

Submitted to:  
Chhattisgarh State Electricity Regulatory Commission

27<sup>th</sup> December, 2021

Chhattisgarh State Power Distribution Company Limited  
Raipur  
(A government of Chhattisgarh Undertaking)  
Vidyut Sewa Bhavan, Dangania Raipur-492013

No. 02-04/RA&PM/RAC-1/2316

Raipur, Dated: 27/12/2021

To,  
The Secretary,  
Chhattisgarh State Electricity Regulatory Commission,  
Irrigation Colony, Shanti Nagar,  
Raipur, Chhattisgarh - 492 001

**Sub : Submission of Petition for approval of Capital Investment Plan for MYT Control period FY 2022-23 to FY 2024-25**

Dear Sir,

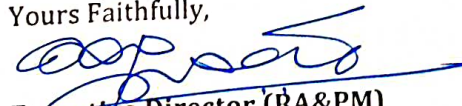
In exercise of its powers conferred under section 61 of the Electricity Act, 2003, the Hon'ble Commission has notified the CSERC (Terms and Conditions for determination of tariff according to Multi-Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2021 (hereinafter referred as "CSERC MYT Regulations, 2021") vide dated 18.11.2021.

Accordingly and with the provisions mentioned in the above Regulations, CSPDCL is herewith submitting Petition for approval of Capital Investment Plan for the FY 23 to FY 25 for consideration of the Hon'ble Commission. We enclose herewith the following documents for your perusal and approval of the Hon'ble Commission:

1. Formal Petition, Formats and Affidavit verifying the petition along with authorization.
2. Petition for approval of Capital Investment Plan for the FY 23 to FY 25 in six copies.
3. Petition Fee of Rs.20,000 /- (Rupees Twenty Thousand) only through UTR No. UBINJ21361509452 dtd. 27-12-2021 directly to CSERC bank account.

We request the Hon'ble Commission to kindly admit the aforesaid Petition and proceed further in the matter at the earliest. We would also request the Hon'ble Commission to kindly provide us an opportunity of personal hearing to further clarify/explain/add/amend our submissions in respect of this Petition.

Thanking You,  
Yours Faithfully,

  
**Executive Director (RA&PM)**  
Enclosed: As above

BEFORE THE CHHATTISGARH STATE ELECTRICITY REGULATORY  
COMMISSION, RAIPUR

IN THE MATTER OF : Filing of the Petition for the approval of Capital Investment Plan for the Control Period FY 2022-23 to FY 2024-25 under Section 62 and 64 of the Electricity Act, 2003

AND

PETITION BY : Chhattisgarh State Power Distribution Company limited (hereinafter referred as "CSPDCL" or "the Petitioner" or Applicant)

The Applicant respectfully submits as under: -

1. The Petitioner is a distribution licensee in the areas as notified by the Government of Chhattisgarh (GoCG) under the CSEB Transfer Scheme Rules, 2010.
2. The Petitioner submits that the Hon'ble Commission has notified the CSERC (Terms and Conditions for determination of tariff according to Multi-Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2021 (hereinafter referred as "CSERC MYT Regulations, 2021") vide gazette notification dated 18.11.2021.; in exercise of powers conferred on it by Section 61 read with Section 181(2) of the Electricity Act 2003 (No. 36 of 2003) and to enable determination of Capital Investment as per provisions 7 of the said Regulations.
3. The ongoing capital investment plan for MYT Control Period i.e. 01.04.2016 to 31.03.2021 is approved by Commission in Petition No. 100 of 2015 through Order dtd. 26.03.2016 read with order dtd. 28.11.2017 in review petition No. 06 of 2017. Further due to COVID-19 conditions Hon'ble Commission decided to extend the time period of MYT Regulations, 2015 upto 31.03.2022, through Secretary CSERC 's Letter No. 03/CSERC/Tariff/2020/1229 dated 26.11.2020. In pursuance to aforesaid letter and considering FY 2021-22 as single year CSPDCL submitted additional capital investment plan to Commission for FY 2021-22, which was approved vide its Order dated 30.10.2021 in Petition No. 21 of 2021(M).
4. The Petitioner accordingly submits that in line with the provisions of the MYT Regulations, 2021 hereby is filing the Petition for Approval of Capital Investment Plan for the FY 23 to FY 25.



5. As per MYT Regulations, 2021 Regulation 7.2 (b) (iv), a distribution licensee needs to submit a sales forecast, load forecast, power procurement plan, proposed measure to ensure 24X7 quality supply, installation of meters at all connections, to bring transparency in billing, and loss reduction plan and improvement of consumer services. The Petitioner would like to submit that proposal about sales forecast, load forecast, power procurement plan to supply 24X7 electricity to consumers during each year of control period is already contained in MYT ARR Petition. Installation of smart meters in consumer premises and affairs connected to transparency in billing would require additional investment and in this regard it is to submit that such investments are covered under revamped distribution scheme (RDSS). Execution of RDSS would require approval of State Government. However the Petitioner has included financial investments of RDSS scheme under the present Petition for the consideration of Hon'ble Commission. The scheme aims to install metering in distribution transformer/feeder, consumer metering, loss reduction and modernisation of network and consumer services.

6. **PRAYER TO HON'BLE COMMISSION**

The Petitioner most respectfully prays to Hon'ble Commission:

i) To invoke the power conferred to it under relevant sections of Electricity Act, 2003 read with clause 7 of MYT Regulations, 2021 and to admit the present Petition seeking approval of capital investment plan for the FY 23 to FY 25.

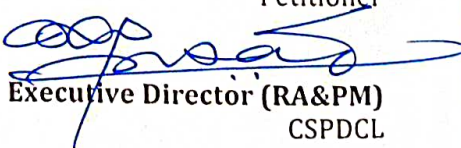
ii) To pass any other order as the Hon'ble Commission may deem fit and proper under the facts and circumstances of the present case and to meet the interest of justice.

iii) To condone any error/omission in the petition and to rectify the same.

iv) The present filing is being done on the basis of best available information and in case of any change, the Petitioner may be permitted to make further submissions, additions and alteration to the Petition as may be necessary during the Regulatory process.

In light of the above, petitioner most humbly submits the present CIP petition for kind consideration.

Dated: 28/12/2021

Petitioner  
  
Executive Director (RA&PM)  
CSPDCL



## Table of Contents

NOTES AND ABBREVIATIONS .....	8
1. Background.....	10
2. CAPITAL INVESTMENT PLAN .....	15
(A) GOVERNMENT FUNDED SCHEMES IN THE CONTROL PERIOD FY 23 TO FY 25.....	17
1 Agriculture Pump Energization and RE works other than RGGVY .....	17
2 Mukhya Mantri Shahri Vidyutikaran Yojna .....	19
3 Mukhya Mantri Majra Tola Vidyutikaran .....	22
4 Investment Plan for Revamped Distribution Sector Scheme .....	23
(B) CSPDCL (PARTLY OR FULLY) FUNDED SCHEMES IN THE CONTROL PERIOD FROM FY 23 TO FY 25:.....	26
1 Sub Transmission and System Improvement Scheme (ST&SI).....	26
2 Normal Development scheme.....	28
3 ND Contributory.....	31
4 Investment Plan for Energy Info Tech Centre (EITC) .....	34
5 Investment Plan for Civil Construction Work .....	50
3. Affidavit.....	53



## List of Tables

Table 1 Achievement against Approved CIP for MYT Control Period .....	12
Table 2: Achievement against approved CIP for FY 22 .....	13
Table 3 Capital Investment Plan for the Control Period (FY 23 to FY 25) (Rs. Crore).....	15
Table 4: Proposed structure of Capital Investment for partly or fully CSPDCL funded schemes for FY 23 to FY 25 (Rs. Crore) .....	16
Table 5 Financial Performance - Pump Electrification (Rs. Cr.).....	17
Table 6: Year wise Physical Performance with Pump Electrification and Finance (FY 17-FY 21) .....	17
Table 7: Year wise Physical Performance with Pump Electrification and Finance (FY 22) ..	18
Table 8: Capital expenditure towards agricultural pump energisation during FY 23- FY 25 (Rs. Crores) .....	18
Table 9- Funding arrangement for Agriculture Pump Energization FY 23 to FY 25 (Rs. Crore).....	18
Table 10 Financial Performance under MMSVY (Rs. Crore) .....	19
Table 11 Physical Performance Under MMSVY for the Control Period (FY 17-FY 21) .....	20
Table 12: Physical and Financial Performance under MMSVY for the FY 22.....	20
Table 13-Capital Structure MMSVY for the Control Period (FY 23 to FY 25) (Rs. Crore) .....	21
Table 14: Financing arrangement for MMSVY (Rs. Crores).....	21
Table 15 Financial Performance under MMTVY (Rs. Crore).....	22
Table 16: Physical Performance under MMTVY for the Control period (FY 17-FY 21) .....	22
Table 17: Physical Performance under MMTVY for FY 22 .....	22
Table 18 Capital expenditure towards MMTVY for the Control Period (FY 2022-23 to FY 2024-25) .....	23
Table 19: Financing arrangement for MMTVY (Rs. Crore) .....	23
Table 20: Details of proposed capital expenditure under Revamped scheme for the Control period (FY 2022-23 to FY 2024-25) (Rs. Crore) .....	24
Table 21 Financial Performance Against ST & SI in FY 17-FY 22 (Rs. Cr.) .....	26
Table 22: Physical Performance Against ST & SI in 3rd Control Period (Qty.) .....	26
Table 23: Capital expenditure towards ST&SI scheme in the control period FY 23 to FY 25 .....	27
Table 24: Funding arrangement for the ST&SI scheme for FY 23 to FY 25 (Rs. Crore) .....	28
Table 25. ND: Past Performance versus target for the control Period FY 17-FY 22(Rs. Cr.)	29
Table 26: Past Performance of ND (Obligatory) Scheme for the FY 17-FY 21 .....	29
Table 27: Physical Performance of ND (Obligatory) Scheme for the FY 22 .....	30
Table 28: Capital Expenditure towards ND scheme during the Control Period (FY 23-FY 25) (Rs. Crore) .....	30
Table 29 Funding Structure ND obligatory for the Control Period (FY 23-FY 25) (Rs. Crore) .....	31
Table 30 Actual expenditure in Cr. under ND contributory Scheme for FY 17-FY 22 (Rs. Crore).....	32
Table 31 Physical Achievement ND (Contributory) for the Control Period (FY 17-FY 21)...	32
Table 32: Physical Achievement ND (Contributory) for the FY 22 .....	33
Table 33: Proposed Capital Expenditure towards ND(Contributory) Scheme for the Control Period (FY 23 to FY 25).....	33
Table 34: Proposed funding arrangement for the Control Period (FY 23 to FY 25) (Rs. Crore).....	34
Table 35: Actual expenditure in Cr. under EITC Scheme for FY 17-FY 22 (Rs. Crore) .....	34
Table 36: EITC schemes implemented during FY 17-FY 22 including spill over for FY 22 (Rs. Crore).....	34
Table 37: Details of new IT Works for FY 2021-22 (As on 30.09.2021) (Rs. Crore).....	35
Table 38 Target for EITC Works FY 23 to FY 25 (Rs. in Cr.).....	35





Table 39: Proposed funding arrangement for the Control Period (FY 23 to FY 25) (Rs. Crore).....	50
Table 40: Details of capital expenditure incurred during the Control Period (FY 17-FY 22) (Rs. Crore) .....	51
Table 41: Capital Investment proposed for civil works under different schemes FY 23 to FY 25 (Rs. Crore).....	51
Table 42: Civil construction Capital Investment across divisions under diff. schemes for the Control Period (FY 23 to FY 25) (Rs. Crore).....	51
Table 43: Financing arrangement for the Civil and construction scheme (Rs. Crores) .....	52



## NOTES AND ABBREVIATIONS

### In this Petition

- ✓ MYT Period is defined as control period of 3 years beginning from 01.04.2022 to 31.03.2025
- ✓ Ensuing Year is defined as Financial Year 2022-23
- ✓ Current Year is defined as Financial Year 2021-22
- ✓ Previous Year is separately defined as Financial Year 2020-21
- ✓ All currency figures used in this Petition, unless specifically stated otherwise, are in Rs. crore.

Abbreviation	Full Description
APDRP	Accelerated Power Development and Reforms Program
ARR	Aggregate Revenue Requirement
AT&C	Aggregate Technical & Commercial
CERC	Central Electricity Regulatory Commission
BIS	Bureau of Indian Standards
BPL	Below Poverty Line
BRGF	Backward Region Fund
CGS	Central Generating Stations
CM	Cash Management
CPP	Captive Power Plant
CPSU	Central Public Sector Unit
CSEB	Chhattisgarh State Electricity Board
CSERC	Chhattisgarh State Electricity Regulatory Commission
CSPDCL	Chhattisgarh State Power Distribution Company Limited
CSPGCL	Chhattisgarh State Power Generation Company Limited
CSPHCL	Chhattisgarh State Power Holding Company Limited
CSPTCL	Chhattisgarh State Power Transmission Company Limited
CSPTrdCL	Chhattisgarh State Power Trading Company Limited
DMS	Document Management System
DE	De-electrified
DR	Data Repository
EA-2003	The Electricity Act 2003
EITC	Energy Info Tech Centre
ERP	Enterprises Resource Planning
FICO	SAP Finance and Control



Abbreviation	Full Description
FM	Fund Management
FY	Financial Year
GIS	Geographic Information System
GoCG	Government of Chhattisgarh
GoI	Government of India
Govt.	Government
HR	Human Resource
HT	High Tension
HV	High Voltage
HVDS	High Voltage Distribution System
IAP	Integrated Action Plan
IEEE	Institute of Electricals and Electronics Engineers



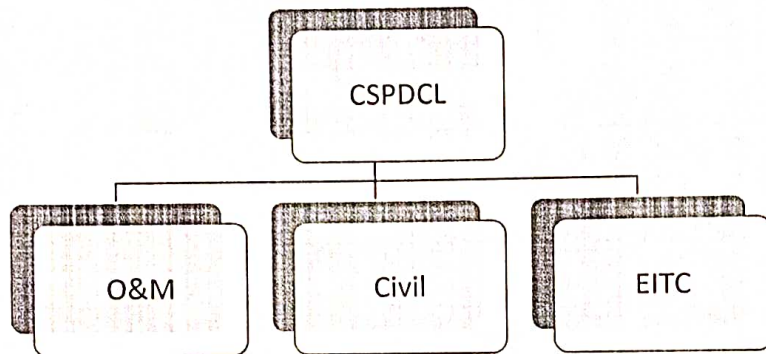
## 1. Background

- 1.1 Chhattisgarh State Electricity Board (CSEB) was a part of the erstwhile Madhya Pradesh State Electricity Board (MPSEB) till 2000. It became a separate entity with the formation of the State of Chhattisgarh. The board functioned as unified entity till December 2008 when the State Government notified a transfer scheme for unbundling it. The transfer scheme resulted in the formation of five successor entities for undertaking the functions of the erstwhile board. Chhattisgarh State Power Distribution Company Limited (CSPDCL) is one of the five successor entities, formed for undertaking the 'Distribution function' of CSEB. CSPDCL started its operations on 1st January 2009.
- 1.2 To increase private sector participation and provide more certainty to the utilities regarding tariff, most State Electricity Regulatory Commission including Chhattisgarh State Electricity Regulatory Commission (CSERC) have moved from an annual tariff framework to a multi-year tariff regime, with an aim to bring about clarity on regulatory principles, reduce regulatory risks and incentivize efficient operations from utilities. The multi-year tariff framework provides greater regulatory certainty by providing utilities a longer period to plan, forecast and implement their efficiency improvement plan. CSERC has introduced multi-year tariff framework in its MYT Regulations, 2015 wherein the control period was set as FY 2016-17 to FY 2020-21 respectively. As part of tariff filing process, CSPDCL submitted its detailed business plan and Annual Revenue Requirement (ARR) for the control period which after much deliberation has been approved by the Hon'ble Commission in due course. Further due to COVID-19 conditions Hon'ble Commission decided to extend the time period of MYT Regulations, 2015 upto 31.03.2022, through Secretary CSERC 's Letter No. 03/CSERC/Tariff/2020/1229 dated 26.11.2020.
- 1.3 Chhattisgarh State Electricity Regulatory Commission by exercising its powers conferred under Section 61 read with Section 181(2) of the Electricity Act, 2003 and all other powers enabling it in this behalf, notified the CSERC (Terms and Conditions for determination of tariff according to Multi-Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2021 (hereinafter referred as "CSERC MYT Regulations, 2021") vide gazette notification dated 18.11.2021.
- 1.4 In the regulation 7, the Commission envisages the filing of capital investment plan for the entire Control Period, with details for each year of the Control Period. The present capital Investment plan is being submitted in compliance with the provisions of CSERC (Terms and Conditions for determination of tariff according to Multi-Year Tariff principles and Methodology and Procedure for determination of Expected revenue from Tariff and Charges) Regulations, 2021 (hereinafter referred as "CSERC MYT Regulations, 2021").





- 1.5 In pursuance to CSERC directions, the Petitioner also require to submit scheme wise status of actual vs approved about capital investment plan for last control period.
- 1.6 CSPDCL normally carries out the capital expenditure activities through three major divisions as shown below.



- 1.7 The Petitioner would like to submit that the achievement versus approved figures for previous control period is shown in two parts in separate tables for the reasons that the Hon'ble Commission has approved the capital investments through separate Orders. Different tables below indicate the comparison between the Hon'ble Commission approved target and the actual performance of CSPDCL in respect of FY 17-FY 21 and FY 22. The Petitioner would like to submit that the achievement for the FY 22 is latest upto 30.09.2021. Scheme-wise actual versus target performance has been discussed in the subsequent section of the report.

Table 1 Achievement against Approved CIP for MYT Control Period

S. No.	Scheme	FY17	FY18	FY19	FY20	FY21
		Approved	Approved	Approved	Approved	Approved
Government funded Schemes						
1	RGVY					
2	School & Hospitals					
3	Mukhya Mantri Shahri Vikas Mantri					
4	Mukhya Mantri Majra					
5	Agriculture Pump					
6	R-APDRP Part B					
CSPDCL Party/fully funded scheme						
7	Integrated Power Development Scheme	55.08	236.48	71.64	197.50	138.38
						70.90
						-
8	Deen Dayal Upadhyaya Gram Jyoti	248.95	746.84	530.25	248.95	263.31
						50
						192.58
9	Sub Transmission and System Improvement	240.00	158.00	164.53	95.00	185.43
						87.00
						112.87
10	Loss Reduction Scheme	95.00	116.00	86.46	114.00	14.51
						42.00
						46.57
11	EITC Sap & IT Project					
Approved-Rs. 169.10 Crore, Actual Incurred-Rs. 153.63 Crore						
12	ND Scheme (Obligatory)	35.00	35.00	67.99	52.00	77.11
						60.00
						79.04
13	Civil Works	5.25	7.25	7.99	8.25	10.39
						10.25
						8.79
14	UDAY Yojna	50.00	100.00			
						-
						10.17
15	ND Scheme (Contributory)	150.00	150.00	191.44	150.00	196.34
						150.00
						157.11
						150.00
						161.02

In light of Hon'ble Commission observation its Order dated 26.03.2016 that ".....We renounce from scrutiny of the schemes and leave it to the utility to take up these schemes with the State Govt. We bring in to notice of CSPDCL that, any asset created under these schemes shall not qualify for consideration in GFA (to the extent it relates to regulatory accounts) and no consequential impact on the financial cost component shall lie in the tariff". Petitioner is not submitting actual achievement vis a vis approved estimation with regard to Government funded schemes.



**Table 2: Achievement against approved CIP for FY 22**

S No.	Scheme	Approved (Rs. in crs.)	Achievement (upto 30.09.2021) (Rs. in crs.)
1	School/ PHC Electrification	10	0.98
2	General Pumps	303.53	82.65
3	Mukhya Mantri Shahri Vikas	100	10.45
4	Mukhya Mantri Majra Tola	50	7.35
5	Integrated Power Development Scheme	25	20.96
6	Deen Dayal Upadhyaya Gram Jyoti	48	47.39
7	Sub Transmission and System Improvement	126.00	29.53
8	ND (Obligatory)	241.68	43.93
9	ND (Contributory)	150	23.80
10	Loss Reduction	Spill over Rs. 113.00 Crore to continue	33.84
11	UDAY (DT Metering)	50	2.29
12	EITC SAP & IT Project	56.49	
13	Civil Works	10.00	3.73

- 1.8 The Petitioner would like to submit that cumulative achievement during FY 17-FY 21 towards some of the CSPDCL partly/fully funded scheme such as ND (Obligatory) and ND (Contributory) have exceeded the approved limits. It is further to submit that the works put by the Petitioner under such schemes were necessary to supply electricity to consumers. Furthermore it can also be seen that due to administrative reasons and effect of COVID19 pandemic the actual achievement towards approved estimates in respect of FY 22 falls short. As the control Period has been extended by one year due to prevailing conditions of COVID-19, the Petitioner would like to request that surplus achievement during FY 17-FY 21 may be adjusted against the deficit of FY 22 for final settlement of capitalisation.
- 1.9 The schemes not included in the present petition are closed. However progress in terms of physical and financial in respect of all such schemes is included in present petition.
- 1.10 Lower achievement with respect to the approved target is attributable to delays in
- ✓ Receiving funding sanctions.
  - ✓ Operational challenges faced in executing some of these projects.
  - ✓ COVID-19

1.11 This Capital Investment Plan has been prepared with a 3 FYs horizon period from FY 23 to FY 25. CSPDCL is planning major investments to improve its service and reach. The key thrust areas identified for the current investment plan includes.

- a) Augmenting and strengthening the sub-transmission and distribution systems to achieve the load growth.
- b) Schemes focused on reducing the distribution loss;
- c) Increasing the quality and reliability of supply and services to consumers.





## 2. CAPITAL INVESTMENT PLAN

- 2.1 In the Capital Investment Plan prepared for the Control Period FY 23 to FY 25, CSPDCL has chalked out a detailed investment schedule. Different schemes have been identified to carry out the overall investment in the distribution segment of the power sector during the control period. Most of these schemes are long term in nature and would be funded by the government, financial institutions and by CSPDCL's own equity. A summary of the key schemes containing year wise investment and funding pattern is provided below:

**Table 3 Capital Investment Plan for the Control Period (FY 23 to FY 25) (Rs. Crore)**

Sr. No	Name of the Scheme	FY 23	FY 24	FY 25	Grand Total	% of Total
<b>A</b>	<b>Government Funded Schemes</b>	<b>5,629.02</b>	<b>2,380.52</b>	<b>2,146.66</b>	<b>10,156.20</b>	<b>85.54%</b>
1	Agriculture pumps Energization and RE works other than RGGVY	200.00	200.00	200.00	600.00	5.05%
2	Mukhya Mantri Shahri Vidyuti karan Yojana	50.00	50.00	50.00	150.00	1.26%
3	Mukhya Mantri Majra Tola Vidyutikaran	50.00	50.00	50.00	150.00	1.26%
4	Revamped Scheme	5,329.02	2,080.52	1,846.66	9,256.20	77.96%
<b>B</b>	<b>Partly or Fully CSPDCL Funded Schemes</b>	<b>411.80</b>	<b>434.92</b>	<b>419.68</b>	<b>1,266.40</b>	<b>10.67%</b>
1	ND Scheme (Obligatory)	120.00	120.00	120.00	360.00	3.03%
2	Sub transmission and system improvement	230.23	230.23	230.23	690.69	5.82%
3	EITC	38.55	38.75	32.15	109.45	0.92%
4	Civil	23.02	45.94	37.30	106.26	0.90%
<b>C</b>	<b>Fully Funded by Consumer Contribution</b>	<b>150.00</b>	<b>150.00</b>	<b>150.00</b>	<b>450.00</b>	<b>3.79%</b>
1	ND Scheme (Contributory)	150.00	150.00	150.00	450.00	3.79%
<b>D</b>	<b>TOTAL</b>	<b>6,190.82</b>	<b>2,965.44</b>	<b>2,716.34</b>	<b>11,872.60</b>	<b>100%</b>

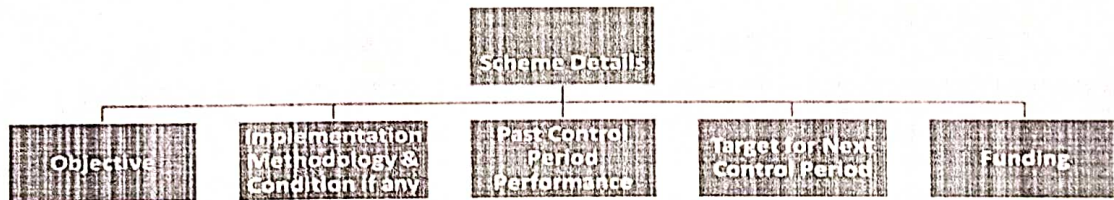
- 2.2 It is evident from the table above that the emphasis for forthcoming capital investment plan is focussed on improving and strengthening the existing distribution network with automation, smart metering and upgradation in consumer services including billing in urban as well as rural areas. Also it can be observed that significant outlay is planned towards a strong and upgraded IT system. This is aimed towards improving the data collection mechanism and also improving the online operational management.

2.3 CSPDCL is working towards organization level integration of internal and external information systems cutting across various divisions. Financing mix for the planned capital expenditure in terms of Govt. grant, consumer contribution, debt and equity of CSPDCL is shown in Table below:

**Table 4: Proposed structure of Capital Investment for partly or fully CSPDCL funded schemes for FY 23 to FY 25 (Rs. Crore)**

Particulars	FY 23	FY 24	FY 25	Grand Total	% of Total
Debt for Capex schemes, RDSS	792.08	387.49	326.93	1,506.50	12.69%
	233.44	251.94	239.74	725.12	6.11%
Consumer Contribution	150.00	150.00	150.00	450.00	3.79%
Equity	178.36	182.98	179.94	541.28	4.56%
Grant Central	4272.91	1563.88	1410.75	7247.54	61.04%
Grant State	564.03	429.16	408.98	1,402.17	11.81%
Total	6,190.82	2,965.45	2,716.33	11,872.60	100.00%

2.4 In backdrop of above scheme wise details are placed for kind consideration of Hon'ble Commission in subsequent chapters as given below.





**(A) GOVERNMENT FUNDED SCHEMES IN THE CONTROL PERIOD FY 23 TO FY 25**

**1 Agriculture Pump Energization and RE works other than RGGVY**

**Scheme Objective:**

- 1.1 The Chhattisgarh State government has identified this scheme for energization of agricultural pumps. The scheme would be completely funded by the State Government. To increase the irrigation facility to farmers of the state, State Govt. is providing financial assistance for the cost of extension of line & installation of transformer for energization of Agriculture Pump to CSPDCL. To provide quality supply to farmers, it has been decided to provide pump connection with HVDS.

**Performance in 3<sup>rd</sup> Control Period FY 17 to FY 22**

- 1.2 In the control period FY 17 to FY 21, the approved CIP estimation under this scheme was Rs. 925 Cr against which actual expenditure of Rs. 639.54 Cr. is achieved which is within limits. CSPDCL want to stress on the fact the actual work under this scheme is done after receipt of grant. In the FY 22, Hon'ble Commission approved CIP under this scheme was Rs. 303.53 Cr against which as expenditure of Rs. 82.65 Cr. is achieved which is within limits. The details of performance in terms of finance and physical in respect of FY 17-FY 22 upto (Sep 2021) is given in below tables:

**Table 5 Financial Performance - Pump Electrification (Rs. Cr.)**

Particular	Approved for 3 <sup>rd</sup> Control Period	Expenditure Till 31.03.2021	Approved for FY 2021-22	Expenditure Till 30.09.2021
Agricultural pump Electrification	925	639.54	303.53	82.65

**Table 6: Year wise Physical Performance with Pump Electrification and Finance (FY 17-FY 21)**

S. No	PARTICULARS	2016-17		2017-18		2018-19		2019-20		2020-21	
		PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)
1	11 K.V. Line (K.m.)	358		806		1192		1088		475	
2	Distribution X-mer										
	New (Nos)	1366		2793		3871		3394		1425	
3	L.T.Line K.m.	532		1775		3331		3544		1468	
	<b>Total</b>		142		127		146		116		108





**Table 7: Year wise Physical Performance with Pump Electrification and Finance (FY 22)**

S. No	PARTICULARS	FY 22	
		PHY (No.)	FIN. (Rs. Crore)
1	11 K.V. Line (K.m.)	571.71	
2	Distribution X-mer		
	New (Nos)	2060	
3	L.T.Line K.m.	2437.93	
	<b>Total</b>		<b>82.65</b>

**Target for the Control Period FY 23 to FY 25:**

- 1.3 CSPDCL would like to submit that based on the budget provision made by the State Government in the Control Period FY 23 to FY 25 it has estimated an investment of approximately Rs.600 Crore during the entire control period. The estimation is towards extension of 11 kV network and installation of distribution transformers along with laying new LT lines for pump energization and rural electrification. The Petitioner would like to submit that the State govt. allows an average expenditure of Rs. 100000 per pump and the same is considered to project the YoY financial target under this scheme.

**Funding requirement**

- 1.4 A total of Rs 600 Crores is envisaged to be spent over the aforementioned three year period. The year wise physical targets and the funding requirement is provided in the table below:

**Table 8: Capital expenditure towards agricultural pump energisation during FY 23- FY 25 (Rs. Crores)**

S. No	PARTICULARS	FY 23		FY 24		FY 25		Total	
		PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)
1	11 K.V. Line (K.m.)	500	75.00	500	75.00	500	75.00	1500	225.00
2	Distribution X-mer								
	New (Nos)	600	17.00	600	17.00	600	17.00	1800	51.00
3	L.T.Line K.m.	1500	108.00	1500	108.00	1500	108.00	4500	324.00
	<b>Total</b>		<b>200.00</b>		<b>200.00</b>		<b>200.00</b>		<b>600.00</b>

**Table 9- Funding arrangement for Agriculture Pump Energization FY 23 to FY 25 (Rs. Crore)**

S No	Particulars	Financing Mix	FY 23	FY 24	FY 25
1	Total Capital Expenditure	100%	200	200	200
A	Government Grant	100%	200	200	200



S No	Particulars	Financing Mix	FY 23	FY 24	FY 25
B	To be Funded by CSPDCL	0%	0.00	0.00	0.00

1.5 **PRAYER:** The Petitioner humbly requests Hon'ble Commission to approve the projected capital expenditure in Table 10 above for the Control period (FY 2022-23 to FY 2024-25)

## 2 Mukhya Mantri Shahri Vidyutikaran Yojna

### Scheme Objective

2.1 RGGVY is applicable in rural area where electrification work is under progress whereas R-APDRP scheme has been sanctioned for towns having population more than 30000 with financial aid from Central Govt. Even after implementing above two schemes, some portion of town area will still be left un-electrified and BPL people of this area may be deprived from electricity facility. The Chhattisgarh government has identified a new scheme named Mukhya Mantri Shahri Vidyutikaran Yojana (MSVY) to keep up with the increasing power requirement from the urban centers in the state. The scheme aims to achieve the following objectives:

- (1.) Cover the un-electrified urban population (including BPL)
- (2.) Strengthen and upgrade the urban distribution system
- (3.) Appropriation and relocation of the distribution network

2.2 This scheme also covers shifting of electric lines & equipment's for safety point of view, besides replacement of bare conductor by AB Cables & underground cabling etc. All 13 Municipal Corporations of the state have been covered in the scheme. The funds for this scheme is provided through budgetary support from Energy Department - Government of Chhattisgarh.

### Performance in the 3<sup>rd</sup> Control Period - FY 17 to FY 22:

2.3 The expenditure under this scheme in 3<sup>rd</sup> control period (FY 2016-17 to FY 2020-21) has been Rs. 137.95 Cr against the approved CIP of Rs. 500 Cr. CSPDCL submits that though the funds have been available in ample amount from the government the physical work under this scheme is taken only after the approval of committee headed by district collector. For FY 2021-22 as on 30.09.2021, the actual expenditure under this scheme has been Rs. 10.45 Cr against the approved CIP of Rs. 100 Cr. The details of performance in terms of finance and physical in respect of FY 17-FY 22 upto (Sep 2021) is given in below tables:

**Table 10 Financial Performance under MMSVY (Rs. Crore)**

Particular	Approved for 3 <sup>rd</sup> Control Period	Expenditure Till 31.03.2021	Approved for FY 22	Expenditure Till 30.09.2021
MMSVY	500	137.95	100	10.45

**Table 11 Physical Performance Under MMSVY for the Control Period (FY 17-FY 21)**

S. No	PARTICULARS	FY 17		FY 18		FY 19		FY 20		FY 21	
		PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)
1	BPL Connection	170		219		628		16		25	
2	Extension of New line/Sub-station										
i	11 KV line (in KM)	36		16		41		48		102	
ii	LT line on AB Cable (In KM) + Conductor	261		155		294		170		111	
iii	Distribution X-Mer (in No.)	108		97		102		138		125	
3	Shifting of line/Sub-station										
i.	33 KV line (in Km)	6		7		14		14		1	
ii	11 KV line (in KM)	19		11		3		9		0.00	
iii	LT Line (in Km)	25		15		11		19		3	
iv	Distribution X-Mer (in No.)	29		48		32		41		3	
4	Conversion of Overhead line to AB Cable (KM)	54		31		23		48		3	
5	Augmentation of Conductor (KM)	41		49		32		18		10	
<b>Total</b>			27		32		27		27		26

**Table 12: Physical and Financial Performance under MMSVY for the FY 22**

S. No	PARTICULARS	FY 22	
		PHY (No)	FIN. (Rs. Crore)
1	BPL Connection		0
2	Extension of New line/Sub-station		
i	11 KV line (in KM)		6.71
ii	LT line on AB Cable (In KM) + Conductor		19.47
iii	Distribution X-Mer (in No.)		18
3	Shifting of line/Sub-station		
i.	33 KV line (in Km)		2.69
ii	11 KV line (in KM)		0
iii	LT Line (in Km)		0
iv	Distribution X-Mer (in No.)		0
4	Conversion of Overhead line to AB Cable (KM)		1.17
5	Augmentation of Conductor (KM)		0
<b>Total</b>			<b>10.45</b>



**Target for the Control Period (FY 23 to FY 25)**

- 2.4 CSPDCL has set a target of Rs. 150 Cr. to be spent on MSVY during the entire control Period from FY 23-FY 25 i.e. 50 Crore is proposed for each year of control period as given in the Table below:

**Table 13-Capital Structure MMSVY for the Control Period (FY 23 to FY 25) (Rs. Crore)**

S. No	PARTICULARS	FY 23		FY 24		FY 25		Total	
		PHY	FIN.	PHY	FIN.	PHY	FIN.	PHY	FIN.
1	BPL Connection	1000	0.40	1000	0.40	1000	0.40	3000	1.20
2	Extension of New line/Sub-station								
	i. 11 KV line (in KM)	50	6.50	50	6.50	50	6.50	150	19.50
	ii. LT line on AB Cable (In KM)	50	31.40	50	31.40	50	31.40	150	94.20
	iii. Distribution X-Mer (in No.)	100	4.00	100	4.00	100	4.00	300	12.00
3	Shifting of line/Sub-station		0.00		0.00		0.00	0	0.00
	i. 33 KV line (in Km)	50	4.00	50	4.00	50	4.00	150	12.00
	ii. 11 KV line (in KM)	50	0.20	50	0.20	50	0.20	150	0.60
	iii. LT Line (in Km)	50	0.25	50	0.25	50	0.25	150	0.75
	iv. Distribution X-Mer (in No.)	50	1.50	50	1.50	50	1.50	150	4.50
4	Conversion of Overhead line to AB Cable (KM)	20	1.25	20	1.25	20	1.25	60	3.75
5	Augmentation of Conductor (KM)	25	0.50	25	0.50	25	0.50	75	1.50
	<b>Total</b>		<b>50.00</b>		<b>50.00</b>		<b>50.00</b>		<b>150.00</b>

**Funding requirement:**

- 2.5 The scheme is 100% financed by the state government. The financing details of planned investment are as follows:

**Table 14: Financing arrangement for MMSVY (Rs. Crores)**

S. No	Particulars	Financing Mix	FY 23	FY 24	FY 25
1	Total Capital Expenditure	100%	50	50	50
A	State Government	100%	50	50	50
B	To be funded by CSPDCL	0%	0.00	0.00	0.00

- 2.6 **PRAYER:** The Petitioner humbly requests Hon'ble Commission to approve the projection of capital expenditure for the Control Period (FY 2022-23 to FY 2024-25) as shown above.



## Other Schemes

### 3 Mukhya Mantri Majra Tola Viduyutikaran

- 3.1 All such un-electrified villages / Majra-Tolas covered in Sansad Aadarsh Gram Yojana (SAGY), Vidhayak Aadarsh Gram Yojana (VAGY), VVIP references and those which are not covered in any of the ongoing schemes like Deendayal Upadhyay Gram Jyoti Yojana, are covered. In this scheme in control period (FY 17 to FY 21) the total investment approved was Rs. 250 Cr, however, the actual expenditure under this scheme has been noticeably higher i.e. Rs 469.67 Cr. The Government of Chhattisgarh has made provision of additional Rs. 300 Cr through private placement of bonds for electrification of habitats which are not covered under any other scheme of GoI. Further the Hon'ble Commission vide its Order dated 30.10.2021 approved investment of Rs. 50 Cr for which the actual expenditure as on 30.09.2021 is Rs. 7.35 Crore. This scheme is as good as deposit scheme, the work under the scheme is carried out only after the budget is received by CSPDCL. Since this is a government backed scheme backed with financial assistance in the form of govt. grant therefore there is no detrimental impact on the financials of CSPDCL.
- 3.2 CSPDCL would like to submit that though the expenditure has crossed the approved limit of CIP, but it is well within the budget provided by GoCG.

**Table 15 Financial Performance under MMTVY (Rs. Crore)**

Particular	Approved for 3 <sup>rd</sup> Control Period	Expenditure Till 31.03.2021	Approved for FY 2021:22	Expenditure Till 30.09.2021
MMMTVY	250.00	469.67	50.00	7.35

**Table 16: Physical Performance under MMTVY for the Control period (FY 17-FY 21)**

S. No	PARTICULARS	FY 17		FY 18		FY 19		FY 20		FY 21	
		PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)
1	11 K.V. Line (K.m.)	95		937		762		379		175	
2	Distribution X-mer (No.)	188		1655		992		426		132	
3	L.T.Line K.m.	543		2242		2802		1710		325	
	Total		54		121		132		115		49

**Table 17: Physical Performance under MMTVY for FY 22**

S. No	PARTICULARS	FY 22	
		PHY (No.)	FIN. (Rs. Crore)
1	11 K.V. Line (K.m.)	95	
2	Distribution X-mer (No.)	188	



S N o	PARTICULARS	FY 22	
		PHY (No.)	FIN. (Rs. Crore)
3	L.T.Line Km.	543	
Total			7.35

- Target for the Control Period (FY 23 to FY 25)
- 3.3 CSPDCL has set a target of Rs. 150 Cr. on the Control Period (FY 23 to FY 25). CSPDCL submits that this is based on the tentative budget of GoCG for the Control Period given in table below:

Table 18 Capital expenditure towards MMTVY for the Control Period (FY 2022-23 to FY 2024-25)

S No	PARTICULARS	FY 23		FY 24		FY 25		Total	
		PHY	FIN.	PHY	FIN.	PHY	FIN.	PHY	FIN.
1	11 KV. Line (K.m.)	250	27	250	27	250	27	750	81
2	Distribution X-mer (Nos)	200	8	200	8	200	8	600	24
3	L.T.Line Km.	300	15	300	15	300	15	900	45
Total			50		50		50		150

#### Financing Requirement

- 3.4 The scheme is 100% financed by the State government. The financing details of planned investment are as follows:

Table 19: Financing arrangement for MMTVY (Rs. Crore)

SNo	Particulars	Financing Mix	FY 23	FY 24	FY 25
1	Total Capital Expenditure	100%	50.00	50.00	50.00
a	Government Grant	100%	50.00	50.00	50.00
b	To be Funded by CSPDCL	0%	0.00	0.00	0.00

- 3.5 PRAYER: Petitioner humbly requests Hon'ble Commission to approve the projection of capital expenditure for the Control Period (FY 2022-23 to FY 2024-25). It is further submitted that the expenditure under this scheme did not cause any detriment towards consumer tariff as it is funded by State Govt.

## 4 Investment Plan for Revamped Distribution Sector Scheme

### Scheme Objective:

- 4.1 Ministry of Power vide its Office Memorandum No. F. No. 20/9/2019-IPDS dated July 20, 2021 approved "Revamped Distribution Sector Scheme: A Reforms-Based and Results-Linked Scheme". The main objectives of the scheme are:

- I. Reduction of AT&C losses to pan-India levels of 12-15% by 2024-25.
- II. Reduction of ACS-ARR gap to zero by 2024-25.



- III. Developing Institutional Capabilities for Modern DISCOMs  
 IV. Improvement in the quality, reliability, and affordability of power supply to consumers through a financially sustainable and operationally efficient Distribution Sector.

4.2 The detail guidelines of the scheme provides that:

**Part A - Metering & Distribution Infrastructure Works:**

- Facilitating in installing prepaid smart meters for all consumers along with associated AMI, communicable meters for DTs & Feeders, ICT including Artificial Intelligence (AI), Machine Learning (ML), etc. based solutions for power Sector and a unified billing and collection system;
- Distribution infrastructure works as required for strengthening and modernizing the system as well as measures for loss reduction. The infrastructure strengthening works will include separation of Agriculture feeders to enable implementation of the KUSUM scheme, Aerial Bunch cables and HVDS for loss reduction, replacement of HT/LT lines as required, construction of new/ upgradation of substations, SCADA and DMS system etc. Each DISCOM/ State will draw up the scheme according to its requirement with the end objective of reducing losses and ensuring 24 x 7 supply.

**Part B - Training & Capacity Building and other Enabling & Supporting Activities:** Supporting and enabling components, such as Nodal Agency fee, enabling components of MoP (communication plan, publicity, consumer awareness, consumer survey and other associated measures such as thirdparty evaluation etc.), up-gradation of Smart Grid Knowledge Centre, training and capacity building, awards and recognitions etc.

4.3 The scheme requires approval of the action plan from the State Cabinet and submission it to the nodal agency.

4.4 CSPDCL submits that its has envisaged Rs. 9256.20 Crore for the Control Period (FY 2022-23 to FY 2024-25). The details of the capex requirement for the Control Period (FY 2022-23 to FY 2024-25) is shown in the Table below:

**Table 20: Details of proposed capital expenditure under Revamped scheme for the Control period (FY 2022-23 to FY 2024-25) (Rs. Crore)**

S. NO.	FY	PARTICULARS	DT & FDR METERING	CONSUMER METERING	LOSS REDUCTION	MODERNISATION	TOTAL
1	23	CENTRAL	15.06	388.25	893.36	690.80	1987.48
		STATE	0.00	0.00	148.89	115.13	264.03
		CSPDCL (debt)	0.00	0.00	446.68	345.40	792.08
		AGENCY	85.34	2200.09	0.00	0.00	2285.43
		<b>TOTAL</b>	<b>100.40</b>	<b>2588.34</b>	<b>1488.94</b>	<b>1151.34</b>	<b>5329.02</b>
2	24	CENTRAL	15.46	102.87	408.23	366.75	893.31
		STATE	0.00	0.00	68.04	61.12	129.16
		CSPDCL (debt)	0.00	0.00	204.11	183.37	387.49
		AGENCY	87.62	582.94	0.00	0.00	670.56
		<b>TOTAL</b>	<b>103.08</b>	<b>685.81</b>	<b>680.38</b>	<b>611.25</b>	<b>2080.53</b>



S. NO.	FY	PARTICULARS	DT & FDR, METERING	CONSUMER METERING	LOSS REDUCTION	MODERNISATION	TOTAL
3	25	CENTRAL	10.65	102.88	377.55	276.30	767.39
		STATE	0.00	0.00	62.93	46.05	108.98
		CSPDCL (debt)	0.00	0.00	188.78	138.15	326.93
		AGENCY	60.36	583.01	0.00	0.00	643.37
		<b>TOTAL</b>	<b>71.01</b>	<b>685.90</b>	<b>629.26</b>	<b>460.49</b>	<b>1846.65</b>
<b>G. TOTAL</b>		CENTRAL	41.17	594.01	1679.15	1333.85	3648.18
		STATE	0.00	0.00	279.86	222.31	502.17
		CSPDCL (debt)	0.00	0.00	839.57	666.92	1506.50
		AGENCY	233.32	3366.04	0.00	0.00	3599.36
		<b>TOTAL</b>	<b>274.49</b>	<b>3960.05</b>	<b>2798.58</b>	<b>2223.08</b>	<b>9256.20</b>

4.5 The investments planned under RDSS scheme mainly focus on metering at consumer premises and distribution transformer/feeders. Further a substantial portion of investments under the scheme also aims to reduce the AT&C losses and modernisation of distribution system and consumer services including billing. It can be seen that the scheme prepared by CSPDCL carries investments in the ratio of 2.97% jointly for DT & Feeder metering, 42.78% for consumer metering, 30.23% for loss reduction and 24.02% for modernisation of distribution network and consumer services including billing.

4.6 CSPDCL submits that Capital expenditure from Revamped scheme is still in the draft phase and has been not approved from the State Government.

4.7 CSPDCL humbly requests the Hon'ble Commission to accord in principle approval to the investments of Rs. 9256.20 Crore with funding pattern stated in aforesaid table so that the Petitioner would be facilitated to proceed with the scheme subject to approval of State Government. However, the Petitioner undertakes that actual implementation of the scheme will begin after formal intimation to Hon'ble Commission.

**(B) CSPDCL (PARTLY OR FULLY) FUNDED SCHEMES IN THE CONTROL PERIOD FROM FY 23 TO FY 25:**

**1 Sub Transmission and System Improvement Scheme (ST&SI)  
Scheme Objective**

1.1 Addition of new substations is required to cater to the increasing demand in the State and this is also needed to ensure quality of supply. Sub transmission and system improvement scheme focuses on strengthening the distribution system, to cater to the growing demand in the distribution system and improvement in supply reliability. Any kind of up-gradation in the system and extension of sub-transmission lines to meet the demand of existing consumers come under this scheme.

**Performance in Control Period (FY 17 to FY 21)**

1.2 Under this scheme in the current control period the expenditure made has been within the limit of approved CIP. The approved CIP during the Control period (FY 17 to FY 21) was Rs. 660 Cr. whereas the actual expenditure made has been Rs. 603.57 Cr. Further for FY 22, CSPDCL submits that it has incurred Rs. 29.53 Crore. However, Petitioner would like to clarify that many works under this scheme are under progress and actual status of completed works under these schemes can be furnished at the end of control period FY 22.

**Table 21 Financial Performance Against ST & SI in FY 17-FY 22 (Rs. Cr.)**

Particular	Approved for 3 <sup>rd</sup> Control Period	Expenditure Till 31.03.2021	Approved for FY 2021-22	Expenditure Till 30.09.2021
Sub Transmission and System Improvement	660	603.57	126.00	29.53

**Table 22: Physical Performance Against ST & SI in 3rd Control Period (Qty.)**

S. No	PARTICULARS	FY 17		FY 18		FY 19		FY 20		FY 21	
		PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)
1	New 33/11 kV S/s	10		89		85		19		5	
2	Aug of 33/11 kV S/s	29		38		60		29		14	
3	Addl. Power Transformer in 33/11 kV S/s	29		44		32		33		6	
4	33 kV Line (Km)	141		584		1262		533		74	
5	11 kV Line (Km)	48.94		462		544		294		34	
<b>Total</b>			<b>73</b>		<b>165</b>		<b>185</b>		<b>113</b>		<b>68</b>



S. No	PARTICULARS	FY 22	
		PHY (No.)	FIN. (Rs. Crore)
1	11 K.V. Line (K.m.)	95	
2	33/11 KV S/s	188	
	i) New	3	
	ii) Additional	25	
	iii) Augmentation	10	
3	11 kV Line (K.M)	18.50	
4	Other Works		
<b>Total</b>			<b>29.53</b>

#### Target for FY 23 to FY 25

- 1.3 The scheme envisages addition of new 33/11 KV substation, augmentation of power transformer and addition of new transformer in existing substation along with extension of 33 KV and 11 KV network along with other miscellaneous work incidental to meet the demand/requirement of quality supply to existing consumers across the state. During the control Period for FY 23 to FY 25, CSPDCL plans to set up a total of 85 new substations which includes additional 58 power transformers and augmentation of 38 transformers.

#### Funding requirement

- 1.4 CSPDCL plans to invest a total of Rs 690.61 Crores towards the ST&SI program during FY 23 - FY 25. The year wise physical targets and funding requirement are provided in the tables below:

**Table 23: Capital expenditure towards ST&SI scheme in the control period FY 23 to FY 25**

S. No	PARTICULARS	FY 23		FY 24		FY 25		Total	
		PH Y	FIN.	PH Y	FIN.	PH Y	FIN.	PH Y	FIN.
1	33K.V. Line (K.m.)	550	88.00	550	88.00	604	98.52	1704	274.52
2	33/11KV S/s								
	i) New	28	25.20	28	25.20	29	26.10	85	76.50
	ii) Additional	19	13.68	19	13.68	20	14.40	58	41.76
	iii) Augmentation	12	3.82	12	3.82	14	4.46	38	12.11
3	11KV Line (K.m.)	364	54.60	330	49.50	400	60.00	1094	164.10
4	Other works		44.90		50.00		26.72	0	121.62
<b>Total</b>			<b>230.20</b>		<b>230.20</b>		<b>230.20</b>		<b>690.61</b>

**Table 24: Funding arrangement for the ST&SI scheme for FY 23 to FY 25 (Rs. Crore)**

S No	Particulars	Financing Mix	FY 23	FY 24	FY 25
1	Total Capital Expenditure	100%	230.20	230.20	230.20
a	Loans Other	80%	184.16	184.16	184.16
b	CSPDCL Equity	20%	46.04	46.04	46.04

- 1.5 **PRAYER:** Petitioner humbly requests Hon'ble Commission to approve the projection of Capital Expenditure for the Control Period (FY 23 to FY 25) with funding pattern as shown above.

## 2 Normal Development scheme Scheme Objective

- 2.1 The Normal development scheme predominantly covers the work required for extending the power supply to the consumers i.e. releasing of connections. The scheme also encompasses some quality improvement initiatives such as distribution system strengthening, installation of distribution transformers and capacitors to provide quality, security and availability of power supply to the consumers. Further, Normal Development Scheme is divided into two sub categories:
- **Normal Development Scheme (Obligatory)** - As per supply code clause 4.2, a licensee shall bear the cost for strengthening / up gradation of the system for quality supply to the existing consumers which shall be recovered from the consumers through tariff. It covers the work required for extending the power supply to the consumers i.e. releasing of connections. The scheme also encompasses some quality improvement initiatives such as distribution system strengthening up to 11 KV, installation of distribution transformers etc. to provide quality, and reliable power supply to the existing consumers. The licensee is also required to install meter and metering equipment's, to consumer's premises at the time of serving of new connection.

### Performance During 3<sup>rd</sup> Control Period FY 17-FY 22

- 2.2 CSPDCL submits that Hon'ble Commission in its Order dtd. 28.11.2017 in petition No. 6 of 2017 has approved Rs. 250.00 crore for MYT control period FY 17- FY 21 against Petitioner's proposal of Rs. 450.00 crore with a condition that licensee may approach Commission at a later stage if it needs additional fund under this scheme. The relevant extracts of para 11-III of order is reproduced below: -

*"Commission's view:*

*-----It is observed that the amount already sanctioned (Rs.250.00 crores) by the Commission for the control period appears to be sufficient for the works and as such the proposal for approval of balance amount is hereby turned down.*



*However, if it is found at a later stage that the licensee needs additional fund under this scheme, they may approach the Commission again with full justification."*

2.3 Petitioner would like to submit that actual expenses under this scheme for the control period FY 17-FY 21 is Rs.359.44 Crore, which shows that actual expenditure has exceeded the approved limits at large extent. CSPDCL would like to submit that these expenses are made to procure meter and metering equipments required to give electricity connections to consumers.

2.4 CSPDCL submits that the Hon'ble Commission vide its Order dated 30.10.2021 approved Rs. 241.68 Crore for FY 22. CSPDCL as on 30.09.2021 has incurred Rs. 43.93 Crore upto 30.09.2021.

**Table 25. ND: Past Performance versus target for the control Period FY 17-FY 22(Rs. Cr.)**

S. No.	Particular	Approved for FY 17-FY 21	Actual (FY 17-FY 21)	Approved for FY 2021-22	Expenditure Till 30.09.2021
1	Normal development scheme	250	359.44	241.68	43.93

**Table 26: Past Performance of ND (Obligatory) Scheme for the FY 17-FY 21**

S. No.	PARTICULARS	2016-17		2017-18		2018-19		2019-20		2020-21	
		PHY (No.)	FIN (Rs. Crore)	PHY (No.)	FIN (Rs. Crore)	PHY (No.)	FIN (Rs. Crore)	PHY (No.)	FIN (Rs. Crore)	PHY (No.)	FIN (Rs. Crore)
1	33K.V. Line (K.m.)	4		3		7		3		34	
2	33/11KV S/s New										
	ii) Additional										
	iii) Augmentation										
3	11KV Line (K.m.)	198		185		176		132		219	
4	L.T.Line K.m.	558		568		1008		1066		261	
5	Distribution X-mer										
	i. New (Nos)	343		296		449		503		425	
	ii.Aug. (Nos.)	445		210		210		271		17	
6	Service Connection										
	I Single Phase (Nos.)	1903		1381		7329		7880		9771	
	ii Three phase (Nos)	45		84		2		0		5	
	iii H.T. Connection (Nos.)	2356		2000		2029		1984		2238	
		1		3		9		9		1	
		159		222		180		220		167	
7	Other works										
	<b>Total</b>		83		68		77		79		53

**Table 27: Physical Performance of ND (Obligatory) Scheme for the FY 22**

S. No	PARTICULARS	FY 22	
		PHY (No.)	FIN. (Rs. Crore)
1	33K.V. Line (K.m.)	4.31	13.93
2	33/11KV S/s New		
	ii) Additional		
	iii) Augmentation		
3	11KV Line (K.m.)	148.25	
4	L.T. Line K.m.	146.20	
5	Distribution X-mer		
	i. New (Nos)	787	
	ii. Aug. (Nos.)	86	
6	Service Connection		
	I Single Phase (Nos.)	33009	
	ii Three phase (Nos)	6887	
	iii H.T. Connection (Nos.)	72	
7	Other works		
8	Expenditure towards Extn./Aug of dist system subsequent to CSERC order 19.04.2018 in Suo-Motu Petition 54/2017.		30
9	Providing safe passage to wildlife animals specially Elephant by height raising of electricity poles		0
<b>Total</b>			<b>43.93</b>

**Target for the Control Period (FY 23 to FY 25)**

2.5 In the control period starting from FY 23 to FY 25, CSPDCL proposes expenditure to meet new connections and targets to spend around Rs 360 Crore towards the ND (Obligatory) scheme during the Control period i.e. from FY 23 to FY 25. The year-wise investment details are provided in the table below:

**Table 28: Capital Expenditure towards ND scheme during the Control Period (FY 23-FY 25) (Rs. Crore)**

S. No.	PARTICULARS	FY 23		FY 24		FY 25		Total	
		PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)
1	33K.V. Line (K.m.)	35	4.20	35	4.55	35	4.55	105	13.30
2	33/11KV S/s New	0	0.00	0	0.00	0	0.00	0	0.00
	ii) Additional	0	0.00	0	0.00	0	0.00	0	0.00
	iii) Augmentation	0	0.00	0	0.00	0	0.00	0	0.00
3	11KV Line (K.m.)	150	15.50	150	15.50	150	15.50	450	46.50
4	L.T.Line K.m.	250	6.00	250	6.00	250	6.00	750	18.00
5	Distribution X-mer								



S. No.	PARTICULARS	FY 23		FY 24		FY 25		Total	
		PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)
	i. New (Nos)	250	10.00	250	10.00	250	10.00	750	30.00
	ii. Aug. (Nos.)	500	13.00	500	13.00	500	13.00	1500	39.00
6	Service Connection								
	I Single Phase (Nos.)	90000	28.01	90000	28.01	90000	28.01	270000	84.04
	ii Three phase (Nos)	20000	12.11	20000	12.11	20000	12.11	60000	36.34
	iii H.T. Connection (Nos.)	200	0.06	200	0.06	200	0.06	600	0.18
7	Other works including difference of cost for given new connections		31.11		30.76		30.76	0	92.63
	<b>Total</b>		<b>120</b>		<b>120</b>		<b>120</b>		<b>360</b>

### Funding Requirement

2.6 Of the total proposed investment towards normal development work during FY 23 – FY 25, CSPDCL proposes to fund through its own equity. Year-wise financing pattern is provided below: -

**Table 29 Funding Structure ND obligatory for the Control Period (FY 23-FY 25)  
(Rs. Crore)**

S No	Particulars	Financing Mix	Expenditure in Cr. (FY 23)	Expenditure in Cr. (FY 24)	Expenditure in Cr. (FY 25)
1	Total Capital Expenditure	100%	120	120	120
2	Loans Other	0%	0	0	0
3	CSPDCL Equity	100%	120	120	120

2.7 **Prayer:** In light of the above Hon'ble Commission is requested to kindly approve the projection of Rs. 360 Crore for the Control Period (FY 2022-23 to FY 2024-25) funding pattern as stated above.

### 3 ND Contributory Scheme Objective

3.1 All extension works required for serving new connections, shifting of lines on consumers application etc. is carried out under this scheme. Entire cost of work under this scheme is fully deposited by applicants. The Petitioner has also considered the directions given by the Hon'ble Commission with regard to accounting capital expenditure towards supply affording charges from consumers



for giving new connections/augmentation of existing connection in pursuance to Order dated 19/04/2018 in Petition No. 54/2017.

**Performance for the control period FY 17-FY 22**

- 3.2 In this scheme in current control period expenditure have been made within the limit. The total approved CIP for 3<sup>rd</sup> control period is Rs. 750 Cr and expenditure made is Rs. 807.12 Cr. Hon'ble Commission vide its Order dated 30.10.2021 approved Rs. 150.00 Crore. CSPDCL submits that it has actual incurred (as on 30.09.2021) Rs. 23.80 Crore. Petitioner would like to submit that actual expenses under this scheme for the control period FY 17-FY 21 has exceeded the approved limits. CSPDCL would like to submit that these expenses were necessary for supply of electricity to consumers. The financial and physical progress is given in the table below: -

**Table 30 Actual expenditure in Cr. under ND contributory Scheme for FY 17-FY 22 (Rs. Crore)**

Particular	Approved for 3 <sup>rd</sup> Control Period	Expenditure Till 31.03.2021	Approved for FY 2021-22	Expenditure Till 30.09.2021
ND Contributory	750	807.12	150	23.80

**Table 31 Physical Achievement ND (Contributory) for the Control Period (FY 17-FY 21)**

S. No	PARTICULARS	FY-17		FY-18		FY-19		FY-20		FY-21	
		PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)	PHY (No)	FIN. (Rs. Crore)
1	33KV. Line (K.m.)	115		117		117		71		54	
2	33/11KV S/s New	1		4		4		3		2	
	ii) Additional										
	iii) Augmentation										
3	11KV Line (K.m.)	330		477		598		664		219	
4	L.T.Line K.m.	493		1071		1298		1332		290	
	Distribution X-mer										
5	i. New (Nos)	2095		2208		2851		2430		2730	
	ii. Aug. (Nos.)	158		114		111		122		326	
	Service Connection										
	i Single Phase (Nos.)										
6	ii Three phase (Nos)										
	iii H.T. Connection (Nos.)										
	iv. St Light Points (Nos)	718		424				1081		514	
7	Other works										
	<b>Total</b>		<b>101</b>		<b>191</b>		<b>196</b>		<b>157</b>		<b>161.02</b>



**Table 32: Physical Achievement ND (Contributory) for the FY 22**

S. No	PARTICULARS	FY 22	
		PHY (No.)	FIN. (Rs. Crore)
1	33K.V. Line (K.m.)	4.27	
2	33/11KV S/s New	4	
	ii) Additional		
	iii) Augmentation		
3	11KV Line (K.m.)	47.25	
4	L.T.Line K.m.	77.35	
	Distribution X-mer		
5	i. New (Nos)	140	
	ii. Aug. (Nos.)	2	
	Service Connection		
	I Single Phase (Nos.)		
6	ii Three phase (Nos)		
	iii H.T. Connection (Nos.)		
	iv. St Light Points (Nos)	96	
7	Other works		
	<b>Total</b>		<b>23.80</b>

3.3 **Target for the FY 23 to FY 25:** CSPDCL submits that it has envisaged an expenditure of Rs. 150 Cr in each year of the Control Period (FY 23 to FY 25) as shown below:

**Table 33: Proposed Capital Expenditure towards ND(Contributory) Scheme for the Control Period (FY 23 to FY 25)**

S. No	PARTICULARS	FY 23		FY 24		FY 25		Total	
		PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)	PHY (No.)	FIN. (Rs. Crore)
1	33K.V. Line (K.m.)	100	12.00	100	12.00	100	12.00	300	36.00
2	33/11KV S/s (New)	12	9.12	12	9.12	12	9.12	36	27.36
	ii) Additional	6	4.08	6	4.08	6	4.08	18	12.24
	iii) Augmentation	5	1.60	5	1.60	5	1.60	15	4.80
3	11KV Line (K.m.)	400	40.00	400	40.00	400	40.00	1200	120.00
4	L.T.Line K.m.	450	22.50	450	22.50	450	22.50	1350	67.50
5	Distribution X-mer								
	i. New (Nos)	1100	42.30	1100	42.30	1100	42.30	3300	126.90
	ii.Aug. (Nos.)	200	6.00	200	6.00	200	6.00	600	18.00
	iv St. Light Point (Nos.)	4000	0.40	4000	0.40	4000	0.40	12000	1.20
7	Other works		12.00		12.00		12.00	0	36.00
	<b>Total</b>		<b>150.00</b>		<b>150.00</b>		<b>150.00</b>		<b>450.00</b>

3.4 **Funding Pattern** Entire cost of work under this scheme is fully deposited by applicants. The details are given in the Table below:



**Table 34: Proposed funding arrangement for the Control Period (FY 23 to FY 25)  
(Rs. Crore)**

S No	Particulars	Financing Mix	Expenditure in Cr. (FY 23)	Expenditure in Cr. (FY 24)	Expenditure in Cr. (FY 25)
1	Total Capital Expenditure	100%	150	150	150
2	Loans Other/ CSPDCL Equity	0%	0	0	0
3	Consumer Contribution	100%	50	50	50
4	<b>Total</b>		<b>150</b>	<b>150</b>	<b>150</b>

3.5 **PRAYER:** Petitioner humbly requests Hon'ble Commission to approve the projected capital expenditure for the Control Period (FY 23 to FY 25) with funding pattern as shown above.

#### 4 Investment Plan for Energy Info Tech Centre (EITC)

##### Performance in the Control Period FY 17-FY 22:

4.1 CSPDCL would like to submit that for FY 17- FY 21, it has incurred an expenditure of Rs. 115.10 Crore against approved CIP of Rs. 169.10 Crore. Further Hon'ble Commission vide its Order dated 30.10.2021 approved Rs. 56.49 Crore, however as on 30.09.2021, the actual amount incurred by CSPDCL for spill over works is Rs. 23.88 Crore and Rs. 0.04 Crore for new IT Works. The table below represents the performance with respect to EITC schemes.

**Table 35: Actual expenditure in Cr. under EITC Scheme for FY 17-FY 22 (Rs. Crore)**

Particular	Approved for 3 <sup>rd</sup> Control Period	Expenditure Till 31.03.2021	Approved for FY 2021-22	Expenditure Till 30.09.2021
EITC	169.10	153.63	56.49	0.04

**Table 36: EITC schemes implemented during FY 17-FY 22 including spill over for FY 22 (Rs. Crore)**

S. No.	Particular	Approved for 3 <sup>rd</sup> Control Period	Expenditure Till 31.03.2022
1	EITC Total	169.10	153.63
2	Sap project	36.90	14.77
3	IT Networking	37.00	23.31
4	Other IT project	51.50	85.76
5	Old spill over work	43.70	29.79



**Table 37: Details of new IT Works for FY 2021-22 (As on 30.09.2021) (Rs. Crore)**

S. No.	Particular	Approved for FY 22	Expenditure Till 30.09.2021
1	EITC Total	56.49	0.04

- 4.2 **Target for the Financial Year FY 23 to FY 25:** CSPDCL submits a proposal for investing new works of worth Rs. 109.45 Crore in Energy Info Tech Centre (EITC) for FY 2022-23 to FY 2024-25 which is other than spill over works amount into Rs. 76.39 Crores. The details of spill over works along with new works under following different heads is given in the table below:

**Table 38 Target for EITC Works FY 23 to FY 25 (Rs. in Cr.)**

S No	PARTICULARS	Proposed Expenditure for			
		FY23	FY24	FY25	TOTAL
<b>A</b>	<b>Old Spillover Works</b>				
1	DRC of SRM (All CS Power Companies)	-	-	-	4.00
2	IT Works under IPDS funded by MOP:GOI	-	-	-	11.00
3	Spot Billing	-	-	-	0.83
4	Other IT Projects & Miscellaneous	-	-	-	6.00
5	Technical/Functional Upgradation of SAP	-	-	-	10.70
6	RAPDRP Hardware & Software Refresh/Upgrade in CSPDCL	-	-	-	25.06
7	SAN Storage Upgrade/Refresh including SAN Switch in N11 Landscape	-	-	-	3.00
8	Backup & Replication Upgrade in N11 Landscape	-	-	-	1.50
9	Hardware for ESS/MSS implementation in other Power Companies	-	-	-	6.00
10	Servers up-gradation for GIS	-	-	-	1.00
11	Amalgamations of all discrete MDAS System in CSPDCL	-	-	-	3.00
12	UPS & Electrical System Upgradation	-	-	-	1.80
13	Precision ACs Refresh	-	-	-	2.50
	<b>TOTAL-A</b>	-	-	-	<b>76.39</b>
<b>B</b>	<b>New IT Works</b>				
1	SAP Licenses	3.00	2.00	1.00	6.00
2	Mobile Apps	0.50	0.00	0.00	0.50
3	Purchase and installation of Scanners for CSPC Offices and CCTV, Computers, IP Phones, Furniture & ACs for Centralised	2.00	0.00	0.00	2.00

S No	PARTICULARS	Proposed Expenditure for			
		FY 23	FY 24	FY 25	TOTAL
	Customer Care Centre				
4	Up gradation of ASPECT Hardware & Software at Centralised Customer Care Centre	4.50	0.00	0.00	4.50
5	Hardware Refresh/Upgrade in N11 Landscape including SRM	0.00	6.00	2.10	8.10
6	Up-gradation/Augmentation of Software & Hardware in CSPDCL (DC & DR)	0.75	0.75	0.75	2.25
7	SAN Storage Upgrade in CSPDCL (P10 System)	0.00	3.50	0.00	3.50
8	Miscellaneous IT Works in DC & DR	1.00	1.00	1.00	3.00
9	DG Set (DC & DR)	0.00	0.00	1.20	1.20
10	Up gradation of Fire Fighting & Suppression System	0.00	0.40	0.20	0.60
11	Up gradation of IBMS	0.00	1.00	1.00	2.00
12	OFC Connectivity in CSPC offices	0.00	1.50	5.50	7.00
13	Augmentation / Upgradation of Network Systems	11.20	8.50	6.70	26.40
14	Augmentation / Upgradation of IT Infrastructure Systems	7.40	4.90	4.20	16.50
15	Augmentation / Upgradation of Cyber Security	8.20	9.20	8.50	25.90
	<b>TOTAL-B</b>	<b>38.55</b>	<b>38.75</b>	<b>32.15</b>	<b>109.45</b>
	<b>TOTAL (A+B)</b>	<b>38.55</b>	<b>38.75</b>	<b>32.15</b>	<b>185.84</b>

4.3 CSPDCL submits that there is requirement to include old spillover works as mentioned in "A" above in next control period keeping in view the technological upgradation required to serve electricity consumers. Key modules under EITC schemes are briefly outlined below:

**A. Old Spill Over Works**

**i. DRC of SRM (All CS Power Companies)**

4.4 As SRM (E-bidding) system has been installed for all power companies and all the tenders of value Rs. 5 Lakhs in the organization are being processed in online mode including the reverse live auction through the e-bidding system. As the e-bidding process & system is very critical & sensitive in nature, it is very much desired to have a DR setup of the same for data security and ensuring the business continuity on 24\*7 basis. Therefore, establishment of the DR setup is very much required with the procurement & installation of necessary hardware & software at DRC Bilaspur.

**ii. IT Works under IPDS funded by MOP:GOI**



- 4.5 CSERC has sanctioned Rs. 50 Cr. for "IT Works under IPDS funded by MOP:GOI" in the CIP for the control period from 1st Apr 2016 to 31st Mar 2021 and Rs. 58.39 Cr. in the CIP for the control period FY 22.
- 4.6 CSPDCL have issued Work Orders for IPDS works at total cost of Rs.108.39 Cr. However, cost approved by MoP:Gol is Rs.101.21 Cr for the IPDS-IT works.
- 4.7 Due to increased offered cost, IT Works of Rs.7.18 Cr under IPDS-IT Scheme may have to be done by CSPDCL from their capital funds as this amount is due to the offered cost against the IPDS-IT Tenders and is over and above the DPR sanctioned by MoP:Gol for IPDS Scheme. The work under this scheme is to improve Consumer Services at large.
- 4.8 Expenditure of Rs.63.25 Cr. was done in the control period from 1st Apr 2016 to 31st Mar 2021 and Rs.21.21 Cr. has been done in the current control period FY 2021-22 till 18th Oct 2021. Hence Total expenditure of 84.46 Cr has been done till now in this IPDS Project. An expenditure of around Rs.13.00 Cr. is expected by the end of this control period FY 2021-22. Remaining expenditure of around 11.00 Cr. for IPDS scheme is expected in the next control period. Hence 11.00 Cr. is proposed for IPDS Project in the CIP for the control period 1st Apr 2022 to 31st mar 2025 as spill over.

**Funding Arrangements:** As per present scenario, Funding Arrangements for the Total Expected Expenses of Rs.108.39Cr will be as under:

**Central Govt.: Rs. 60.726 Cr.** (60% of Rs.101.21Cr.)

**State Government: Rs.10.121 Cr.** (10% of Rs.89.25Cr.)

**CSPDCL: Rs. 37.543 Cr.**

(30% of Rs. 101.21 Cr. plus increased offered cost Rs.7.18Cr)

### iii. Spot Billing

- 4.9 CSERC has sanctioned Rs.0.5Cr. for "Spot Billing" in the CIP for the control period from 1st Apr 2016 to 31st Mar 2021 and Rs.2.74Cr for the control period FY 22. A tender was published for requirement for development, deployment, maintenance and support of software with necessary hardware for Spot Billing for CSPDCL on Turnkey Basis which covers the scope of development of both mobile app and middleware software to be owned by CSPDCL and support period is for 5 years post implementation.

### iv. Other IT Projects & Miscellaneous

- 4.10 CSERC has sanctioned Rs.6.0 Cr. for "Other IT Projects & Miscellaneous" in the CIP for the control period from 1st Apr 2016 to 31st Mar 2021. This mainly includes Rs.5.0Cr. for EITC Building and Rs.1.0Cr. for PCs, Printers, Scanners, System Software & S/w Development. Later Rs. 1.00 Cr. was sanctioned in the CIP for the control period FY 2021-22. Administrative approval for construction of new EITC Building has been obtained. Order for Architectural drawings has been placed by CE(Trans). Work in advanced stage of publishing NIT. Hence this expenditure may be needed in the next CIP i.e. from 1<sup>st</sup> April 2022 to 31<sup>st</sup> Mar 2025. There will also be requirement

of PCs, Printers, Scanners, System Software & S/w Development during the above period.

**v. Technical/Functional Up-gradation of SAP**

- 4.11 There are some functionalities which are available in the higher/latest versions of SAP. Also technical up-gradation to the higher/latest version of SAP is recommended by the OEM for getting smooth support and also for various integration matters.
- 4.12 Various functionalities are available in the SAP System which has to be implemented as per the requirements of the user departments. Some more applications will have to be implemented in the coming years i.e. from 2022-2025.

**vi. RAPDRP Hardware & Software Refresh/Upgrade in CSPDCL**

- 4.13 Various Hardware's (Servers (approximately 136 in numbers), Enterprise SAN Storage, SAN Switches, Enterprise level Backup Tape Library, Network switches/devices & allied system, etc. including various system and application software like operating system, database, backup & Replication, antivirus, mail & messaging, IDAM, system monitoring & maintenance) were procured and installed in Data Center, Raipur, DR Center, Bilaspur & Centralized Customer Care Centre (CCC), Raipur under the RAPDRP project in 2013 for the implementation of various SAP & other Applications like SAP ERP, SAP CRM, SAP PI, SAP DMS, GIS, MDAS, Aspect Microsoft Exchange, CA Insight Suite, Antivirus, Security software, etc. in the CSPDCL with approximate cost of Rs. 74 Cr for hardware & Software.

**vii. SAN Storage Upgrade/Refresh including SAN Switches in N11 Landscape:**

- 4.14 SAP ERP has been implemented since 2005 for all the power companies as N11 system with the procurement and installation of enterprise level hardware (like Servers, SAN Storage, SAN Switch, Backup system and other allied equipment's) & software at Data Center Raipur. Also for the business continuity and data security of the SAP ERP, Disaster Recovery Center (DRC) has been established in Bilaspur with the installation of similar hardware/software at DRC. Further in April 2013, SAP ERP of CSPDCL was segregated and migrated to P10 system under the RAPDRP Project and N11 is continued with SAP ERP of other four power companies except CSPDCL.

**viii. Backup & Replication upgrade in N11 Landscape:**

- 4.15 As enterprise level applications of SAP ERP, SRM, DMS etc has been installed in the N11 system. To ensure the Data Integrity/Security and data availability of all the installed applications, Backup system including the server, tape library and software has been installed. Also Oracle Data Guard (ODG) Replication Software has been installed for online transferring of the data from DC Raipur to DR Bilaspur in real time basis i.e for the replication of Production data of N11 ERP system from DC to DR.
- 4.16 As new applications like SAP ESS/MSS for other power companies (excluding CSPDCL) in both DC & DRC and DR Setup of SRM System has been proposed to be



implemented in very near future. So additional backup licenses and backup tape drives shall be required in both DC & DRC. Also the backup server & software is getting older so needs to be upgraded in due course of time during the next control period from 2022 to 2025. Therefore, it would be desirable to upgrade the backup system (server, tape library) along with the additional licenses including the replication software in phased manner as per the requirements.

**ix. Hardware for ESS/MSS Implementation in N11 Landscape:**

4.17 The approval has been accorded for the implementation of Employee Self Service/Manager Self Service (ESS/MSS) for 5000 employees & officers of all four Power Companies (excluding CSPDCL) as separate SAP application. The ESS/MSS shall be implemented in both Data Center Raipur as well as its DR setup in Bilaspur. For the same, new storage hardware and servers needs to be procured in N11 landscape along with necessary licenses for operating system, backup up gradation & other system software's apart from the SAP license.

**x. Servers up-gradation for GIS**

4.18 Existing GIS system has been implemented under R-APDRP scheme for 20 no's town having integration with SAP-EA/PM/Billing, Network analysis (NA), MDAS and SCADA-DMS. CSPDCL is in the process of extending existing GIS & NA functionality with all its integration with SAP-EA/PM, NSC, MDAS, NA SCADA-DMS to 160 no's of selected towns under IPDS-IT scheme of Gol. As the servers and operating system is very old and need to be upgraded (supplied in year 2013).

4.19 The following are the major reason for the up-gradation:

- i) The GIS servers are become obsolete and have reached end of life/end of support. This leads of scarcity of spare parts and prompt maintenance. HP being OEM has also stopped production/sale of this product.
- ii) Due to the advancement in the technology, OEM (M/s HP) has already moved out from the older technology to newer one.
- iii) The existing ACMC support of older server will be expired on year 2021 and will not be available in near future from the OEM.
- iv) If somehow OEM agrees to extend ACMC further, cost will be on higher side.
- v) Ease of availability of the spare parts of new technology servers.

**xi. Amalgamations of all discrete MDAS System in CSPDCL:-**

4.20 There was a proposal from SE(AMR) for merging the AMR functions into single MDAS and MDM system for RAPDRP, IPDS and AMR cell (LT+HT) consumers on various grounds as mentioned in note sheet from SE(AMR) vide -404/30.01.2020 and approved by MD(Distribution). At present in CSPDCL, discrete MDAS systems are running. One type for billable (Revenue) and other non-billable (Technical) type. These two types of MDAS systems use the same MDAS technology and software. The non-billable MDAS system covers all the Energy auditing nodes like Substation, Feeder, DT, Import/export point etc. for analysis and auditing purpose, while billable

MDAS system is being used for billing and analysis purpose of all AMR based consumer at different HT & LT level.

- 4.21 These MDAS system are running in different servers. By amalgamation of all discrete MDAS systems all the data may come in a single system and set of servers, so that the yearly AMC and other software maintenance cost will be reduced and also less man power shall be required for managing the system along with improved efficiency.

**xii. UPS & Electrical System Up gradation**

- 4.22 Multiple UPS system in redundant mode has been procured & installed in DC, Raipur & DRC, Bilaspur for the provisioning of stable & uninterrupted power supply to all the hardware & network equipment's installed through various SAP & IT projects. Most of the 10 KVS UPS sets are installed in 2005 since the establishment of Data Center and further, 2\*40 KVA UPS has been installed in 2012 under SAP SRM project in the DC. Aslo, 2\*120 KAV UPS has been installed in 2012 in DC & DRC and 2\*30 KVA in Customer Care Centre, Raipur under RAPDRP Project. Further, 2\*120 KVA has been installed recently in May-June 2020 under IPDS project.

- 4.23 As some of the UPS sets which are initially purchased in 2005 are getting older and creating frequent technical issues in day to day running & risk of hardware failure due to the UPS failure is increasing. Also, older UPS are having higher maintenance cost for ACMC & OEM Support. Therefore, it is required to refresh the multiple UPS sets of smaller capacity which are older with a single set of higher capacity during the proposed control period of 2022-2025.

**xiii. Precision ACs Refresh:**

- 4.24 Various High Precision Air Conditioners (HPACs) of capacity 8 & 3.5 tons of Vertive make (formerly known as Emersion) has been installed in the Data Centers & UPS Rooms under various SAP & IT projects since the establishment of data centers to maintain the low temperature (between 16-22 degree Celsius) cooling requirements for the proper functioning of hardware's installed. Out of which 15 has been installed in DC & 10 has been installed in DR and about 8 PACs were installed in 2005 during the initial phase of SAP implementation. Later PACs has been procured and installed gradually as per the requirements. Further, 14 PACs were installed in DC & DRC under RAPDRP project in 2012 and 3 mores PAC were procured in 2014 in the UPS rooms of both data centers looking to cooling requirements.
- 4.25 As new hardware's being procured under IPDS IT projects, more cooling shall be required to be maintained in the Data Centers and UPS rooms. Also, earlier installed PACs are very old having technical issues during the day-to-day operation (as PACs runs on 24\*7 basis) and having higher maintenance costs. It may be mentioned that the Therefore, it is required to replace the the older PACs of DC & DRC (including UPS Rooms) in phase wise manner during the proposed control period of 2022-2025.



**B. New IT Works**

**i. SAP Licenses**

- 4.26 Enterprise Licenses of SAP were available up to 30th Jun 2020 and it is expected that there will be requirement for some more licenses every year due to increase in SAP Users, Consumers, Employees and e-Bidding users.
- 4.27 Therefore, the proposal of Rs.6.00 Cr. for "SAP Licenses" may please be considered in the CIP for the control period 1st Apr 2022 to 31st Mar 2025.

**ii. Mobile Apps**

- 4.28 CSPGCL and CSPTCL Power companies has submitted proposal to EITC for the development of Android and iOS Mobile app for their employees through which employees can:

- (i) View their Pay Roll related activities like Pay Slip, GPF Contribution,
- (ii) Leave Management
- (iii) Pension Management
- (iv) Contractual Employee Management
- (v) Tour Management etc.

**iii. Purchase and installation of Scanners for CSPC Offices and CCTV, Computers, IP Phones, Furniture & ACs for Centralised Customer Care Centre**

- 4.29 **Purchase of Computers and IP Phones for Centralised Call Center:**  
30 Nos. computers and IP Phones were supplied at the Centralised Call Center in the year 2013. They have completed their service life and need to be replaced during the period 2022-25.
- 4.30 **Procurement of ACs for Centralised Call Center:**  
4 Nos. Cassette Air Conditioners and 4 Nos. Split ACs were supplied at the Centralised Call Center in the year 2013. They have completed their service life and need to be replaced during the period 2022-25.
- 4.31 **Furniture for Centralised Call Center:**  
Furniture for the Call Center Operators was supplied at the Centralised Call Center in the year 2013. Due to wear and tear it need to be replaced during the period 2022-25.
- 4.32 **Purchase of Scanners for CSPC Offices:**  
With the increased use of digitized documentation in the organization, it is necessary to provide one no. scanner at each CSPC Office.
- 4.33 **Installation of CCTV at Centralised Call Center:**  
In order to monitor the activities of the manpower deployed at the Centralised Call Center, it is necessary to install CCTV inside the Centralised Call Center.
- iv. Up gradation of ASPECT Software of Centralised Customer Care Center**

4.34 ASPECT UNIFIED IP 7.1 Software and related hardware was installed for providing Call Center Solution at the Centralised Call Center, Raipur under R-APDRP Scheme in the year 2013. Both the hardware and software have become about nine years old and have completed their service life. The existing version of the ASPECT software and the hardware has now become obsolete and OEM is not providing support for this software.

4.35 The ASPECT Software is the backbone of the Centralised Call Center and all calls coming on Toll-free No. 1912 are routed through this software only via IVRS (Interactive Voice Response System), which is a part of this software. In case of any problem in ASPECT Software, Centralised Call Center will stop working and CSPDCL consumer services will get severely affected. Therefore, it is necessary to completely replace the existing obsolete ASPECT UNIFIED 7.1 Software and hardware with the latest version ASPECT 7.4 SP1 Software and hardware.  
As per the offer collected from the concerned ASPECT consultant about Rs. 4.50 Cr shall be required for completely replacing the existing obsolete ASPECT 7.1 Software and hardware of Centralised Customer Care Center with the latest version ASPECT 7.4 SP1 Software and hardware.

**v. Hardware Refresh/Upgrade in N11 Landscape including SRM:**

4.36 One HPE Blade enclosure along with the two numbers of Blade servers in the enclosure were procured and installed for SAP ERP Database and Central Instance Production system under SAP upgrade project in N11 in data center Raipur. A replica of the same was also procured and installed in DRC Bilaspur for the DR implementation of N11 system to ensure the data availability business continuity. Further the Blade enclosure was upgraded with the procurement and installation of two numbers of additional blade servers for the SRM production system in 2012 along with the one number of HPE RX servers as SRM development system during the SRM implementation in all the power companies. The above mentioned servers are very critical in nature being the hosting the production system of both N11 SAP ERP & SRM system and were procured with the associated Operating System (OS) licenses, high availability Cluster Software licenses & OS Virtualization license.

4.37 As, the above procured servers are also going to their end of support life from the OEM in January 2023 and no further technical support shall be available beyond the expiry of OEM support date. Hence needs to be refreshed with new servers including the required (above mentioned) software licenses before its expiry of OEM support along with migration of the N11 Production SAP ERP and SRM applications hosted on them. Thus, refresh of the HPE servers for N11 Production SAP ERP & SRM system (both production & development) along with the migration of respective SAP applications is mandate requirement & very much needed to be done before the OEM support expiry date i.e., before January 2023.

**vi. Up-gradation/Augmentation of Software & Hardware in CSPDCL (DC & DR):**  
4.38 As there are remarkable technological advancements going on day-by-day in both hardware & software fields and there is gradual increase in the risk of unwanted/unknown virus, spam, mail-ware & security threats associated along with the technological advancements. These technical advancements and need of



protection from the security threats involves up gradation/augmentation of the existing hardware/software during the due course of time.


- 4.39 Also, as per the requirements & decisions of the management, policy change enforcements in the system, the gradual requirements of new IT application like Mobile application developments, design & development of various interfaces between SAP & other IT applications related to ease of doing, etc. are desired time to time. Such instantaneous requirements need to be addressed on timely basis and involves additional/up-gradation of hardware and software.
- 4.40 Further, the mandate of maintaining the IT system up-to date is very much essential for each and every organization for smooth operation of existing system to ensure the proper data security and integrity in compliance to the various IT policies.

**vii. SAN Storage Upgrade in CSPDCL (P10 System)**

- 4.41 Initially, Fujitsu SAN Storage has been installed under RAPDRP with approximately 80 TB of usable storage capacity in 2013. However, during these 7 years of due course, same has been upgraded/augmented with additional storage disks to a current capacity of nearly 140 TB as per the data growth in the CSPDCL. Accordingly 200 TB usable SAN storage has been procured under IPDS-IT project. Looking to the current & future data growth of the applications installed and enhancements in the number of IT applications in CSPDCL, further storage space in each at DC & DRC shall be required in due course of time. Therefore, it will be required to upgrade and augment the new HPE SAN Storage installed under IPDS-IT project during the next control period from 2022 to 2025.

**viii. Miscellaneous IT Works in DC & DR:**

- 4.42 It is to appraise that there are several occasions came during the due course of any defined control period where it could not be foreseen and predicted in advance about the requirement of modification/additional or new applications like Mobile application developments, online Payment methods & its integration, photo spot billing etc. which needs to be implemented instantly as per the decision & requirement of the management. Also there are sudden changes in the policy or guidelines happening like GST announcements which also require new application/services implementation in the existing system. Further, there are many unanticipated situations like COVID-19 pandemic which are big challenges and needs to be addressed on immediate basis.
- 4.43 There are also certain other smaller applications like SAP Archiving application upgrade, Database compression of the ERP & other SAP Applications, Many enterprise level system management activities like Database Import-Export Activity, Index rebuilding, etc. Server Provisioning for SAP Router & other important services, Server provisioning & installation of Web Dispatcher for SRM & ESS/MSS, Bank Interface & API tool integration of SAP HR Pension Payment services for pensioners, various Security Patching & Implementation in SAP system, etc. are required during the due course of time.





**ix. DG Set (DC & DR)**

- 4.44 As the Data Centers operations is very critical in nature and requires 24\*7 uninterrupted power supply for smooth functioning of IT systems enabling the availability of installed IT applications across the state accessible. To ensure the uninterrupted power supply dual power supply has been provisioned to data center from different feeders. Also DG set has been installed in 2014 to ensure the continuous power supply in case of any power failure or major faults in the electrical supply system. DG sets of 600 KVA & 500 KVA are installed in DC, Raipur & DRC, Bilaspur respectively. It may also be mentioned that the requirement of auxiliary power supply (DG) set is an important requirements of the ISMS policy implemented for the ISO certified data center.
- 4.45 Currently both the DG sets are running with almost 70% load which is expected to increase due to the installation of other hardware's in near future during the implementation of various IT projects. The installed DG sets are getting old and having higher maintenance costs as ACMC. Also various parts of the DG sets are getting failed frequently during its operation. As the continuous & uninterrupted Power supply of the data center is very much essential, therefore it is required to install additional new DG set of higher capacity capable of catering the additional electrical load of the DC & DRC during the end of proposed control period of 2022-2025.

**x. Up gradation of Fire Fighting & Suppression System**

- 4.46 It is to appraise that enterprise class tier-3 Data Center and Disaster Recovery Center has been established in Raipur & Bilaspur equipped with the Fire Fighting & Suppression system for protection & handling of the unexpected fire incidents in data centers/UPS rooms which is also the primary requirement of ISMS policy implemented. The said Fire Fighting & Suppression system has been installed in data centers & UPS rooms in 2012 under RAPDRP project. The system is equipped with Novec- 1230 gas cylinders along with the electronic control panel for managing & monitoring the fire system with automatic telephone dialer in case of any fire incidents.
- 4.47 As the system is almost 8 year old and Novec-1230 gas cylinder has an average/normal life of 10 years. Also the electronic control panel is having its inbuilt software the management which is getting older.

**xi. Up gradation of IBMS**

- 4.48 Apart from the monitoring of the hardware & software, the physical monitoring & maintenance of data center is also a critical works involved under the data center operation. Looking to the criticality of the data center, it is also important to monitor & maintain the physical check lists on 24\*7 basis to ensure the availability of the IT services installed. Accordingly, for the monitoring, control & management of the data centers, Integrated Building Management System (IBMS) of M/s Schneider Electric has been installed at DC & DRC in 2014. The IBMS includes the installation of access control mechanism for physical access, CCTV camera, Rodent Repellant & Water



Leakage Detection System, Very Early Smoke Detection Apparatus (VESDA), PAC, UPS & DG Set monitoring and (Heating, Ventilation & Air Conditioning) HVAC system. It is equipped with the Continuum Software & necessary servers including allied IBMS devices.

- 4.49 It is to mention that installed IBMS system is also getting older and system software/hardware equipped with the setup needs to be upgraded along with the replacements of some the devices which are having functional issues very frequently. Therefore, it would be required to upgrade the existing IBMS setup during the control period of 2022-2025.

**xii. Optical Fiber Cable (OFC) Connectivity in CSPC offices**

- 4.50 An amount of Rs. 7.00Cr. was sanctioned for this work in the CIP for the control period 1st Apr 2016 to 31st Mar 2021. Due to relatively newer technology, works proposed could not be taken-up during control period 2022-25.
- 4.51 Further, in view of Optical Ground Wire (OPGW) Project of CSPTCL, it shall be taken-up subsequently and is therefore proposed to be taken up during the control period 2022-25. The project objective is to connect Data Centre, Raipur to selected remote CSPC offices through OFC to have faster & better data communication facilities.
- 4.52 It is the technology that ensures faster & more reliable data communication, more system uptime, higher bandwidth and less latency time. It shall also reduce operating expense on account of bandwidth and increase Network uptime.

**xiii. Augmentation/Upgradation of Network Systems**

- 4.53 The business environment of CSPDCL is dynamic in nature, as such; in order to facilitate consumers, new offices, Fuse-of-Call Centers, number of offices keep on increasing & shifting. Further, time-to-time system strengthening of Network Infrastructure is required due to creation of new offices, shifting of offices & FOC's or office expansion, etc.
- 4.54 In order to keep pace with fast growing technology, Network Infrastructure backbone also needs to be made adequately faster, cheaper & convenient for use. Time-to-time technology upgrade, system strengthening etc. are required to keep our systems safe / secure and at-par / interoperable with other systems. Networking equipments / hardware are also required to be replaced / upgraded due to end-of-support as they outlived their useful life. Due to end-of-support, no AMC / support shall be provided either from OEM or any Systems Integrator. In such case, any break-down of equipments shall affect the smooth functioning of IT systems. DC & DR Core Devices / Router are required to be replaced / upgraded. These equipments are more than 8 years old and outlived their useful life.
- 4.55 Routers, Switches & VoIP Phones installed at various remote sites are required to be replaced / upgraded as these equipments are more than 8-10 years old. For effective utilization of Network bandwidth & its automation, it is required to deploy some software as well hardware. Wireless LAN controller along with its access points for providing Wi-Fi facility are required to be replaced / upgraded.
- 4.56 Video Conferencing system & devices are installed up to division level. The VC devices are installed since more than 4 Years & some of the devices shall become end

of support in coming years. As now most of the meetings with Regional offices/Ministry of Power etc. are done through Video Conferencing which saves both time & travel cost. Under the recent COVID-19, the need of video conferencing has suddenly spurred-up.

**xiv. Augmentation/Upgradation of IT Infrastructure Systems**

- 4.57 Majority of the PCs / Desktops deployed in our environment are having Windows 7 Operating System. Microsoft has discontinued Windows 7 Operating System. Microsoft has announced further end-of-extended-support till 14-Jan-2020. Thereafter, Microsoft stops providing security patches, bug fixing and support. This makes product more vulnerable for security breach & cyber-attacks. Thus, desktop OS is required to be upgraded to Windows 10 or latest from security point-of-view and to support new technologies.

***As per Government of India, MoP, Guidelines dated 02-Aug-2017; all Desktops Systems/Devices should be on latest software updates /new version of MS Windows.***

- 4.58 Majority of the Servers deployed in our environment are having Windows Server 2008/R2 / 2012/R2 Operating System. Microsoft has announced end-of-extended-support w.e.f. 14-Jan-2020 for Win Server 2008/R2 and 10-Oct-2023 for Win Server 2012/R2. Thereafter, Microsoft stops providing security patches, bug fixing and support. This makes product more vulnerable for security breach & cyber-attacks. Thus, Server OS is required to be upgraded to 2016 or latest from security point-of-view and to support new technologies.

***As per Government of India, MoP, Guidelines dated 09-Oct-2018, it is essential to update all Operating Systems, Applications and Firmware as a basic cyber hygiene practice***

- 4.59 Microsoft Exchange Mail with 3500 users has been deployed for e-mail communication. Exchange version shall be upgraded from currently deployed version 2010 to 2013 under IPDS Project. Microsoft has announced end-of-support for Exchange 2010/SP3 and 2013/SP1 w.e.f. 13-Oct-2020 and 14-Apr-2023, respectively. Thereafter, application support for MS Exchange 2013 shall not be provided by Microsoft.

***As per Government of India, MoP, Guidelines dated 09-Oct-2018, it is essential to update all Operating Systems, Applications and Firmware as a basic cyber hygiene practice***

- 4.60 Different versions of Microsoft Office used across CS Power Companies; namely Office 2007, 2010, 2013. Microsoft has announced end-of-support for MS Office as 10-Oct-2017 for Office 2007, 13-Oct-2020 for Office 2010 & 14-Apr-2023 for Office 2013. Thereafter, application support for MS Office shall not be provided by Microsoft. Further, operational issues are being faced in using different versions of MS Office across CS Power Companies. It is proposed to go for uniform product across CS Power Companies, either on perpetual or subscription model.



4.61 With the ongoing technology enhancement, new hardware / servers would be required to meet the matching configuration. Further, there are performance & OEM support related issues with old hardware. Major hardware / servers were procured in R-APDRP project in year 2012-13; which are now more than 7 years old. Thus, the hardware & software needs to be replaced with new technology products, i.e. – with hyper convergence infrastructure / virtualization, VM Automation, etc. In addition, FTP / File storage system is required to providing adequate space for data to individual end-users & furnishing them back-up media.

**xv. Augmentation/Upgradation of Cyber Security**

- 4.62 Gateway level security devices are most vital & frontline products in any cyber security landscape. In this context, Network Firewalls are installed in our environment. The OEM – M/s Cisco has announced end-of-support w.e.f. 31-May-2023 for ASA-5585X and 31-July-2024 for Firepower FMC 1000. Thereafter, Cisco shall stop providing security patches, bug fixing and support. Consequently, this will make product itself vulnerable for security breach & cyber-attacks. Thus, Network Firewalls are required to be upgraded to latest & OEM-supported Next Gen Firewalls.
- 4.63 Web Application Firewall needs to be deployed in our environment. WAF monitors, filters and blocks data packets as they travel to and from a website or web application. WAF is often deployed through a reverse proxy and placed in front of one or more websites or applications. WAF inspects each packet and uses a rule base to analyze Layer-7 web application logic and filter out potentially harmful traffic that can facilitate web exploits.
- 4.64 WAF are common security control used by enterprises to protect systems against zero-day exploits, malware infections, impersonation, and other known and unknown threats and vulnerabilities. Through customized inspections, WAF is able to detect and immediately prevent several of the most dangerous web application security flaws, which traditional network firewalls & other Intrusion Detection Systems (IDS) and Intrusion Prevention Systems (IPS) are not be capable. WAFs are essential for providing products or services over the Internet, such as Billing information, Bill Payments, Customer Care Services, e-bidding, etc in our case.
- 4.65 As a part of Cyber security control, Data Loss Prevention (DLP) is the Endpoint Software deployed to ensure that sensitive data remains securely within (inside) the network. Data loss prevention tools and software are designed to constantly monitor and filter data in real-time. Data Loss Prevention strategy makes sure end-users aren't able to intentionally destroy or steal data. It's important to have a data loss prevention policy deployed. It covers - data loss prevention, system information, event management, endpoint protection. It will further blocking access to the system and protect data simultaneously. Correct policy & systems will be able to reduce or eliminate data loss incidents.

*As per the Guidelines for the Protection of Critical Information Infrastructure version 2.0 dated 16 Jan 2015 by NCIIPC, GoI, Data Loss Prevention is a vital operational control solution needs to be deployed by utilities.*

- 4.66 Due to COVID-19, providing our end-users with Work From Home (WFH) facility, is felt as the need-of-the-hour. Difficulties were faced during the lock-down period to



facilitate our end-users with WFH facility. Further, this is required by the system administrators for trouble-shooting. Apart from this, remote operations are frequently required by OEM personnel for their prompt online support. For trouble shooting purpose, there is a small SSL-VPN solution from Radware/Sonic wall. The end-of-life/support date declared by the OEM is 13-Jan-2020. However, now an enterprise class full-blown WFH solution shall be required. With the technology available nowadays, the OEM & Vendor personnel are reluctant to travel and prefer to provide support / implement solution remotely from their back-end. Further, due to limited available Subject Matter Expert (SME); WFH is viable and this solution is more in demand.

- 4.67 In addition to above, facility of virtual desktops shall also be provided to some identified personnel in first phase (i.e. System Administrators, Call Centre personnel, Facility Management Support personnel, etc). This will provide high level of data security by controlling & restricting the unauthorized activities, if at all they attempt to carry.

*As per Cert-in Advisory dated 26-Mar-2020, it is required to use VPN Solution with 2 factor authentication mechanism along with the other latest feature to connect to Company's network from home.*

- 4.68 Centralized End-point Patch Management is a solution that helps to acquire, test and install multiple patches (code changes) on existing applications and software tools on a computer, enabling systems to stay updated on existing patches and determining which patches are the appropriate ones. Patch management exists to protect your network and systems from cyber-attacks. Patches would need to be applied to successfully block out any threats to your business data and information.

*As per Government Guidelines by GoI, CEA dated 12-Jun- 2018, it is essential to deploy Patch Management solution for OS and applications.*

- 4.69 End-point Detection and Response (EDR) is an emerging technology that addresses the need for continuous monitoring and response to advanced threats. It detects cyber threats before they cause damage to the entire environment. It is deployed on endpoint devices to prevent file-based malware, to detect and block malicious activity from trusted and untrusted applications and to provide the investigation and remediation capabilities needed to dynamically respond to security incidents and alerts. EDR focuses on detecting attackers that evaded the prevention layer (Anti-virus, etc) and are now active in the target environment. EDR can detect an attack has taken place, take immediate action on the endpoint to prevent the attack from spreading, and provide real-time forensic information to help investigate and respond to the attack. EDR tools also provide a central management console for monitoring security.

- 4.70 Security Information and Event Management (SIEM) is a set of tools and services offering a holistic view of information security. It's a Log management tool that receives log data from many sources and can generate one report that addresses the requirement and meet the compliance level. Security Information and Event Management (SIEM) products have become a core part of identifying and addressing cyber-attacks. Unfortunately, many unscrupulous cyber attackers are active on the web, just waiting to strike vulnerable systems. As more systems become online, it's





increasingly important to incorporate cyber security tools and threat detection to prevent downtime. SIEM provides real-time analysis of security alerts generated by applications and network hardware. It is an umbrella for security software packages ranging from Log Management Systems to Security Log / Event Management, Security Information Management and Security Event correlation.

***As per Government Guidelines by GoI, CEA dated 12-Jun-2018, it is required to deploy Log Management solution where in collection and retention of Firewall logs/UTM logs is very essential for detecting and analyzing attacks.***

- 4.71 Identity & access control policy platform enables to enforce compliance, enhance infrastructure security, and streamline their service operations. It allows collecting real-time information from networks, users, and devices. To meet this requirement, Cisco ISE has been deployed in our environment. The OEM has announced end-of-support w.e.f. 30-June-2024 for Cisco ISE SNS-3595. Thereafter, Cisco shall stop providing security patches, bug fixing and support. Consequently, this will make product vulnerable for security breach & compromise. Thus, product needs to be upgraded to latest next-gen technology.
- 4.72 Network Threat Protection component scans inbound network traffic for activity that is typical of network attacks. Upon detecting an attempted network attack that targets the computer systems; this solution blocks network activity from the attacking computer. Network traffic from the attacking computer is blocked for about one hour. Network Threat Protection logs allow to track a computer's activity and its interaction with other computers and networks. They record information about the traffic that tries to enter or exit the computers through their network connections. Network Threat Protection logs contain details about attacks on the firewall, such as the following information:
- a. Denial-of-service attacks
  - b. Port scans
  - c. Changes that were made to executable files
- 4.73 Network Threat Protection logs collect information about intrusion prevention, about the connections that were made through the firewall (traffic), the registry keys, files, and DLLs that are accessed. They contain information about the data packets that pass through the computers. The operational changes that were made to computers are also maintained in these logs. This information may include when services start and stop or when someone changed configuration. Among the other types of information that may be available are items such as the time and the event type and the action taken. It can also include the direction, host name, IP address, and the protocol that was used for the traffic involved. If it applies to the event, the information can also include the severity level.
- 4.74 End-User Behavior Analytics or EUBA focuses on what the user is doing; i.e. - applications, network activity and most critically the files accessed (when the file or email was touched, who touched it, what was done with it and how frequently). EUBA technology searches for patterns of usage that indicate unusual or anomalous behavior — regardless of whether the activities are coming from a hacker, insider, or even malware or other processes. While EUBA won't prevent hackers or insiders



from getting into the system, it can quickly spot their work and minimize damage. EUBA focuses less on system events, and more on specific user activities. EUBA can learn user patterns and then zero in on hackers when their behaviors differ from legitimate users. EUBA does following:-

- a. Monitors and reports unusual network behavior
- b. Protects against known and unknown threats
- c. Anomaly detection includes zero-day, botnet, spam, and reconnaissance attacks
- d. Endpoint intelligence and correlation for network flows and events
- e. Flexible virtual appliance deployment options.

4.75 Security Compliance for on-premise as well as for Cloud (in future) is to be deployed since there is lot of critical information /data stored on computers, which when transferred to the on-premise systems / cloud, demands the need for enforcing timely security measures.

*As per the Guidelines for the Protection of Critical Information Infrastructure version 2.0 dated 16-Jan-2015 by NCIIPC, GoI; Cloud Protection is a vital operational control solution needs to be deployed by utilities.*

4.76 Therefore, the proposal of Rs. 25.90 Cr. for "Augmentation/ Upgradation of Cyber Security" may please be considered in the CIP for the control period 1st Apr 2022 to 31st Mar 2025.

4.77 **Funding Requirement:** The propose financing mix of the planned Capital Investment towards civil construction work for the control Period FY 2022-23 to FY 2024-25 is as follows:

**Table 39: Proposed funding arrangement for the Control Period (FY 23 to FY 25)  
(Rs. Crore)**

S. No.	Particular	Financing Mix (%)	FY 23	FY 24	FY 25	Grand total
1	Total Capital expenditure	100%	38.55	38.75	32.15	109.45
a	Debt Other	80%	30.84	31	25.72	87.56
b	Equity	20%	7.71	7.75	6.43	21.89

## 5 Investment Plan for Civil Construction Work

### Scheme Objective:

5.1 CSPDCL plans investment in civil construction to cater to the growing requirements of the entire distribution business at different levels viz. across Circles, Divisions, Sub-divisions and Distribution Centers. The investments aims for construction of office building, residential building, additional/alteration/renovation of residential and office building including work of Road/Drain/Culvert.

### Performance In 3<sup>rd</sup> Control Period FY 17-22



5.2 CSPDCL would like to submit that it has made an investment of Rs. 46.50 Crore against the Hon'ble Commission approval of Rs. 40.00 Crore for the previous control Period of FY 17 to FY 21. Hon'ble Commission vide its Order dated 30.10.2021 approved Rs. 10 Crore. CSPDCL submits that it has actual incurred (as on 30.09.2021) Rs. 3.73 Crore. The major reason for increase in expenditure is attributable to several factors such as additional time involved in unforeseen infrastructure development work due to upgradation and new sanction of office set ups in fields and delay in availability of funds and changes in law. The details of expenditure incurred is shown in the Table below:

**Table 40: Details of capital expenditure incurred during the Control Period (FY 17-FY 22) (Rs. Crore)**

Particular	Approved for 3 <sup>rd</sup> Control Period	Expenditure Till 31.03.2021	Approved for FY 2021-22	Expenditure Till 30.09.2021
Civil Works	40	46.50	10	3.73

5.3 **Target for FY 23 to FY 25:** For the 4th Control Period from FY 23 to FY 25, it is proposed to finance in the ratio of 80:20. The total proposed investments of Rs 106.26 Crores for the construction of various civil structures in the control period from FY 23 – FY 25 is as follows.

**Table 41: Capital Investment proposed for civil works under different schemes FY 23 to FY 25 (Rs. Crore)**

S. No.	Financial Year	Office Building	Residential Building	Additional/Alteration/Renovation work	Road/Drain/Culvert Work	Grand Total
1	FY 2022-23	16.43	1.05	3.91	1.63	23.02
2	FY 2023-24	34.02	2.86	5.75	2.30	45.94
3	FY 2024-25	25.58	5.63	4.86	1.23	37.30
4	Total	76.04	9.54	15.52	5.16	106.26

**Table 42: Civil construction Capital Investment across divisions under diff. schemes for the Control Period (FY 23 to FY 25) (Rs. Crore)**

S. No.	Name of Division	Office Building		Residential Building		Additional/Alteration/Renovation work		Road/Drain/Culvert Work		Grand Total	
		New Scheme	Spill Over	New Scheme	Spill Over	New Scheme	Spill Over	New Scheme	Spill Over	New Scheme	Spill Over
1	Ambikapur	12.61	0.00	1.84	0.00	3.10	0.00	1.25	0.00	18.30	0.00
2	Bilaspur	8.63	0.00	0.4	0.00	0.71	0.00	0.33	0.00	10.07	0.00
3	Jagdarpur	13.88	0.00	5.3	0.00	1.46	0.00	0.52	0.00	21.66	0.00
4	Raipur	33.00	0.00	0.00	0.00	7.68	0.00	2.09	0.00	42.77	0.00
5	Rajnandgaon	7.92	0.00	1.99	0.00	2.56	0.00	0.98	0.00	13.45	0.00
6	Total	76.04	0.00	9.53	0.00	15.51	0.00	5.17	0.00	106.26	0.00

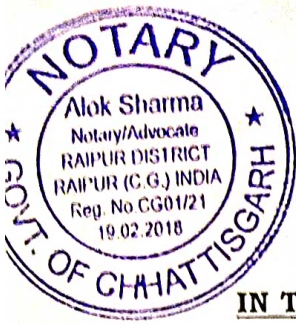
- 5.4 **Funding Requirement:** The propose financing mix of the planned Capital Investment towards civil construction work for the control Period FY 23 to FY 25 is as follows:

**Table 43: Financing arrangement for the Civil and construction scheme (Rs. Crores)**

S. No.	Particular	Financing Mix (%)	FY 23	FY 24	FY 25	Grand total
1	Total Capital expenditure	100%	23.02	45.94	37.30	106.25
a	Debt Other	80%	18.42	36.75	29.84	85.01
b	Equity	20%	4.60	9.19	7.46	21.25

- 5.5 **PRAYER:** Petitioner humbly requests Hon'ble Commission to approve the projected capital expenditure for the Control Period (FY 23 to FY 25) with funding pattern as shown above.





BEFORE THE CHHATTISGARH STATE ELECTRICITY  
REGULATORY COMMISSION: RAIPUR.



PETITION NO..... of.....

IN THE MATTER OF:

Submission of petition for approval of Capital Investment Plan for  
MYT control period FY 2022-23 to FY 2024-25.

Petitioner : Chhattisgarh State Power Distribution Company  
Limited, (CSPDCL), Vidhyut Sewa Bhawan, Dagoniya,  
Raipur. (CG)

AFFIDAVIT

I, M.H. Prasad S/o Late Shri M.S. Narayan Rao, aged about 61 years,  
resident at Raipur, do hereby solemnly affirm and state as follows:-

1. I am Executive Director (RA&PM) of the **Petitioner** Chhattisgarh State Power Distribution Company Limited, and I am authorized and competent to execute this affidavit on behalf of the Company.
2. That the facts stated in the petition are true to the best of my knowledge and belief and is based upon the available information & records.


  
Deponent

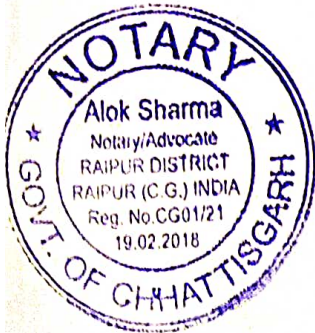
Solemnly affirmed and signed  
Before me on this 27<sup>th</sup> day of  
December '2021 at Raipur

VERIFICATION

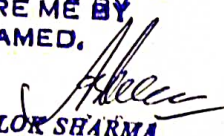
I, M.H. Prasad, Executive Director (RA&PM) Son of Late Shri M.S. Narayan Rao, aged about 61 years, resident at Raipur do hereby verify that the contents of the above affidavit are true to my knowledge and belief from information, record and legal advice and no part of it is false and nothing material has been concealed there from.

Verified on this 27<sup>th</sup> day of December '2021 at Raipur.

  
Deponent



SOLEMNLY AFFIRMED OR  
SWORN BEFORE ME BY  
THE WITHIN NAMED,

  
ALOK SHARMA  
Notary, & Advocate  
RAIPUR, (C.G.)

27 DEC. 2021

  
SHAILENDRA  
Identifying Witness.