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Petition No. 101 of 2015(M)

In the matter of

Approval of Capital Investment Plan filed by Chhattisgarh State Power Transmission Company Ltd. for FY2016-17 to FY2020-21.

M/s Chhattisgarh State Power Transmission Company Limited **Petitioner**

**Present: Narayan Singh, Chairman
Vinod Shrivastava, Member**

**ORDER
(Passed on 26.03.2016)**

1. Chhattisgarh State Power Transmission Company Limited (herewith called 'CSPTCL') is a successor company of Chhattisgarh State Electricity Board (CSEB) and is the designated State Transmission Utility in the State, providing transmission services to Chhattisgarh State Power Distribution Company Limited (herewith called 'CSPDCL').
2. Based on the principles contained in Sections 61 and 62 of the Electricity Act 2003, the National Electricity Policy and the Tariff Policy notified by the Central Government, the Commission notified the regulations namely Chhattisgarh State Electricity Regulatory Commission (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, 2015 (herewith referred as 'MYT Regulations 2015') on 9th October 2015.
3. The Regulations 7 of the MYT Regulations, 2012 relate to filing of Capital Investment Plan by the entities covered by the MYT Regulations

2012. The relevant portion is reproduced for ready reference.

"7. CAPITAL INVESTMENT PLAN

7.1 *The generating company, STU/ transmission licensee, SLDC and distribution licensee shall file for approval of the Commission a capital investment plan by 31st October 2015. The capital investment plan should cover the entire Control Period, with details for each year of the Control Period.*

7.2 *The capital investment plan may be in respect of new generation projects or transmission/distribution schemes (for lines, sub stations, bays, etc.) or system operation for capacity addition/ enhancement or renovation of existing capacities on completion of life or work required due to change in law, or deferred execution of work included in original scope or efficiency improvement or such works which may be expedient for operation of the system.*

(a) *The capital investment plan shall show separately, on-going projects that will spill over into the Control Period, and new projects (along with justification) that will commence in the Control Period but may be completed within or beyond the Control Period. The capital investment plan shall contain the scheme details, justification for the work, capitalization schedule, capital structure and cost benefit analysis (where applicable)....".*

4. Accordingly, CSPTCL submitted the instant petition for approval of its Capital Investment Plan for the control period FY2016-17 to FY 2020-21 on dated 30.11.2015. After due verification, it was registered on 17.12.2015 as petition No 101 of 2015(M).

5. In addition to new works, the proposal also includes prayer for approval of spill over works. The proposals also include such works which are expected to be completed after the control period but the investment

will be required within the instant control period.

6. A Technical Validation Session (TVS) on the petition was held on 24.02.2016 in the office of Commission.
7. The utility was directed to publish gist of its proposals in the news papers in the form of a public notice inviting suggestions and objections on the same. The petition was uploaded on the website of the Commission and also on the website of the companies and made it public. The public notice appeared in newspapers; namely, Hari Bhoomi (Hindi), Dainik Bhasklar (Hindi) & Central Chronicle (English) on 13.01.2016. 21 days time was granted for submission of comments/ suggestions/ objections on the petition.
8. A notice for hearing on 25.02.2016, in the office of Commission, was published separately on 16.02.2016 in Navbharat, Hari-Bhoomi and Hitvada.
9. Neither any comment from any stakeholder was received nor any objection was presented in the hearing too.
10. On 1st March 2016, a meeting of State Advisory Committee was convened and a presentation on the Capital Investment Plan filed by CSPTCL was organized for the stakeholder.
11. Based on the available data and information, the Commission is issuing this order and approving in-principle the Capital Investment Plan proposed by the STU with respect to capital expenditure plans to the extent and as per observations/ directives mentioned in attached documents.
12. The Capital Investment Plan is being approved for the control period based on the petition filed by the utility. The utility may request for change / additions as per priority requirement, if any, and may submit additional / revised plan for approval as per MYT Regulation 2015.
13. **Spillover Works:**

CSPTCL has proposed some spill over works which were approved under previous orders but are going to continue in the instant control period. In the previous orders, provision for LILO of 132 Banari-Seorinarayan DCSS line at 132 substation Akaltara and 2 no feeder bay at Akaltara have been made. But in the instant petition, CSPTCL has found this

proposal as not feasible. Hence, after scrutiny Commission is dropping the LILO of 132 Banari-Seorinarayan DCSS line at 132 substation Akaltara and 2 no feeder bay at Akaltara. Accordingly, rest of the spillover work may be continued by CSPTCL. We approve capital expenditure on spillover works of Rs. 1,977.15 Crore.

The list of approved spill over works for control period FY 2016-17 to FY 2020-21 is given in Annexure -1.

14. 400/220 KV Substation Bilaspur and its associated 400 KV & 220 KV Transmission Lines (Spill Over Works)

CSPTCL submitted that proposal for 400 KV substation Bilaspur & its associated transmission lines were approved by Commission in the Business Plan FY 2010-11 to FY 2012-13 under normal development scheme and the complete scheme was kept under review in their order dated 28.03.2011 in the matter of approval of additional Business Plan for FY 2010-11 to FY 2012-13. CSPTCL further submitted that despite of several justification for the said scheme presented by CSPTCL, Commission did not allow any expenditure under these capital works during the control period FY 2013-14 to FY 2015-16 in their order dated 09.04.2013. However, scheme provision for the said schemes are the part of the total scheme provisions approved under previous capital investment plans. This scheme is a part of spill over works with scheme provision of Rs.325 Crores. CSPTCL through the instant petition has once again requested Commission to consider the submission made by CSPTCL in the past in this regard and allow the expenditure to start working on this scheme proposed to be started w.e.f. FY 2018-19 with completion target beyond FY 2020-21.`

Commission View

Commission has approved 400 KV substation Bilaspur & its associated transmission lines in the Business Plan FY 2010-11 to FY 2012-13 under normal development scheme and the complete scheme was kept under review in the order dated 28.03.2011 in the matter of approval of additional Business Plan for FY 2010-11 to FY 2012-13. We have not allowed any expenditure under these capital works during the control period FY 2013-14 to FY 2015-16 in order dated 09.04.2013 as we found that this substation is as such not required under present scenario. This substation was proposed primarily for the purpose of

power evacuation from IFFCO power house but at present no such power plant is coming in this area in future. CSPTCL has made this scheme a part of spill over works with scheme provision of Rs.325 Crores. Looking to the need of hour, we are allowing some part of expenditure under this scheme as per the Annexure – 1. As per the proposal of CSPTCL, the instant scheme shall be completed after FY 2020-21, therefore, the rest of the expenditure of the scheme shall be considered in control period starting from FY 2021-22. The 220 KV part of this scheme i.e. 220 KV substation and associated lines is being allowed as new normal development works in Annexure – 2. Layout of this 220KV substation should be decided in such a way that this 220 KV substation may become part of deferred 400/220 KV substation.

15. 400/220 KV Substation Dhamtari (Spill Over Works)

CSPTCL has submitted that 400 KV substation Dhamtari and its associated transmission lines scheme was approved by CSERC under petition no. 51/2012(M) vide order dated 09.04.2012 with scheme provision of Rs.135.70 Cr. Based on the actual estimates the same was again put up before Hon'ble CSERC under petition no. 13/2014(M) and approved by Hon'ble Commission with the same amount and scheme provision of Rs.135.70 Crores. This is also a part of spill over works. Hence, CSPTCL has requested to consider the proposal to start working on this scheme proposed to be started w. e. f. FY 2016-17 with the proposed expenditure on the respective years of the ensuing control period.

Commission View

As the above proposal for this scheme is already approved, hence same is allowed to continue with expenditure as given in enclosed relevant Annexure-1.

16. 400/220 KV Substation Jagdalpur(Spill Over Works)

CSPTCL has submitted that construction of this substation and its associated transmission lines have been already started and expected to be commissioned by FY 2016-17. This scheme is also a part of spill over works with scheme provision of Rs.319.22 Crores. Expenditure as proposed under this scheme needs to be approved for the respective

years of ensuing control period. Therefore, CSPTCL has requested to consider the proposal.

Commission View

As the above proposal for this scheme is already approved, hence same is allowed to continue with expenditure as given in enclosed relevant Annexure-1.

17. 220/132 KV Substations (Spill Over Works):

CSPTCL submitted that out of 13 numbers 220/132 KV substations and their associated transmission lines proposed under the current petition with scheme provision of Rs.398.71 Crs. pertain to previous approved CIP by Commission vide orders dated 09.04.2012 & 16.01.2015 and fall under spill over works. CSPTCL has proposed expenditure of spill over works in the instant petition as given below and requested the Commission to consider the same.

- 1) 220/132 KV Substation Girwani
- 2) 220/132 KV Substation Borjhara
- 3) 220/132 KV Substation Jagdalpur
- 4) 220/132 KV Substation Rakhi
- 5) 220/132 KV Substation Narayanpur

Commission view

As the above proposals are of spill over works which were already approved and is under construction, hence the same are allowed to continue with expenditures as mentioned in Annexure-1. Commission has already asked CSPTCL to construct 220/132 KV Substation at Jagdalpur in the premises of the 400KV substation Jagdalpur. Therefore, 220 KV Jagdalpur(400) to 220KV Jagdalpur DCDS Line and 2 no. 220 KV feeder Bay at 400 KV S/S Jagdalpur are not approved.

18. 132/33 kV Substations - Spill Over Works

CSPTCL submitted that out of 37 numbers 132/33 kV substation and their associated transmission lines proposed under the current petition

with scheme provision of Rs 547.31 Crs pertain to previous approved CIP by Commission vide orders dated 09.04.2012 & 16.01.2015 and fall under spill over works. CSPTCL requested the Commission to consider to approve these schemes for the respective years of ensuing control period:

- a) 132/33 KV Substation Rawanbhata
- b) 132/33 KV Substation Renki
- c) 132/33 KV Substation Koni
- d) 132/33 KV Substation Batoli
- e) 132/33 KV Substation Kondatarai
- f) 132/33 KV Substation Sukma
- g) 132/33 KV Substation Lormi
- h) 132/33 KV Substation Charama
- i) 132/33 KV Substation Bhakhara
- j) 132/33 KV Substation Seorinarayan
- k) 132/33 KV Substation Wadrafnagar
- l) 132/33 KV Substation Bijapur
- m) 132/33 KV Substation Pakhanjur
- n) 132/33 KV Substation Kansabel
- o) 132/33 KV Substation Dhabara

Commission View

All the above substations are already approved substations, hence, CSPTCL may continue construction of these substations with expenditure as approved in Annexure – 1.

19. Normal Development Scheme:

CSPTCL has proposed various works under normal development scheme for the purpose of system strengthening, system reliability, voltage improvement and better quality of supply. It has proposed addition of one 400/220 KV substation, seven 220 KV substation and twenty 132/33 KV substations. Similarly erection of 70 ckt km 400 KV line, 1751 ckt km 220 KV line and 132 KV line is proposed in the plan. In addition, CSPTCL has proposed schemes of Rs. 821.50 crore for other system improvement works. We have gone through the proposals in detail. The list of approved Normal Development Scheme for control period FY 2016-17 to FY 2020-21 is given in Annexure -2.

After detailed technical deliberation on the load pattern and alternative means, views have been formed on each of the scheme and are as given following paragraphs.

20. 400/220 KV substation Raipur-II (NRDA)

CSPTCL has submitted that construction activities for development of Naya Raipur is under progress and may come in existence after next 3 to 4 years. Looking to the fast load growth of Raipur capital city and Naya Raipur area, another 400 kV substation at Raipur is felt necessary after 5 to 6 years as capacity of existing 400 kV substation Raita will be insufficient to manage the future load. Considering the future load growth of Raipur city & Naya Raipur and in order to have reliability / stability of supply, a new 400 kV substation Raipur at NRDA area with 400 kV connectivity by LILO of existing 400 kV Marwa-Raita Line has been proposed through this petition for consideration and approval to start the work on this scheme w. e. f. FY 2019-20. Future 220 kV connectivity from this substation to adjacent 220 kV substation like: upcoming 220 kV substations Rajim, existing 220 kV substations Paraswani & upcoming 220 kV substations Parsada shall be proposed subsequently after identification of land etc. to form 220 kV links between 400 kV substation Raita & Dhamtari etc. Hence, CSPTCL has requested to consider to approve this substation.

Commission View

As the 400 KV substation Dhamtari is already approved whose exact location is at Kurud, therefore, constructing two 400 KV substation so near is not justified. Hence, this substation and associated lines are not approved.

21. 220/132 KV Substations (New Normal Development Works) –

CSPTCL has submitted that considering the increasing number of 132/33 kV EHV substation in the State as per the requirement of the State DISCOM on account of increasing load growth and in order to have better voltage & uninterrupted supply to end consumers, it is essential to construct few 220/132 kV substations to meet the requirement of existing & upcoming 132 kV substations to have stable

and efficient supply arrangement. Therefore, CSPTCL has proposed for construction of few 220/132 kV EHV substations in the instant petition for consideration of Commission in ensuing control period.

22. 220 KV Substation Bilaspur:

CSPTCL has submitted that at present only 220 KV substation Mopka with (2x160 MVA + 3x40 MVA transformer capacity) is functioning at Bilaspur area to cater load of about 8 numbers 132/33 KV substations namely Tifra, Silpheri, Chakarabhata , Patharia, Ratanpur, upcoming S.V. Power, Renki, 132KV Koni & Mopka itself. Therefore, CSPTCL has proposed another 220 KV substation with certain modification in existing 132 KV lines to strengthen the grid system of Bilaspur area & looking to the supply arrangement of existing 132 KV & upcoming 132 KV substations. So CSPTCL has proposed construction of 220 KV substation at Bilaspur in the land acquired for 400 KV substation Bilaspur. As per proposal, this substation shall be charged by making LILO of 220 KV Mopka-Bhatapara & 220 KV Mopka-Siltara line using multi circuit towers.

Commission View

As mention earlier, 400 KV substation in Bilaspur is an approved scheme for evacuation of power from IFFCO power plant but at present no such power coming in this area. As this 400 KV, substation is not required at this stage, a small amount is allowed in control period from FY 2016-17 to FY 2020-21. But looking to the power requirement of this area as described in CSPTCL submission, requirement of a 220 KV substation is felt in this area. Therefore, 220 KV substation is being approved in the same land which is identified for 400 KV sub-station Bilaspur. CSPTCL should design the layout of this sub-station in such a way that 220KV part shall become the part of 400KV substation.

23. 220/132 KV Substation Dharsiwa

CSPTCL has submitted that at present 220KV substation Siltara is functioning with 2x160MVA +143MVA transformer capacity to meet out the requirement of entire industrial belt of Siltara and nearby area including partial domestic load & partial load of 132KV substation Kachana. It has been further submitted that space for construction of

additional 33 KV feeder bays over & above existing 29 numbers is not availed.

CSPTCL has further submitted that many IPP/CPPs having connectivity with this substations were earlier supplying power to the grid but nowadays due to various reasons, they are not injecting power to the grid instead availing supply from the grid causing increase in the load on the transformers of the substation. Further CSPTCL has submitted that space availability for further construction of 132KV feeders bays & 33KV bays as & when required by IPP/CPPs or for dedicated supply arrangement by consumers is almost negligible. In case of any contingency in the substation, there is no scope to handle supply of such a large industrial belt which is major source of revenue to State DISCOM. Therefore, it has been proposed to construct a new 220/132KV substation at nearby area preferably at Dharsiwa with 220 KV supply arrangement from 400 KV substation Raita to meet out the above requirement & future industrial load growth at Siltara and nearby area.

Commission view

Justifications given by CSPTCL for proposed 220/132 KV Substation Dharsiwa are found reasonable, therefore, this substation is approved subject to expenditure as mentioned in Annexure-2.

24. 220/132 KV Substation Rajim

CSPTCL submitted that presently 132 KV substation, Rajim is functioning with 3x40 MVA transformer and also having 132KV supply arrangement to existing 132KV substation Magarload (1x40MVA) & Gariaband (1x40MVA). CSPTCL further submitted that any contingency on 220KV part of 220KV substation Paraswani or on interconnecting lines may lead to cascade tripping which may cause total interruption to the area supplying power from the affected substations. Considering upcoming load growth in these area and to avoid cascade tripping etc., proposal for construction of 220 KV substation at Rajim by upgrading existing 132 KV substation with 220 KV supply arrangement from 400 KV substation Dhamtari. This substation may be beneficial with regard to the stability and also remain useful in case of contingency to

Paraswani 220KV substation & connected substations being connected with strong source that is 400KV Substation Dhamtari.

Commission View

While analyzing the proposal, it was found that CSPTCL has proposed two sub stations i.e. 220 KV S/s Rajim and 400/220 KV S/s at Naya Raipur. 400/220 KV S/s at Naya Raipur is not approved. If the same is required in future then a 220 KV substation may be constructed in Naya Raipur connecting the same from 400 KV substation Dhamtari. The ariel distance between 220 KV S/s Naya Raipur and Rajim would hardly be 20 Kms. As the Rajim is not very far from the Naya Raipur, therefore, two 220 KV substations so close to each other will not be beneficial. CSPTCL should explore the possibility of constructing 220/132 KV substation at Naya Raipur to meet future load requirement and Rajim may be connected through 132 KV line from NAYA Raipur 220/132 KV substation. Therefore, upgradation of Rajim substation is at present not approved.

25. 220/132 KV Substation Kawardha:

132 KV substation is having 103 MVA (40+63) transformer capacity and is connected with 132 KV Substation Bemetara through a single circuit tower line. There is a DCSS line to Pandaria 132 KV substation also. Maximum load on the transformers observed 100 MVA which is almost full capacity of the installed transformer capacity. Further CSPDCL has recommended 02 number 132 KV substation namely at Baijalpur (Rajnandgaon region) & at Betar (Durg Region). Both the substations are proposed to be connected from Kawardha 25 KM away. In view of loading 132 KV substation Kawardha & further connectivity to other two proposed substation, it is very essential to construct a 220 KV substation at Kawardha to cope up with the future load growth of the existing and proposed area.

Commission view

Justifications submitted by CSPTCL for 220/132 KV Substation Kawardha are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

26. 220/132 KV Substation Kanker & Sukma

In justification, CSPTCL has submitted that in order to retain reliability & stability of supply to 132 KV EHV existing & future upcoming/proposed substations of Bastar area and also to meet out any contingency, construction of proposed 220/132KV substation Kanker & up-gradation of upcoming 132KV Sukma to 220KV shall be essential. This will improve the voltage profile, reduce the T&D losses & strengthen the network of LWE affected Bastar area which is having a large geographical area.

Commission View

The location of proposed substations i. e. Kanker and Sukuma are near Narayanpur, where 220 KV substation is already approved. Hence, it is not necessary to construct other substations so near. Therefore, above substation is not approved.

27. 220 KV Substation Ambikapur

In justification, CSPTCL has submitted that Looking to future load growth at the areas and to strengthen the transmission network to meet out any contingency, 220/132KV Ambikapur is proposed through the current petition which shall be advantageous in improving voltage profile, reduction in T&D losses and to strengthen the stability of supply of Sarguja area.

Commission View

The location of proposed substation i. e. Ambikapur is near to Bishrampur, where already a 220 KV substation is approved in Bishrampur. Hence, it is not necessary to construct other 220 KVsubstations so near. Therefore, above substation is not approved.

28. 220/132 KV Substation Parsada

In the earlier capital Investment Plan FY 13 – FY 16, construction of 220/132 KV substation meant for NRDA, Raipur along with its associated line was approved. Land to this substation was acquired at Bhelwadih village. This area is near to Abhanpur town in the south west direction of Raipur City. The 220KV substation, Doma & 132 KV

substation Mana already exist in this area. The load of this area can easily be met from 220 KV substation, Doma. Further it is to mention here that VIP area of the Raipur city including Vidhansabha, new Raipur area are getting supply from 132KV substation Kachhana (2x63+1x40MVA)and, 132KV substation Mandir Hasaud (1x40)MVA.

CSPTCL submitted that the load of these three substations depends upon 220 KV substation Urla, 220 KV substation, Siltara and 132KV substation Mahasamund (through a single circuit 132KV line). In case of tripping of any 132KV line from adjacent substation interruption to these substations occur due to overloading of remaining lines. Looking to the future load growth to area being feed from theses substation and to avoid interruption as stated above, it would be appropriate if a 220KV substation near Mandir Hasaud, Raipur be constructed. After construction of this substation loading on the 220KV transformers of 220KV substation Urla & Siltara will also be reduced. Hence a proposal for construction of 220KV substation, Parsada with 220KV connectivity from 400KV substation, Raita is given through this petition deferring the construction of 220KV substation, Rakhi (Bhelwadih) right now. Construction of 220KV substation Rakhi (Bhelwadih) shall be taken up in future i.e. after FY 20 if needed. Land for 220KV substation, Rakhi & Parsada have been earmarked by NRDA. Accordingly a separate proposal for 220KV substation, Parsada & its associated transmission lines are being made under new Normal Development Scheme.

Commission View

Commission has already approved a substation in Rakhi but CSPTCL could acquire land in Parsada for the approved substation. Therefore, proposal for Parsada sub-station is approved in place of Rakhi. However, if in future CSPTCL find it necessary to construct a substation at Rakhi, it shall apply a fresh request for the approval.

29. 220/132 KV Substations (System Improvement Works)

In justification, CSPTCL has submitted that in order to meet the requirement of proposed substations and to avoid overloading of lines of existing EHV substations and for improvement in reliability/stability of supply so as to strengthen the grid. Following capital works are

proposed be carried out during the forthcoming control period which relates to LILO of certain lines, construction of new lines and second circuiting of existing lines for consideration for approval. Details of expenditure proposed on the respective years of the control period are given in appendix.

Particulars	Scheme Provision	Remark
Construction of 220 KV Jagdalpur (from 400 KV Substation Jagdalpur)-Barsoor DCDS Line + 02 No 220 KV feeder bays at 400 KV substation Jagdalpur & 2 No. at 220 KV substation Barsoor.	114.00	To strengthen the system and improvement in supply of Bastar area. This will also form a 220KV link between 400KV Jagdalpur & 400KV Khedamara through 220KV Barsoor-Gurur-Bhilai-Khedamara. Further it is pertinent to mention here that three numbers of 220KV substations namely Narayanpur, Kanker & Sukma are proposed in the instant CIP petition will depend only on single source 220KV Gurur-Barsoor DCDS line, hence this line will be useful for improving the stability & reliability of system and also voltage profile of the Bastar area.
Construction of 03 KM DCDS line for re-arrangement of supply between 220 KV substation Telkhadih (RJN) and 132 KV Substation Dhamdha, Rajnandgaon & Pulgaon.	5.00	To improve the reliability/stability of supply in the areas getting power from these substations and also to have a second circuit between Telkhadih & 132KV substation Rajnandgaon and supply to Pulgaon will be shifted from 132KV

Particulars	Scheme Provision	Remark
		Rajnandgaon to 220KV Telkhadih.
LILO of 132 KV Mahasamund-Rajim Line at 220 KV Substation Paraswani + 2 no. 132 KV feeder bays at 220 KV substation Paraswani.	10.00	To improve the reliability/stability of supply to the areas getting power from these substation and also to form two independent 132KV circuit from Paraswani 220KV substation to 132KV substations at Mahasamund & Rajim each.
Utilization of Traction Urkura Line by conversion of 2 phase tower into 3 phase to extend one additional interconnector between Urla to Sector 'A' s/s Urla and extension of supply to Urkura from 132 KV substation Sector A + 4 no. 132 KV feeder Bays at Sector 'A' Urla Substation (Line length shall remain same as this is nothing but re-arrangement of supply for system improvement)	5.50	To improve the reliability/stability of supply to the areas getting power from 132KV substation Gudiyari, Birgaon etc. This will add new 132KV link between 220KV substation Urla to 132 KV substation Sector-'A' Urla.
2nd Circuiting of 132 KV Kurud-Magarload Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Magarload only.	10.50	To improve the reliability / stability / voltage profile of supply to the areas getting power from 132KV substation Magarload.
2nd Circuiting of 132 KV Magarload-Gariyaband Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Magarload & Gariaband each.	12.90	To improve the reliability / stability / voltage profile of supply to the areas getting power from 132KV substation Gariaband.
2nd Circuiting of 220 KV Bemetera-Mungeli Line + 1 no.	20.00	To improve the reliability / stability / voltage profile of

Particulars	Scheme Provision	Remark
220 KV Feeder Bay at 220 KV Substation Mungeli & Bemetara each.		supply to the area getting power from connected substations from 220KV substation Mungeli. 220KV line for connectivity to 220KV substation Kawardha is also being proposed from 220KV substation Mungeli.
2nd Circuiting of 132 KV Balodabazar-Kasdol Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Kasdol & Balodabazar each.	17.50	To improve the reliability/stability/voltage profile of supply to the areas getting power from 132KV substation Kasdol.
2nd circuiting of 132 KV Kanker-Kondagaon-Jagdapur Line +1 no. feeder bay at 132 KV Substation Kanker , 2 no. at Kondagaon & 1 no. feeder bay at Jagdalpur.	60.00	To improve the reliability/stability/voltage profile of supply to the areas getting power from 132KV substations of Bastar area.
2nd Circuiting of 132 KV Gandai-Saja Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Gandai & Saja each.	10.50	To improve the reliability/stability /voltage profile of supply to the areas getting power from 132KV substation Gandai.
2nd Circuiting of 132 KV Dhamdha-Saja Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Dhamdha & Saja each.	10.80	To improve the reliability/stability /voltage profile of supply to the areas getting power from 132KV substation Saja & also to Gandai..
2nd Circuiting of 132 KV Rajnandgaon-Dongargaon Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Dongargaon & Rajnandgaon (132 KV) each.	13.50	To improve the reliability/stability /voltage profile of supply to the areas getting power from 132KV substation Dongargaon, &
LILO of 132 KV Telkhadih-	27.50	Dongargarh. 132 KV

Particulars	Scheme Provision	Remark
Dongargarh Line at 132 KV Substation Dongargaon + 2 no. 132 KV feeder bays at Dongargaon Substation.		substation Dongargaon will be connected through 220KV Telkhadih. This arrangement form a 132 KV ring between Telkhadih to Dongargaon, Rajnandgaon to Dongargarh. It is pertinent to mention here that proposed 132 substation Mohala will be connected through 132 KV substation Dongargaon.
132 KV DCDS Line between 132 KV Substation Rawanbhata and Sarona on Monopole+ 4 no. 132 KV feeder bays (2 no. each at Sarona & Rawanbhata S/S)	17.80	To provide another 2nd 132KV link to Sarona Substation through upcoming 132KV substation Rawanbhata going to be connected from 220KV substation Doma. Existing connectivity to this substation is from tapping through Bhilai-Gidiyari line.
Re-arrangement of 132 KV connectivity of M/s Bajrang Power & Alloys Borjhara to arrange 132 KV double circuiting between 220 KV Urla & 220 KV Borjhara S/S + 1 no. 132KV feeder bay at 220 KV S/S Borjhara..	5.00	To provide 2nd 132KV link between 220KV substation Urla & 132KV substation Borjhara which is going to be upgraded on 220KV.
Utilization of second circuit of 132 KV Raigarh-Gharghoda Line up to Location no. 38 & construction of 6KM DCDS line to have 132 KV interconnector between upcoming 220KV Girtwani & existing 220KV Substation Raigarh + 1 no.	6.00	To improve the reliability/stability /voltage profile of supply to the area to getting power from 132KV substation Gharghoda & further connected substations.

Particulars	Scheme Provision	Remark
132KV feeder bay at 220 KV S/S Girwani.		
Additional/Augmentation of Transformers in existing & upcoming EHV Substations	305.00	To enhance the capacity of existing/upcoming/proposed 400KV, 220KV & 132KV substations in future looking to the load pattern and as per the requirement of reliability & stability of supply in case any contingency under the provisions of State Grid Code. The expenditure proposed during the respective years of the control period are given in the appendix enclosed with the petition.
Construction of 220/132/33 KV feeder additional Bays in existing substations	40.00	To meet out the future requirement of additional bays in existing/upcoming /proposed substations and grid system. The expenditure proposed during the respective years of the control period are given in the appendix enclosed with the petition.
Capacitor Banks, RTU's, Communication equipments, smart grid arrangement, battery, battery chargers, other EHV equipments of S/S, Conductor replacement etc and other associated equipment, acquisition	130.00	To meet out the future requirement of system improvement/PSDF work/smart grid arrangement in existing/upcoming /proposed substations and grid system.

Particulars	Scheme Provision	Remark
of land, Survey works, forest clearance, land compensation and Miscellaneous system improvement related with existing/new upcoming substation/PSDF Works/automatic energy accounting & Transmission Management information system/smart grid.		The expenditure proposed during the respective years of the control period are given in the appendix enclosed with the petition.

Commission view

Proposal submitted for system improvement works has been analyzed in detail and approved schemes mentioned in Annexure – 2.

30. 132/33 kV Substation Basana

CSPTCL has submitted that Basana block is an agriculture dominant belt. The feeders radiating from 220 KV Substation Saraipali supplying to the area are observing overload and causing low voltage problem. Due to the reason, CSPDCL has recommended this substation with 1x 63 MVA 132/33 KV transformer capacity with expected load of 43 MVA. Therefore, it has been requested to the Commission to approve this substation.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Basna are found reasonable, therefore, this substation is approved in this order expenditure as mentioned in Annexure-2.

31. 132/33 kV Substation Berla, District-Durg

CSPTCL has submitted that supply to Berla is fed through 33 KV feeders from 220KV substation Bemetara & 33 KV feeder from 132/33 KV substation Bhilai. Due to lengthy feeders and overloading, CSPDCL has recommended construction of this substation with 1x40 MVA transformer capacity.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Berla are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

32. 132/33 KV Substation Takhatpur

CSPTCL has submitted that looking to the future load growth and existing low voltage problem in the area, CSPDCL has recommended construction of this substation with 1x40 MVA transformer capacity. At present the area gets supply from 132KV substation Bilaspur & Mungeli.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Takhatpur are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

33. 132/33 kV Substation Vandana Pooling substation

CSPTCL submitted that 220/132KV substation at Chhuri was commissioned on dated 26.07.2014 as per the sanctioned estimate dated 05.06.2006. There is no provision of 33 KV yard and also no space is available for installing 132/33KV power transformer and 33KV yard. This can be resolved by converting 132KV Vandana pooling substation into load catering by putting 40MVA transformers and construction of 33KV yard. This will help in reducing the load of existing 132KV substation Darri (Jamnipali). CSPDCL has also recommended for conversion of this pooling substation into load catering substation.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Vandana pooling substation are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

34. 132/33 kV Substation Nagari

CSPTCL submitted that area near Nagari are getting supply through lengthy 33 KV feeders hence, low voltage problem is being faced in the area. Therefore CSPDCL has recommended for construction of 132/33 KV 1x40 MVA substation at Nagari.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Nagari are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

35. 132/33 kV Substation Indagaon

CSPTCL submitted that supply to this area is received from 33 KV Gariyaband-Devbhog feeder of about 141 Km length which causes very low voltage. Also this feeder is passes through dense forest area causing maintenance problems and hence CSPDCL has recommended for construction of this substation. CSPTCL has requested to consider the proposal of 132/33 KV 1x40 MVA Indagaon substation for approval.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Indagaon are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

36. 132/33 kV Substation Mohala

CSPTCL has submitted that this LWE effected area gets supply from 33 KV Mohala feeder radiating from 132 KV Substation Dallirajhara of about 124 Km causing very low voltage and hence CSPDCL has recommended for construction of this substation. CSPTCL has requested to consider the proposal of 132/33 KV 1x40 MVA Mohala substation for approval.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Mohala are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

37. 132/33 kV Substation Rajpur

CSPTCL has submitted that supply to this area is being done by the feeders emanating from 132KV Ambikapur substation. These feeders are heavily loaded causing poor voltage regulation and hence CSPDCL has recommended construction of this substation. CSPTCL has

requested to consider the proposal of 132/33 KV 1x40 MVA Rajpur substation for approval.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Rajpur are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

38. 132/33 kV Substation Dornapal, Raoghat & Bhopalpatnam –

CSPTCL has submitted these LWE affected areas are getting supply through lengthy feeders passing through the forest area having low voltage problem and causing difficulties during breakdown of the lines supplying power to these areas. To avoid low voltage problem to these naxal affected area 132KV substations are proposed at Dornapal, Raoghat and Bhopalpatnam. CSPDCL has also recommended for construction of these substations. Therefore, CSPTCL has requested to consider the proposal of 132/33 KV 1x40 MVA Dornapal, Raoghat & Bhopalpatnam Rajpur substations for approval.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Dornapal and Raoghat are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2. CSPTCL is directed to review the requirement of Bhopalpatnam substation after completion of construction of Bijapur substation.

39. 132/33 kV Gullu Pooling Substation

CSPTCL has submitted that 132KV pooling substation at Gullu area is being constructed by M/s Sharda Energy & Minerals Limited for their upcoming power plant near Gullu District Jashpur. This pooling substation shall be converted into load catering substation by installing one number 132/33KV transformer and construction of 33KV yard to supply nearby area like Kunkuri etc of Jashpur District for better voltage & uninterrupted supply to nearby area. CSPDCL has consented for converting this pooling substation to load catering substation.

Commission View

Commission has already approved a substation at Kansabel which will take care of the requirement of the nearby area. Therefore, there is no need of another substation in this area. Hence, this substation is not approved.

40. 132/33 kV Substation Nagarnar

CSPTCL has submitted that NMDC Iron & steel plant with about 250MVA capacity shall start functioning within one to two years at Nagarnar. After commissioning of this plant, many of ancillaries unit shall start functioning. To meet out the future industrial load growth, demand of nearby area like Kurrandi, Semra and Sadgud, expected 20MVA traction load. Hence, CSPDCL has recommended construction of this substation. Therefore, CSPTCL has requested to consider the proposal of 132/33 KV Nagarnar substation.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Nagarnar found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

41. 132/33 kV Substation Sarora & Daldalseoni

CSPTCL has submitted that looking to the load growth of capital city Raipur, it is essential to construct a new 132 KV substation at Sarora which will take care partial domestic industrial load and similarly Daldal Seoni which will take care of domestic as well as commercial load of the city. Due to non-space availability at 132 KV substation Gudiyari, Birgaon for further expansion, construction of these two substations have been proposed which will reduce the loading of said substations along with Kacchana Substation and interconnecting lines. CSPDCL has also consented construction of these substations. Therefore, CSPTCL has requested to consider the proposal of 132/33 KV Sarora and Daldalseoni.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Sarora and Daldalseoni are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

42. 132/33 kV Substation LIA Chhawani

CSPTCL has submitted that at present load of Chhawani industrial area of Bhilai is met out through the supply from 05 numbers 33KV feeders radiating from Re-modelling substation Bhilai. Looking to load growth in near future, to save energy losses and due to constraints on existing 132KV substations having 20 numbers 33KV feeder, CSPDCL has recommended to construct 132KV substation at Light Industrial Area Chhawani. Therefore, CSPTCL has requested to consider the proposal of 132/33 KV LIA Chhawani substation.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation LIA Chhawani are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

43. 132/33 kV Substation Baijalpur

CSPTCL has submitted that Baijalpur and nearby areas are getting supply from 132KV substation Kawardha & Pandaria, facing low voltage problem due to heavy load on feeders. On account of increasing pump load and future load growth to these areas, CSPDCL has requested to construct 132KV substation at Baijalpur with 1x40MVA transformer capacity. Therefore, CSPTCL has requested to consider the proposal of 132/33 KV 1x40 MVA Baijalpur substation.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Baijalpur are found reasonable, therefore, this substation is being approved in this order expenditure as mentioned in Annexure-2.

44. 132/33 kV Substation Sipat

CSPTCL has submitted that Looking to future load growth of the Sipat & nearby area, proposal for construction of 132KV substation is being given in the current CIP petition. CSPDCL has also recommended for the same therefore CSPTCL has requested to consider the proposal of 132/33 KV Sipat substation.

Commission View

Koni and Mopka substations are very near to proposed substation at Sipat which will take care of requirement of this area. Therefore, this substation is not approved.

45. 132/33 kV Substation Betar (Umaria) (Durg)

CSPTCL has submitted that Betar, Umaria & Dadhi area are being fed from lengthy and loaded feeders from 220KV Bemetara & 132 substation, Nawagarh causing low voltage problem in Betar, Umaria and Dhadi. To improve voltage profile of these areas, CSPDCL has recommended for construction of 132/33KV substation Betar with 1x40 MVA transformer capacity therefore, CSPTCL has requested to consider the proposal of 132/33 KV 1x40 MVA Betar (Umaria) (Durg) substation.

Commission View

There are a number of EHV substation exist in this area, therefore, construction of this substation is not felt necessary.

46. 132/33 kV Substation Janakpur

CSPTCL submitted that Janakpur & nearby area are facing low voltage problem because of lengthy feeder emanating from 132 KV substation Manendragarh. To improve the voltage profile and reliability of supply in these areas, 132KV substation at Janakpur is proposed to be constructed with 1x40MVA transformer capacity. CSPDCL has recommended for construction of this substation. Therefore, CSPTCL has requested to consider the proposal of 132/33 KV 1x40 MVA Janakpur substation.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Janakpur are found reasonable, therefore, this substation is being approved in this order with expenditure as mentioned in Annexure-2. CSPTCL is directed to explore the possibility of juicing this substation by making LILO to Amarkantak and Morva Line.

47. 132/33 kV Substation Dharamjaygarh

CSPTCL has submitted that Kartala, Hati, Khamar, Dharamjaygarh, Kudumkela areas are getting supply from 03 number 132 KV substations namely 132 KV Ghargoda, Pathalgaon & Chaple and are facing low voltage problem due to lengthy feeders. Hence to improve voltage profile and to prevent overloading on existing feeders, 132 KV Dharamjaygarh substation is proposed with 1x40MVA transformer capacity and CSPDCL has given consent to construct the substation. Therefore, CSPTCL has requested to consider the proposal of 132/33 KV 1x40 MVA Dharmajaigarh substation.

Commission View

Justifications submitted by CSPTCL for 132/33 KV Substation Dharmajaygarh are found reasonable, therefore, this substation is being approved in this order with expenditure as mentioned in Annexure-2.

48. 132/33 kV Substation Temari (Bemetara)

CSPTCL has submitted that the 33KV Simga-Bilaspur feeder feeds power to Temari area & is experiencing low voltage at tail end. Also Nandghat & Badnara area is fed from 132 KV substation Nawagarh & Simga respectively with lengthy and overloaded feeders causing low voltage problem at tail end. To improve the voltage profile of Temari, Nandghat and Badnara area, for reducing the length of 33 KV feeders for better control in faulty conditions and to meet out future load growth of these area, CSPDCL has recommended to construct 132/33 KV substation at Temari. Therefore, CSPTCL has requested to consider the proposal of 132/33 KV Temari (Bemetara) substation.

Commission View

There exists Pathara EHV substation in this area and it is found that load of the nearby area is not of that magnitude that construction of

another EHV substation is needed in this area. Therefore, this substation is not approved.

49. Summary of approved Capital Investment Plan:

Capital Investment Considered and approved for FY 2016-17 to FY 2020-21 is as given in below:

S. No	Scheme / Name of Work	Scheme Provision	Expenditure Incurred up to FY 15	Proposed expenditure					
				FY 16	FY 17	FY 18	FY 19	FY 20	FY 21
1	SPILL OVER WORKS	1,977.15	137.45	369.54	477.92	324.35	178.75	52.41	54.2
2	NEW ND WORKS	1719.2		0	409	427	426.2	268	135
3	TOTAL	3,696.35	137.45	369.54	886.92	751.35	604.95	320.41	189.2

50. Funding of Capital Investment Plan:

CSPTCL has submitted that proposed capital works shall be carried out by taking loan from financial institution and from internal resources with debt: equity ratio as 70:30. The equity portion (30%) shall be met out from internal resources of CSPTCL and State Govt. support as per the requirement. Considering the submission of CSPTCL, Commission hereby agrees with the proposal with debt: equity ratio as 70:30. The capital investment schemes approved do not include the interest during construction same shall be allowed at the time of capitalization according the actual interest rate subject to the prudence check.

The Commission advises that the debt is to be tied up at optimized interest rates that are available in market. Further, to minimize the Interest During Construction (IDC), all out focused efforts should be made to ensure that once a project is kicked off, it must be completed in shortest possible time. We are allowing cost of schemes as proposed by CSPTCL. Subject to prudence check, Capitalization of IDC shall be dealt at the time of true up of ARR of respective year.

51. Completion of Capital Investment plan :

It is imperative to stress that on completion of the schemes, at the time of true up of ARR of respective years, CSPTCL shall be under obligation to provide, the details of actual expenses incurred and capitalized on each of scheme. Such details shall include (but not limited to) –

- The order copy for work (Purchase/Erection/Testing & Commissioning etc.) so as to verify the order value.
- The copy of loan agreement.
- The details of IDC calculation.
- In case of time overrun, justification for the same, with documentary evidence of *force majeure conditions*, if any.
- The tax paid, if any, over and above the order value.
- The Employee and A&G cost capitalized, if any.

52. General observations:

- a. As stated in the previous orders and provided in the regulations too, it is reiterated, that in case of emergency situations, causing threat to life and property, work may be taken up by the utility on its own. However, in such cases, the petition for ex post facto approval should be submitted at the first available opportunity with justification. The Commission, subject to its satisfaction with exigency stated and prudent scrutiny of cost, may accord approval for such additional capitalization.
- b. Further, it may be noted that the authorities can not be allowed to take shelter of regulatory process to run away from their functional responsibility. It must be understood loud and clear that the responsibility of detailed budgeting, financial planning and administrative/technical approval of various proposals rests unfettered on the management of the utility. The tariff order or approval of capital investment plan order should not be construed or projected as a substitute for detail financial budgeting or planning.
- c. Last but not the least, the approval of the schemes does not imply that Commission has given any blanket approval for capitalization of such expenses. It must be borne by all and one, that all the approvals granted by the Commission are only in-principle approvals and such approval / concurrence by the Commission does not in any way absolve or dilute the responsibility and liability of the competent authorities to adhere to prudence check of technical requirement and detailed specifications. Similarly canons of financial propriety shall have to be applied with undiminished force and vigor. Regulatory process only ensures test on some

broad parameters. Executive authorities must do their duty of exercising prudence check, un-trembled by the consideration that such costs or proposals have passed the test of regulatory scrutiny. If at any point of time, Commission comes to know about any irregularity, then such costs shall not be considered for capitalization.

53. Commission's Directives

- a. Priority of implementation of the schemes and their completion should be decided by CSPTCL. Effort should be made by CSPTCL for completion of all the schemes within scheduled period.
- b. The work of procurement of substation land and forest clearance should be processed timely and on priority, as this take its own time.
- c. Other directives such as conduction of load flow study, swapping of high cost loans, creation and maintenance of asset register etc. contained in the previous orders, unless superseded, shall remain in force.

**Sd/-
(Vinod Shrivastava)
Member**

**Sd/-
(Narayan Singh)
Chairman**

ANNEXURE – 1

Spill over works:

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Exp. Incurred up to FY 15	Proposed Expenditure details to be incurred (in Rs Crores)						Completion Target
				Route Length (in KM)	Length (in CKt KM)		Base Year FY 16	MYT Control Period					
								FY 17	FY 18	FY 19	FY 20	FY 21	
A	400/220 KV Substation & Associated Lines												
1	400 KV Substation Jagdalpur (2x315MVA)	69.39	630.00	-	-	1.10	30.00	20.00	18.29	-	-	-	FY 17
2	400 KV Raita-Jagdalpur DCDS Line + 2 no. feeder bay at Raita	249.83	-	331.00	662.00	112.00	35.22	70.00	32.61	-	-	-	FY 17
3	400 KV Substation Dhamtari (2x315 MVA)	109.00	630.00	-	-	-	5	20.00	45.00	39.00	-	-	Beyond FY 18
4	LILO of 400 KV Raita-Jagdalpur DCDS Line	6.00	-	3.00	6.00	-	-	5.00	1.00	-	-	-	Beyond FY 18
5	220KV Dhamtari-Gurur DCDS line + 2 no. 220 KV Feeder Bay at Gurur	20.70	-	25.00	50.00	-	-	7.00	5.00	8.70	-	-	Beyond FY 18
6	400 Kv Substation Bilaspur (2x315 MVA)	126.62	630.00	-	-	-	-	5.00	-	-	-	-	Beyond FY 21
7	LILO of 400 KV Korba West-Bhilai Ckt-I	55.00	-	50.00	100.00	-	-	1.00	-	-	-	-	Beyond FY 21
8	400 Kv Bilaspur-Sipat PGCIL DCDS Line	60.00	-	40.00	80.00	-	-	1.00	-	-	-	-	Beyond FY 21
9	220 KV Bilaspur-Suhela DCDS Line + 2 No. feeder Bay at 220 KV Suhela	61.61	-	110.00	220.00	-	-	-	-	10.00	15.00	15.00	Beyond FY 21
10	220 KV Bilaspur-Mopka DCDS Line + 2 No. feeder Bay at 220 KV Mopka	22.40	-	40.00	80.00	-	-	-	-	-	5.00	10.00	Beyond FY 21
	Sub Total	780.55	1,890.00	599	1,198.00	113.1	70.22	129	101.9	57.7	20	25	
B	220/132 KV Substation & Associated Lines												
1	220/132/33 KV Substation Girwani (1x160 MVA +2x63 MVA)	40.00	286.00	-	-	0.97	26.00	13.03	-	-	-	-	FY 16
2	LILO of 220 KV JPL(Tamnar)-Raigarh Line	5.00	-	10.00	20.00	5.00	-	-	-	-	-	-	Work

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Exp. Incurred up to FY 15	Proposed Expenditure details to be incurred (in Rs Crores)						Completion Target
				Route Length (in KM)	Length (in CKt KM)		Base Year	MYT Control Period					
								FY 16	FY 17	FY 18	FY 19	FY 20	
													Completed
3	LILO of 132 KV Raigarh-Gharghoda Line on multi circuit tower to Girwani Substation	4.32	-	7.00	14.00	0.21	4.00	0.11	-	-	-	-	FY 16
4	132 KV DCSS Girwani-Gharghoda	8.40	-	20.00	20.00	-	6.00	2.40	-	-	-	-	FY 16
5	220/132/33 KV Substation Rakhi, Naya Raipur (2x160 MVA + 2x63 MVA)	50.00	446.00	-	-	-	-	-	-	-	-	5.00	Beyond FY 21
6	220 KV Raita-Rakhi DCDS Line on multicircuit tower & OPGW + 2 no. 220 KV feeder Bay at 400 KV substation Raita	82.00	-	70.00	140.00	-	-	-	-	-	-	10.00	Beyond FY 21
7	220/132 KV Substation Borjhara (2x160 MVA) Upgradation of Existing 132 KV S/S	30.00	320.00	-	-	-	5.00	18.00	7.00	-	-	-	FY 17
8	LILO of Urla-PGCIL Line on Multicircuit Tower	4.54	-	4.00	8.00	-	2.00	2.00	0.54	-	-	-	FY 17
9	LILO of Birgaon-Gudiyari at 220 KV substation Borjhara + 2 no. 132 KV feeder bay at existing Borjhara S/S.	16.00	-	16.00	32.00	-	2.00	10.00	4.00	-	-	-	FY 17
10	220/132/33 KV Substation Narayanpur (1x160 MVA + 1x40 MVA)	40.00	200.00	-	-	-	-	15.00	18.00	7.00	-	-	FY 18
11	LILO of 220 KV Barsoor-Gurur Line	13.50	-	15.00	30.00	-	-	5.00	5.00	3.50	-	-	FY 18
12	132 KV Narayanpur-Kondagaon DCSS Line	30.00	-	55.00	110.00	-	-	10.00	10.00	10.00	-	-	FY 19
13	220/132/33 KV Substation Jagdalpur (1x160 MVA + 1x40 MVA)	40.00	200.00	-	-	-	5.00	10.00	16.00	9.00	-	-	FY 18
14	132 KV DCDS Line from 220KV to 132 KV Jagdalpur + 2 no. feeder Bay at 132 KV Jagdalpur	12.95	-	15.00	30.00	-	2.00	3.00	4.00	3.95	-	-	FY 19
	Sub Total	376.71	1452	212	404	6.18	52	88.54	64.54	33.45	0	15	

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Exp. Incurred up to FY 15	Proposed Expenditure details to be incurred (in Rs Crores)						Completion Target
				Route Length (in KM)	Length (in CKt KM)		Base Year	MYT Control Period					
								FY 16	FY 17	FY 18	FY 19	FY 20	
C	132/33 KV Substation & Associated Lines												
1	132 Kv Substaion Sukma (1x40 MVA)	11.28	40.00	-	-	-	3.00	6.00	2.28	-	-	-	FY 17
2	LILO of Barsoor-Lower Sileru Line at Sukma	8.73	-			-	5.00	3.00	0.73	-	-	-	FY 17
3	132 Kv Substaion Lormi (1x40 MVA)	13.50	40.00	-	-	-	3.00	7.00	3.50	-	-	-	FY 17
4	132 KV DCDS Mungeli-Lormi + 2 no. 132 KV feeder Bay at 220 KV Substation Mungeli	27.95	-	35.00	70.00	-	3.00	15.00	6.00	3.95	-	-	FY 17
5	132 Kv Substaion Batoli (1x40 MVA)	13.50	40.00	-	-	-	3.00	10.00	0.50	-	-	-	FY 17
6	LILO of 132 KV Ambikapur-Pathalgaon Line	3.75	-	5.00	10.00	-	1.00	2.75	-	-	-	-	FY 17
7	132 Kv Substaion Seorinarayan (1x40 MVA)	13.50	40.00	-	-	-	1.00	5.00	7.50	-	-	-	FY 18
8	132 KV DCSS Banari-Seorinarayan Line with 01 no. Bay at 220 KV S/S Banari	27.95	-			-	1.00	12.00	10.00	4.95	-	-	FY 18
9	132 Kv Substaion Wadrafnagar (1x40 MVA)	13.50	40.00	-	-	-	2.50	6.00	3.00	2.00	-	-	FY 18
10	132 KV DCDS Pratappur-Wadrafnagar Line + 2 no. feeder Bay at Pratappur Substation	39.20	-	50.00	100.00	-	2.00	15.00	12.00	10.20	-	-	FY 18
11	132 Kv Substaion Kansabel (1x40 MVA)	13.50	40.00	-	-	-	1.00	10.00	2.50	-	-	-	FY 18
12	LILO of 132 KV Jashpur-Pathalgaon Line	4.50	-	6.00	12.00	-	1.00	3.00	0.50	-	-	-	FY 18
13	132 Kv Substaion Kondatarai(1x40 MVA)	13.50	40.00	-	-	-	3.00	10.00	0.50	-	-	-	FY 17
14	LILO of 132 KV Raigarh-Sarangarh Line	7.50	-	9.00	18.00	-	1.00	6.00	0.50	-	-	-	FY 17
15	132 Kv Substaion Dhabhara (1x40 MVA)	13.50	40.00	-	-	-	3.00	10.00	0.50	-	-	-	FY 17
16	132 KV Kondatari-Dhabara DCDS Line	15.00	-	33.00	66.00	-	1.00	10.00	4.00	-	-	-	FY 17
17	132 Kv Substaion Charama (1x40 MVA)	13.50	40.00	-	-	-	3.00	8.00	2.50	-	-	-	FY 17
18	LILO of 132 KV Gurur-Kanker Line	2.50	-	4.00	8.00	-	1.00	1.50	-	-	-	-	FY 17
19	132 Kv Substaion Pakhanjur (1x40 MVA)	13.50	40.00	-	-	-	2.00	8.00	2.50	1.00	-	-	FY 18

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Exp. Incurred up to FY 15	Proposed Expenditure details to be incurred (in Rs Crores)						Completion Target
				Route Length (in KM)	Length (in CKt KM)		Base Year	MYT Control Period					
								FY 16	FY 17	FY 18	FY 19	FY 20	
20	132 KV Pakhanjur-Bhanupratappur Line + 2 no. feeder Bay at Bhanupratappur S/S.	72.00	-	90.00	180.00	-	1.00	25.00	30.00	16.00	-	-	FY 18
21	132 Kv Substaion Bijapur (1x40 MVA)	13.50	40.00	-	-	-	1.00	6.00	5.00	1.50	-	-	FY 18
22	132 KV Barsoor-Bijapur DCSS Line +1 no. 132KV feeder Bay at 220 KV S/S Barssor	60.00	-	110.00	220.00	-	2.00	20.00	35.00	3.00	-	-	FY 18
23	132 Kv Substaion Bakhara (1x40 MVA)	13.50	40.00	-	-	-	1.00	9.00	3.50	-	-	-	FY 17
24	132 KV Kurud-Bakhara DCSS Line + 1 no. feeder Bay at 132 KV S/S Kurud	16.30	-	25.00	50.00	-	1.00	10.00	5.30	-	-	-	FY 17
25	132 Kv Substaion Rawanbhata (1x40 MVA)	30.00	40.00	-	-	5.68	16.32	8.00	-	-	-	-	FY 16
26	132 KV DCDS Line from 220 KV S/s Doma + 2 no 132KV feeder bay at 220 KV S/S Doma	45.65	-	16.00	32.00	-	40.00	5.65	-	-	-	-	FY 16
27	132 Kv Substaion Renki (1x40 MVA)	10.00	40.00	-	-	-	8.00	2.00	-	-	-	-	FY 16
28	132 Kv Substaion Koni (1x40 MVA)	12.00	40.00	-	-	4.00	6.50	1.50	-	-	-	-	FY 16
29	132 KV LILO of Mopka-SV Power at Koni	4.50	-	15.00	30.00	0.87	3.00	0.63	-	-	-	-	FY 16
	Sub Total	547.31	600	398	796	10.55	120.32	236.03	137.91	42.6	-	-	
D	Other System Improvement Works												
1	LILO of 132KV Korba-Champa at 220 KV S/s Banari + 2 no. 132 KV feeder Bay at 220 KV Substation Banari	18.41	-	25.00	50.00	-	1.00	-	10.00	5.00	2.41	-	FY 19
2	LILO of 220 KV Mopka-Siltara Line at 400 KV Substation Raita + 2 no. 220KV feeder bay at 400 KV Substation Raita	17.50	-	15.00	30.00	-	-	-	-	-	15.00	2.50	FY 21
3	LILO of 220 KV Bhatapara-Doma Line at 400 KV Substation Raita + 2 no. 220KV feeder bay at 400 KV Substation Raita	17.50	-	15.00	30.00	-	-	-	-	-	15.00	2.50	FY 21

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Exp. Incurred up to FY 15	Proposed Expenditure details to be incurred (in Rs Crores)						Completion Target
				Route Length (in KM)	Length (in CKt KM)		Base Year	MYT Control Period					
								FY 16	FY 17	FY 18	FY 19	FY 20	
4	LILO of 132 KV Raigarh-Adhbhar Line at 132 KV Substation Chaple + 2 no. 132 KV Feeder Bay at 132 KV Substation Chaple	9.20	-	10.00	20.00	-	-	-	-	-	-	9.20	FY 21
5	2nd Circuiting of 132 KV Bishrampur-Balrampur Line upto 132 Kv Substation Pratappur	20.00	-	59.00	59.00	0.07	18.00	1.93	-	-	-	-	FY 16
6	2nd Circuiting of 132 KV Ambikapur-Pathalgaon Line	14.05	-	92.00	92.00	1.52	10.00	2.53	-	-	-	-	FY 16
7	2nd Circuiting of 220 KV Bishrampur-Korba Line	47.60	-	153.00	153.00	6.03	35.00	6.57	-	-	-	-	FY 16
8	Installtion of CT/PT's and energy meters of 0.2s & 0.2 accuracy class for measurement of accurate energy sent uot to CSPDCL from 33KV side of EHV transformers for energy accounting purpose in EHV substations	4.50	-	-	-	-	4.50	-	-	-	-	-	FY 16
9	Provision of latest testing equipments at circle level for oil testing/tan delta kit for transformer bushing,CT,PT,LCM measuring kit,DGA measurement kit,ultra-high vaccume filter machine, frequency resonse analiser etc.	1.50	-	-	-	-	1.50	-	-	-	-	-	FY 16
10	Data logging of all the EHV substation for recording energy and other substation parameters of EHV substation through AMR	4.00	-	-	-	-	2.00	2.00	-	-	-	-	FY 17
11	Providing OPGW cable along with accessories up to 220 kv transmission lines of 2098 km for on line real time data communication to main 7 back up SLDC and various other purposes like communication in first phase.	60.00	-	-	-	-	-	8.00	10.00	40.00	-	-	FY 19

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Exp. Incurred up to FY 15	Proposed Expenditure details to be incurred (in Rs Crores)						Completion Target
				Route Length (in KM)	Length (in CKt KM)		Base Year	MYT Control Period					
								FY 16	FY 17	FY 18	FY 19	FY 20	
12	Construction of 26 no. 33 KV feeder Bays at various Existing EHV Substations.	8.32	-	-	-	-	5.00	3.32	-	-	-	-	FY 17
13	Aug/Addl Transformers in Existing EHV Substations	50.00	-	-	-	-	50.00	-	-	-	-	-	FY 16
	Sub Total	272.58	0	369	434	7.62	127	24.35	20	45	32.41	14.2	
E	GRAND TOTAL	1,977.15	3,942.00	1,578.00	2,832.00	137.45	369.54	477.92	324.35	178.75	52.41	54.20	

ANNEXURE – 2

New Capital Investment Plan: Normal Development Scheme

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Proposed Expenditure details to be incurred (in Rs Crs)						Completion Target
				Route Length (in KM)	Length (in CKt KM)	Base Year	MYT Control Period					
							FY 16	FY 17	FY 18	FY 19	FY 20	
A	220/132 KV Substation & Associated Lines											
1	220/132 KV Substation Bilaspur (2x160 MVA)	40.00	320.00	-	-	-	15.00	15.00	10.00	-	-	FY 18
2	LILO of 220 KV Mopka-Siltara Line & 220 KV Mopka-Bhatapara Line at 220 KV Bilaspur. (on Multicircuit Tower)	48.00	-	20.00	40.00	-	15.00	22.00	11.00	-	-	FY 18
3	132 KV DCDS Interconnector between 220 KV Bilaspur & 132 KV Patharia + 2 no. 1321 KV feeder bay at Bilaspur & Patharia substation each.	3.50	-	5.00	10.00	-	1.50	2.00	-	-	-	FY 18
4	220/132/33 KV Substation Dharsiva (2x160 MVA +2x 63 MVA)	55.00	446.00	-	-	-	20.00	20.00	15.00	-	-	FY 18
5	220KV DCDS Raita-Dharsiva Line + 2 no. 220 KV feeder bay at 400 KV Substation Raita.	26.00	-	20.00	40.00	-	10.00	10.00	6.00	-	-	FY 18
6	LILO of 132 KV Bhilai-Simga Line at 220 KV Substation Dharsiva	17.50	-	25.00	50.00	-	6.00	6.00	5.50	-	-	FY 18
7	220/132/33 KV Substation Parsada, NRDA (2x160 MVA +2x63 MVA)	55.00	446.00	-	-	-	20.00	20.00	15.00	-	-	FY 18
8	220 KV DCDS Raita-Parsada at 220 KV substation Parsada.	65.00	-	55.00	110.00	-	25.00	20.00	20.00	-	-	FY 18
9	LILO of 132 KV Kuhera-Mandir Hasaud Line at 220 KV Substation at Parsada + 2 no 132 KV feeder bay at 220 KV Parsada.	13.50	-	15.00	30.00	-	5.00	5.00	3.50	-	-	FY 18
10	LILO of 132 KV Kachhana-Siltara Line at 220 KV Substation at Parsada on multi circuit	40.00	-	20.00	40.00	-	10.00	20.00	10.00	-	-	FY 18

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Proposed Expenditure details to be incurred (in Rs Crs)						Completion Target
				Route Length (in KM)	Length (in CKt KM)	Base Year	MYT Control Period					
							FY 16	FY 17	FY 18	FY 19	FY 20	
	tower+ 2 no 132 KV feeder bay at 220 KV Parsada.											
11	220/132 KV Substation Kawardha (2x160 MVA + 1x40 MVA)	50.00	320.00	-	-	-	15.00	20.00	15.00	-	-	FY 18
12	220 KV Kawardha-Mungeli DCDS line + 2 no. 220 KV feeder bay at 220 KV substation Mungeli.	64.00	-	55.00	110.00	-	25.00	30.00	9.00	-	-	FY 18
13	132 KV DCDS Interconnector between 220 KV Kawardha & 132 KV Kawardha + 2 no. 132 KV feeder bay at 132 KV substation Kawardha.	17.00	-	20.00	40.00	-	6.00	6.00	5.00	-	-	FY 18
	Sub Total	494.5	1532	235	470	-	173.5	196	125	0	0	
B	132/33 KV Substation & Associated Lines											
1	132 Kv Substaion Nagari (1x40 MVA)	14.00	40.00	-	-	-	6.00	5.00	3.00	-	-	FY 18
2	132 KV Kanker-Nagari DCSS Line +1 no. feeder bay at Kanker Substation or LILO of 132 KV Kanker Kondagaon.	48.50	-	65.00	130.00	-	16.00	20.00	12.50	-	-	FY 18
3	132 Kv Substaion (Indagaon) Deobhog (1x40 MVA)	14.00	40.00	-	-	-	8.00	4.00	2.00	-	-	FY 18
4	132 KV DCSS Line from 132 KV Nagari + 1 no. feeder bay at 132KV S/S Nagari.	38.00	-	70.00	70.00	-	10.00	18.00	10.00	-	-	FY 18
5	132 Kv Substaion Basana (1x40 MVA)	14.00	40.00	-	-	-	8.00	4.00	2.00	-	-	FY 18
6	132 KVLILO of Saraipali-Jhalap-II Circuit.	7.50	-	15.00	15.00	-	2.50	5.00	-	-	-	FY 18
7	132 Kv Substaion Berla (1x40 MVA)	14.00	40.00	-	-	-	8.00	4.00	2.00	-	-	FY 18
8	LILO of 132 KV Bhilai-Simga Line	14.00	-	20.00	40.00	-	8.00	4.00	2.00	-	-	FY 18
9	132 Kv Substaion Mohala (1x40 MVA)	14.00	40.00	-	-	-	8.00	4.00	2.00	-	-	FY 18
10	132 KV DCSS Dongargaon to Mohala + 1 no.	34.00	-	65.00	65.00	-	15.00	15.00	4.00	-	-	FY 18

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Proposed Expenditure details to be incurred (in Rs Crs)						Completion Target
				Route Length (in KM)	Length (in CKt KM)	Base Year	MYT Control Period					
							FY 16	FY 17	FY 18	FY 19	FY 20	
	feeder bay at 132 KV Substation D'gaon											
11	132 KV Substaion Rajpur (1x40 MVA)	14.00	40.00	-	-	-	6.00	6.00	2.00	-	-	FY 18
12	LILO of 132 KV Pratappur-Balrampur line at Rajpur	14.00	-	20.00	40.00	-	8.00	4.00	2.00	-	-	FY 18
13	132 Kv Substaion Doranpal (1x40 MVA)	14.00	40.00	-	-	-	6.00	6.00	2.00	-	-	FY 18
14	132 KV DCSS Sukma-Dornapal + 1 no. feeder bay at 132 KV Substation Sukma	26.50	-	50.00	50.00	-	10.00	10.00	6.50	-	-	FY 18
15	132 Kv Substaion Takhtapur (1x40 MVA)	14.00	40.00	-	-	-	8.00	4.00	2.00	-	-	FY 18
16	132 KV DCSS Mungeli to Takhtapur + 1 no. feeder bay at 220 KV Substation Mungeli.	26.50	-	50.00	50.00	-	8.00	12.00	6.50	-	-	FY 18
17	132 Kv Substaion Nagarnar (1x40 MVA)	14.00	40.00	-	-	-	-	0.50	10.00	3.50	-	FY 19
18	132 KV DCSS Jagdalpur to Nagarnar + 1 no. feeder bay at 220 KV Substation Jagdalpur.	26.50	-	50.00	50.00	-	-	1.00	18.00	7.50	-	FY 19
19	132 KV Substaion Vandana Pooling (1x40 MVA) Conversion into Load Catering Substation.	10.00	40.00	-	-	-	8.00	2.00	-	-	-	FY 17
20	132 KV Substation DaldalSeoni (2x63 MVA)	20.00	126.00	-	-	-	-	0.50	12.00	7.50	-	FY 19
21	132 KV Dharsiva-Daldalseoni DCDS Line + 2 no. 132 KV feeder bay at 220 KV S/S Dharsiva.	24.00	-	30.00	60.00	-	-	0.50	15.00	8.50	-	FY 19
22	132 KV Substation Sarora, Urla 2x63 MVA)	20.00	126.00	-	-	-	-	0.50	12.00	7.50	-	FY 19
23	132 KV DCDS Line from 220 KV Substation Borjhara + 2 no. 132 KV feeder bay at Borjhara Substation.	10.00	-	10.00	20.00	-	-	0.50	7.00	2.50	-	FY 19
24	132 KV Substation LIA Chhawani (2x63 MVA)	20.00	40.00	-	-	-	-	0.50	12.00	7.50	-	FY 19
25	132 KV DCSS Kurud/Bhilai-Chhawani Line + 1 no. 132 KV feeder bay at 132 KV Kurud.	15.50	-	20.00	20.00	-	-	0.50	12.00	3.00	-	FY 19
26	132 KV Substation Janakpur (1x40 MVA)_	14.00	40.00	-	-	-	-	-	1.00	10.00	3.00	FY 21

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Proposed Expenditure details to be incurred (in Rs Crs)						Completion Target
				Route Length (in KM)	Length (in CKT KM)	Base Year	MYT Control Period					
							FY 16	FY 17	FY 18	FY 19	FY 20	
27	132 KV Manendragarh-Janakpur DCSS Line + 1 no. 132 KV feeder Bay at 132 KV substation Manendragarh. (possibility of constructing LILO in Amarkantak-Morva line)	36.50	-	70.00	70.00	-	-	-	10.00	20.00	6.50	FY 21
29	132 KV Substation Dharamjaygarh (1x40 MVA)	14.00	40.00	-	-	-	-	-	-	10.00	4.00	FY 21
30	LILO of 132 KV Gharghoda-Pathalgaon Line	24.50	-	35.00	35.00	-	-	-	4.50	10.00	10.00	FY 21
31	132 KV Substation Raoghat (1x40 MVA)	14.00	40.00	-	-	-	-	-	-	8.00	6.00	FY 21
32	132 KV Narayanpur-Raoghat DCSS Line + 1 no. 132 KV feeder bay at 220KV Narayanpur	21.50	-	40.00	40.00	-	-	-	8.00	8.00	5.50	FY 21
33	132 KV Substation Baijalpur (1x40 MVA)	14.00	40.00	-	-	-	-	-	4.00	10.00	-	FY 20
34	132 KV Kawardha-Baijalpur DCSS Line + 1 no. feeder bay at 220 KV S/S Kawardha	14.00	-	25.00	25.00	-	-	-	4.00	10.00	-	FY 20
	Sub Total	633.5	852	635	780	-	143.5	131.5	190	133.5	35	
C	Other System Improvement Works											
1	Construction of 220 KV Jagdalpur (from 400 KV)-Barsoor DCDS Line + 02 no 220 KV feeder bay at 400 KV substation Jagdalpur & 220 KV substation Barsoor each.	114.00	-	100.00	200.00	-	-	-	10.00	20.00	30.00	Beyond FY 21
2	Construction 03 KM DCDS line for re-arrangement of supply to between 220 KV substation Telkhadih (RJN) to 132 KV Substation Dhamdha, Rajnandgaon & Pulgaon.	5.00	-	3.00	6.00	-	4.00	1.00	-	-	-	FY 17
3	Utilisation of Traction Urkura Lineby conversion of 2 phase tower into 3 phase to extend one additional interconnector between urla to sector A s/s Urla and extention of	5.50	-	-	-	-	5.00	0.50	-	-	-	FY 17

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Proposed Expenditure details to be incurred (in Rs Crs)						Completion Target
				Route Length (in KM)	Length (in CKt KM)	Base Year	MYT Control Period					
							FY 16	FY 17	FY 18	FY 19	FY 20	
	supply to Urkura from 132 KV substation Sector A + 4 no. 132 KV feeder Bay at Sector A Urla Substation (Line length shall remain same as this is nothing but rearrangement of supply for system improvement)											
4	2nd Circuiting of 132 KV Kurud- Magarload Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Magarload only.	10.50	-	30.00	30.00	-	3.00	7.00	0.50	-	-	FY 18
5	2nd Circuiting of 132 KV Magarload-Gariyaband Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Magarload & Gariaband each.	12.90	-	33.00	33.00	-	5.00	7.00	0.90	-	-	FY 18
6	2nd Circuiting of 220 KV Bemetera-Mungeli Line + 1 no. 220 KV Feeder Bay at 220 KV SubstationMungeli & Bemetara each.	20.00	-	40.00	40.00	-	5.00	12.00	3.00	-	-	FY 18
7	2nd Circuiting of 132 KV Balodabazar-Kasdol Line + 1 no. 132 KV Feeder Bay at 132 KV SubstationKasdol & Balodabazar each.	17.50	-	48.00	48.00	-	-	7.50	10.00	-	-	FY 19
8	2nd circuiting of 132 KV Kanker-Kondagaon-Jagdapur Line +1 no. feeder bay at 132 KV Substation Kanker , 2 no. at Kondagaon & 1 no. feeder bay at Jagdalpur.	60.00	-	180.00	180.00	-	-	-	10.00	40.00	10.00	FY 21
9	2nd Circuiting of 132 KV Gandai-Saja Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Gandai & Saja each.	10.50	-	25.00	25.00	-	-	-	3.00	7.50	-	FY 20
10	2nd Circuiting of 132 KV Dhamdha-Saja Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Dhamdha & Saja each.	10.80	-	26.00	26.00	-	-	-	3.80	7.00	-	FY 20
11	2nd Circuiting of 132 KV Rajnandgaon-	13.50	-	35.00	35.00	-	-	3.50	10.00	-	-	FY 19

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Proposed Expenditure details to be incurred (in Rs Crs)						Completion Target
				Route Length (in KM)	Length (in CKt KM)	Base Year	MYT Control Period					
							FY 16	FY 17	FY 18	FY 19	FY 20	
	Dongargaon Line + 1 no. 132 KV Feeder Bay at 132 KV Substation Dongargaon & Rajnandgaon (132 KV) each.											
12	Re-arrangement of 132 KV connectivity of M/s Bajrang Power & Alloys Borjhara to arrange 132 KV double circuiting between 220 KV Urla & 220 KV Borjhara S/S + 1 no. 132KV feeder bay at 220 KV S/S Borjhara..	5.00	-	-	-	-	5.00	-	-	-	-	FY 17
13	Utilisation of second circuit of 132 KV Raigarh-Gharghoda Line upto Location no. 38 & construction of 6KM DCDS line to have 132 KV interconnector between upcoming 220KV Girtwani & existing 220KV Substation Raigarh + 1 no. 132KV feeder bay at 220 KV S/S Girwani.	6.00	-	6.00	12.00	-	5.00	1.00	-	-	-	FY 17
14	Additional/Augmentation of Transformers in existing & upcoming EHV Substations	200.00	-	-	-	-	40.00	40.00	40.00	40.00	40.00	FY 21
15	Construction of 220/132/33 KV feeder additional Bays in existing substations	40.00	-	-	-	-	5.00	5.00	10.00	10.00	10.00	FY 21
16	Capacitor Banks, RTU's, Communication equipments, smart grid arrangement, battery, battery chargers, other EHV equipments of S/S, Conductor replacement etc and other associated equipments, acquisition of land, Survey works, forest clearance, land compensation and Miscellaneous system improvement related with existing/new upcoming substation/PSDF Works	60.00	-	-	-	-	15.00	15.00	10.00	10.00	10.00	FY 21

S. No.	Scheme/Name of Work	Scheme Provision (in Rs. Crs.)	MVA Capacity	Line Length		Proposed Expenditure details to be incurred (in Rs Crs)						Completion Target
				Route Length (in KM)	Length (in CKt KM)	Base Year	MYT Control Period					
							FY 16	FY 17	FY 18	FY 19	FY 20	
	Sub Total	591.20	0.00	526.00	635.00	0.00	92.00	99.50	111.20	134.50	100.00	
	GRAND TOTAL	1719.20	2384.00	1396.00	1885.00	0.00	409.00	427.00	426.20	268.00	135.00	