Additional Capital Investment Plan Petition

BEFORE

THE HON'BLE

CHHATTISGARH STATE ELECTRICITY REGULATORY COMMISSION

by

CHHATTISGARH STATE POWER GENERATION COMPANY LIMITED

DAGANIA, RAIPUR, CHHATTISGARH

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List of Abbreviations

Acronym	Definition
Capex	Capital Expenditure
CHP	Coal Handling Plant
CIP	Capital Investment Plan
CERC	Central Electricity Regulatory Commission
COD	Commercial Date of Operation
CSERC	Chhattisgarh State Electricity Regulatory Commission
CSEB	Chhattisgarh State Electricity Board
CSPGCL	Chhattisgarh State Power Generation Company Limited
CSR	Corporate Social Responsibility
DeNOx	De Nitrification
DPR	Detailed Project Report
DSPM TPS	Dr. Shyama Prasad Mukherjee Thermal Power Station
EA 2003	Electricity Act 2003
ECS	Emission Control Standards
E&M	Electrical & Mechanical
ESP	Electrostatic Precipitator
FSA	Fuel Supply Agreement
FY	Financial Year
FGD	Flue Gas Desulphurisation
GCV	Gross Calorific Value
GoCG	Government of Chhattisgarh
GFA	Gross Fixed Assets
Genco	Generation Company
HTPS KW	Hasdeo Thermal Power Station Korba West
KTPS KEB	Korba Thermal Power Station Korba East Bank
kV	Kilovolt
LE	Life Extension
MoEF	Ministry of Environment & Forest
MYT	Multi Year Tariff
MW	Megawatt
O&M	Operations and Maintenance
ODS	Ozone Depletion Substance
PLF	Plant Load Factor
PFC	Power Finance Corporation
R&M	Renovation and Modernisation
R&M Expenses	Repair & Maintenance Expenses
RoE	Return on equity
TPP	Thermal Power Plant

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IN THE MATTER OF:

Additional Capital Investment Plan for the current control period (including but not limited to schemes which may spill over to the next control period) for Conventional Power Stations of CSPGCL.

The petition is filed under Section 62 and 86 of the Electricity Act, 2003 read with the 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, 2021 and orders / guidelines of the Hon'ble Commission.

THE APPLICANT:

Chhattisgarh State Power Generation Co. Ltd. CSPGCL:-

A Company incorporated under the provisions of the Companies Act, 1956 and having its registered office at Vidyut Sewa Bhawan, Dangania, Raipur. CSPGCL is one of the successor Companies of erstwhile Chhattisgarh State Electricity Board.

The instant petition is related to Additional Capital Investment Plan for current control period and Life extension of HTPS along with in-principle approval for installation of 2X660 MW Super Critical Thermal Power Plant at Korba and Status update on the installation of Emission Control Systems at Thermal Power Stations run by CSPGCL. .

2. LEGAL PROVISIONS & PRAYER

2.1. On 14th November 2021, The Hon'ble Commission notified the 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, 2021, (hereinafter referred as "MYT Regulations 2021").

2.2. Hon'ble Commission approved capital scheme proposals for different plants for the current control period vide the CIP order dated 27/04/2022 on the petition no. 73 of 2021. However, most respectfully CSPGCL crave leave to recall the famous saying "*the only certainty in life is uncertainty*". The Hon'ble Commission, with ample fore-sightedness, had visualised chances of deviations at the time of framing the regulations itself. The regulation specifically provides for filing amendment in the approved CIP or filing of additional CIP.

> *"7.5 To meet any urgent requirements, the generating company, STU/ transmission licensee, distribution licensee and SLDC may request the Commission for amendment in the approved capital investment plan or may file additional CIP, as the case may be."*
>
> - The regulation 7.5 of CSERC MYT Regulation 2021

2.3. CSPGCL submits that during the year some new developments have taken place which attract new schemes with additional capex requirement during the control period (which may spill over to the next control period too).

2.4. The instant petition is being filed under the provisions of Regulation 19 and 20 which deals with the "Additional Capitalization" and in-principle Approval in specific circumstances. While the Regulation 19.1 deals with the additional capitalisation after the date of commercial operation and up to the cut-off date, the Regulation 19.2 deals with the capital expenditure incurred after the cut-off date. The Regulation 19.3 deals with replacement after the cut off period. The Regulation 20 deals with in-principle approval for incurring such capex which otherwise fits into the qualifying criterion for consideration as additional capitalization, but beforehand projection of cost and time may not be possible. Further, in the instant petition as detailed in the relevant portion, CSPGCL has craved leave for invoking powers of the Hon'ble Commission under Regulation 110 & 112 along with inherent powers vested in it. In the instant Petition, all such capital investment proposals have been categorised in four broad categories.

A. The E&M / Civil / Ash Utilisation schemes.

B. With new MOP directives, enhancement of Special Allowance for HTPS.

C. Emission Control Systems for TPS

D. New Project.

2.5. Detail pleadings in respect of each of the scheme is submitted in subsequent sections.

2.6. As the tariff for the control period has already been decided by the Commission and major part of capital investment will be capitalised in the next control period, hence the instant petition is not accompanied with any prayer for tariff resetting during the control period. Leave is craved for submission of tariff impact of the schemes which may get capitalised during the control period at the time of the true up of the respective year.

2.7. **PRAYER**

CSPGCL prays the Hon'ble Commission to exercise the inherent powers vested with the Commission and the 'Power to Relax' (Regulation 110) and 'Power to Remove Difficulty' (Regulation 112) as specifically pleaded / prayed in relevant sections and allow the following:

a. Allow the instant Capital Investment Plan under Regulation 19 / 20 of the CSERC MYT Regulations 2021, as the case may be.

b. Condone any inadvertent omissions/ errors/ shortcomings and permit CSPGCL to add / change / modify / alter this filing and make further submissions as may be required during the course of petition

c. Allow recovery of petition filing fee and advertisement expenses.

d. Pass any other suitable relief that Hon'ble Commission may find deem fit.

Dated: 31.10.2023

O I C
Ashish Hatwar, E. E.
O/o C.E. (C & RA),
Chhattisgarh State Power Generation Co. Ltd., Raipur

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3. The E&M / Civil / Ash Utilisation schemes

3.1. The E&M / Civil / Ash Utilisation schemes are classified plant wise, followed by schemes for common assets. Some of the schemes are submitted for specific approval under Regulation 19 while some others are submitted for in-principle approval under Regulation 20.

3.2. All the schemes in this category are expected to be funded through normative (70:30) debt equity funding.

3.3. DSPM TPS :- Schemes for Approval under Regulation 19 :

3.3.1. Construction of Cement Concrete road from DSPM Silo gate to KTPS Main Road :-

Proposal Description & Justification: - The Ash Silo of DSPM TPS is located at the back side of the plant gate. There are two roads from ash silo, one from back side plant gate to Balco road which is no entry zone and another from back side plant road to KTPS main road. In compliance of the MOEF & CC notification for 100% ash utilization, fly ash transportation through this road is the only available option. At present the existing road is made only of earthen embankment. For regular movement of heavy fly ash trucks, it is necessary that a permanent 7-meter-wide cement concrete road is constructed.

Applicable Regulation: As the proposed capex is required to meet the statutory liability of 100% fly ash utilization, it qualifies for additional capitalization under the Regulation 19.2 (iii) read with 19.2 (v).

Estimated Cost & Time frame: - The cost is estimated to be about Rs. 1.10 Cr. and work completion / capitalization is expected in FY 24-25.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.3.2. Construction of Cement Concrete road for ramp and plane area at various locations of Gorhi / Pandripani Ash dyke of DSPM TPS: -

Proposal Description & Justification: - The Ash dyke for DSPM TPS is located at the village Gorhi / Pandripari. There are various earthen ramps for

approach to different stages of dykes in different locations and old WBM approach roads (currently 5 number) connect the Ash dyke to the nearby village tar road. These WBM approach roads were constructed during planning of Ash dyke and were originally meant for light vehicle movement. However, now in compliance of the MOEF & CC notification for 100% ash utilization fly ash transportation (more than 2850 tons/day) through these roads is inevitable. The WBM roads due to heavy vehicle movement suffer from heavy wear and tear. Resultantly these roads suffer from ditches and dust during summer and become slippery and unserviceable during rainy season. For regular movement of heavy fly ash trucks, it is necessary that these approach roads are converted to cement concrete roads. It is clarified that these are proposed up to the ramp portion and not on the Ash bund top area therefore these roads will remain in service even after the height raising of the ash dyke.

Applicable Regulation: As the proposed capex is required to meet the statutory liability of 100% fly ash utilization, it qualifies for additional capitalization under the Regulation 19.2 (iii) read with 19.2 (v).

Estimated Cost & Time frame: - The cost is estimated to be about Rs. 1.20 Cr. and work completion / capitalization is expected within the instant control period.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

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3.4. DSPM TPS :- Schemes for Approval under Regulation 20 :

3.4.1. Renovation / Strengthening of Own Wagon System (OWS) at DSPM TPS:-

Proposal Description & Justification: Coal was brought to KTPS by CSPGCL through Own Wagon System (OWS) from the dedicated railway siding at Manikpur mines. For this, since long (more than 30 years), coal wagons and diesel locomotives were maintained at KTPS. After retirement of KTPS and during the acute coal crises coupled with shortage of railway rakes, during FY 21-22, to mitigate the coal shortage, the old OWS of KTPS was pressed into service at DSPM TPS. It may please be recalled that Ministry of Power and Ministry of Coal, both, repeatedly advised generating companies across the country for more and more use of dedicated means of coal transportation so that the loading on Indian Railways may be reduced and the increased demand of coal (consequent to surge in the post pandemic electricity demand) may be met. It is further submitted that the per ton cost of transportation of coal through the OWS, operated and maintained by CSPGCL staff / contractual arrangements, is lower than the per ton cost of transportation of coal through Indian Railway. However, the OWS is quite old and even with the best of efforts, at present operation of only 12 to 14 wagon rakes with two locomotives of 700 hp each is possible. This implies that in one trip about 600-700 tons of coal is transported and per day coal transportation is limited to maximum 3000 tons. As such capital investment for Renovation, Modernization and Strengthening of the OWS is indispensable. The works which may be required include reclamation / replacement of wagon wheels and Axle sets, conversion of mechanical governing system to LCC governing system, Conversion of vacuum brakes to air brakes in the wagons & the locomotives, installation of parallel (synchronized) operation system in the locomotives etc. Procurement of at least one new loco shall also be required. Construction of loco shed and other associated facilities at DSPM TPS is also inevitable.

However, there is a genuine difficulty in freezing the plan at this juncture. SECL is constructing a new rapid loading silo system at Manikpur mines. The system may become operational in the current financial year. On query, SECL has informed that after commissioning of the new siding, the coal supply from

the old siding may be stopped. At this juncture, despite of repeated requests and meetings, it is still not clear that whether or not, SECL / Railways will allow operation of the small rakes (OWS) from the new railway siding. Depending upon the consent of the SECL / Railway authorities, CSPGCL will have to plan for operation of 12-14 wagon rakes (as per current practise) or may have to plan for augmented rakes of 24-26 wagon (with about 1200 ton capacity) or may have to consider operation of new full rakes. Thus plan for renovation, modernization and strengthening of the OWS depend upon the factors beyond control of CSPGCL.

Applicable Regulation: Reliable availability of coal transport system is a must for any coal based thermal power plant. As such, the instant requirement for Renovation, Modernization and Strengthening of the OWS is indispensable and is squarely covered under the Regulation 19.2 (x). However, in the instant case, at present, for reasons beyond CSPGCL control, the cost and time frame for renovation, modernization and strengthening of OWS cannot be predicted. Subject to consent by SECL/ Railways, CSPGCL will take up the work in phased manner. As such, CSPGCL prays for in-principle approval under Regulation 20 only. Leave is craved for claiming the capitalisation at the time of true up.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.4.2. **Replacement of Railway line from Railway siding to DSPM TPS: -**

Proposal Description & Justification: It is submitted that in accordance to the FSA, coal to DSPM TPS is supplied by SECL from its various mines through the Indian Railways. The Railway line from the railway exchange yard Korba to the DSPM TPS was laid down before 2008. As per the prevalent standard / practise at that time, the 52 kg rail was used for laying the railway track. Over the time the rail tracks have suffered from the wear and tear and at the same time railways has switched over to 60 kg rails. Due to the switch over by the Indian Railways, the availability of sleepers and fixtures / fittings for the 52 kg rails has become difficult. During the joint inspection, along-with the direction for replacement of some track points, Railway authorities have also suggested for replacement of track by 60 kg rails. CSPGCL has

complied with the directions and the track points have been changed (with O&M budget), however as the replacement of complete rail track involves considerable Capex hence the proposal to replace the complete rail track with sleepers and fittings is submitted herewith for kind consideration of the Commission please. CSPGCL plans to undertake the work with railway approved consultants.

Applicable Regulation: Reliable availability of coal supply chain is a must for any thermal power plant. As such the instant requirement would have otherwise qualified under the Regulation 19.2 (x). However, as this is a unique work, which shall be taken up for the first time, hence at this juncture, it is difficult to estimate project cost components and time schedule will also depend upon the placement of rakes by SECL/Indian Railways and availability of coal stock etc., hence approval is prayed under Regulation 20. Leave is also humbly craved for submission actual capitalisation at the time of true up.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.4.3. **Construction of Sewage Network for DSPM TPS : -**

Proposal Description & Justification: It is submitted that as per the guidelines of the National Green Tribunal (NGT) and Chhattisgarh State Pollution Control & Conservation Board (CECB), proper disposal and treatment of sewage is a statutory requirement. Accordingly, CSPGCL has set up a Sewage Treatment Plant (STP) at DSPM TPS colony of about 2 MLD Capacity. The plant has been connected to the CD type colony and is already functional. The instant proposal consists of two works.

The first work relates to interconnection of sewage network with AB type colony which was approved by the Hon'ble Commission vide the order dated 31.07.2021 in the petition no 10 of 2021 (SN II – 3, page 6). The work completion was expected by 31st March 2022. Therefore, no spill over to the current control period was requested, however, at a later date, the contractor M/s Bundelkhand Engineers, Korba failed to execute the work. Appropriate action has been taken against the defaulting contractor and now the work is proposed to be taken up afresh through open competitive bidding.

In light of the uncontrollable and unforeseeable conditions, Hon'ble Commission is prayed to grant carryover of the prior approval to the current control period.

Further, as per the guidelines of the National Green Tribunal (NGT) and Chhattisgarh State Environment Conservation Board (CECB), proper disposal and treatment of sewage is a statutory requirement. Accordingly, CSPGCL plans to provide an interconnection of the plant sewage with Sewage Treatment Plant (STP) of about 2 MLD Capacity installed at DSPM TPS colony. No enhancement in the STP capacity will be required. Further, as natural gradient is available on the site hence the cost will have to be incurred on the sewage network only.

Applicable Regulation: Both the works otherwise fall in the category of "Compliance of Law", covered under the Regulation 19.2 (iii), however as the previous cost was based on a bid which defaulted and the revised cost for the work along with the proposed interconnection with the plant is not available at this juncture, hence approval is prayed under Regulation 20. Leave is humbly craved for submission actual capitalisation at the time of true up.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

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3.5. KWTPP :- Schemes for Approval under Regulation 19 :

3.5.1. Procurement of ICTs & replacement of 400 kV conductors at KWTPP

Proposal Description & Justification: The unit no. 1 and 2 (PH-I) of HTPS supply power at 220 kV whereas the power supply from unit no. 3 and 4 (PH-II) is at 400 kV. Three number Single Phase Interconnecting Transformers (ICT) (along with one reserve ICT) facilitate power flow from 220 kV to 400 kV and vice-versa. Earlier it was envisaged that the existing ICTs may serve up to the life of the 210 MW HTPS units (which were expected to be retired by the end of the instant control period). However, after the commissioning of 500 MW unit at Korba West (KWTPP) the power flow through the ICTs is expected to continue far beyond the useful life of HTPS. The power flow through the ICTs have also increased. Except for one ICT, the three existing ICTs are almost 40 years old. In the preceding few years, during some of the tripping higher than normal fault current has been observed. In one ICT, gas formation has also been noticed in the DGA reports. Accordingly, looking to the age & condition of the ICTs and criticality of the system replacement of two number ICTs has been contemplated at the total cost of about Rs. 19.5 Cr. It is also submitted that the 400 kV bus conductors are also very old and need replacement for safe and smooth power flow. The estimated cost is Rs 3 Cr.

Replacement of ICTs and Conductors are more essential in view of the longevity of 1x500 MW at KWTPP. Hence, it may be apt and prudent to consider such capex against KWTPP. Further, if the expense is booked to old HTPS plant, the recovery will be through direct loading on ARR (by way of special allowance) however for KWTPP it would be serviced through AFC on capex. As such, transposition of booking as capex to KWTPP, is beneficial to the end consumers also. It may not be out of place to recall that Hon'ble Commission has already settled this principle long back in the CIP order dated 31.03.2012 related to Ambient air quality monitoring system.

Estimated Cost & Time frame: - The estimated cost of the proposed scheme is about Rs 22.5 Cr (2 No. ICTs – about 19.5 Cr and Conductor about 3 Cr) and is expected to be implemented / capitalized in phased manner from FY 23-24 onward. As replacement of ICT/ bus conductor will depend upon the

unit outages coupled with system position, a part may also spill over to next control period.

Applicable Regulation: The proposed schemes qualify under the Regulation 19.3 (a) and (c) and also under Regulation 19.2 (x) and (vii).

Prayer: CSPGCL humbly prays approval for capex booking to KWTPP for two number ICTs and replacement of 400 kV Conductors.

3.5.2. **Construction of Cement Concrete road at Dindolbhata Ash dyke, KWTPP:-**

Proposal Description & Justification: - The ash from 1x500MW KWTPP, disposed through wet system, is dumped to Ash dyke at Dindolbhata. As per the MOEF & CC notification 100% ash utilization is mandatory. In view of the provisions the possibility of getting new land for construction of additional Ash dykes does not survive. There is difficulty in height raising of the existing Ash dykes too. Therefore, in view of the statutory limitations and also in the larger public interest, the use of ash stored in the Ash dyke is a must so that the same capacity may be utilized in rotation. The existing ramp in the Ash dyke at Dindolbhata is of soil which has inherent limitations as far as movement of high capacity trucks is considered. However, to ensure such utilization, it is a must that the ash transportation is continued throughout the year and all-weather cement concrete road is constructed on the ramp.

Applicable Regulation: As the proposed capex is required to meet the statutory liability of 100% fly ash utilization, it qualifies for additional capitalization under the Regulation 19.2 (iii) read with 19.2 (v).

Estimated Cost & Time frame: - The cost is estimated to about Rs. 0.23 Cr. and work completion / capitalization is expected by FY 24-25.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.5.3. **Installation of fly ash brick / block manufacturing unit at KWTPP: -**

Proposal Description & Justification: - Chhattisgarh Environment Conservation Board (CECB) decided in its 40th meeting dated 24th May 2017

that the thermal power stations within the state will have to install plants for manufacturing of fly ash bricks / blocks within one year so that the fly ash utilization may be increased in accordance to the provisions of the MOEF & CC notification dated 3rd November 2009. Subsequently the CECB has incorporated the above directive as additional condition during the renewal of the "Consent to Operate" (CTO) for all the four thermal power stations of CSPGCL. Based on multiple grounds CSPGCL filed requests to CECB for exemption from the aforesaid clause. However, CECB has not consented for the same. Given the statutory limitation, CSPGCL is duty bound to take action in accordance to the directions. It is estimated that installation of the brick / block manufacturing plants at all the four stations may invite total capex of more than 24 Cr. Moreover, there is apprehension that as all the plants are in the same region, there may not be enough demand to absorb the bricks from all the manufacturing facilities.

To strike a balance between the statutory requirement and the practical feasibility of such an endeavour, CSPGCL in the first phase, is proceeding with installation of first plant at KWTPP of the capacity of 1,30,000 bricks/blocks per day. Subject to performance feedback and demand feasibility, CSPGCL will re-approach CECB for exemption for other plants or proceed for installation of such plant at other locations, as the case may be.

Applicable Regulation: The CTO from CECB is a prerequisite under the Water (Prevention and Control of Pollution) ACT 1974 and Air (Prevention and Control of Pollution) ACT 1981. As such the conditional consent squarely falls in the domain of Regulation 19.2 (iii) i.e. change/compliance of law.

Estimated Cost & Time frame: - The first phase cost for KWTPP is estimated to be about Rs. 4.87 Cr. and work completion / capitalization is expected within the instant control period.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.5.4. Time extension for completion of balance works of KWTPP

Proposal Description & Justification: -Most humbly it is submitted that for the 1x500MW KWTPP, CSPGCL has made all possible efforts to complete all the activities pertaining to the original scope of work (BTG / BOP).

However, due to conditions beyond control of CSPGCL, some minor activities, mainly in the BOP area, are yet to be completed. As per the contract conditions, the vendors are expected to complete all activities within the time and cost allowed in the contract agreements, failing which CSPGCL is entitled to get the work completed at the risk and cost of the vendor. However, the matter has entered into the legal array and arbitration / court proceedings are going on. As such, CSPGCL encountered hindrances in completion of activities. Further, there are some minor activities involving capital nature expenditure which undisputedly are part of project expenses however they are beyond the scope of BTG & BOP vendor. It is pertinent to submit that these minor activities such as installation of cabin partitions / furniture & fixtures / etc. are to be undertaken after completion of the BTG / BOP works.

As the respective vendors are not carrying out these works, CSPGCL is now awarding these works through open transparent competitive bidding at the cost and risk of respective vendors to whom the work was originally awarded. However, as these are minor and residual works, in many cases, difficulty is encountered because of lack of bidders. Inspite of the above difficulties, fresh efforts are being made to complete all such works at the earliest possible. Almost all the activities are expected to be completed within the current financial year.

For proper, factual and meaningful presentation, the various activities are submitted with grouping under major heads:

SN	Particulars	Exp. Cap. (Rs Cr)
1	**Balance Works related to BTG package**	
	Turbine –Balance works of Lift.	0.93
2	**Balance Works related to BOP package**	
A	CHP- Coal Sampling Unit, Dust Extraction system, Lifts, Hoists and Elevators etc.	7.29
B	Electrical & Communication- Nueclonic density meter for HCSD System, Electrical Testing Kits, Balance work of SCADA System, Sodium Analyzer for DM plant, Copper control cables for Transfer Bus scheme. Balance wiring of Administrative / Security Building, Cable Tray, Pole Painting, Installation of DT, Distribution panels etc.	7.01

C	Support Systems – Balance works of HVAC, AC system with ducting, chilled water unit etc. for Administrative Building & Turbine / BOP area.	2.04
D	Civil -Balance work of Admin Building, Water supply line, Water storage tank, Boundary wall, Rain water harvesting system, Parking Shed, Approach Road etc .	4.63
	Total	**21.91**

At this stage, it is important to clarify that the values given in the above table are based on the orders placed / estimated value of orders to be placed along with the supervision charges. It is also submitted that even from the capitalization point of view the total cost of all the pending activities is expected to be not more than 0.6% of the approved project cost. Most importantly, as these costs (along with the applicable taxes & duties, if any) shall be recovered from the original vendor, there will be no increase in the project cost over and above the already approved project cost.

Thus, because of the delay, there will be no adverse effect on the end beneficiary because neither there is any prayer for cost escalation nor any relaxation in operation norms is being pleaded on this count. Per contra, if these left over works are not carried out at the risk and cost of the concerned vendor, the de-scoping of work shall materialize only in limited reduction in capital cost but then at a later date these works will have to be undertaken under additional CIP at a higher cost.

In the present context, it may not be out of place to humbly submit that the prayer for time extension is at parlance with the concept of condonation of delay in juristic proceedings. It is settled legal preposition that normally a petitioner does not stand to gain by delaying a relief. The Hon'ble Supreme Court in number of judgements has observed that while dealing with delay condonation application, the courts should normally adopt justice oriented approach rather than the iron cast technical approach. CSPGCL submits that the instant case fits wholly and squarely in the above stated legal frame work. CSPGCL on its part, to remove any doubt to any beneficiary, even at the cost of reiteration, confirms that it will not seek any hike in the project cost (within the original scope of work) on the ground of such extension of the cut-off date.

Thus it is a very genuine and deserving case for Hon'ble Commission for exercise of the "Power to Relax" (Regulation 110) and "Power to Remove

Difficulties" (Regulation 112) and all other inherent powers vested in the Hon'ble Commission. It may not be out of

It may also not be out of place to submit that such difficulties in completion of minor residual works in such huge infra projects are not unique to CSPGCL and even industry major NTPC has encountered such difficulties in number of projects. Hon'ble Central Commission has granted time extension in number of such cases.

PRAYER: Most humbly it is prayed that in light of the above, the Hon'ble Commission may kindly grant time for completion of such balance works.

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3.6. **ABVTPS :- Schemes for Approval under Regulation 19 :**

3.6.1. **Construction of Cement Concrete road at Ash dyke of ABVTPS -**

Proposal Description & Justification: - At the time of award of works for 2x500MW ABV TPS construction of Ash dyke was planned. As per the prevailing practise the various approach roads to the Ash dyke were considered only for the light vehicle movement. As such, these costs were part of the project cost. However, at a much later date, MOEF & CC has mandated 100% ash utilization. Accordingly, to meet the statutory requirement movement of heavy vehicle throughout the year is indispensable. It may please be appreciated that to meet the requirement there is an urgent and unavoidable need to convert these approach roads to all-weather cement concrete roads. Accordingly, CSPGCL has planned for construction of cement concrete road.

Applicable Regulation: As the proposed capex is required to meet the statutory liability of 100% fly ash utilization imposed by MOEF & CC, it qualifies for additional capitalization under the Regulation 19.2 (iii) read with 19.2 (v).

Estimated Cost & Time frame: - The cost is estimated to about Rs. 0.34 Cr. and work completion / capitalization is expected in FY 24-25.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.6.2. **Time extension for completion of balance works of ABVTPS**

Proposal Description & Justification: - Most humbly it is submitted that for the 2x500MW ABVTPS, CSPGCL has made all possible efforts to complete all the activities pertaining to the original scope of work (BOP / BTG). However, due to conditions beyond control of CSPGCL, some minor activities mainly in the BOP area are yet to be completed. As per the contract conditions the vendors are expected to complete all activities within the time and cost allowed in the contract agreements, failing which CSPGCL is entitled to get the work completed at the risk and cost of the vendor. However, the matter has entered into the legal array and arbitration / court proceedings are going on. As such CSPGCL encountered hindrances in completion of activities. Further, there are some minor activities involving capital nature

expenditure which undisputedly are part of project expenses however they are beyond the scope of BTG & BOP vendor. It is pertinent to submit that these minor activities such as installation of cabin partitions / furniture and fixtures etc. are to be undertaken after completion of the BTG / BOP works. Similarly, there are few activities which got hampered during the execution phase for want of statutory / government clearances and after resolution of the issues, the same are being undertaken in accordance to the regulations and standard industry practice.

As the respective vendors are not carrying out these works, CSPGCL is now awarding these works through open transparent competitive bidding at the cost and risk of respective vendors to whom the work was originally awarded. However, as these are minor and residual works, in many cases, difficulty is encountered because of lack of bidders. Inspite of the above difficulties, fresh efforts are being made to complete all such works at the earliest possible. Some of the activities are expected to be completed within the current financial year and some others will be completed in the next financial year, but none of the work is expected to spill over to the next control period.

For proper, factual and meaningful presentation, the various activities are submitted with grouping under major heads:

SN	Particulars	Exp. Capitalization (Rs Cr)	
		FY 23-24	FY24-25
1	**Balance Works related to BTG package**		
A	Boiler – Balance work of Hoists, Superior adhesion quality Synthetic Enamel structural painting etc.	0.00	4.90
B	Electrical – Balance work of Hoist power supply panels.	0.00	0.24
C	Turbine –Balance works of Elevators.	0.64	0.00
1	**Balance Works related to BOP package**		
A	CHP- Coal sampling Unit, Dust Extraction system, Cladding sheet, Metal detector, Lift & Hoist etc.	2.33	5.56
B	Electrical & Communication- Testing Kits and draw out modules of PMCC & MCC. Balance work of Telephone systems etc. 11 KV CB installation, DC Emergency lighting, High masts etc.	0.66	4.23

C	Support Systems – Balance works of HVAC, Screw Chiller, Lifts etc. of Administrative building. Balance works of Hoists & Cranes of BoP area. Balance work of firefighting system- Nozzles, Monitors, Hose, Cylinders etc. AC & Ventilation system for battery room, TG building, Canteen, etc with louvers, grills, fans duct sheet etc.	1.34	2.54
D	Civil – Balance works of Drains within plant area, Balance building works, service roads, Water harvesting etc.	0.94	0.92
E	Ash Handling Plant – Vibration Monitoring systems for compressor and slurry pumps, Structural Painting, sump pump commissioning, power receptacle and welding sockets etc.	0.29	0.78
	Total	**6.20**	**19.17**

At this stage, it is important to clarify that the values given in the above table are based on the orders placed / estimated value of orders to be placed along with the supervision charges. It is also submitted that even from the capitalization point of view the total cost of all the pending activities is expected to be not more than 0.35% of the approved project cost. Most importantly, as these costs (along with the applicable taxes & duties, if any) shall be recovered from the original vendor, there will be no increase in the project cost over and above the already approved project cost.

Thus, because of the delay, there will be no adverse effect on the end beneficiary because neither there is any prayer for cost escalation nor any relaxation in operation norms is being pleaded on this count. Per contra, if these left over works are not carried out at the risk and cost of the concerned vendor, the de-scoping of work shall materialize only in limited reduction in capital cost but then at a later date these works will have to be undertaken under additional CIP at a higher cost. Thus it is a very genuine and deserving case for Hon'ble Commission for exercise of the Power to Relax (Regulation 110) and Power to Remove Difficulties (Regulation 112) and all other inherent powers vested in the Hon'ble Commission.

As submitted for KWTPP, in the instant context too, it may not be out of place to humbly submit that the prayer for time extension is at parlance with the concept of condonation of delay in juristic proceedings. It is settled legal preposition that normally a petitioner does not stand to gain by delaying a relief. The Hon'ble Supreme Court in number of judgements has observed that while dealing with delay condonation application, the courts should normally adopt justice oriented approach rather than the iron cast technical approach. CSPGCL submits that the instant case fits wholly and squarely in the above stated legal frame work. CSPGCL on its part, to remove any doubt to any beneficiary, even at the cost of reiteration, confirms that it will not seek any hike in the project cost (within the original scope of work) on the ground of such extension of the cut-off date

It may also not be out of place to submit that such difficulties in completion of minor residual works in such huge infra projects are not unique to CSPGCL and even industry major NTPC has encountered such difficulties in number of projects. Hon'ble Central Commission has granted time extension in number of such cases.

PRAYER: Most humbly it is prayed that in light of the above, the Hon'ble Commission may kindly grant time upto the end of the instant control period for completion of such balance works.

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3.7. ABVTPS :- Schemes for Approval under Regulation 20 :

3.7.1. ASH Loading facility at ABVTPS: -

Proposal Description & Justification: - As per MOEF & CC notification 100% ash utilization is mandatory. A typical 1000 MW TPS at normative PLF of 85%, depending upon the GCV and the ash content of the coal, on an average generate about 5000 Tons/ day ash. For transportation of this ash to the various end users, rail transport seems to be most feasible and economical means. To facilitate the same, construction of rapid loading Silos is one option, however, it involves significant Capex and time. Therefore, in line with the prevailing industry practice, CSPGCL at this stage, plans to construct ash yard with side loading railway facility at ABVTPS, which can be created at much lower capital cost and within a shorter time period. Based on the experience, other alternatives may be planned at Korba West where considerable new capacity addition is expected in future. It is submitted that the rail transportation will not only provide a reliable and practical solution to CSPGCL, but will also be beneficial to the end consumers because the cost of ash transportation is a pass through under the regulatory provisions. Thus the proposal is in the wider interest of all the stakeholders.

Applicable Regulation: It is respectfully submitted that as per the regulatory philosophy capital expenditure for compliance of law is pass through. Hon'ble Commission in the past has accorded consent in the matter. The instant submission is just a manifestation of the same. As the proposed capex is required to meet the statutory liability of 100% fly ash utilization, it otherwise qualifies for additional capitalization under Regulation 19.2 (iii). The preliminary cost estimation was about Rs. 9.35Cr, however, as the aforesaid work is first of its kind in CSPGCL, involve OHE and S&T work etc. (which may require consultation with railway authorities), there may be changes in the scope/ cost, hence at this juncture there is difficulty in freezing the cost estimate. Further, as work may involve consent/ coordination of railway authorities hence projection of time frame is also not feasible at this juncture. As such, CSPGCL in the true spirit of the Regulations, confine its prayer for in principle approval under Regulation 20 only. Leave is humbly craved for submission of actual capitalisation at the time of true up.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

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3.8. **Common Schemes for HO / All plants for approval under Regulation 19 :**

3.8.1. **Installation of "PI" technology based ABT monitoring system at GCC Raipur, HTPS Korba West, DSPM TPS Korba and ABVTPS Marwa :–**

Proposal Description & Justification: - For smooth and compliant enforcement of ABT mechanism, a monitoring system was installed at GCC CSPGCL Raipur, HTPS Korba West and DSPM TPS Korba in 2011. The same was installed at ABVTPS Marwa in 2014. These systems run on "Eltrix" software based on Window 2008 – R2 operating system. M/s Microsoft, OEM of Windows has stopped the support of this operating system therefore there is no scope of upgradation / programmed peach addition of any 64 bit latest monitoring software. Further, due to old version of OS and application software vulnerability has been observed during the VAPT (Vulnerability Assessment and Penetration Test) audit under the Cyber Security requirement. Accordingly, CSPGCL has to procure and commission a new monitoring system with latest technology. In this regard, it is pertinent to mention that as per available information NTPC has implemented an advanced "PI" based monitoring system at all the NTPC stations (31) and corporate centre. In line with the industry trend CSPGCL intends to procure the latest version of "PI" based monitoring system for all its thermal power stations and GCC Raipur for monitoring of ABT Energy Meter Data, instantaneous data, daily block wise report, frequency monitoring, deviations etc.

Applicable Regulation: In light of the obsolescence of technology and need for higher security (Cyber) the proposal squarely qualifies under the Regulation 19.3 (c) read with 19.2 (x).

Estimated Cost & Time frame: - The estimated cost of the complete system is about Rs. 4.37 Cr. and is expected to be implemented / capitalized in FY 24-25. Further, as the system will be procured on composite basis (for proper integration and implementation), it is proposed that the total capital cost shall be allocated to the three thermal power stations on one third basis i.e. about Rs. 1.46 Cr./TPS.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.8.2. **Construction of three office Sheds at Vidyut Sewa Bhawan Parisar :-**

Proposal Description & Justification: - It is submitted that with increase in the number of consumers coupled with higher per capita consumption, the energy infrastructure has also increased considerably. It has led to higher loading on various centralized support services and increased monitoring / reporting requirements. With the space constraint in the existing main building i.e Vidyut Sewa Bhawan, almost all floors are highly cramped. Leave aside the compliance of the space norms, even smooth and conducive working has become difficult. Therefore, some long term alternatives are being explored. Upon finalisation of the proposal, CSPGCL shall submit such plan separately. However, as such arrangements may involve construction of new campus / building, hence it became essential that to meet out the exigency, some stop gap arrangement is made urgently. Accordingly, three number office sheds are being constructed at Vidyut Sewa Bhawan Parisar, Dagniya Raipur. On completion of the same, some of the offices of CSPGCL shall be shifted from Vidyut Sewa Bhawan to these office sheds and at least one floor space area in Vidyut Sewa Bhawan will be released in favour of CSPDCL.

Applicable Regulation: -It may please be appreciated that for smooth operation of the thermal power stations proper centralized support services by the head office (such as S&P, GCC, Fuel Management, HR, Finance, Regulatory Affairs, Renovation etc.) are indispensable. Without such centralized services it may not be possible to operate the plants properly. As such the proposal fulfils the criteria led down under the Regulation 19.2 (x).

Estimated Cost & Time frame: - The total cost of construction and operationalisation of theses office sheds, (spanning about 10,000 Sq feet office area, with more than 125 officers and employees) is expected to be about Rs 2.04 Cr. For procurement of furniture & fixtures additional expenses may have to be incurred. The work is expected to be capitalised in FY 23-24.

Prayer :- CSPGCL prays for approval of the aforesaid scheme.

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3.9. **Common Schemes for HO / All plants for approval under Regulation 20 :**

3.9.1. **Upgradation of HMI work stations and DCS systems at KWTPP & ABVTPS -**

Proposal Description & Justification: It is submitted that the HMI (Human Machine Interface) system at 1X500 MW KWTPP and 2X500 MW ABVTPS is maxDNA DCS (Distributed Control System). The present system runs on Microsoft Windows XP Professional (operating System) and maxDNA Version 4.2.1-SP2 (Application Software). There are number of workstations at the MCR and the ECR which run on the same OS. Service / support of Windows XP has been stopped by M/s Microsoft. Upgradation of OS may also be helpful from cyber security perspective. Further the original supplier of DCS, M/s BHEL has informed that with replacement of Windows XP by Windows 10 professional, the existing application software will not be compatible and the upgraded version of maxDNA software would be needed. In view of the above, it is proposed to replace the existing system with the upgraded OS and application software. Similar Capex has already been allowed by the Hon'ble Commission in the petition number 10 of 2021 for DSPM TPS. However, for the two plants, covered in the instant petition, the cost estimate is yet to be finalised.

Applicable Regulation: In view of the above, provision is covered under the Regulation 19.2 (iii) i.e "Change in Law". However, as the final cost estimates from OEM are yet not available and it may not be prudent to proclaim any unsubstantiated costs at this stage, CSPGCL humbly prays for in principle approval under Regulation 20. Leave is humbly craved for submission of actual capitalisation at the time of true up.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.9.2. **Capital Investment for compliance of Flexible Operation Norms -**

Proposal Description & Justification: It is submitted that Central Electricity Authority (CEA) has notified CEA (Flexible Operation of Coal based thermal power generating units) Regulation 2022 on 25th January 2023, as per which the coal fired generating units shall have to achieve minimum power level of 40% according to the phasing plan issued by the Authority from time to time.

Subsequently CEA, has issued a draft phasing plan on 1st May 2023. As per the draft plan, ABVTPS unit 2, falls in the first phase (July 2024- June 2026). The ABVTPS units belong to 2008 design i.e prior to notification of CEA (Technical Standards for Construction of Electrical Plants and Electric Lines) on 20.08.2010. It was through the 2010 standards that CEA recommended for design of units in such a way that steam generator shall not require oil support above 40%-unit load. As such, it may be appreciated, that being old design unit ABVTPS unit 2, may require substantial investment on hardware and software. At this stage pilot project feedback are yet to notified, as such proper estimation of the cost is not possible. However, as compliance of law is a mandate and not an option, as and when the phasing plan is finalised by CEA, then upon the recommendation of Authority and after taking into account the available feedback, CSPGCL will have to embark upon upgradation of control software and hardware.

It is also submitted that CEA regulation also specify technical minimum load of 55% with defined ramp up and ramp down rates for other existing units. It may also require capex, for which options are being explored with OEM.

Applicable Regulation: In view of the above, provision is covered under the Regulation 19.2 (iii) i.e "Change in Law". However, as it will be for the first time that such an exercise shall be undertaken, presently cost estimates are not available. Hence, CSPGCL prays for in-principle approval in Regulation 20. Leave is craved for submission of actual capitalisation at the time of true up.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

3.9.3. **Installation of CCTV cameras in the colony campus of the three thermal power stations:** -

Proposal Description & Justification: It is submitted that the colony campus for the three power stations were constructed long back. At that point of time there was no concept of installation of CCTV camera in the plant as well as the residential areas. However, with the advancement in the technology, it is an open secret that now a-days all the law enforcement agencies recommend installation of CCTV cameras on all sensitive locations. The Hon'ble Commission has already approved the scheme for

installation of CCTV cameras in the plant premises of DSPM TPS (Serial no. 2 / Page 11) as well as KWTPP (Serial no. 1 / Page 17) in the CIP order dated 27/04/2022 on the petition no. 73 of 2021. In the instant context, kind reference is also invited to the definition of generating station under the Sub-Section 30 of Section 2 of the Electricity Act 2003 read with the statement of objectives in the Removal of Difficulty (Fourth) Order 2005 issued vide notification no. S.O 793 E dated 08.06.2005 by the Ministry of Power under Section 183 of the Electricity Act 2003. From the above, it may be appreciated that the housing colony for the operating staff of a generating station is essential for operation and maintenance of the generating stations and hence qualifies for consideration as integral part of the power plant.

Applicable Regulation: In view of the above, provision of CCTV Camera in the colony is covered under the Regulation 19.2 (vii). However, as it will for the first time that CCTV cameras at CSPGCL housing colony will be installed, at present the cost estimates are not readily available, CSPGCL prays for in-principle approval in Regulation 20. Leave is humbly craved for submission actual capitalisation at the time of true up.

Prayer: - Hon'ble Commission is prayed to approve the scheme.

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4. MOP DIRECTIVE FOR LE & SPECIAL ALLOWANCE FOR HTPS

4.1. **Background:** The 4X210 MW HTPS Korba West is the old war horse of CSPGCL stable. The last unit of the plant was commissioned on 13/03/1986. Though the coal based thermal stations have a useful life of 25 years, the plant has already completed more than 37 number of years of continuous operation without any package based Renovation. The plant is one of the cheapest power provider to the state. Earlier CEA / WRPC had considered closure of the plant in due course of time. Therefore, it was felt apt and prudent that till closure of the plant, only very essential need based rolling renovation may continue. Though the Regulations allow, special allowance for such plants @ 9.5 Lakh / MW / year, however considering that the plant may have to serve for a very limited period only, CSPGCL on its own, in the CIP petition as well as the tariff petition, for the instant control period, pleaded only for half of such allowance. Hon'ble Commission granted the same vide MYT order dated 13/04/2022 in the petition no 01/ 2022 (T). At that point of time there was nothing to suggest that the units may have to be kept in service for much longer period.

4.2. **Recent Development:** On 20th January 2023, CEA, with reference to Hon'ble Power Minister GOI advisory during meeting dated 6th December 2022, and in view of the post pandemic restoration of economic activity and the continuous surge in energy demand advised all power utilities not to retire any thermal unit till 2030, it also advised to postpone the R&M activities and outages for life extension till December 2023.

4.3. Subsequently, on 1st August 2023, Ministry of Power, Government of India issued an advisory to all state power utilities as well as the Power/ Energy Secretaries of the states, to carry out R&M / LE activities and related processes for identified units on priority basis. The advisory is also said to be critical in view of the target of integration of 500 GW non-fossil fuel capacity by the year 2030. It is stated that R&M / LE of the old thermal units is not only a cheaper and cost effective solution to bridge the gap in demand and installed capacity but will also provide a cushion for integration of RE capacity through flexible operations as per technical minimum regulations.

4.4. For the aforesaid purpose, the CEA has prepared a list of 148 units totaling to 38,150 MW installed capacity as potential candidate for R&M / LE works.

These units are of the age from 20 years plus to 35 years plus. CEA has further categorized the units in three phases. Highest priority has been assigned to the phase I(a), which include units of more than 35 years age.

4.5. Package base renovation of units require considerable outage. With four units in the same age bracket, package base renovation may cause a big gap in the power availability in the state.

4.6. For life extension of units, another proven method of life extension is the rolling renovation model. It allows life extension, avoids any major energy demand supply gap due to bunching of outages and at the same time there is no long term capital blockage.

4.7. **Proposal Description & Justification**: The four units of 210 MW at HTPS, Korba West fall in the phase I(a) of the CEA list. Accordingly, now CSPGCL, in the broader national interest and in compliance of the MOP advisory, is required to undertake additional capital works which could not have been envisaged earlier. Further to provide a cushion for integration of RE capacity through flexible operations as per technical minimum regulations, these old units will also have to gradually strive forward towards 55% technical minimum loading and desired ramp up and ramp down rates. In view of the same CSPGCL humbly submits that changed circumstances warrant a revisit of the special allowance prayed / granted earlier.

4.8. **Applicable Regulation**: It may be appreciated that the GOI advisory is equivalent to "Change in Law" which is a pass through under Regulation 19.2 (iii). Specific reference is invited to Regulation 21.4, which allows that for HTPS, the allowance may be decided in the CIP. It is submitted that it will be in the larger interest that the "Power to Relax" under Regulation 110 and "Power to Remove Difficulty" under Regulation 112 and inherent powers vested with the Commission may also be invoked.

4.9. **Prayer:** CSPGCL humbly prays for grant of special allowance to HTPS @ Rs 9.5 Lkah / MW/ Year, which is available to other similarly situated plants. The prayer is limited to in-principle approval enhancement only, with the provision that during the ensuing year i.e. FY 24-25, recovery of special allowance through tariff shall be limited to Rs 4.75 / MW/year however at time of true up, subject to actual incurred expenses, CSPGCL will be allowed to claim the same @ Rs 9.5 Lkh / MW year.

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5. EMISSION CONTROL SYSTEMS FOR TPS

5.1. **Background:** Ministry of Environment & Forest and Climate Change (MOEF & CC) has notified revised emission norms vide its notification no S.O. 3305 (E). Along with other stipulations, for all coal based thermal plants it mandates to install Flue Gas Desulfurization (FGD) and DENOx systems. The Matter was dealt by the Hon'ble Commission vide order dated 31st July 2021 in the Petition No. 63 of 2020. The Hon'ble Commission granted in principle approval for installation of FGD and DeNOx systems at DSPM TPS, KWTPP and ABVTPS. Further, leave was granted for submission of separate petition with the firmed up cost derived on the basis of transparent bidding process with additional rider that tariff consideration, under the than applicable regulations, on account of these schemes would be made only after such detail submission.

With the above background, CSPGCL herby submit the status of implementation of ECS measures at CSPGCL stations.

5.2. INSTALLATION OF FGD AT KWTPP

5.2.1. **Status Update & Base Cost:** CSPGCL submits that after transparent open competitive bidding, followed by Reverse Live Auction, two orders have been placed for 1x500MW KWTPP vide LOA No 875 & 876 dated 11/08/2023 on M/s Bridge and Roof Co. (India) Ltd., Kolkata (a Public Sector Enterprise under the Ministry of Heavy Industries, Government of Indiaa CPSU) at a total cost of Rs. 643.16 Cr. It includes the cost of supply, erection, testing and commissioning of main plant and equipment including factory fabricated steel structures, civil and architectural works, structural steel works, transportation, port clearances, custom reconciliation etc. The above cost includes some of the specified mandatory spares and taxes and duties at the prevailing rates. The completion of facilities for the unit is expected in 30 months from effective date. However, in this regard, it may be pertinent to submit that MoP vide its Office Memorandum dated 3rd May 2022 to MOEF & CC has communicated that as per CEA, the orders placed by CPSUs (as early as in 2018) for 26 FGD units totaling to about 15 GW capacity, had taken average time period of about 40 months. CSPGCL, on its part has exercised due diligence and incorporated appropriate LD provisions in the contract, however

leave is craved for submission of further updates in the matter, as per the evolving conditions.

5.2.2. **Additional Capital Cost**: (yet to be firmed up): - At this stage, it is important to clarify that the above cost does not include the Price Variation (as per formula stipulated in the commercial specification). The PV will have ceiling of + / - 15% on Ex-works price of plant and equipment, civil and architectural works and structural steel works. As per standard industry practice and the specification, the PV on the installation services (excluding civil and architectural works) will have no capping. The IEDC (Incidental Expenses During Construction), IDC (Interest During Construction), FC (Financing Charges) are also not included in the aforesaid cost. This cost also does not take into account the contingency provisions which as per standard industry practice is considered @ 3% of the base cost. Further, as FGD is a fairly new concept and for the State Genco, it is the first such exercise, hence there are chances that during execution, the Scope may vary. Such changes may be warranted due to external factors also such as lay out finalization of extension units etc. Therefore, in exercise of prudent and due diligence as per standard industry practice, a provision for change of scope upto plus/ minus 15% of the base cost of the project is embedded in the contract. It is also submitted that installation of such huge infrastructure also require some additional capex on enabling works such as construction of office building, furniture & fixture etc. All these costs have also not been factored in the aforesaid cost. Further, the cost of consultancy awarded has also not been included in the above stated cost.

It is also submitted that the interconnection of the FGD with the main plant will also cause outage of the plant. As the outage is required for compliance of a mandate of law, the same will have to be compensated either by relaxation in the operational norms or by way of capitalization of the normative opportunity cost. Further, there may be pre-operative expenses on limestone, higher AEC, water, Gypsum disposal etc. The mechanism shall depend upon the provisions of the Regulation prevailing at the time of tariff determination. As such, no cost has been included in the instant submission.

It is also submitted that contract has also been awarded on M/s Bridge and Roof Co. Ltd. for two-year comprehensive O&M at the cost of about Rs. 26.17 Cr. However, CSPGCL understands that the same shall be revenue expenditure

which will be a pass through as additional O&M cost and as such has not been considered as part of the base cost / capital cost.

5.2.3. **Funding of Capex**: The project is proposed to be funded at Debt Equity Ratio of 80:20. The equity funding shall be infused by the State Government and approval for the same has been accorded by the State Government vide revised administrative approval dated 04.08.2023. M/s PFC & REC have agreed to provide the debt funding in the 50:50 ratio..

5.2.4. **Prayer:** In continuation to the previous in-principle approval accorded by the Hon'ble Commission vide the order dated 31st July 2021 in the Petition No. 63 of 2020, CSPGCL humbly prays for approval of the above stated capital expenditure along with the in principle approval of the cost of enabling expenses, contingency, FC, IDC, IEDC, Opportunity cost, PV etc. It is submitted that the installation of FGD is squarely covered under regulation in 19.2 (iii) "Change in Law or Compliance of Law". However, as the COD of the FGD shall be beyond the instant control period, tariff determination under the current regulations is not applicable. Further, looking to the uncertainty about the future interest rates and other unforeseeable factors and the fact that the COD is expected in the next control period for which Regulation is yet to be notified, leave is craved for submission of detail cost breakup at the time of tariff determination.

CSPGCL humbly prays that specific approval of the base cost under Regulation 19.2 and in-principle approval of other associated costs under Regulation 20 of the CSERC MYT Regulation 2021 may kindly be granted.

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5.3. INSTALLATION OF FGD AT ABVTPS :

5.3.1. **Status Update & Base Cost:** CSPGCL submits that after transparent open competitive bidding, followed by Reverse Live Auction, two orders have been placed for 2x500MW ABVTPS vide LOA no 869 & 870 dated 10/08/2023 on M/s Bridge and Roof Co. (India) Ltd., Kolkata (a Public Sector Enterprise under the Ministry of Heavy Industries, Government of Indiaa CPSU) at a total cost of Rs. 944.96 Cr. It includes the cost of supply, erection, testing and commissioning of main plant and equipment including factory fabricated steel structures, civil and architectural works, structural steel works,

transportation, port clearances, custom reconciliation etc. The above cost includes some of the specified mandatory spares and taxes and duties at the prevailing rates. The completion of facilities for the first unit is expected in 30 months from effective date and for the second unit 33 months from the effective date. However, in this regard, it may be pertinent to submit that MoP vide its Office Memorandum dated 3rd May 2022 to MOEF & CC has communicated that as per CEA, the orders placed by CPSUs (as early as in 2018) for 26 FGD units totaling to about 15 GW capacity, had taken average time period of about 40 months. CSPGCL, on its part has exercised due diligence and incorporated appropriate LD provisions in the contract, however leave is craved for submission of further updates in the matter, as per the evolving conditions.

5.3.2. **Additional Capital Cost**: (yet to be firmed up): - At this stage, it is important to clarify that the above cost does not include the Price Variation (as per formula stipulated in the commercial specification). The PV will have ceiling of + / - 15% on Ex-works price of plant and equipment, civil and architectural works and structural steel works. As per standard industry practice and the specification, the PV on the installation services (excluding civil and architectural works) will have no capping. The IEDC (Incidental Expenses During Construction), IDC (Interest During Construction), FC (Financing Charges) are also not included in the aforesaid cost. This cost also does not take into account the contingency provisions which as per standard industry practice is considered @ 3% of the base cost. Further, as FGD is a fairly new concept and for the State Genco, it is the first such exercise, hence there are chances that during execution, the Scope may vary. Such changes may be warranted due to external factors also such as lay out finalization of extension units etc. Therefore, in exercise of prudent and due diligence as per standard industry practice, a provision for change of scope upto plus/ minus 15% of the base cost of the project is embedded in the contract. At this stage, no loading on account of the same has been considered. It is also submitted that installation of such huge infrastructure also require some additional capex on enabling works such as construction of office building, furniture and fixture etc. All these costs have also not been factored in the aforesaid cost. Further, the cost of consultancy awarded for the work has also not been included in the above stated cost.

Further, the interconnection of the FGD with the main plant will also cause

outage of the plant. As the outage is required for compliance of a mandate of law, the same will have to be compensated either by relaxation in the operational norms or by way of capitalization of the normative opportunity cost. Further, there may be pre-operative expenses on limestone, higher AEC, water, Gypsum disposal etc. The mechanism shall depend upon the provisions of the Regulation prevailing at the time of tariff determination. As such, no cost has been included in the instant submission.

It is also submitted that contract has also been awarded on M/s Bridge and Roof Co. Ltd. for two-year comprehensive O&M at the cost of about Rs. 38.46 Cr. However, CSPGCL understands that the same shall be revenue expenditure which will be a pass through as additional O&M cost and as such has not been considered as part of the base cost / capital cost.

5.3.3. **Funding of Capex:** The project is proposed to be funded at Debt Equity Ratio of 80:20. The equity funding shall be infused by the State Government and approval for the same has been accorded by the State Government vide revised administrative approval dated 04.08.2023. M/s PFC & REC have agreed to provide the debt funding in the 50:50 ratio.

5.3.4. **Prayer:** In continuation to the previous in-principle approval accorded by the Hon'ble Commission vide the order dated 31st July 2021 in the Petition No. 63 of 2020, CSPGCL humbly prays for approval of the above stated capital expenditure along with the in-principle approval of the cost of enabling expenses, contingency, FC, IDC, IEDC, Opportunity cost, PV etc. It is submitted that the installation of FGD is squarely covered under regulation in 19.2 (iii) "Change in Law or Compliance of Law". However, as the COD of the FGD shall be beyond the instant control period, tariff determination under the current regulations is not applicable. Further, looking to the uncertainty about the future interest rates other unforeseeable factors and the fact that the COD is expected in the next control period for which Regulation is yet to be notified, leave is craved for submission of detail cost breakup at the time of tariff determination for FGD.

CSPGCL humbly prays that specific approval of the base cost under Regulation 19.2 and in-principle approval of other associated costs under Regulation 20 of the CSERC MYT Regulation 2021 may kindly be granted.

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5.4. STATUS UPDATE ON INSTALLATION OF FGD AT DSPM TPS

5.4.1. **Status Update:** For compliance of the Law, CSPGCL initiated action in the matter. NIT was floated and after the e-bidding followed by Reverse Live Auction, the discovered rates have been found to be very high. Therefore, the matter is under deliberation. Revisiting the design / configuration is also being considered to moderate the cost without sacrificing the basic requirement of compliance of law. It may be appreciated the high capital cost may lead to higher supplementary tariff for the balance useful life of the plant, but at the same time the revisit of the design (with the experience gained in the intervening period) and retendering may lead to loading of compensation charges. However, it is felt that the compensation charges may be lower than the implication of higher capital cost.

5.4.2. It may please be appreciated that there are conditions which are beyond the control of CSPGCL. CSPGCL crave leave to draw attention to the very relevant portion of the Office Memorandum dated 3rd May 2022 issued by none other than the Ministry of Power to the Ministry of Environment Forest and Climate Change with copy to the Niti Ayog. Importantly this OM was based on a report by CEA, which has been defined as "Authority" in the Act and designated as the apex body on all technical matters. The salient points are: -

a) Due to imposition of MOEF & CC binding, the demand for FGD equipment is very high but manufacturing capacity of FGD in the country is limited. Due to the huge gap in demand and supply, prices are escalating exorbitantly. As the price discovered through open transparent bidding is a pass through under "Change in Law", increase in tariff is borne by the consumer.

b) Due to the COVID-19 the entire process of planning, tendering and implementation of the FGD got badly affected. Import of certain components of FGD which are not manufactured in India such as absorber linings, borosilicates etc. have also got hampered due to constraints imposed on the basis of security concerns.

c) Even in case of orders placed as early as in 2018 by CPSUs for 26 FGD units for a total capacity of 15 GW, the average time for COD was observed to be more than 40 months and some units have taken up to 47 months.

d) Accordingly, CEA has suggested for longer duration plan (up to 2035) for

adopting the new emission norms, constitution of a task force for phasing according to manufacturing program and study of SO_2 reduction against CO_2 increase in flue gas emission by FGD system.

Based on the above, MOP suggested for additional time of two years over and above the time line given in the notification dated 31/03/2021, however, as on this date the obligation rests.

5.4.3. **Prayer:** In view of the above, CSPGCL humbly prays that in case any compensation charges are to be paid by it on account of uncontrollable conditions, the same may be allowed as pass through. Leave is craved for detail submission on the matter, as and when the same is required.

Further, in the instant case, CSPGCL undertake to submit additional relevant information regarding the installation of FGD at DSPM TPS as per further development in the matter. Leave is humbly craved for the same.

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5.5. STATUS UPDATE ON INSTALLATION OF DE-NOx SYSTEMS AT ABVTPS, KWTPP AND DSPM TPS

5.5.1. **Status Update:** For compliance of the Law, CSPGCL initiated action in the matter. Investment on the systems at an estimated cost of about RS 40.49 Cr was approved by the Board. NIT was floated and after opening of price bid, the discovered rates were found to be more than two times of the estimated rates. However, as representations against new stringent norms were pending before different forums, before committing any financial implication, CSPGCL adopted a cautious approach in the matter. The matter of non-feasibility/ achievability travelled to Hon'ble Supreme Court of India and thereafter the MOEF &CC revisited the NOx norms and revised the previous limit of 300 mg/Nm^3 to 450 mg/Nm^3.

5.5.2. Looking to the change in norms, the matter was reviewed by CSPGCL. The NOx emission norms of all the thermal power plants of CSPGCL is being monitored regularly by M/s Mahabal Enviro Engineers TD, a NABL (National Accreditation Board for Testing and Calibration Laboratories) accredited and MOEF registered lab. The NOx readings for DSPM TPS and KWTPP are found within the revised norms. CSPGCL also invited CECB (Chhattisgarh Environment Conservation Board) Regional office Korba, to monitor the NOx emission norms for 1X500 MW KWTPP. The CECB also found the emission within limit. At the same time, emission from ABVTPS was found to be on higher side. As the ABVTPS units are also of the same design as that of the KWTPP units and are equipped with OFA (Over Fire Air), which reduces temperature in burning zone and consequently reduces NOx, operational fine tuning exercise along with some minor modifications was undertaken. Resultantly the emission level at ABVTPS was also arrested within the norms. Finally, after review by a high level internal committee, it was decided that as the emission from all the three plants is within the norms, the proposal for installation of the DeNOx system may be dropped. If in future the NOx value exceeds the norms, appropriate measures shall be undertaken.

5.5.3. **Prayer :** In view of the above, CSPGCL submits that at present no action on the in-principle approval prayed earlier is required and leave is craved for fresh submissions in the matter, as and when the same is required.

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6. NEW PROJECT – 2X660 MW AT KORBA WEST

6.1. **Proposal Description & Justification**: - CSPGCL has already de-commissioned 440 MW KTPS (4x50 MW + 2x120 MW) and 840 MW (4x210 MW at Korba West) may also be retired in or around 2030, thus, the company shall have a shortfall of 1280 MW (440 MW + 840 MW) in installed capacity in near future. Therefore, to bridge this gap and to maintain installed capacity, the possibilities for installation of new plant was explored by engaging M/s DCPL as consultant. Based on the Techno Economic Feasibility Report (TEFR) and the Detailed Project Report (DPR) for implementation of 2x660 MW super critical Thermal Power Project, on 22nd September 2022 the BOD of CSPGCL decided to proceed in the matter.

The important features in this regard are: -

a) The project shall be installed in/ adjacent to the premise of HTPS, Korba West.

b) For meeting out the future requirement of power in the State of Chhattisgarh, BOD of CSPDCL and CSPGCL have resolved to Purchase / Sale 100% power generated by the proposed plant on long term basis at the tariff and on the terms and conditions as may be approved by Hon'ble CSERC.

c) MOEF & CC has issued Terms of Reference (TOR) on 23rd March 2023 for grant of environment clearance.

d) Coal is available from the nearby mines (about 14 km.) of SECL. Standing Linkage Committee (SLC) in its meeting dated 09/06/2023 has recommended for grant of coal linkage for the project.

e) On 21st July 2023, the Maha Navratna power sector major M/s NTPC has been appointed as pre and post award consultant for the project.

f) The Government of Chhattisgarh has accorded administrative approval for installation of the plant vide Energy Department order dated 13th September 2023. The approval also provides for equity contribution @ 20% to the project cost. For debt financing NIT has already been floated.

g) Wild Life Conservation Plan (WLCP) has been approved on 19/20/2023.

It is also submitted that most of the land required for the project is already available with CSPGCL. Acquisition of 3.12 Ha. Government land adjacent to

the existing boundary wall is in process. If required, additional land requirement may be met by acquisition of adjacent forest land. At this stage acquisition of no private land is envisaged. Rail and Road connectivity is also already available.

CSPGCL humbly submits that it provides cheapest power to the state and this timely action, particularly in view of the retirement of KTPS units and the limited life of HTPS units, will go a long way in maintaining the low cost long term base power availability to the state.

6.2. **The Timeline:** First unit of the proposed plant is expected to be commissioned in March 2029 and commissioning of the second unit is expected in March 2030.

6.3. **Funding :** The project is proposed to be funded at the Debt : equity ratio of 80:20. The equity support shall be provided by GOCG while, debt shall be arranged by inviting bids.

As, CSPGCL has decided to award the contract for Supply, Erection, Testing & Commissioning of the project through a transparent competitive bidding process, hence at this stage it may not be proper to make any submission on the base cost of the project. CSPGCL humbly crave leave for further submissions in the matter.

6.4. **Applicable Regulation:** The petition for determination of provisional / final tariff for the proposed plant shall be submitted before the Hon'ble Commission, in accordance to the than applicable regulations. At this juncture, CSPGCL humbly prays for approval for installation of the project under Regulation 20 of the CSERC MYT Regulation 2021.

6.5. **Prayer:** - Hon'ble Commission is prayed to approve the scheme.

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