

**Petition for determination of Final Capital Cost
and
Aggregate Revenue Requirement (ARR) and Tariff
For
FY 2018-19 to FY 2021-22
For
Chhabra Supercritical Thermal Power Station (CSCTPP) U# 5&6**

Submitted to

Rajasthan Electricity Regulatory Commission

Jaipur

By

Rajasthan Rajya Vidyut Utpadan Nigam Limited

Vidyut Bhavan, Janpath, Jaipur

January - 2021

Table of Contents

A1: BACKGROUND	9
A2: BRIEF HISTORY	10
A3: GENERATION FORECAST OF CSCTPP-UNIT 5 & 6	38
A4: FIXED CHARGES OF CSCTPP-UNIT 5 & 6.....	39
INTEREST ON TERM LOANS AND FINANCE CHARGES:-	39
INTEREST ON WORKING CAPITAL.....	39
RECOVERY OF ARR & TARIFF PETITION FEE	40
INSURANCE CHARGES.....	40
RETURN ON EQUITY (ROE).....	41
TERMINAL BENEFIT.....	41
NON-TARIFF INCOME	41
A5: ESTIMATED CAPACITY CHARGES OF CSCTPP UNIT 5 & 6.....	42
A6: VARIABLE CHARGES OF CSCTPP UNIT-5 & 6.....	42
A7: ESTIMATED AGGREGATE REVENUE REQUIREMENT OF CSCTPP-UNIT 5 & 6	44
A8: ESTIMATED TARIFF OF UNIT-5 & 6	45
A9: FUEL COST ADJUSTMENT FORMULA.....	45
A10: COMMISSION'S DIRECTIONS	45
A11: RESPONDENTS:-	48
A12: PRAYER	48

List of Tables

Table 1: Total Estimated project cost of CSCTPP-Unit 5 & 6 (Rs in Cr).....	15
Table 2: Gross generation, PLF & Ex-bus energy sale from CTPP-Unit 5 & 6	38
Table 3 : Depreciation (Rs. in Cr).....	39
Table 4: Interest on term Loans and Finance Charges (Rs. in Cr)	39
Table 5: Interest on working Capital (Rs. in Cr).....	39
Table 6: O & M Expenses (Rs. in Cr)	40
Table 7: Recovery of ARR & Tariff Petition (Rs. In Cr).....	40
Table 8: Insurance Charges (Rs. in Cr)	40
Table 9: Return on Equity (Rs. in Cr)	41
Table 10: Terminal Benefit (Rs. in Cr).....	41
Table 11:Non-Tariff Income (Rs. in Cr).....	42
Table 12: Net Capacity Charges of CSCTPP Unit 5 & 6 (Rs. in Cr.)	42
Table 13: Variable Cost of CSCTPP-Unit 5 & 6 (Rs. in Cr).....	43
Table 14: TARIFF of CTPP UNIT 5 & 6	45

LIST OF FORMATS/ANNEXURES

Form No.	Particulars of Form No./Annexure	Page No.
Form G 1.1	Summary of Tariff proposal	57
Form G 1.2	Aggregate Revenue Requirement	58
Form G 2.1	Plant characteristics	59
Form G 2.2	Operational Parameters - Generation	60
Form G 3.1	Revenue from sale of power	61-62
Form G 3.2	Non-tariff income	63
Form G 3.3	Revenue Subsidies & grants	64
Form G 3.4	Capital Subsidies & grants	65
Form G 4.1	O&M Expenses	66
Form G 5.1	Details/ Information in respect of fuel for computation of Energy charges.	67-84
Form G 5.2	Limestone for computation of Energy Rate	85
Form G 5.3	Energy Charges for Thermal Generation	86
Form G 6.1	Fixed assets & provisions for depreciation	87-88
Form G 6.2a	Calculation of Interest on Normative Loan	89
Form G 6.2b	Calculation of Weighted Average Rate of Interest on Actual Loans	90-91
Form G 6.3	Consolidated report on addition to Fixed Assets during the year	92
Form G 6.4	Return on Equity	93
Form G 6.5	Statement of additional capitalization after COD	94
Form G 6.6	Interest on Working capital	95
Form G 6.7	Insurance Expenses	96
Form G 6.8	Tax on ROE	97
Form G 7.1	Proposed improvement in performance	98
Form G 8.1	Abstract of Capital Cost Estimates and Schedule of Commissioning for the New projects	99
Form G 8.2	Break-up of Capital Cost for Coal/ Lignite/ gas/ liquid fuel based projects	100
Form G 8.3	Break-up of construction/ Supply/ Service packages	101
Form G 8.4	Details of Project Specific Loans	102
Form G 8.5	Draw Down Schedule for calculation of IDC & Financing Charges (year wise from commencement of works to COD)	102 (a)
Annexure-A	Copy of PPA with Discoms	103-122
Annexure-B	Minutes of 152 nd meeting of Board of Directors of the Company, held on 31.12.2008 for principal approval of setting up of CTPP Unit 5&6	123-125
Annexure-C	Letter dated 06.01.2009 to Principal Secretary (Energy) for approval of installation of CTPP Unit 5&6	126-127
Annexure-D	Approval letter dated 13.01.2009 of State Government for setting up plant	128
Annexure-E	Minutes of 153 rd meeting of the Board of Directors of the Company, held on 2 nd February 2009	129-131

Annexure-F	Letter dated 02 nd March 2009 of State Government for administration and Financial approval	132-133
Annexure-G	Detailed Project Report	134-320
Annexure-H	Power Finance Corp. (PFC) letter dated 13.01.2011 for sanction a loan of Rs. 3794 Crs to RVUN	321-323
Annexure-I	Rural Electrification Corp. (REC) letter dated 21.03.2011 for sanction a loan of Rs. 2530 Crs to RVUN	324-326
Annexure-J1	Copy of MOM of 268 th BOD meeting held on dated 09.03.17	327-338
Annexure-J2	Approval of the State govt. letter dated 07.06.2017 for the revised enhanced cost	339
Annexure-K	Copy of MOM of 275 th BOD meeting held on dated 13.11.17	340-344
Annexure-L	Copy of RVUN letter dated 15.12.17 to State Govt. for additional equity support	345-352
Annexure L1	State Govt. Has approved the same vide letter dated 22.05.2020.	353
Annexure-M	Copy of WRD letter dtd. 09.07.18 for demand of share cost of Parwan dam	354
Annexure-N	Copy of letter dated 23.11.17 vide which additional Loan sanctioned by REC.	355
Annexure-O	Copy of letter dated 06.11.17 vide which additional Loan sanctioned by PFC.	356-357
Annexure-O1	Revised sanctioned letter dated 22.06.18 of REC.	358
Annexure-O2	Revised sanctioned letter dated 25.06.18 of PFC.	359-360
Annexure-P1	The COD documents of Unit-5	361-372
Annexure-P2	The COD documents of Unit-6	373-379
Annexure-Q	Statutory Auditor certificate of expenditure incurred upto 01.04.19	380-388
Annexure-Q1	Audited Accounts for FY 18-19 and FY 19-20	389-633
Annexure-R	Copy of work orders placed for CSCTPP U # 5 & 6	634-771
Annexure-R1	The details of land purchase	772-779
Annexure-R2	The M/s RIETS prepared extract DPR with cost estimate Rs. 252 Cr	780-781
Annexure-R3	The payment details of Works carried out as a deposit work by WCR, Railway	782-795
Annexure-R4	Copy of MOM of 287 th BOD meeting held on dated 27.03.2019	796
Annexure-R5	CSR details	797-835
Annexure-R6	CERC regulation extract	836-840
Annexure-S	Heavy Rain	841-857
Annexure-S1	Details of NGT	858-877
Annexure-S2	Details of land acquisition	878-884
Annexure-S3	Details of Demonetization	885-905
Annexure-T1	Supporting documents for Dislocation of CRH line & Jamming of RAPH A	906-920
Annexure-T2	Supporting documents for Delay due to Ash Handling System (AHP)	921-969
Annexure-T3	Supporting documents for Delay due to TDBFP problems	970-980
Annexure-U	Supporting documents for Delay due to Water Chemistry	981-1010
Annexure-V	Copy of Environmental clearance for CSCTPP U # 5	1011-1018
Annexure-W	Approval for mining plan & Mine closure plan	1019-1020

Annexure-X	Copy of Environmental clearance for CSCTPP U # 6	1021-1022
Annexure-X1	Actuarial valuation of previous year audited accounts of FY 19-20	1023-1059
Annexure-Y	Parsa, Parsa East and Kanta Basan & Kente Extension Coal Block allotment Agreement.	1060-1234
Annexure-Z	Coal Mining and delivery agreement dated 03.10.2013 and dated 24.05.16 between RVUN and Rajasthan Collieries Limited.	1235-1342
Annexure-Z1	Level L2 and actual L2 schedule.	1343-1358
Annexure-Z2	Actual quarter wise phasing of capital expenditure incurred till COD of the Complete Project	1359-1360
Annexure-Z3	PG Test Report	1361-1404
Annexure-Z4	GCV 'as received' and 'as fired'	1405

DEFINITIONS

Act	The Electricity Act, 2003
Application	This Petition for determination of final capital cost and ARR and tariff for FY 18-19 to FY 20-21 for Chhabra for Unit-5 & 6 of Rajasthan Rajya Vidyut Utpadan Nigam Limited, Jaipur
Auxiliary Consumption (Aux. Con.)	Auxiliary Consumption in relation to a period means the quantum of energy consumed by auxiliary equipments of the generating station or Unit and transformer losses within the generating station or Unit, and shall be expressed as a percentage of the sum of gross energy generated at the generator terminals of all the Units of the generating station
Availability	Availability shall have the same meaning as defined in the RERC Tariff Regulations 2014 and 2019.
Distribution Company / Discoms	Discoms or Distribution Company shall mean a company engaged primarily in the business of distribution & supply of electricity in its area of supply including Jaipur Vidyut Vitran Nigam Ltd. (JVVN), Ajmer Vidyut Vitran Nigam Ltd. (AVVN) and Jodhpur Vidyut Vitran Nigam Ltd. (JdVVN).
Gross Calorific Value (GCV)	Gross Calorific Value in relation to a thermal power generating station means the heat produced in kCal by complete combustion of one kilogram of solid fuel or one litre of liquid fuel or one standard cubic meter of gaseous fuel, as the case may be.
Regulation	The Rajasthan Electricity Regulatory Commission (Terms and Conditions for Determination of Tariff) Regulations, 2014 & 2019
State	The State of Rajasthan.
Gross Station Heat Rate	Station Heat Rate (SHR) means the heat energy input in kCal required to generate one kWh of electrical energy at generator terminals.
Unit	Unit in relation to a thermal power generating station means electric generator, its prime mover, and auxiliaries and in relation to a combined cycle thermal generating station includes combustion turbine – generators, associated waste heat recovery boilers, connected steam turbine – generator and auxiliaries.

Abbreviations

ARR	Aggregate Revenue Requirement
Ajmer Discom	Ajmer Vidyut Vitran Nigam Limited
CERC	Central Electricity Regulatory Commission
FY	Financial Year
FY – 19	Financial Year 2018-19
FY – 20	Financial Year 2019-20
FY – 21	Financial Year 2020-21
FY – 22	Financial Year 2021-22
GCV	Gross Calorific Value
GFA	Gross Fixed Assets
Gol	Government of India
GoR	Government of Rajasthan
Jaipur Discom	Jaipur Vidyut Vitran Nigam Limited
Jodhpur Discom	Jodhpur Vidyut Vitran Nigam Limited
KWh	Kilo Watt Hour or Unit
MU	Million Units
MW	Megawatts
NRLDC	Northern Regional Load Despatch Centre
PLF	Plant Load Factor
PPA	Power Purchase Agreement
R&M	Repairs and Maintenance
RERC/ Commission	Rajasthan Electricity Regulatory Commission
RVUN	Rajasthan Rajya Vidyut Utpadan Nigam Limited
RVPN	Rajasthan Rajya Vidyut Prasaran Nigam Limited
Rs.	Indian Rupees
SHR	Station Heat Rate
Transfer Scheme	The Rajasthan Power Sector Reforms Transfer Scheme, 2000

Notes:

In this Petition:

All currency figures used in this Application, unless specifically stated otherwise, are in Rs Crs.

Capacity figures used in this Application, unless specifically stated otherwise, are in Megawatt (MW).

All energy unit figures used in this Application, unless specifically stated otherwise, are in Million Units (MU).

A1:BACKGROUND

- 1.1 Rajasthan Rajya Vidyut Utpadan Nigam Ltd (RVUN) was incorporated under the Companies Act 1956, as one of the five successor companies of erstwhile Rajasthan State Electricity Board (RSEB) to take over the electricity generation business in the state of Rajasthan. The existing power stations and those under commissioning in the state sector were transferred to RVUN as per the Rajasthan Power Sector Reforms Transfer Scheme, 2000 notified by State Government provisionally on 19th July 2000 and finally on 18th January 2002.
- 1.2 From 1st April 2004 onwards, RVUN has entered in long term Power Purchase Agreement with three Discoms of Rajasthan for sale of power. The capacity allocated to the three Discoms (Jaipur, Ajmer and Jodhpur) in the ratio 40.27:27.14:32.59 or as modified by competent authority from time to time. The Long Term Power supply-Purchase Agreements (PPA) in respect of existing and future power projects for 25 Years between RVUN and three Discoms is enclosed as **Annexure-A**.
- 1.3 The CSCTPP Unit 5 and 6 has achieved COD on 09.08.2018 and 02.04.2019 respectively. As per Clause 42 (5) of RERC Tariff Regulation 2014 and 2019 RVUN is filing this petition for determination of final capital cost and ARR and Tariff for FY 2018-19 to FY 2021-22 as per actual capital expenditure incurred up to the date of commercial operation of the project (02.04.2019) duly certified by statutory auditors based on audited accounts.
- 1.4 Since COD of Unit# 5 and 6 has been achieved on 09.08.2018 and 02.04.2019 respectively, therefore computation of ARR and tariff has been made for 235 days for FY 18-19 for U#5 (01 days) for FY 19-20 and for Units #5&6 (365 Days). For FY 20-21 & FY 21-22 full year for project.

A2: BRIEF HISTORY

- 2.1 The Board of Director in its 152nd meeting held on 31.12.2008 has accorded in principal approval for setting up of 2X660 MW Unit-5 & 6 Chhabra Supercritical Thermal Power Station by RVUN in state sector, the Minutes of meeting are available at **Annexure B**.
- 2.2 RVUN submitted a letter dated 06.01.2009 to Principal Secretary (Energy) for In-principal approval for setting up of additional CSCTPP Unit 5 & 6 (**Annexure-C**). The State Government vide letter dated 13.01.2009 (**Annexure-D**) accorded In-principal approval for setting up of 2X660 MW Unit-5 & 6 Chhabra Supercritical Thermal Power Station.
- 2.3 The Board of Director in its 153rd meeting held on dated 02.02.2009 has proposed to request the State Government for "Administrative" & "Financial" approval for setting up of 2X660 MW Unit-5&6 Chhabra Supercritical Thermal Power Station by RVUN in state sector, the Minutes of meeting are available at **Annexure - E**.
- 2.4 The State Government vide letter dated 02.03.2009 accorded "Administrative" & "Financial" approval for setting up of 2X660 MW Unit-5 & 6 Chhabra Supercritical Thermal Power Station having total project cost of Rs. 7920 Cr. for Unit 5 & 6, out of which the project cost for Unit 5 & 6 was Rs 3960 Cr. & Rs. 3960 Cr. The State Govt. has provided an equity support of Rs. 1584 Cr. (**Annexure-F**). Copy of DPR available at **Annexure-G**.
- 2.5 The said project cost of Rs. 7920 Cr for Phase II of CSCTPP Unit 5 & 6 was funded by equity support from GoR of Rs. 1584 Cr and balance was arranged as loan from financial institutions.
- 2.6 Initially, Power Finance Corp. (PFC) vide letter dated 13.01.2011 (Loan No. 07301025) sanctioned a loan of Rs.3794 Cr to RVUN for setting up of Unit 5 & 6 at Chhabra, District Baran, Rajasthan (**Annexure-H**). Another loan of Rs 2530 Cr for Unit 5 & 6 was sanctioned by Rural Electrification Corporation Limited (REC) vide letter dated 21.03.2011 (**Annexure -I**).
- 2.7 Further, the project cost was revised to Rs. 9550.27 Cr. from Rs. 7920 Cr. and this cost was approved by BOD in its 268th meeting held on dated 09.03.17 (Copy of MOM is enclosed at **Annexure- J1**). The State govt. vide letter dated 07.06.2017 has accorded in principle approval of the revised enhanced cost. Copy enclosed at **Annexure- J2**.
- 2.8 Due to implementation of revised emission norms issued by Ministry of Environment Forest & Climate Change GOI, ESP Up gradation, installations of FGD & De-NOx System is required which bears cost of approx. 1.03 Cr/Mw (total Rs. 1360Cr) This additional capital cost has been approved by BOD, RVUN in 275th meeting held on dated 13.11.17 (Copy of MOM enclosed at **Annexure K**). RVUN vide letter dated 15.12.17 (**Annexure L**) requested to State Govt. for additional equity support for amount mentioned in preceding para and State Govt. Has approved the same vide letter dated 22.05.2020. The copy is enclosed as **Annexure L1**.

- 2.9 It is pertinent here to mention that In principal approval for the works of ESP Up gradation, installations of FGD & De-NOx System has already been allowed by Hon'ble commission in its order dated 21.08.2019. RVUN will approach again the Commission for addition of aforesaid amount on the basis of actual incurred.
- 2.10 WRD, Government of Rajasthan has planned a Multi-purpose Irrigation cum drinking water project, with total capacity of 462 Mcum to be shared among RVUNL, m/s Adani, PHED, Irrigation and wildlife. Initially, out of Which RVUN share was 45 MCUM (including 9 Mcum for CTPP gas based power plant), Accordingly, the water required considered for CTPP Unit 5&6 is 36 Mcum. It is also pertinent here to mention that WRD has sought Rs. 1276.58 Cr. on account of sharing of cost of Parwan Dam by RVUN vide letter D. 10421 dated 09.07.18 (**Annexure- M**).
- 2.11 The work mentioned at aforesaid para is to be carried out by WRD and is under Progress therefore, RVUN will approach the Hon'ble Commission with actual expenditure incurred once the payment is made under additional capitalization as per regulation 17 (2)(e) of Tariff Regulations 2019.

Regulations 17(2) (e) of RERC tariff Regulations 2019

Liability for works admitted by the Commission after the cut of date to the extent of discharge of liability of such liability by actual payment.

Provided that the Generating Company shall file a petition for in principle approval of the Commission before the incurring such additional capital expenditure.

- 2.12 Therefore, RVUN request the Hon'ble Commission to approve the aforesaid liability in the instant petition as per above regulation.
- 2.13 Further, REC vide letter dated 23.11.17 (**Annexure N**) has sanctioned an additional loan amounting Rs. 1566.49 Cr. and PFC vide letter dated 06.11.17 (**Annexure O**) sanctioned an additional loan amounting Rs. 2344.22 Cr towards enhanced cost and installation of Pollution Control Equipments.
- 2.14 RVUN requested to REC for reduction of additional financial assistance for CSCTPP U # 5 & 6. Accordingly, REC has revised the sanctioned amount from Rs. 1566.49 Cr. to Rs. 937.69 Cr vide letter dated 22.06.18 (**Annexure O1**). Now the total loan amount from REC is Rs. 3467.69 Cr.
- 2.15 RVUN requested to PFC for sharing of enhanced sanction amount with REC in the ration of 60:40 (total debt amount) as done in the original sanction of the loan. Accordingly, PFC has revised the sanctioned amount from Rs. 2344.22 Cr. to Rs. 1406.53 Cr vide letter dated 25.06.18 (**Annexure O2**). Now the total loan amount from PFC is Rs. 5200.53 Cr.

2.16 RVUN has awarded the contract for CSCTPP U # 5 & 6 to M/s L&T on dated 29.05.13 with schedule completion period of 42 months & 45 months respectively from the date of issue of letter of Intent (LOI) i.e. 28.03.13. The scheduled date of COD of CSCTPP U # 5 & 6 was 27.09.16 & 27.12.16 respectively. The CSCTPP Unit 5 has achieved COD on 09.08.18 with a delay of 22 months 12 days from the scheduled COD and The CSCTPP Unit 6 has achieved COD on 02.04.2019 with a delay of 27 months 05 days from the scheduled COD. The chronicle dates are as under:

S. No.	Particulars	Date
1	In principle approval of RVUN's Board for setting up of 2x660 MW Units 5 & 6 Chhabra Super Critical TPP	31.12.2008
2	In principle approval by State Government for setting up of CSCTPP Units 5 & 6	13.01.2009
3	State Government's Administrative and Financial Approval for setting up of 2x660 MW CSCTPP Units 5 & 6	02.03.2009
4	Water allocation to Units 5&6	11.08.2009 & 22.11.2010
5	Loan sanction from PFC	13.01.2011
6	Loan sanction from REC	21.03.2011
7	Environmental Clearance for Unit 5	23.05.2012
8	Start Date (LoI to M/s L&T)	28.03.2013
9	Environmental Clearance for Unit 6	02.02.2015
10	Allotment Agreement for Parsa East and Kanta Basan Coal Mine	26.03.2015
11	Allotment Agreement for Parsa Coal Mine	30.03.2015
12	Allotment Agreement for Kente Extension Coal Block Unit 5 and Unit 6	26.10.2015
13	Board approval for revised Capital Cost of Rs. 9550.27 Crore	09.03.2017
14	State Government approval for revised Capital Cost of Rs. 9550.27 Crore	07.06.2017
15	Additional loan sanction from PFC	06.11.2017 & 25.06.2018
16	Additional loan sanction from REC	23.11.2017 & 22.06.2018
17	Unit 5 synchronize on oil	02.10.2016
18	Unit 5 coal firing on	25.10.2017
19	Unit 5 COD achieved on	09.08.2018
20	Unit 6 synchronize on oil	28.07.2018
21	Unit 6 coal firing on	23.10.2018
22	Unit 6 COD achieved on	02.04.2019
23	Project COD achieved on	02.04.2019

- 2.17 The CSCTPP-Unit#5 was first synchronised on oil with Grid on 02.10.16 and coal firing was started on 25.02.17. A Committee to verify MRI for declaration of COD and to issue COD certificate of CSCTPP U # 5 was constituted by CE (RUVNL),Jaipur vide letter dated 11.04.17 and corrigendum letter dated 17.04.17. Trial run of unit started from 08:50 Hrs of dated 05.08.18 and completed full load operation (i.e. 660 MW) for 72 Hrs at 08:50 hrs of dated 08.08.18. After successful completion of 72 hrs trial run, RVUN vide letter D. 591 dated 09.08.18 declared COD of CSCTPP Unit # 5 from 00:00 hrs dated 09.08.18. The COD documents are enclosed as **Annexure –P1**.
- 2.18 The CSCTPP-Unit#6 was first synchronised on oil with Grid on 28.07.2018 and coal firing was started on 23.10.18. A Committee to verify MRI for declaration of COD and to issue COD certificate of CSCTPP U # 6 was constituted by CE (RUVNL),Jaipur vide letter dated 15.02.19. Trial run of unit started from 20:00 Hrs of dated 29.03.19 and completed full load operation (i.e. 660 MW) for 72 Hrs at 20:00 hrs of dated 01.04.19. After successful completion of 72 hrs trial run, RVUN vide letter D. 21 dated 02.04.19 declared COD of CSCTPP Unit # 6 from 00:00 hrs dated 02.04.19. The COD documents are enclosed as **Annexure –P2**.

Capital Cost

- 2.19 RVUN is claiming Capital cost as per regulation 16 (2) & (3) of RERC regulations 2014 and 2019 which is reproduce as below :

2) *Capital Cost for a project shall include:*

(a) the expenditure incurred including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation on the loan during construction up to the date of commercial operation of the project as admitted by the Commission after prudence check;

(b) capitalised initial spares subject to the ceiling rates specified in this regulation; and

(c) additional capitalisation determined under regulation 17;

Provided that the assets forming part of the project but not put to use or not in use, shall be taken out of the capital cost.

3) The capital cost shall be admitted by the Commission after prudence check and shall form the basis for determination of tariff. Provided that the actual capital expenditure as on COD for the original scope of work based on audited accounts of the company may be considered subject to prudence check by the Commission. If sufficient justification is provided for any escalation in the capital cost beyond the original scope of works, the same may be considered by the Commission during prudence check.

2.20 RVUN has incurred capital expenditure of Rs. 8707.90 Cr. upto 08.08.18 and Rs. 9138.67 Cr. Upto the project COD i.e. upto 01.04.2019.

2.21 The detailed break up of revised capital cost of CSCTPP unit 5&6, actual expenditure incurred upto 01.04.19 of CSCTPP unit 5 & 6 (Copy of Statutory auditor Certificates are enclosed as **Annexure- Q** and audited accounts as **Annexure-Q1**) is shown in table below:

Table 1: Total Estimated project cost of CSCTPP-Unit 5 & 6 (Rs in Cr)

S.No	Description of Equipment/Material/Works	Detailed Project Report				Unitwise Break UP		capital expenditure incurred on unit 5&6 upto 31.03.2017	capital expenditure incurred on unit 5&6 upto 08.08.2018	Actual Expenditure of CIPP unit 5 upto 08.08.2018	Actual Expenditure of CIPP unit 6 upto 08.08.2018	capital expenditure incurred on unit 5&6 upto 31.03.19	Actual Expenditure of CIPP unit 5 upto 31.03.19	Actual Expenditure of CIPP unit 6 upto 31.03.19	capital expenditure incurred on unit 5&6 upto 01.4.19	Actual Expenditure of CIPP unit 5 upto 01.04.19	Actual Expenditure of CIPP unit 6 upto 01.04.19
		Project Cost as per DPR	Revised Project Cost of unit 5&6 as per BoD 268th on 9th March-17	Revised Project Cost of unit 5&6 as per BoD 275th on 13th November-17	Revised Project Cost of unit 5&6 as per BoD 287th on 27th march 19	Unit 5	Unit 6										
1	EPC Contract	5,833.81	5,997.13	5,997.13	5,997.13	2,998.57	2,998.57	5,185.68	5,824.46	3,302.23	2,522.23	5935.51	3273.46	2662.05	5935.51	3273.46	2662.05
2	River Water System(Supply)	250.00	339.51	339.51	339.51	169.76	169.76	137.04	222.85	133.71	89.14	282.10	125.24	156.85	282.10	125.24	156.85
			37.38	37.38	37.38	18.69	18.69	33.93	33.93	20.36	13.57	33.93	19.07	14.86	33.93	19.07	14.86
			45.68	45.68	45.68	22.84	22.84	14.85	26.73	16.04	10.69	33.45	15.02	18.43	33.45	15.02	18.43
			44.08	44.08	44.08	22.04	22.04	15.30	27.51	16.51	11.00	39.04	15.46	23.58	39.04	15.46	23.58
			31.77	31.77	31.77	15.89	15.89	-	-	-	-	-	-	-	0.00	-	-
			100.00	100.00	100.00	50.00	50.00	-	-	-	-	-	-	-	0.00	-	-
	Lhasi Dam		58.93	58.93	58.93	29.47	29.47	47.00	59.40	29.70	29.70	59.40	33.38	26.02	59.40	33.38	26.02
Raising of height of Anicut	61.02	61.02	61.02	30.51	30.51	11.27	17.57	10.54	7.03	18.51	9.87	8.63	18.51	9.87	8.63		
3	Land	8.80	56.11	56.11	56.11	28.06	28.06	52.36	56.07	28.04	28.04	56.07	56.07	0.00	56.07	56.07	0.00
4	Town Ship	10.00	5.68	5.68	47.66	23.83	23.83	5.62	5.66	2.83	2.83	5.66	3.18	2.48	5.66	3.18	2.48
5	Other Civil Work(railway siding)	50.00	252.00	252.00	252.00	126.00	126.00	5.56	80.56	48.34	32.22	81.91	45.28	36.64	81.91	45.28	36.64
6	Others	167.52	369.55	369.55	369.55	184.78	184.78	101.98	129.10	70.67	58.43	137.74	73.24	64.50	137.75	73.24	64.51
7	Pre-operative	50.00	118.34	118.34	118.34	59.17	59.17	9.57	44.64	38.37	6.27	69.40	37.84	31.56	72.91	37.84	35.07
8	IDC	1,517.00	2,000.00	2,000.00	2,000.00	1,000.00	1,000.00	1,225.06	2,179.42	1,243.23	936.19	2381.46	1224.86	1156.61	2382.43	1224.86	1157.58
9	Finance Charges	33.10	33.10	33.10	33.10	16.55	16.55	-	-	-	-	-	-	-	-	-	-
10	FGD			1,360.00	1,360.00	680.00	680.00	-	-	-	-	-	-	-	-	-	-
11	Total	7,920.23	9,550.28	10,910.28	10,952.26	5,476.13	5,476.13	6,845.22	8,707.90	4,960.55	3,747.35	9,134.18	4,931.97	4,202.21	9,138.67	4,931.97	4,206.70

2.22 The copies of main orders placed for Unit-5&6 for main plant equipment, BOP, civil works and other packages are listed below and enclosed as **Annexure R**:

S.N	Work Order No.	Name of Contractor	Detail of Work Order	Amount (Rs. in Cr.)
1	RVUN/SE (TD-I)/XEn (TD-V)/TNSCCH-03/D.423,424,425 Jaipur, dt. 29.05.13	M/s L & T, Vadodara	Work Order for total EPC basis (on shore supplies, off shore supplies, services, ETC & Civil Works	5688.72
2	RVUN/CE(Civil)/F./D.55, 56,57 dt. 08.05.15	M/s Zuberi Engineering Company, Jaipur	Work Order for design, Engineering, Manufacturing, Procurement and construction on turnkey basis of River Water system comprising of Civil Works, ETC & Supply	458.94
3	RVUN/DCE(TD-M)/TDM-II/F./D.2618 dt. 11.08.09	M/s TCE Consulting Engineers 2Ltd., Bangalore	Collection of data and preparation of DPR, Pre Contract award engineering including basic engineering, Review of detailed engineering by the EPC contract, Interface engineering	12.87
4	RVUN/CE(Civil)/F./D.336, 337,338 dt. 09.10.15	M/s Zuberi Engineering Company, Jaipur	Work Order for Assigning Additional Work of Civil Works, ETC & Supply of River Water system	37.38

2.23 The brief details of the project cost upto CoD are as under:

Particulars	Rs in Cr.				
	As per DPR	As per BoD dated 09.03.2017 (excluding FGD)	As per BoD dated 13.11.2017 (including FGD)	As per BoD dated 27.3.2019 (including FGD)	Actual Expenditure up to Project COD i.e 01.04.2019
Hard Cost	6370.13	7517.18	8877.18	8919.16	6756.24
IDC	1517.00	2000.00	2000.00	2000.00	2382.43
FC	33.10	33.10	33.10	33.10	00.00
Total	7920.23	9550.28	10910.28	10952.26	9138.67

Reasons for Hard Cost increase

i) **Increase in Cost of EPC Contract for Supercritical Units – M/s L&T scope:-**

- 2.24 In the DPR the provision of cost head for EPC contract was kept as Rs. **5251.70** Cr (excluding cost of work for Railway siding, River water Intake system, land and Colony civil & electrical works) with provision of Price variation during project execution of EPC contract was considered as Rs. 582.11 Cr. Considering 10% expected escalation, accordingly, the DPR value of EPC contract is worked out to be **Rs. 5833.81** Crore whereas EPC contract for both units of supercritical project were awarded to M/s L&T through wide publicity in ICB route. The order were awarded with a total contract price of Rs. **5688.72 Cr** (INR 4697.92 Cr + US \$ 117.55 Million + JYen 5091.58 Million) with price adjustment upto +/- 20% on Supply, ETC and Civil works. The statutory variations, Exchange rate variations & new imposition of taxes & duties shall be payable at actual during currency of contract.
- 2.25 The contract for EPC Package on Turnkey basis was awarded to M/S L&T for Rs. 5688.72 Crs subject to price adjustment up to $\pm 20\%$ on various factors as per the clause No. 7 of contract No. 423 dated 29.05.2013. In the 268th BoD meeting the amount was approved as Rs 289.41 Cr. under the head Price variation.
- 2.26 During execution of contract, Govt. of India has revised rate of Service Tax from 12.36% to 14% and introduced new taxes as Swachha Bharat Cess @0.5% and Krishi Kalyan Cess @ 0.5% due to which an additional implication of Rs. 19 Cr has been estimated in EPC contract. Thus, there is an increase in Project cost by **Rs. 19 Cr.** Accordingly, the BoD approved EPC contract value is 5997.13 Crore

Original project cost as per DPR for EPC Contract including price variation.	Rs. 5833.81 Cr
Approved as per BoD for EPC Contract including price variation (Rs 289.41 Crore) and taxes (Rs 19 Crore).	Rs. 5997.13 Cr
Actual incurred up to 1.04.2019	Rs. 5935.51 Cr
Increase in cost head for EPC Contract including price variation.	Rs.163.32 Cr.

- 2.27 The reasons for increase in EPC Contract value by Rs. 163.32 Crore as approved by the BoD against the DPR are due to open competitive bidding, price variation and increase in taxes.

ii) **Increase in cost of land :-**

- 2.28 In the DPR the provision of cost head for Land acquisition for supercritical project was kept as Rs. **8.80 Cr** Land whereas the actual amount paid for acquisition of Govt. land / Private land is Rs. 52.36 Cr in accordance with the award passed by LAO & SDO, Chhabra and approved by Energy Department and lease charges paid Rs. 3.71 Cr. thus, total expenditure incurred is RS 56.07 Cr. Further, the expected cost of land to be paid towards revenue & forest land for River Water System is Rs. 3.75 Cr from Parwan dam, thus total amount paid/ to be paid against land acquisition works out as **Rs. 59.81 Cr.**

Original project cost as per DPR	Rs. 8.80 Cr
Actual paid as per award passed by LAO & SDO, Chhabra	Rs. 52.36 Cr
Lease charges	Rs. 3.71 Cr

Total cost of land	Rs. 56.07 Cr
Expected cost of land to be paid towards revenue & forest land for River Water System	Rs. 3.75 Cr.
Increase in Cost head for land acquisition	Rs. 51.01 Cr.

2.29 The break-up of land acquisition is as below:

S.No.	Description	Land in Bigha and Biswa	Amount (Rs in Cr)
1	Private Land	2244.01	42.53
2	Private Land	187.10	4.77
2	Government Land	439.14	5.06
3	Lease charges on Govt land		3.71
	TOTAL		56.07

2.30 The details of land purchase are enclosed as **Annexure-R1**, Thus, the cost of land increased as per actual payments made to acquire the required land and RVUN request the Hon'ble Commission to allow as claimed.

iii) **Increase in Cost of Railway Siding Work :-**

2.31 In the DPR, the provision of cost head for Railway Siding Work for supercritical project was kept as Rs. **50 Cr** whereas as per draft DPR for Railway Siding works submitted by M/s RITES (PSU of GoI) to Railway, the estimated cost of Rail Track link for 2x660MW Unit#5&6, was Rs.**252 cr**. As such cost on this head has been increased by Rs. **202 Cr**.

Original project cost as per DPR for EPC Contract	Rs. 50 Cr
Cost of Railway siding work as per RITES DPR	Rs. 252 Cr
Increase in cost head for EPC Contract	Rs.202 Cr.

2.32 The cost of railway siding works in DPR was an estimate and further the M/s RITES was given consultancy for preparation of DPR for railway works M/s RITES prepared DPR with cost estimate Rs. 252 Cr and the details are enclosed as **Annexure-R2**.

2.33 The above works are carried out as a deposit work by WCR, Railway and the payment details are enclosed as **Annexure-R3**. Since the railways works are specific and are to be carried out by railway or their authorised agency. Therefore the increase in cost is on actual requirement of railway. Therefore RVUN request to allow the expenditure as claimed.

2.34 The estimated cost submitted by M/s RITES for railway siding work of Rs 252 Cr does not include the following:

1. Cost of ROB on SH-51.
2. Cost of Wagon Tripler.
3. Cost of shifting and dismantling work.
4. Payment to Government agencies for any work, which may be required to be carried out in the connection with the construction of Railway siding.
5. Cost of any additional work, which may crop up during construction stage.
6. Cost of cutting of trees and payment to forest department.
7. Cost of land.
8. Cost of R&R works.
9. Cost of railway staff deployed exclusively on power plant rail siding facilities.
10. O&M cost of siding facilities.
11. Fire fighting and safety arrangement for FO decanting terminal.

iv) **Cost of Township and Field-Hostel:-**

- 2.35 In the DPR, the provision of cost head for Township for supercritical project was kept as Rs. 10 Cr. whereas the estimated cost of township along with field hostel is Rs. 207.01 Crore.
- 2.36 Further, It is pertinent to mention that estimated cost of township along with field hostel of Rs. 207.01 Crore for supercritical project was proposed in the RVUN 268th BOD meeting held on dated 09.03.17. BOD considered the estimated cost of Rs. 5.68 Cr. for field hostel in the view of Chhabra project disinvestment which was under consideration at that time. Later in 287th meeting dated 23.03.19 of BOD of RVUN enclosed as **Annexure-R4**, approval was accorded for taking up construction work of R1, R3, and R4 type quarters in multi story towers with a estimate cost of Rs. 41.98 Cr looking essentiality of quarter at site. Tendering process for aforementioned construction work of residential towers is in progress. Further, the Chief Engineer, CSCTPP has requested for additional requirement of 150 numbers of residential units for technical staff and subordinate technical employees. This has budget estimation of Rs. 50.00 Cr.
- 2.37 Further it is submitted that the Power Plants are located in remote area, the well developed colony and facilities for working staff is essential for smooth functioning of the plant. Keeping above view, the construction of residential colony for CSCTPP employees and staff, the additional capital cost requirement under township head has been assessed as Rs. 91.98 Cr.
- 2.38 For the work mentioned in above para of Rs. 91.98 Crore RVUN will approach the Hon'ble Commission with actual expenditure incurred once the payment is made under additional capitalization as per regulation 17 (2)(e) of Tariff Regulations 2019.

Regulations 17(2) (e) of RERC tariff Regulations 2019

Liability for works admitted by the Commission after the cut of date to the extent of discharge of liability of such liability by actual payment.

Provided that the Generating Company shall file a petition for in principle approval of the Commission before the incurring such additional capital expenditure.

- 2.39 Therefore, RVUN request the Hon'ble Commission to approve the aforesaid liability in the instant petition as per above regulation.

v) **Increase in Cost of River Water Intake System Including Contingency Arrangement :-**

- 2.40 In the DPR, the provision of cost head for River Water Intake System for supercritical project was kept as Rs. **250 Cr.** At the inception of this project, 36 Mcum (1270 mcft) out of total 462 Mcum (16318 mcft) water required for these units was planned to be allocated from Parwan Dam but due to delay in taking up construction of Parwan Dam by water resource department (WRD), 300 mcft water was allocated from Lhasi Dam, 128 mcft from Parwati river by raising of existing anicuts height and remaining from anicuts of Parwan Dam. Since construction of Parwan Dam will take considerable time, the remaining water requirement has been temporarily allocated by raising of Akawad anicut at upstream of Parwan Dam as deposit work.
- 2.41 The WRD sought cost of Lhasi Dam of Rs. 59.40 cr. which has been incurred by RVUN upto 01.04.2019. For raising height of Anicuts at 7000 & 18000 meter Parwati River, an amount of Rs. 12.43 Cr. has been incurred against WRD estimate of Rs. 21.02 Crore, upto 01.04.19 and balance will be claimed as additional capitalization. The estimated cost of Anicut at upstream of Parwan dam near Akawad village is Rs. 40 Cr against which Rs.6.14 Cr. has been incurred, upto 01.04.19 and balance will be claimed as additional capitalization.
- 2.42 An order for river water conducting system up to plant site for Lhasi & Parwan Dam has already been placed on M/s Zuberi Engineering Company, Jaipur on EPC basis amounting Rs. 498.42 Cr. Further, an estimated cost of Rs. 100 Cr is likely to be expected for new intake well. As such total orders awarded/ to be awarded for water conveying system works out to be Rs. 598.42 cr.
- 2.43 Thus total amount of Rs. 718.37 cr shall be required for river water system against approved DPR cost of Rs. 250 cr, as such, cost on this head has been increased by Rs. **468.37 Cr.**

Original project cost as per DPR for River Water Intake	Rs. 250 Cr
Cost towards WRD for Water Intake system approved by BOD	Rs. 718.37 Cr
Increase in cost head for EPC Contract	Rs. 468.84 Cr

- 2.44 The water system involves the works to be carried out some part as deposit work by WRD and other by the Contract work. The works to be carried out by WRD are mentioned at para 2.40 & 2.41 above, RVUN has to deposit the amount as demand raised by WRD. The second part has been carried out by the contractor M/s Zuberi Engineering with open tendering process. The cost of water system increases mainly due to open tendering process and demand of WRD. Therefore RVUNL request Hon'ble Commission to allow cost of water system as claimed.

vi) **Other Works:-**

- 2.45 As per DPR, there was a contingency reserve of Rs 165.52 Crore i.e. 3% of hard cost of Rs. 5517.33 towards other expenses. Against which RVUN has considered expenses of Rs. 369.55 Crore towards expenses which are essential for smooth running of the plant. The details are as under:-

S.No.	Description	Estimated Amount
1.	CSR Work (as per MOEF)	33.00 Cr.
2.	Estimated cost of construction of road connecting from Stage-I main gate to Stage –II main gate with boundary wall, Work as per NGT Guidelines near Fly Ash Silo, boundary wall around Fly Ash silo for isolating it from plant area, furniture of Administrative and service building etc.	8.05 Cr.
3.	Cost of construction power (provided free of cost to M/s L&T) for construction purposes and power to be consumed for commissioning of Unit#5&6	63.15 Cr.
4.	Supply of 3 No. Locomotive	18.00 Cr.
5.	Supply of 6 Nos. Bulldozers	12.00 Cr.
6.	Other Misc. Items like Truck, lift, Ambulance, Oil filtration machine etc.	15.00 Cr.
7.	Upfront fee for coal mines allotment	52.50 Cr.
8	Others	175.90 Cr
	Total	369.55 Cr.

2.46 The detail reason for above cost to be incurred are as under:

CSR

2.47 Before according approval of the Environment Clearance for CSCTPP Unit #5&6, the MOEF issued Terms of Reference (TOR) on dated. 11.12.2009 in which it was directed to RVUN as under:

“(xviii) CSR component shall be prepared based on need on based assessment study to be carried out in the study area. Income generating measures which can help in upliftment of poor section of the society which is consistent with the traditional skills of the people shall be identified. The programme can include activities such as development of fodder farm, fruit bearing orchards, vocational training etc. In addition, vocational training for individuals shall be imparted so that poor section of society can take up self employment and jobs. Separate budget for community to be taken up under CSR shall be specified.”

2.48 In Compliance of the above direction of MOEF, RVUN formulated a comprehensive policy for social development and activities known as Corporate Socio Responsibility (CSR) policy.

2.49 According to the CSR policy RVUN has estimated cost for social development/ activities @ Rs. 2.5 lacs/ 2.0 lacs/ 1.5 lacs per MW (one time) for coal based Thermal Projects on Supercritical technology/ Coal based thermal projects on sub- critical technology and Gas based Thermal Projects respectively” and the details are enclosed as **Annexure-R5**. According to the direction of MOEF RVUN has made estimate of cost Rs 33.00 Cr for CSR.

Other work

- 2.50 These are the works essential for the site of the power plant such as construction of road connecting from Stage-I main gate to Stage –II main gate with boundary wall, Work as per NGT Guidelines near Fly Ash Silo, boundary wall around Fly Ash silo for isolating it from plant area, furniture of Administrative and service building etc.

Construction power

- 2.51 The construction power as per the contract to L&T No 425 dated 29.05.2013 clause No. 19 (a&b) to be supplied by RVUN and the provision is made to reduce the cost of project otherwise the contractor shall load the same in their proposal.

Locomotive

- 2.52 These are the heavy duty machines essentially required for the power plant for smooth running plant.

Bulldozers

- 2.53 These are the heavy duty machines essentially required for the power plant for smooth running plant.

Other Misc

- 2.54 Items like Truck, lift, Ambulance, Oil filtration machine etc are essential for the any power project and requirement of these item is envisaged as per the construction at site.

Upfront fee for coal mines allotment

- 2.55 These are the expenditures related to mines development for extraction of coals and allotted on the basis of coal supply ratio.

vii) Cost Heads Towards Pre Operative Expenses

- 2.56 In the DPR, provision of Pre operative expenses such as Consultancy Services for EPC contract, Railway Marshalling Yard, Contingency work of River Intake water system & Township etc. was kept as Rs. 50 Cr. The cost for consultancy of EPC Contract on M/s TCE amounting to Rs. 13.466 Cr, Railway Marshalling Yard on M/s RITES amounting Rs. 2.20 Cr Contingency work for River Intake water system on M/s Consulting Engineering Group, Jaipur amounting Rs. 0.44825 Cr and Township on M/s Gyan P. Mathur amounting to Rs. 1.2177 Cr has been placed. The expected expenditure towards additional site supervision for EPC contract for the enhanced contract duration is likely to be incurred amounting Rs. 1 Cr. Also, Estimated cost of fuel upto synchronization for light up, acid cleaning and steam blowing activities was estimated as Rs. 100 Cr. Thus, total expenditure towards pre operative expenses including cost of fuel upto synchronization of unit works out as Rs.118.33 Cr as against DPR provision of Rs. 50 Cr. There is a net **increase** in cost head of Rs. **68.33 Cr**.

DPR Cost for Pre-Operative Expenses	Rs. 50 Cr
Total of Actual orders placed/ likely increase in supervision	Rs. 118.33 Cr

charges	
Increase in cost head for Pre Operative Expenses	Rs. 68.33 Cr

2.57 The above cost are consultancy charges for various works to be carried out so that they can be executed in a systematic manner and oil cost which was mandatory expenditure of the plant as this oil is used for dry up the refractory works of the boiler and initial light up before synchronise, acid cleaning and steam blowing activities.

2.58 Total Hard cost up to Project CoD is as under:

Rs in Cr.

S.No.	Description of Equipment/Material/Works	Project Cost as per DPR	Revised Project Cost of unit 5&6 as per BoD 268th on 9th March-17	Revised Project Cost of unit 5&6 as per BoD 275th on 13th November-17	Revised Project Cost of unit 5&6 as per BoD 287th on 27th march 19	capital expenditure incurred on unit 5&6 upto 08.08.2018	Actual Expenditure of CTPP unit 5 upto 08.08.2018	Actual Expenditure of CTPP unit 6 upto 08.08.2018	capital expenditure incurred on unit 5&6 upto 01.4.19
1	EPC Contract	5,833.81	5,997.13	5,997.13	5,997.13	5,824.46	3,302.23	2,522.23	5935.51
2	River Water System(Supply)	250.00	339.51	339.51	339.51	222.85	133.71	89.14	282.10
			37.38	37.38	37.38	33.93	20.36	13.57	33.93
			45.68	45.68	45.68	26.73	16.04	10.69	33.45
			44.08	44.08	44.08	27.51	16.51	11.00	39.04
			31.77	31.77	31.77	-	-	-	0.00
	Intake Well		100.00	100.00	100.00	-	-	-	0.00
	Lhasi Dam		58.93	58.93	58.93	59.40	29.70	29.70	59.40
	Raising of height of Anicut		61.02	61.02	61.02	17.57	10.54	7.03	18.51
3	Land	8.80	56.11	56.11	56.11	56.07	28.04	28.04	56.07
4	Town Ship	10.00	5.68	5.68	47.66	5.66	2.83	2.83	5.66
5	Other Civil Work(railway siding)	50.00	252.00	252.00	252.00	80.56	48.34	32.22	81.91

6	others	167.52	369.55	369.55	369.55	129.10	70.67	58.43	137.75
7	Pre-operative	50.00	118.34	118.34	118.34	44.64	38.37	6.27	72.91
8	FGD			1,360.00	1,360.00	-			-
9	Total	6,370.13	7,517.18	8,877.18	8,919.16	6,528.48	3,717.32	2,811.16	6,756.24

2.59 Therefore, RVUN request the Hon'ble Commission to allow hard cost Rs 6756.24 Cr up to the project COD.

Interest During Construction (IDC) details are as under:

Particulars	As per DPR	As per BoD dated 13.11.2017 (excluding FGD)	Actual Expenditure up to Project COD i.e 01.04.2019
IDC	1517.00	2000.00	2382.43

Reason for increase in IDC

i) **Increase in Cost due to IDC because of delay in Scheduled Completion Period for Unit 5&6**

2.60 RVUN has awarded the contract for CSCTPP U # 5 & 6 to M/s L&T on dated 29.05.13 with schedule completion period of 42 months & 45 months respectively from the date of issue of letter of Intent (LOI) i.e. 28.03.13. The scheduled date of COD of CSCTPP U # 5 & 6 was 27.09.16 & 27.12.16 respectively. The CSCTPP Unit 5 has achieved COD on 09.08.18 with a delay of 22 months 12 days from the scheduled COD and Unit 6 has achieved COD on 02.04.2019 with a delay of 27 months 05 days from the scheduled COD.

2.61 In the DPR the provision of cost head for IDC was kept as Rs. 1517 Cr but due to various uncontrollable reasons explained in the para below. It is exceeded by Rs. 865.43 Cr.

IDC as per DPR	Rs. 1517 Cr
Revised IDC value up to project CoD	Rs. 2382.43 Cr
Increase in cost head for EPC Contract	Rs. 865.43 Cr.

2.62 The IDC of Rs 2382.43 Cr. has been incurred upto the project COD i.e. 01.04.19. The reasons for increase in IDC are increase in hard cost as well as delay in project execution. The reason of delay of the project COD are justified as under:

2.63 Schedule time for COD of project

Particulars	Months
As per DPR	45 for Unit #5 and 48 for Unit #6
As per EPC order	42 for Unit #5 and 45 for Unit #6
As per CERC regulation 2014 (Copy Enclosed as Annexure-R6)	52 for first unit 58 for second unit

2.64 From the above table it is evident that the schedule COD period for CSCTPP Unit 5 & 6 was on lowest side compare to DPR and CERC. Practically non achievable.

2.65 The detailed reasons for delay in COD of the Units are as under:

1. Excessive Rain at site:

2.66 It is submitted that in the matter of heavy rain M/s L&T faced problem in carrying out the construction activities due to unprecedented heavy rainfall in Distt. Baran from 30.06.2013 onward received as 1366.4 mm of rainfall in a period of 11 weeks from 27.06.2013 to 21.08.2013 which was more than double (2.29 times the normal rainfall, about 595.8 mm). On 10.08.13 alone Baran Distt. Received 190mm rainfall leading to widespread flooding and on 24.08.13 the impact of rain was so severe that Parwati river started flowing over the bridge due to which access to project site from Guna (Stay point of M/s L&T Engineer) was lost and their staff could not even reach to site. M/s L&T further stated that Work progress was severely hindered because of the unprecedented incessant torrential rain that caused ingress & accumulation of water in critical areas like excavated area of boiler foundations, batching plant area, porta cabin approach etc. Access to site itself was cut off due to flooding leading to loss of time and idling of plant & machinery. The rains and flooding also damaged roads leading to traffic jams extending to tens of kilometers resulting in severe hampering of logistics, which was paralyzed en-route Chhabra. This event of Force Majeure was beyond reasonable control, could not have been foreseen, prevented or mitigated using reasonable diligence and made it impossible to continue site work. Total 59 days (27.06.2013 to 24.08.2013) delay occurred on this account. Details are enclosed as **Annexure-S**.

2. Non Availability of Sand due to NGT ban:

2.67 National green Tribunal (NGT) vide order dated 05.08.13 enclosed as **Annexure-S1** impose nationwide ban on sand mine as result of this order, even legal mining activities which had all necessary approvals as per the applicable statutory provision was required to be shutdown if it did not have approval of MOEF or State Environment Impact assessment authority irrespective of the clearance from district level environmental committee as per state law. Due to the direction of Tribunal M/s L&T was under severe shortage of sand which hampered the construction activities. Consequently the problem of acute shortage of sand was faced by L&T. Total 117 days (05.08.13 to 30.11.13) delay occurred on this account.

3. Delay due to land acquisition:

2.68 It is submitted RVUN has acquired land for CSCTPP Unit # 5 & 6 adjacent to CTPP U # 3 & 4. RVUN allotted total land 2870.25 Bhigha for CSCTPP U # 5 & 6. 2844.25 Bhigha land was acquired by RVUN and 26 Bhigha land was encroached by farmers and local person. They agitated so much and denied to vacate the land. Due to this the work of CSCTPP was hampered. In this regard SE (Civil) RVUN requested to SDM vide letter 11.06.14 to intervene in this matter and help RVUN to acquire the land. On site SDM, Patwari and RVUN officials tried to convince those peoples but they denied. After this Addl. District collector Bara requested to SP, Bara vide latter dated 11.06.14 to provide the police force to vacate the encroached land. But it could not be occupied due to farmer's agitation. Again Addl. District collector Bara requested to SP, Bara vide latter dated 30.06.14 to provide the additional police force to vacant the encroached land. Again RVUN requested District Collector Baran vide latter dated 23.08.14 to remove the encroachment on the power plant land and the SDM Chhabra also requested SP Baran vide letter dated 01.09.14 for the same. RVUN issued Notice on dated 09.09.14 to encroachers for vacating the land. Due to encroachment of this land the work at site was hampered. Finally land can be occupied by the RVUN. Due to the above mentioned circumstances RVUN could not acquired the land on time which causes delay in the progress of work of CSCTPP U # 5 & 6. RVUN made its all efforts but it was the beyond control of RVUN. Total 03 Months delay occurred on this account. (Copy of all correspondence is attached as **Annexure- S2**).

4. Demonetization:

2.69 The Government of India has declared Rs. 500/- and 1000/- notes as illegal effective from midnight of 08.11.16, which resulted in many hardship for contractors labour at site. Unending queues and rush at banks, many workers spending a good part of working hours for opening bank account or cash withdrawal, consequently the pace of site work slowed down considerably. Also many of transport contractors unwilling to lift and move long distance consignment due to liquidity crisis. This resulted in acute shortage of cash and adversely affected the project progress. Total 02 Months delay occurred on this account. Details are enclosed as **Annexure-S3**.

1. Delay in achieving COD of Unit #5. :

1. **Unexpected Excessive Rain in the region:** As explained at para 2.66 (01 month and 29 days)
2. **Non Availability of Sand due to NGT ban:** As explained at para 2.67 (03 months and 27 days)
3. **Due to acquisition of land:** As explained at para 2.68 (03 months)
4. **Demonetization:** As explained at para 2.69 (02 months)

2.70 CSCTPP Unit # 5 was synchronised on oil on 02.10.16 against scheduled on 26.06.2016 almost 3 month delay due to unexpected excessive rain, non availability of sand, acquisition of land and Demonetization as already explained in para 2.66, 2.67, 2.68 and 2.69.

5. Due to unforeseen technical reasons

i) Dislocation of CRH line & Jamming of RAPH A:

2.71 Coal firing of the unit was scheduled on 27.07.2016 as per L2 schedule. It was delayed as the commissioning of the unit#5 on oil got delayed on account of aforesaid reason and hence it was rescheduled after 3 months of oil commissioning. When the unit was being operated for first coal firing in end of Jan 17, malfunctioning of HP/ LP Bypass valve of HPSU took place which was unexpected causing **failure and dislocation of CRH line due to tremendous hammering** on 03.02.17. Due to this significant number of permanent hangers (fixed, flexible and snubbers) got completely damaged / broken. Due to failure of sequential hangers, hangers in cascading manner, at various places the line came down from its original elevation and fell upon the structural members line beams, bracing etc. At some locations, the line got shifted in lateral directions, some of the structural members for supporting the hangers also got severely damaged and at some places these even got broken. Major repairing / replacement work was carried out by M/s L &T. Correspondence with M/s L&T vide letter D.43 dated 07.02.17, TCE letter D. 54 dated 10.02.17 & RVUN letter D.47 dated 14.02.17 Data loggers of SER (sequential event recorders) print out and photographs of the damaged line, hangers & supports are enclosed. (Delay due to CRH line dislocation is **22 days** from 03.02.17 to 24.02.17).

2.72 After attending the CRH problems, the unit was again lighted up and coal firing was achieved on 25.02.17. But on 05.03.17, unit had to be boxed up due to **jamming of Rotary Air Preheater (RAPH) 5A**. While unit was running at 530 MW, rotor of **RAPH 5A** suddenly jammed. Later, the radial & axial seal gaps were observed to be less & rotor expansion was found more than prescribed limits. Rotor got damaged due to interference between sector plates & radial seals were also damaged. **RAPH 5A** was repaired/ replaced and the total time incurred on unit outage & maintenance took almost 26 days and unit # 5 was again synchronised on dated 31.03.17. After attending the RAPH problems, the unit was again lighted up and full load was achieved on 04.04.17. Total delay due to RAPH 5A jamming is **27 days** (from 05.03.17 to 31.03.17). (Supporting documents enclosed as **Annexure T1**)

ii) Delay due to Ash Handling System (AHP) :

- 2.73 Major delay in achieving the COD of unit #5 is on the part of EPC contractor attributable on readiness of AHP for operation of unit is sustainable basis. The priority requirement of AHP for coal firing of unit #5 was commissioned in Jan-2017. But, upon coal firing in Feb-17 & full load achievement in Apr-17, it was observed that the evacuation of dry fly ash was not up to the mark & many a times number of ESP fields were by-passed because evacuation from the hoppers was not possible.
- 2.74 After achieving full load on dated 04.04.17, the unit could not be operated on sustained basis on account of huge accumulation of dry fly ash at ESP hoppers due to low evacuation capacity causing huge leakages at various locations of AHP system. So, after achieving the full load operation prior to commencement of Reliability Test Run (RTR) by M/s L&T was advised to carry out necessary corrective actions as to ensure trouble free & sustained operation of dry fly ash. But, unfortunately during RTR, also it was found that the AHP performance was not adequately reliable, and COD could not be declared until the performance of the system was proven reliable. RVUNL made number of correspondence with M/s L&T (Copy enclosed as **Annexure-T2**), for making the system ready & smooth so that COD could be achieved.
- 2.75 The issues and pending works & some modification in the system from ESP to ISH & ISH to Main Silos of the system were intimated to L&T along with detailed punch list required to be attended prior to final takeover/ COD of unit #5. Delay in COD on this account was of **69 days** i.e. from 22.04.17 to 30.06.17.

iii) Delay due to TDBFP problems :

- 2.76 In TDBFP, some technical problems occurred during the operation time to time due to some unexpected/ uncertain behaviour of the equipment and were resolved after attending design problems as under:
- In TDBFP-5A&B barring gear problem was being experienced & being run at about 10 rpm in place of designed value of 84 rpm. The behaviour of LP governing valve of both TD BFPs was not found proper and sudden increase of turbine RPM was observed repeatedly due to this improper behaviour the thrust pads & collar of TD-BFP –B got damaged. Improper behaviour of LP governing valve may cause damage in turbine as well as in the pump.

- 2.77 After attending some of the problems of AHP, the unit reliability run (of 30 days) was carried out from 02.07.17 to 07.08.17 with MDBFP & one TDBFP in service. Both TDBFP's could be kept in service with stable operation only after replacement of suction flow elements. Delay due to TDBFP operational problem i.e. Erratic suction to elements to be replaced, barring gear problem, repeated tripping due to low suction steam pressure is **66 days** (from 07.08.17 to 12.10.17). Delay due to repeated failure of TDBFP thrust bearing on account of faulty suction flow element and severe hammering of TDBFP Recirculation line is **71 days** (from 27.11.17 to 05.02.18).
- 2.78 Repeated outages of TDBFP- 5A&B including damage of thrust bearing pads & collars (TDBFP- TDBFP 5B on dt. 27.10.17 & 17.11.17 and TDBFP 5A on dated 07.02.18)) on account of defect in suction flow elements of TDBFPs. The suction flow elements shown incorrect / erratic operational behaviour causing instability of the equipment and also severe hammering of TDBFP recirculation line took place due to blockage in recirculation control valve which caused unit tripping during reliability run. It was observed design problem and decided to replace the part which could be replaced on 26 & 27 Feb 18 (i.e. delay occurred due to offshore procurement of flow elements from South Korea). (Supporting documents enclosed as **Annexure T3**)

iv) Delay due to Water Chemistry:

- 2.79 Parameters of Raw Water(RW) & Circulating Water(CW) chlorination and DM water system were not being achieved beside making all efforts. Problems of breaking of Pipelines in DM plant , chocking of filters & breaking of Pipelines in chlorination systems were being faced time and again. Thus Some design modifications in chlorination system and DM water system were made to enable required parameters and Unit remained under shut down from 04.04.18 to 05.07.18 for attending major issues of water chemistry and RW & CW chlorination, However, delay due to the above was **92 days** (from 04.04.18 to 05.07.18) (Supporting documents enclosed as **Annexure U**)

2.80 Major issues were:-

- (1) The work of Rapid sand gravity filters (RGF) was slow on part of the contractor Non availability of RGF. Only four out of seven RGF were ready for service.
- (2) Chlorination
 - 1 Raw water chlorination:-
 - i) Improper & inadequate, Chemical Dosing System (i.e Liquid Chlorine, Alum & Polyelectrolyte), leading to Organic Fouling of Ion exchange(Cation/Anion) resins of DM plant resulting in deterioration of DM water quality parameters such as conductivity , pH, silica & Chlorides even up to Jan'18
 - ii) Raw water chlorination skid had numerous problems such as vacuum regulator & flow meters including frequent breakages of chlorination lines due to design defects. The chlorination skid was repaired, altered and again commissioned in June'18 with required Raw water chlorination flow@ 10 Kg/Hr.
 - iii) A New Raw water chlorination skid was made available by M/s. L&T in May'18,

2 CW Chlorination was commissioned on gas mode in April'17 which was insufficient to maintain the Circulating Water Chemistry. Commissioning on liquid mode is mandatory for required dosage, and smooth & safe operation.

(3) DM Water Quality was not achieved due to improper chlorination, frequent chocking of Dual Media Filters (DMF) & Activated Carbon Filters (ACF), design defects of DM Clarifier and improper separation of Resins (during regeneration) due to lack of inert resin in Mixed bed Vessel, however modifications for providing Inert Resin in the Mixed beds of DM series was carried out on 27/07/18 which significantly improved the DM water quality. Conductivity improved to 0.12 - 0.15 μ S/cm as against earlier value of 0.9-1.5 μ S/cm, pH value also improved from 5.7 to 6.5.

1 Condensate Polishing Unit (CPU) was not being operated on design efficiency due to improper D M Water Quality at Mixed Bed Outlet.

2 Non-commissioning of the Ultra Filtration (UF) System in D.M Plant for control of Colloidal Silica.

2. Delay for Unit #6.due to Environmental Clearance:

- 2.81 Initially, RVUN vide letter dated 30.12.11 & 14.02.12 requested the Ministry of Environment and Forests (MoEF) for Environmental clearance of CSCTPP Unit # 5 & 6. MoEF vide letter dt. 23.05.2012 (Enclosed as **Annexure V**) issued environmental clearance only for CSCTPP U#5 wherein MoEF mentioned that inclusion of the U#6 of CSCTPP in the Environmental Clearance shall be applied only after the project proponent submits the details of firm coal availability of the second unit(Unit#6) to the ministry because at the time of consideration of grant of EC for U # 5, the availability of coal was based on approved 10 Mtpa mining capacity of 'Parsa East & Kanta Basan' coal blocks of RVUN alongwith EC.
- 2.82 Thereafter, a fresh NIT No. TNSCCH-03 was floated on dt. 07.06.12 for setting up 2x660 MW, Chhabra Supercritical TPP Unit 5&6. RVUN issued LOI dated 28.03.13 and detailed work order on Dt. 29.05.13 towards M/s L&T with scheduled commissioning of Unit 5 was 27.09.2016 and Unit#6 on Dtd 27.12.2016.
- 2.83 It is submitted that NIT of Unit#6 was floated with Unit#5 because works like water, coal & fuel handling, electrical, C&I, Ash handling, air etc were common for both the units and needless to mention that for the project a separate system for each unit surely would have been quite expensive.
- 2.84 RVUN has already approached MoC for firm coal linkage /allocation on Dt. 29.12.11 on which MoC advised for enhancing mining capacity from 10 Mtpa to 15 Mtpa of Parsa East & Kanta basan coal blocks of RVUN. Accordingly, mining plan for 15 Mtpa was submitted to MoC for approval on Dtd. 16.02.12.
- 2.85 RVUN persuaded rigorously for early approval of mining plan and MoC approved mining plan of 15 Mtpa of 'Parsa East & Kanta Basan' coal blocks on dated 19.11.2013 (enclosed as **Annexure W**).
- 2.86 Immediately after MoC approved mining plan for 15 Mtpa, an application was submitted by RVUN before MoEF on dated 05.12.2013 for obtaining Environment Clearance of 2x660MW Chhabra supercritical Unit#6 based on above approved mining plan for 15 Mtpa which specifically mentioned FIRM availability of coal for Chhabra U # 6.
- 2.87 MOEF asked to comply EIA notification wherein it was essential to have Environment Clearance of coal block for enhanced mining capacity for obtaining EC for power project linked with this block.
- 2.88 Since grant of EC for 15 Mtpa and thereafter grant of EC for CSCTPP unit # 6 was taking time, so till such time, the work of CSCTPP U # 6 had to remain under hold, which could incurred liability of interest on payment made for unit # 6 and any other claims.
- 2.89 Looking to above delay in EC and enhancement of project cost, RVUN submitted an alternative proposal to MoEF by giving following undertaking vide letter No. 169 dated 27.06.2014
- "In case, EC for 15 Mtpa mining capacity of PEKB coal blocks is delayed, RVUN shall consider to use coal allocated for Kota Unit 1-4 for Chhabra U # 6(660

MW)'. Since above 4 units has already lived their designed life, so RVUN will also consider to initiate action to obsolete these units''.

2.90 Ministry of Environment forest and climate change , Gol considered the undertaking and granted environmental clearance of second unit (U#6) of Chhabra Supercritical TPP vide letter no J-13012/15/2009-IA.II(T) dated 02.02.2015 (Copy enclosed as **Annexure X**).

2.91 As soon as the Ministry of Environment, Forest and Climate Change issued Environment clearance for CSCTPP U # 6 vide letter dated 02.02.2015, the work of the Unit # 6 could be started with delay of 22 month 05 days. The delay in commencement of work was beyond the control of RVUN. Therefore, the scheduled completion period i.e. 45 months for Unit 6 has to be counted from 02.02.15. Accordingly, the scheduled date of CoD of Unit # 6 comes on 02.11.18. RVUN requests Hon'ble Commission to consider the above mentioned reason which was beyond the control of RVUN and consider the scheduled date of COD is 02.11.18.

2.92 Further, it is also pertinent here to mention that Expert Appraisal Committee (EAC) on EIA of Thermal & Coal Mines of MoEF&CC, Gol considered the proposal regarding enhancement of mining capacity from 10MTPA to 15 MTPA in its 28th meeting held on 17-18 April,2018 and granted Environmental Clearance vide letter No J-11015/03/2008 -IA-II(M) dated 10.08.2018 for expansion of Parsa East & Kanta Basan Opencast Coal mines from 10 MTPA to 15 MTPA.

2.93 The period of delay in commissioning of the project is summarised as under:

SNo.	Particulars	Type of Factor	Months	Reasons for delay attributed to
1	Delay for Unit -5			
a	Unexpected excessive rain	Uncontr ollable	01 month 29 days	Act of God
B	Non availability of sand due to ban by NGT	Uncontr ollable	03 months 27 days	GoR & Gol
C	Due to land acquisition	Uncontr ollable	03 months	GoR
D	Demonetization	Uncontr ollable	02 months	Gol
e	Due to unforeseen technical reasons (i) Dislocation of CRH line & Jamming of RAPH A. – 27 days (ii) Delay due to Ash Handling System (AHP)- 69 days (iii) Delay due to TDBFP operational problems- 66 days Delay due to TDBFP Thrust Bearing problems-71 days (iv) Delay due to Water Chemistry- 92 days	Uncontr ollable	10 months 25 days	unexpected and uncertain conditions for Contractor
2	Delay for Unit -6			
a	Due to Environmental Clearance	Uncontr ollable	22 months 05 days	GoR and Gol

b	Demonetization	Uncontr ollable	02 months	Gol
c	Due to unforeseen technical Reasons	Uncontr ollable	03 Month	unexpected and uncertain conditions for Contractor

2.94 It is further submitted that the average completion period for 660 MW supercritical units in India is appx 69 Month during last four financial years where as Chhabra CSCTPP has achieved project CoD in 68 months from zero date i.e. 28.03.2013. It is pertinent to mention that CERC has Notified 58 months for completion green field project consisting two units in normal course.

2.95 The above mentioned reasons were beyond the control of RVUN and Further certain equipments were also required some modification/ redesigning of the system. Therefore, RVUN request the Hon'ble Commission to consider the above reasons beyond the control of RVUN and allow the IDC Rs 2382.43 Cr. as actually incurred.

Additional Capitalization upto cut-off date of the project

2.96 RVUN is claiming additional capitalization upto cut-off date as per RERC regulations 2019. The cut-off date is defined in regulation 2(15) of RERC regulations 2019 as under:

*"(15) "Cut-off date" means the last day of the calendar month after three years from the date of commercial operation of the project:
Provided that the cut-off date may be extended by the Commission, if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;"*

2.97 Further it is mentioned that RERC regulations 2019 allowed additional capitalization of the project as regulation 17(1) which is reproduce as under:

"17. Additional capitalization

(1) The following capital expenditure in respect of a new project or existing project, actually incurred within original scope of work, after the date of commercial operation and upto the cut-off date and duly audited, may be considered by the Commission against the original scope of work, subject to prudence check:

(a) Due to undischarged liabilities recognised to be payable at a future date;

(b) On works deferred for execution;

(c) Liabilities to meet award of arbitration or for compliance of direction or order of any statutory authority or satisfaction of order or decree of any court of law;

(d) On account of change in law or compliance of any existing law within cut-off date;

(e) On procurement of initial spares included in the original project costs subject to the ceiling norm laid down in Regulation 16(8);

Provided that the details of the work included in the original scope of work along with estimates of expenditure shall be submitted along with the application for provisional tariff:

Provided further that a list of the undischarged liabilities and works deferred for execution giving reasons therefor shall be submitted along with the application for final tariff after the date of commercial operation of the Generating Station:

Provided also that the Generating Company or the transmission Licensee, as the case may be, shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution giving reasons therefor."

2.98 The package wise actual capital cost incurred for FY 19-20 and to be incurred in coming years is as under:

Sl. No	Description of Equipment/Material/ Works	Project Cost as per DPR	Revised Project Cost of unit 5&6 as per BoD 268th on 9th March-17	Revised Project Cost of unit 5&6 as per BoD 275th on 13th November-17	Revised Project Cost of unit 5&6 as per BoD 287th on 27th march 19	Unitwise Break UP		capital expenditure incurred on unit 5&6 upto 01.4.19	Additional Capitalization During FY 19-20 as per audited accounts	capital expenditure incurred on unit 5&6 upto 31.03.20	Expenditure of CTPP unit 5&6 <u>To be incurred</u>
						Unit 5	Unit 6				
1	EPC Contract	5,833.81	5,997.13	5,997.13	5,997.13	2,998.57	2,998.57	5935.51	73.22	6008.73	168.32
2	River Water System(Supply)	250.00	339.51	339.51	339.51	169.76	169.76	282.10	84.34	366.44	31.80
			37.38	37.38	37.38	18.69	18.69	33.93	-0.04	33.89	0.00
			45.68	45.68	45.68	22.84	22.84	33.45	4.47	37.92	0.00
			44.08	44.08	44.08	22.04	22.04	39.04	3.37	42.41	0.00
			31.77	31.77	31.77	15.89	15.89	0.00	0.00	0.00	0.00
	Intake Well		100.00	100.00	100.00	50.00	50.00	0.00	0.00	0.00	0.00
Lhasi Dam	58.93	58.93	58.93	29.47	29.47	59.40	-0.05	59.35	1.07		
Raising of height of Anicut	61.02	61.02	61.02	30.51	30.51	18.51	0.04	18.55	0.00		
3	Land	8.80	56.11	56.11	56.11	28.06	28.06	56.07	0.00	56.07	0.00
4	Town Ship	10.00	5.68	5.68	47.66	23.83	23.83	5.66	0.00	5.66	100.66
5	Other Civil Work(railway siding)	50.00	252.00	252.00	252.00	126.00	126.00	81.91	8.58	90.49	180.61
6	Others	167.52	369.55	369.55	369.55	184.78	184.78	137.75	27.38	165.13	40.12
7	Pre-operative	50.00	118.34	118.34	118.34	59.17	59.17	72.91	1.94	74.85	-
8	IDC	1,517.00	2,000.00	2,000.00	2,000.00	1,000.00	1,000.00	2382.43	11.39	2393.82	0.00
9	Finance Charges(loan process charge)	33.10	33.10	33.10	33.10	16.55	16.55	-	0.00	0.00	0.00
10	FGD			1,360.00	1,360.00	680.00	680.00	-	0.00	0.00	1360.00
11	Parwan dam							0.00	0.00	0.00	1276.58
12	Total	7,920.23	9,550.28	10,910.28	10,952.26	5,476.13	5,476.13	9,138.67	214.65	9,353.32	3,159.16

2.99 Accordingly, the additional capitalization claimed for FY 19-20 and projected cost is as under:

Sl. No	Description of Equipment/Material/Works	Revised Project Cost of unit 5&6 as per BoD 287th on 27th March-19	Additional Capitalization During FY 19-20 as per audited accounts	Expenditure of CTPP unit 5&6 <u>To be incurred</u>
1	EPC Contract	5,997.13	73.22	168.32
2	River Water System(Supply)	339.51	84.34	31.80
		37.38	-0.04	0.00
		45.68	4.47	0.00
		44.08	3.37	0.00
		31.77	0.00	0.00
	Intake Well	100.00	0.00	0.00
	Lhasi Dam	58.93	-0.05	1.07
	Raising of height of Anicut	61.02	0.04	0.00
3	Land	56.11	0.00	0.00
4	Town Ship	47.66	0.00	100.66
5	Other Civil Work(railway siding)	252.00	8.58	180.61
6	Others	369.55	27.38	40.12
7	Pre-operative	118.34	1.94	-
8	IDC	2,000.00	11.39	0.00
9	Finance Charges(loan process charge)	33.10	0.00	0.00
10	FGD	1,360.00	0.00	1360.00
11	Parwan dam		0.00	1276.58
12	Total	10,952.26	214.65	3,159.16

2.100 Therefore RVUN request Hon'ble Commission to allow additional capitalization of Rs.214.65 Cr as tabulated above for FY 19-20 which has been incurred in audited accounts and recognize the estimated additional capitalization of Rs.3159.16 Cr (including the cost of FGD, DE-NOX system (SCR), ESP upgradation and Share of cost of Parwan Dam) to be incurred in the coming years.

2.101 With the above details, the fixed charges and variable charges have been calculated and accordingly, the ARR and Tariff petition for FY 2018-19 to FY 21-22 for Unit -5 & 6 has been prepared and is being submitted to the Hon'ble Commission.

A3: GENERATION FORECAST OF CSCTPP-UNIT 5 & 6

3.1 The installed capacity of CTPP-Unit#5 & 6 is 660 MW each. The actual date of COD of Unit # 5 is 09/08/2018 and Unit 6 is 02/04/19. The estimated figures of Gross generation, PLF & net energy sale to three Discoms from CTPP-unit#5 & 6 FY 18-19 to FY 21-22 is as shown in table below:

Table 2: Gross generation, PLF & Ex-bus energy sale from CTPP-Unit 5 & 6

Particular	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Capacity (MW)	660	660	1320	1320	1320
Availability (%)	83	83	84	84	84
PLF (%)	83	83	84	84	84
Gross generation(MU)	3089.59	13.15	9713.09	9713.09	9713.09
Aux Cons. (%)	5.25	5.25	5.25	5.25	5.25
Aux Cons. (MU)	162.20	0.69	509.94	509.94	509.94
Net Generation (MU)	2927.39	12.46	9203.15	9203.15	9203.15

FIXED CHARGES

- Depreciation
- Interest on term Loans and Finance Charges
- Interest on Working Capital
- Operation & Maintenance Expenses
- Recovery of ARR & Tariff Petition Fees
- Insurance Charges
- Terminal Benefit

A4: FIXED CHARGES OF CSCTPP-UNIT 5 & 6

4.1 The details of various components of the fixed cost areas under: -

Depreciation:-

4.2 Depreciation of CSCTPP-Unit 5 & 6, for FY18-19 to FY 21-22 has been calculated based on the regulation No.22 of RERC Tariff Regulations 2014 and 2019. Estimated figures of depreciation are summarised in Table below:

Table 3 : Depreciation (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Depreciation	154.03	0.65	448.73	466.55	477.60

Interest on Term Loans and Finance Charges:-

4.3 The loan-wise interest expenses have been worked-out and taken as part of fixed cost. Estimated figures of Interest on Loans and finance charges are summarised in Table below:

Table 4: Interest on term Loans and Finance Charges (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Interest on Term Loans & Fin. Charges	270.45	1.11	752.76	737.32	709.02

Interest on Working Capital

4.4 The requirement of working capital loan has been computed as per norms defined under regulation 27 of RERC Tariff regulation 2014 and 2019, rate of interest has been taken equal to 250 basis points higher than the average Base Rate of State Bank of India prevalent during the first six months of the year previous to the relevant year for FY 18-19 and 300 basis points higher than the average Base Rate prevalent during first six months of the year previous to the relevant year for FY 19-20 to FY 21-22. Estimated figures of Interest on Working Capital Loans are summarised in Table below:

Table 5: Interest on working Capital (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Interest on Working Capital Loan	29.53	0.13	96.93	97.63	87.10

Operation & Maintenance Expenses

4.5 The Operation & Maintenance Expenses have been computed as per the norms prescribed in regulation 47 of RERC Tariff Regulation 2014 and 2019. Estimated figures of O & M Expenses are summarised in Table below:

Table 6: O & M Expenses (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5&6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
O&M Expenses	77.25	0.33	247.72	257.12	266.14

Recovery of ARR & Tariff Petition Fee

4.6 The Hon'ble Commission has allowed to pass through the fees levied for filling up of ARR & tariff petition, as expenses in the ARR. Accordingly, RVUN has claimed the fee for FY 18-19 as under. The Commission may consider and allow the same. The ARR & Tariff Petition Fees are summarised in Table below:

Table 7: Recovery of ARR & Tariff Petition (Rs. In Cr)

Particulars	Unit#5	Unit # 5	Unit # 5&6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
ARR and Tariff petition fee	0.66	0.00	0.00	0.00	0.00

Insurance Charges

4.7 The insurance charges are claimed as per norms defined under regulation No.25 of RERC Tariff regulation 2014 and 2019 which allows actual insurance charges or provision for contingency reserve up to 0.2% of average Net Fixed Assets for the year. Accordingly, the insurance charges have been claimed for FY 2018-19 to FY 21-22 are shown in the table below:

Table 8: Insurance Charges (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5&6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Insurance Charges	6.25	0.03	17.69	17.56	17.14

Return on Equity (ROE)

4.8 The Return on Equity has been computed as per the norms prescribed under Regulation 20 of RERC Tariff Regulation 2014 and 2019.

4.9 The Return on Equity (ROE) for FY 2018-19 to FY 21-22 are summarised in Table below:

Table 9: Return on Equity (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5&6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Return on Equity	98.44	0.40	276.62	288.44	296.28

Terminal Benefit

4.10 The Terminal Benefits has been separately allowed over and above the normative O&M expenses as per Regulation 47(7) of RERC Regulations, 2019 which is reproduced as below:

"Provided that terminal liabilities based on actuarial valuation, over and above the normative O&M Expenses, subject to prudence check shall be allowed through tariff separately."

It is submitted that RVUN has computed terminal benefits on the basis of actuarial valuation of previous year audited accounts of FY 19-20. Copy Enclosed as **Annexure-X1**.

4.11 The estimated benefits for FY 2019-20 to FY 2021-22 are summarised in Table below:

Table 10: Terminal Benefit (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5&6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Terminal Benefits	0.00	0.02	13.45	13.14	12.54

Non-Tariff Income

4.12 Estimated figures of Non Tariff Income for FY 2018-19 are summarised in Table below:

Table 11: Non-Tariff Income (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5&6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Non-Tariff Income	3.41	0.00039	0.29	0.30	0.32

A5: ESTIMATED CAPACITY CHARGES OF CSCTPP UNIT 5 & 6

5.1 The net fixed charges are computed in Table below:

Table 12: Net Capacity Charges of CSCTPP Unit 5 & 6 (Rs. in Cr.)

Particulars	Unit#5	Unit # 5	Unit # 5&6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
O & M Expenses	77.25	0.33	247.72	257.12	266.14
Depreciation	154.03	0.65	448.73	466.55	477.60
Interest on Term Loans & Fin. Charges	270.45	1.11	752.76	737.32	709.02
Return on Equity	98.44	0.40	276.62	288.44	296.28
Interest on Working Capital Loans	29.53	0.13	96.93	97.63	87.10
Insurance Charges	6.25	0.03	17.69	17.56	17.13
Terminal Benefits	0.00	0.02	13.45	13.14	12.54
Tariff Fee	0.66	0.00	0.00	0.00	0.00
Total Fixed Charges	636.62	2.68	1853.90	1877.76	1865.81
Less: Non Tariff Income	3.41	0.00	0.29	0.30	0.32
Net Fixed Charge	633.20	2.68	1853.61	1877.46	1865.50

A6: VARIABLE CHARGES OF CSCTPP UNIT-5 & 6

6.1 SHR of CSCTPP Unit-5 & 6 has been taken as 2222.08 kcal/kwh as approved by the Hon'ble Commission in its provisional order dated 04.04.18.

The PLF has been considered as 83% for Unit 5 and 85% for Unit 6 as per RERC norms and Auxiliary consumption has been considered as 5.25% as per RERC regulations 2019.

6.2 The fuel requirement of CSCTPP U # 5 & 6 shall be fulfilled from Parsa, Parsa East and Kanta Basan & Kente Extension Coal Block allocated by Ministry of Coal through Govt. Dispensation Route dated 10.03.2015, 26.10.2015 (**Annexure Y**). Coal Mining and delivery agreement between RVUN and Rajasthan Collieries Limited dated 03.10.2013 and dated 24.05.16 is available at **Annexure- Z**.

6.3 For CSCTPP-Unit#5 & 6 fuel data has been taken based on the actual as per form 5.1.

6.4 The average Gross calorific value of Coal for calculation of energy charges has been considered as per Regulation 51(2) of RERC Tariff Regulations 2019 for FY 2021-22 which is reproduced below:

Where, Rate of Energy Charges (REC) shall be the sum of the cost of normative quantities of primary and secondary fuel for delivering ex-bus one kWh of electricity in Rs/kWh and shall be computed as under:

$$REC = 100\{P_p \times (Q_p)_n + P_s \times (Q_s)_n\} / (100 - (AUX)_n) \quad (\text{Rs/kWh})$$

Where, P_p = Price of primary fuel namely coal or lignite or gas or liquid fuel and lime stone, if applicable, in Rs/kg or Rs/cum or Rs./litre, as the case may be.

$(Q_p)_n$ = Quantity of primary fuel required for generation of one kWh of electricity at generator terminals in kg or litre or cum, as the case may be, and shall be computed on the basis of normative Gross Station Heat Rate (less heat contributed by secondary fuel oil for coal/lignite based Generating Stations) and gross calorific value of coal/lignite or gas or liquid fuel as received less 85 kCal/kg or gross calorific value as fired, whichever is higher.

P_s = Price of Secondary fuel oil in Rs./ml,

$(Q_s)_n$ = Normative Quantity of Secondary fuel oil in ml/kWh as per Regulation 45(4), as the case may be, and

AUX_n = Normative Auxiliary Energy Consumption as % of gross generation as per Regulation 45(6), as the case may be. Energy charges, for the purpose of billing/fuel price variation will be worked out station-wise based on weighted average rate based on actual generation from the Units of each Station

6.5 Keeping in view the above regulation the GCV of coal has been considered less 85 from ARB.

6.6 The overall estimated figures of variable cost for the period under consideration, are summarised in Table below:

Table 13: Variable Cost of CSCTPP-Unit 5 & 6 (Rs. in Cr)

Particulars	Units	Unit#5	Unit # 5	Unit # 5&6	Unit # 5&6	Unit # 5&6
		FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Total Capacity	MW	660	660	1320	1320	1320
Availability	%	83	83	84	84	84
PLF	%	83	83	84	84	84
Gross Generation	MU	3089.59	13.15	9713.09	9713.09	9713.09
Auxiliary Energy Consumption	%	5.25	5.25	5.25	5.25	5.25

Particulars	Units	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
Auxiliary Energy Consumption	MU	162.20	0.69	509.94	509.94	509.94
Net Generation	MU	2927.39	12.46	9203.15	9203.15	9203.15
Heat Rate	kcal/kWh	2222.08	2222.08	2222.08	2222.08	2222.08
GCV of Fuel						
Fuel 1 (Indigenous Coal)	kcal/Kg	4729.09	4432.64	4432.64	4303.05	4303.05
Fuel 2 (HFO)	kcal/ltr	9514.04	9625.27	9625.27	9912.08	9912.08
Fuel 3 (LDO)	kcal/ltr					
Price of Fuel						
Fuel 1 (Indigenous Coal)	Rs/MT	4206.74	4550.60	4550.60	4346.55	4346.55
Fuel 2 (HFO)	Rs/KL	50744.96	49639.00	49639.00	43154.93	43154.93
Fuel 3 (LDO)	Rs/KL					
Specific Cons						
Fuel 1 (Indigenous Coal)	Kg/KWh	0.47	0.50	0.50	0.52	0.52
Fuel 2 (HFO)	ml/kWh	0.50	0.50	0.50	0.50	0.50
Fuel 3 (LDO)	ml/kWh					
Cost of Fuel						
Fuel 1 (Indigenous Coal)	Rs Crore	609.39	2.99	2210.96	2175.28	2175.28
Fuel 2 (HFO)	Rs Crore	7.84	0.03	24.11	20.96	20.96
Fuel 3 (LDO)	Rs Crore					
Total	Rs Crore	617.23	3.03	2235.07	2196.24	2196.24
Other Charges (Fuel & Opr. Related Exp.)	Rs Crore	0.00	0.00	0.00	0.00	0.00
Total Cost	Rs Crore	617.23	3.03	2235.07	2196.24	2196.24
Cost of Generation per unit (at Generation Terminal)	Rs/kWh	2.00	2.30	2.30	2.26	2.26
Energy Charge per unit (ex-bus)	Rs/kWh	2.11	2.43	2.43	2.39	2.39

A7: ESTIMATED AGGREGATE REVENUE REQUIREMENT OF CSCTPP-UNIT 5 & 6

7.1 The recovery Of ARR proposed for CSCTPP-unit#5 & 6 is summarised in table below:

Table 12: ARR OF CTPP-UNIT 5 & 6 (Rs. in Cr)

Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Capacity (Fixed Charges)	633.20	2.68	1853.61	1877.46	1865.50
Variable Cost	617.23	3.03	2235.07	2196.24	2196.24
Aggregate Revenue Requirement	1250.44	5.70	4088.68	4073.70	4061.74

A8: ESTIMATED TARIFF OF UNIT-5 & 6

8.1 Total per unit charge in Rs. / kwh is given in given table below:-

Table 14: TARIFF of CTPP UNIT 5 & 6

Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
	FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
Ex-Bus Generation (MU)	2927.39	12.46	9203.15	9203.15	9203.15
Capacity(fixed) Charges (Rs. in Cr)	633.20	2.68	1853.61	1877.46	1865.50
Variable Cost (Rs. in Cr)	617.23	3.03	2235.07	2196.24	2196.24
Rate of Fixed Charge(Rs/kWh)	2.16	2.15	2.01	2.04	2.03
Rate of Variable Charge (Rs/kWh)	2.11	2.43	2.43	2.39	2.39
Rate of Sale of Energy (Rs/kWh)	4.27	4.58	4.44	4.43	4.41

A9: FUEL COST ADJUSTMENT FORMULA

9.1 The Commission in their Tariff Regulations, 2014 and 2019 have provided a fuel cost adjustment formula for adjustment of tariff on account of fuel related costs of electricity generation to take care of any variation in the variable cost and the same is proposed to be recovered from Discoms.

A10: COMMISSION'S DIRECTIONS

RERC order clause	Directions of Commission	Status
Commission's directions as per RERC order dated 04.04.18		
4.26	The Commission further directs the Petitioner to quantify and submit the actual delay on account of environment clearance, delay due to coal block Allocation and delay due to various design changes in main equipment resulting in delay in zero date of the project separately along with all necessary supporting documents.	The actual delay has been explained in the petition
4.38	The Commission directs the Petitioner to submit the following information along with its petition for approval of final tariff based on actual audited capital cost till COD of Units <ul style="list-style-type: none">• Activity wise Original L2 level Schedule agreed with EPC Contractor• Activity wise Actual L2 level schedule• Exact number of days of delay due to Environmental clearance• Complete detailed reasons for package wise delay in completion clearly identifying the impact of delay in completion of the project on account of	L2 schedule and activity wise Actual L2 schedule is enclosed as Annexure-Z1 . The actual delay has been explained in the

	<p>each reason.</p> <ul style="list-style-type: none"> • Bifurcation of the impact of each reason whether the same is attributable to the contractor or the Petitioner or due to uncontrollable factor. Whether each reason for delay was within or beyond control of the Petitioner with supporting documents. • The Petitioner should also furnish the copies of the correspondence exchanged between the contractor / agency and the Petitioner in support of the reasons for delay. 	petition
4.50	<p>The Commission however directs that in order to assess the actual base case IDC, and impact of time overrun on IDC, the Petitioner should submit the following information along with the petition for final determination of capital cost.</p> <p>a) Actual quarter wise phasing of capital expenditure incurred till COD of the Complete Project. The Petitioner should submit the desired information separately for debt funding and equity infused.</p> <p>b) Detailed computations of actual IDC with phasing of expenditure.</p> <p>c) Justification for delay quantifying the delay in number of days on account of each reason submitted by the Petitioner.</p>	<p>(a)&(b) Actual quarter wise phasing of capital expenditure incurred till COD of the Complete Project as Annexure-Z2.</p> <p>(c) The actual delay has been explained in the petition</p>
5.4	<p>The Commission directs the Petitioner to submit the details of additional capitalization in accordance with Regulation 17 of RERC Tariff Regulations, 2014 along with the petition for final determination of capital cost</p>	<p>The additional capitalization in accordance with Regulation 17 of RERC Tariff Regulations, 2014 and 19 is given in petition.</p>
5.46(f)	<p>The Commission directs the Petitioner to submit the PG Test Report along with petition for determination of final capital cost and tariff for FY 2017- 18</p>	<p>Enclosed as Annexure-Z3.</p>
<p>Commission's directions as per RERC order dated 30.07.19</p>		
4.19	<p>RVUN is directed to submit the detailed individual package wise reasons for increase in the actual Capital Cost as compared to the original Capital Cost estimates in its petition for determination of the final Capital Cost of both the Units The reasons should elaborate the basis on which the original cost estimates were considered vis-à-vis the actual cost. In case, some of the works / packages were not considered in the original cost estimates and the same are now considered in revised project cost, the reasons should elaborate the basis on which the same were not considered in the original cost estimates and the basis on which the same are now being considered in the revised project cost. Wherever necessary, the supporting documents should also be submitted by RVUN</p>	<p>The actual delay has been explained in the petition</p>

4.26	<p>The Commission directs the Petitioner to submit the following information along with its petition for approval of final tariff based on actual audited capital cost till COD of the project:</p> <ol style="list-style-type: none"> 1. Activity wise Original L2 level Schedule agreed with EPC Contractor 2. Activity wise Actual L2 level schedule 3. Exact number of days of delay due to Environmental clearance 4. Complete detailed reasons for package wise delay in completion clearly identifying the impact of delay in completion of the project on account of each reason. 5. Bifurcation of the impact of each reason whether the same is attributable to the contractor or the Petitioner or due to uncontrollable factor. Whether each reason for delay was within or beyond control of the Petitioner with supporting documents. 6. The Petitioner should also furnish the copies of the correspondence exchanged between the contractor / agency and the Petitioner in support of the reasons for delay. 	<p>1,2,3,4 and 5 is same as above 4.38</p> <p>(6) Enclosed as Annexure-T1,T2, T3 and U.</p>
4.28	<p>The Commission further directs the Petitioner to submit the following information for ascertaining the actual IDC and the impact of time overrun along with its Petition for approval of final Capital Cost:</p> <ol style="list-style-type: none"> 1. Actual quarter wise phasing of capital expenditure incurred till COD of the complete Project. The Petitioner should submit the desired information separately for debt funding and equity infused. 2. Detailed computations of actual IDC with phasing of expenditure. 3. Justification for delay quantifying the delay in number of days on account of each reason submitted by the Petitioner. 	<p>1&2 As Annexure-Z2. 3 The actual delay has been explained in the petition</p>
Commission's directions as per RERC order dated 6.01.2020		
5.2	<p>The Commission directs the Petitioner to file the petition for approval of final capital cost and tariff based on the audited capital cost along with justification for the variation in capital cost.</p>	<p>Petition is being filed and variation cost has been explained in the petition</p>
5.30	<p>The Commission directs RVUN to submit the OEM documents in support of the design parameters along with its Petition for final tariff determination.</p>	<p>Enclosed as Annexure-Z3.</p>
5.35	<p>The Commission directs the Petitioner to submit both 'as received' and 'as fired' GCV of primary fuel for each station separately along with supporting</p>	<p>Enclosed as Annexure-Z4.</p>

	documents for the same in its forthcoming Petitions for tariff determination and/or true-up.	
Commission's directions as per RERC order dated 11.09.2020		
6.3	The Commission redirects the Petitioner to file the petition for approval of final capital cost and tariff based on the audited capital cost along with justification for the variation in capital cost.	The petition is being filed

A11: RESPONDENTS:-

11.1 The Respondents are JVVNL/AVVNL/Jd.VVNL/RUVNL, Jaipur/ Ajmer/ Jodhpur/ Jaipur for the above petition.

A12: PRAYER

RVUN humbly requests the Hon'ble Commission to:

- ◆ Allow Interim/ Adhoc tariff for FY 21-22 from 01/04/2021
- ◆ Approve the final capital cost as claimed and ARR & Tariff for FY FY 2018-19 to FY 2021-22 for Unit-5 & 6.
- ◆ Condoning any inadvertent omissions/errors/rounding off differences/ shortcomings and permit the Petitioner to add/alter this filing and make further submissions as may be required by the Hon'ble Commission.
- ◆ And pass other further orders as are deemed fit and proper in the facts and circumstances of the case.

(Sita Ram Sharma)
Chief Accounts Officer
(Accts,Taxation& PPMC)
RVUN, Jaipur.

(Anil Middha)
Dy.Chief Engineer
(PPMC/PT&D/T)
RVUN, Jaipur.

Summary of Tariff Proposal

Name of the Petitioner

RVUN

Name of the Power Station /Unit :

CSCTPP Unit 5&6

(Rs. Crore)

S.No.	Particulars	Ref.of Form No	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
			FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2	3	4	5	6	7	8
1	Capacity (Fixed) Charge						
1.1	Depreciation	6.1	154.03	0.65	448.73	466.55	477.60
1.2	Interest on term Loan & Finance charges	6.2a	270.45	1.11	752.76	737.32	709.02
1.3	Return on Equity	6.4	98.44	0.40	276.62	288.44	296.28
1.4	Interest on Working Capital	6.6	29.53	0.13	96.93	97.63	87.10
1.5	O & M Expenses	4.1	77.25	0.33	247.72	257.12	266.14
1.6	Insurance Charges	6.7	6.25	0.03	17.69	17.56	17.13
1.7	Tax on ROE	6.8	0.00	0.00	0.00	0.00	0.00
1.8	Terminal Benefits		0.00	0.02	13.45	13.14	12.54
1.9	ARR and Tariff petition fee		0.66	0.00	0.00	0.00	0.00
2	Less: Non-Tariff income	3.2	3.41	0.00	0.29	0.30	0.32
3	Total (1)- Capacity (Fixed Charges)		633.20	2.68	1853.61	1877.46	1865.50
4	Total- Energy (variable) charges		617.23	3.03	2235.07	2196.24	2196.24
5	Units sold to Discoms (MU)		2927.39	12.46	9203.15	9203.15	9203.15
6	Rate of Fixed Charges. (1/3)		2.16	2.15	2.01	2.04	2.03
7	Rate of Variable Charges.		2.11	2.43	2.43	2.39	2.39
7.1	Rate of Energy Charge from Primary Fuel (REC) _p	5.3					
	(i) Coal/ Lignite		2.08	2.40	2.40	2.36	2.36
	(ii) Imported Coal						
	(iii) Any Other fuel						
	Total 2.1		2.08	2.40	2.40	2.36	2.36
7.2	Rate of Energy Charge from Secondary Fuel (REC) _s	5.3	0.03	0.03	0.03	0.02	0.02
7.3	Total-(2) Rate of Energy Charge ex-bus(REC) ^{3A,3B,3C}	5.3	4.27	4.58	4.44	4.43	4.41

Form G 1.2
Aggregate Revenue Requirement

Name of the Petitioner

RVUN

Name of the Power Station/Unit:

CSCTPP Unit 5&6

(Rs. Crore)

S.No.	Particulars	Reference Form	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
			FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2	3		4	5	6	7
A	Receipts						
1	Revenue from Sale of Power (Tariff income)	3.1	1250.44	5.70	4088.68	4073.70	4061.74
2	Non Tariff income		3.41	0.00	0.29	0.30	0.32
3	Revenue Subsidies, Grants & Subvention from State Government		0.00	0.00	0.00	0.00	0.00
	Total- (A)		1253.85	5.70	4088.97	4074.00	4062.05
B	Expenditure						
1	Variable Costs, including Fuel Cost	5.3	617.23	3.03	2235.07	2196.24	2196.24
2	Depreciation	6.1	154.03	0.65	448.73	466.55	477.60
3	Interest on term Loan & Finance charges	6.2a	270.45	1.11	752.76	737.32	709.02
4	Return on Equity	6.4	98.44	0.40	276.62	288.44	296.28
5	Interest on Working Capital	6.6	29.53	0.13	96.93	97.63	87.10
6	O & M Expenses	4.1	77.25	0.33	247.72	257.12	266.14
7	Insurance Charges	6.7	6.25	0.03	17.69	17.56	17.13
8	Tax on ROE	6.8	0.00	0.00	0.00	0.00	0.00
9	Terminal Benefits		0.00	0.02	13.45	13.14	12.54
10	ARR and Tariff petition fee		0.66	0.00	0.00	0.00	0.00
C	Total- (B) Expenditure		1253.85	5.70	4088.97	4074.00	4062.05
D	A.R.R. (C-A.2)		1250.44	5.70	4088.68	4073.70	4061.74

Plant Characteristics

Name of the Petitioner RAJASTHAN RAJYA VIDYUT UTPADAN NIGAM LIMITED
 Name of the Power Station/Unit: Chhabra Supercritical Thermal Power Station-Unit-5 & 6

Basic characteristics of the plant¹	Super critical pressure, once through steam generator						
Special Features of the Plant							
Site Specific Features²	Close cycle cooling system						
Special Technological Features³							
Environmental Regulation related features⁴	ESP						
Any other special features							
Fuel Details⁵	Primary Fuel		Secondary Fuel		Alternate Fuels		
	Pulverised Coal		HFO/LDO		NA		
Details	Unit number						
	1	2	3	4	5	6	& so on
Installed Capacity (IC)					660MW	660MW	
Date of Commercial Operation (COD)					09/08/2018	20/01/2019	
Type of cooling system ⁶					Tower(closed cycle)	Tower(closed cycle)	
Type of Boiler Feed Pump ⁷					Horizontal, Centrifugal Multistage Barrel Type Main Pum and Single casing, double suction, single stage, Horizontal/Radial Split Type Booster Pump	Horizontal, Centrifugal Multistage Barrel Type Main Pum and Single casing, double suction, single stage, Horizontal/Radial Split Type Booster Pump	
Pressure (kg/cm ²)					321	321	
Temperature 0C							
-At Superheater Outlet					568	568	
-At Reheater Outlet					596	596	
Turbine Cycle heat Rate(Kcal/ Kwh)					1850	1850	
Boiler Efficiency (%)					86	86	
Guaranteed Design Heat rate (kCal/kWh)⁸					2151.163	2151.163	Not Guranteed
Conditions on which guaranteed							
% MCR					100%STG MCR	100%STG MCR	
% Makeup					0% Make up	0% Make up	
Design Fuel					4000 Kcal/ Kg (GCV of Coal)		
Design cooling water Temperature					31	31	
Back Pressure							

¹ Describe the basic characteristics of the plant, e.g., in the case of a coal based plant whether it is a conventional steam generator or circulating fluidized bed combustion generator or sub-critical

² Any site specific feature such as Merry-Go-Round, Vicinity to sea, Intake /makeup water systems etc. scrubbers etc. Specify all such features.

³ Any Special Technological feature like Advanced class FA technology in Gas Turbines, etc.

⁴ Environmental regulation related features like FGD, ESP etc.

⁵ Coal or natural gas or naphtha or lignite etc.

⁶ Closed circuit cooling, once through cooling, sea cooling etc.

⁷ Motor driven, Steam turbine driven etc.

⁸ In case guaranteed unit heat rate is not available then furnish the guaranteed turbine cycle heat rate and guaranteed boiler efficiency separately along with condition of guarantee.

Form G 2.2
Operational Parameters - Generation

Name of the Petitioner

RVUN

Name of the Station/Unit:

CSC TPP Unit 5&6

(Rs. Crore)

S. No.	Particulars	Units	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
			FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2	3		4	5	6	7
1	Operational Parameters - Hydel						
1.1	Total Capacity	MW					
1.2	Capacity Index	%					
1.3	Design Energy	MU					
1.4	Gross Generation	MU					
1.5	Auxiliary Energy Consumption	%					
1.6	Auxiliary Energy Consumption	MU					
1.7	Net Generation	MU					
2	Operational Parameters - Thermal						
2.1	Total Capacity	MW	660	660	1320	1320	1320
2.2	Availability	%	83	83	84	84	84
2.3	Plant Load Factor	%	83	83	84	84	84
2.4	Gross Generation	MU	3089.592	13.1472	9713.088	9713.088	9713.088
2.5	Auxiliary Energy Consumption	%	5.25	5.25	5.25	5.25	5.25
2.6	Auxiliary Energy Consumption	MU	162.20358	0.690228	509.93712	509.93712	509.93712
2.7	Net Generation	MU	2927.38842	12.456972	9203.15088	9203.15088	9203.15088
2.6	Heat Rate	Kcal/Kwh)	2222.08	2222.08	2222.08	2222.08	2222.08

Revenue from Sale of Power

Name of the Company
Name of the Power Station :
Unit#5
FY 18-19 (235 Days)

RVUN
CSCTPP Unit 5&6

Rs. Crore										
S.No.	Particulars	Allocation (in % /contract demand	Unit Sold (M.U.)	% of total Unit Sold	Demand/fix ed Charges @	Energy Charges @	Others, if any	Total (6+7+8)	Average rate/kWh (paisa/kWh)	Remarks
1	2	3	4	5	6	7	8	9	10	11
A)	Revenue from sale of Electricity(as per approved tariff)		2927.39		633.20	617.23		1250.44	427.15	
1	Distribution Licensee/Trader/ Consumers									
(a)	JVVNL	40.27	1178.86		254.99	248.56		503.55	427.15	
(b)	AVVNL	27.14	794.49		171.85	167.52		339.37	427.15	
(c)	JdVVNL	32.59	954.04		206.36	201.16		407.52	427.15	
2	Other recoveries									
3	Gross Revenue From Sale of Power		2927.39		633.20	617.23		1250.44	427.15	
4	less: i) State Levies Payable to Govt.									
5	Less. : ii) Revenue during trial runs (capitalised)									
6	Net revenue		2927.39		633.20	617.23		1250.44	427.15	

Unit # 5
FY 2019-20 (01 day)

Rs. Crore										
S.No.	Particulars	Allocation (in % /contract demand	Unit Sold (M.U.)	% of total Unit Sold	Demand/fix ed Charges @	Energy Charges @	Others, if any	Total (6+7+8)	Average rate/kWh (paisa/kWh)	Remarks
1	2	3	4	5	6	7	8	9	10	11
A)	Revenue from sale of Electricity(as per approved tariff)		12.46		2.68	3.03		5.70	457.79	
1	Distribution Licensee/Trader/ Consumers									
(a)	JVVNL	40.27	5.02		1.08	1.22		2.30	457.79	
(b)	AVVNL	27.14	3.38		0.73	0.82		1.55	457.79	
(c)	JdVVNL	32.59	4.06		0.87	0.99		1.86	457.79	
2	Other recoveries									
3	Gross Revenue From Sale of Power		12.46		2.68	3.03		5.70	457.79	
4	less: i) State Levies Payable to Govt.									
5	Less. : ii) Revenue during trial runs (capitalised)									
6	Net revenue		12.46		2.68	3.03		5.70	457.79	

Unit # 5& 6
FY 19-20 (365days)

Rs. Crore										
S.No.	Particulars	Allocation (in % /contract demand	Unit Sold (M.U.)	% of total Unit Sold	Demand/fix ed Charges @	Energy Charges @	Others, if any	Total (6+7+8)	Average rate/kWh (paisa/kWh)	Remarks
1	2	3	4	5	6	7	8	9	10	11
A)	Revenue from sale of Electricity(as per approved tariff)		9203.15		1853.61	2235.07		4088.68	444.27	
1	Distribution Licensee/Trader/ Consumers									
(a)	JVVNL	40.27	3706.11		746.45	900.06		1646.51	444.27	
(b)	AVVNL	27.14	2497.74		503.07	606.60		1109.67	444.27	
(c)	JdVVNL	32.59	2999.31		604.09	728.41		1332.50	444.27	
2	Other recoveries									
3	Gross Revenue From Sale of Power		9203.15		1853.61	2235.07		4088.68	444.27	
4	less: i) State Levies Payable to Govt.									
5	Less. : ii) Revenue during trial runs (capitalised)									
6	Net revenue		9203.15		1853.61	2235.07		4088.68	444.27	

Unit # 5&6
FY 20-21

Rs. Crore

S.No.	Particulars	Allocation (in %) /contract demand	Unit Sold (M.U.)	% of total Unit Sold	Demand/fix ed Charges @	Energy Charges @	Others, if any	Total (6+7+8)	Average' rate/kWh (paisa/kW h)	Remarks
1	2	3	4	5	6	7	8	9	10	11
A)	Revenue from sale of Electricity(as per approved tariff)		9203.15		1877.46	2196.24		4073.70	442.64	
1	Distribution Licensee/Trader/ Consumers									
(a)	JVVNL	40.27	3706.11		756.05	884.43		1640.48	442.64	
(b)	AVVNL	27.14	2497.74		509.54	596.06		1105.60	442.64	
(c)	JdVVNL	32.59	2999.31		611.86	715.76		1327.62	442.64	
2	Other recoveries									
3	Gross Revenue From Sale of Power		9203.15		1877.46	2196.24		4073.70	442.64	
4	less: i) State Levies Payable to Govt.									
5	Less. : ii) Revenue during trial runs (capitalised)									
6	Net revenue		9203.15		1877.46	2196.24		4073.70	442.64	

Unit 5&6
FY 21-22

Rs. Crore

S.No.	Particulars	Allocation (in %) /contract demand	Unit Sold (M.U.)	% of total Unit Sold	Demand/fix ed Charges @	Energy Charges @	Others, if any	Total (6+7+8)	Average' rate/kWh (paisa/kW h)	Remarks
1	2	3	4	5	6	7	8	9	10	11
A)	Revenue from sale of Electricity(as per approved tariff)		9203.15		1865.50	2196.24		4061.74	441.34	
1	Distribution Licensee/Trader/ Consumers									
(a)	JVVNL	40.27	3706.11		751.24	884.43		1635.66	441.34	
(b)	AVVNL	27.14	2497.74		506.30	596.06		1102.36	441.34	
(c)	JdVVNL	32.59	2999.31		607.97	715.76		1323.72	441.34	
2	Other recoveries									
3	Gross Revenue From Sale of Power		9203.15		1865.50	2196.24		4061.74	441.34	
4	less: i) State Levies Payable to Govt.									
5	Less. : ii) Revenue during trial runs (capitalised)									
6	Net revenue		9203.15		1865.50	2196.24		4061.74	441.34	

Form G 3.2

NON-TARIFF INCOME

Name of the Petitioner
Name of the Power Station/ Unit:

RVUN
CSCTPP Unit 5&6

Rs. Crore

S.No	Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
		Y 18-19 (235 Day)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2		3	4	5	6
	Non-tariff income					
i.	Interest on loans and advances to employees					
ii.	Interest on loans and advances to suppliers/ contractors					
iii.	Interest and other income from investments and deposits					
iv.	Income from rent on land/building					
v.	Income from sale of scrap					
vi.	Interest on subvention received from govt.					
vii.	Net Income from sale of power to housing colony/ township for its staff					
viii.	Income from sale of ash/rejected coal					
ix.	Rebate for early payment					
x.	Income from advertisement					
xi.	Other miscellaneous receipts					
	Total non-tariff income	3.415	0.00039	0.29	0.30	0.32

Form G 3.3
REVENUE SUBSIDIES & GRANTS

Name of the Petitioner:
Name of the Power Station/Unit :

RVUN
CSCTPP Unit 5&6

Rs. Crore

S. No.	Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
		FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2	3	4	5	5	5
A)	Revenue Subsidies & Grants					
1	Subvention from State Government towards sale of electricity					
2	State Govt. Grant against addl. Intt. Liability on Company					
3	Any Other item					
	Total	0.00	0.00	0.00	0.00	0.00

Form G 3.4

Capital Subsidies and Grants

Name of the Petitioner:

RVUN

Name of the Power Station/Unit :

CSCTPP Unit 5&6

Rs. Crore

S. No.	Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
		FY 18-19 (235 Day)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2		4	5	6	7
A	Capital Cost					
	Subsidy towards cost of Capitals Asset					
	Grant towards cost of Capitals Assets					
	Receipts from State Govt. under any scheme as grant/subsidy					
	Total	0.00	0.00	0.00	0.00	0.00

Form G 4.1

O&M Expenses

Name of the Petitioner:

RVUN

Name of the Station/Unit:

CSCPPP Unit 5&6

(Rs. Crore)

S.No.	Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
		FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2	3	4	5	6	7
1	O&M Expense norms (Rs. per MW)	1818000	1818000	1881811.80	1947863.39	2016233.40
2	Total Capacity in MW	660.00	660.00	1320.00	1320.00	1320.00
3	O&M expense	77.25	0.33	247.72	257.12	266.14
4	Special O&M expense for Water pipe lines>50 km	-	-	-	-	-
a	Details of Water pumping Stations beyond 50 K.M. from Water intake point	-	-	-	-	-
b	<u>Pumping Station No.1 :-</u>	-	-	-	-	-
b.1	Power consumption Cost	-	-	-	-	-
b.2	Repair / Maintenance / Employee / other Cost	-	-	-	-	-
b.3	Sub total (b)	-	-	-	-	-
c	<u>Pumping Station No.2 :-</u>	-	-	-	-	-
	and so on	-	-	-	-	-
d	Total (4) Special O&M Expenses	-	-	-	-	-
5	Total O&M expenses	77.25	0.33	247.72	257.12	266.14

Form G 5.2
Limestone for computation of Energy Rate

Name of the Petitioner:

RVUN

Name of the Power Station/ Unit:

CSC TPP Unit 5&6

(Rs. Crore)

S. No.	#REF!	Unit	Unit#5 FY 18-19 (235 Days)	Unit # 5 FY 2019-20 (01 day)	Unit # 5& 6 FY 19-20 (365days)	Unit # 5&6 FY 20-21	Unit # 5&6 FY 21-22
1	2	3	4	5	6	7	8
1	Quantity of Limestone supplied by limestone Supply Company	(MMT)					
2	Adjustment (+/-) in quantity supplied made by Limestone supply Company	(MMT)					
3	Limestone supplied by Limestone supply Company (1+2)	(MMT)					
4	Amount charged by limestone Supply Company	(Rs.)					
5	Adjustment (+/-) in amount charged made by limestone Supply Company	(Rs.)					
6	Total amount Charged (4+5)	(Rs.)					
7	Transportation charges by rail/ship/road transport	(Rs.)					
8	Adjustment (+/-) in amount charged made by Railways/Transport Company	(Rs.)					
9	Demurrage Charges, if any	(Rs.)					
10	Total Transportation Charges (7+8+9)	(Rs.)					
11	Total amount Charged for Limestone supplied including Transportation (6+10)	(Rs.)					

NA

Energy Charges for Thermal Generation

Name of the Petitioner:
Name of the Power Station/Unit:

RVUN
CSC TPP Unit 5&6

(Rs. Cr)

S.No.	Particulars	Units	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
			FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2	3	4	5	6	7	8
1	Operational Parameters						
1.1	Total Capacity	MW	660	660	1320	1320	1320
1.2	Availability	%	83	83	84	84	84
1.3	PLF	%	83	83	84	84	84
1.4	Gross Generation	MU	3089.59	13.15	9713.09	9713.09	9713.09
1.5	Auxiliary Energy Consumption	%	5.25	5.25	5.25	5.25	5.25
1.6	Auxiliary Energy Consumption	MU	162.20	0.69	509.94	509.94	509.94
1.7	Net Generation	MU	2927.39	12.46	9203.15	9203.15	9203.15
1.8	Heat Rate	kcal/kWh	2222.08	2222.08	2222.08	2222.08	2222.08
2	Fuel Parameters (for each primary and secondary fuel)						
2.1	Gross Calorific Value						
2.1.1	Fuel 1-Coal	kcal/Kg	4729.09	4432.64	4432.64	4303.05	4303.05
2.1.2	Fuel 2-HFO	kcal/ltr					
2.1.3	Fuel 3-LDO	kcal/ltr	9514.04	9625.27	9625.27	9912.08	9912.08
2.2	Landed Fuel Price per unit (Please specify the fuel)						
2.2.1	Fuel 1-Coal	Rs/MT	4206.74	4550.60	4550.60	4346.55	4346.55
2.2.2	Fuel 2-HFO	Rs/KL					
2.2.3	Fuel 3-LDO	Rs/KL	50744.96	49639.00	49639.00	43154.93	43154.93
3	Fuel Consumption and Heat Contribution (for each fuel separately)						
3.1	Specific Fuel Consumption						
3.1.1	Fuel 1-Coal	Kg/KWh	0.47	0.50	0.50	0.52	0.52
3.1.2	Fuel 2-HFO	ml/kWh					
3.1.3	Fuel 3-LDO	ml/kWh	0.50	0.50	0.50	0.50	0.50
3.2	Total Fuel Consumption						
3.2.1	Fuel 1-Coal	MT	1448612.30	6576.42	4888625.18	5004615.31	5004615.31
3.2.2	Fuel 2-HFO	KL					
3.2.3	Fuel 3-LDO	KL	1544.80	6.57	4856.54	4856.54	4856.54
3.3	Heat Content (each fuel separately)						
3.3.1	Fuel 1-Coal	Million kcal	6850623.34	29150.86	21536513.03	21535120.11	21535120.11
3.3.2	Fuel 2-HFO	Million kcal					
3.3.3	Fuel 3-LDO	Million kcal	14697.25	63.27	46745.55	48138.47	48138.47
	Total Heat Content		6865320.59	29214.13	21583258.58	21583258.58	21583258.58
4	Total Fuel Cost						
4.1.1	Fuel 1-Coal	Rs Crore	609.39	2.99	2210.96	2175.28	2175.28
4.1.2	Fuel 2-HFO	Rs Crore	7.84	0.03	24.11	20.96	20.96
4.1.3	Fuel 3-LDO	Rs Crore					
	Total Fuel Cost	Rs Crore	617.23	3.03	2235.07	2196.24	2196.24
5	Details of limestone consumption (Applicable for Lignite based generating stations)						
5.1.1	Quantity of limestone instock at the beginning of	MMT					
5.1.2	Quantity of limestone supplied	(MMT)					
5.1.2	Total limestone (Receipts & Opening Stock)	(MMT)					
5.1.3	Limestone consumed	(MMT)					
5.1.4	Limestone in stock at the end of the year	(MMT)					
5.2.1	Value of limestone in stock	(Rs. Cr)					
5.2.2	Amount charged by the limestone company	(Rs. Cr)					
5.2.3	Transportation charges	(Rs. Cr)					
5.2.4	Total amount charged for limestone supplied including transportation	(Rs. Cr)					
5.2.5	Average cost of limestone (Opening stock + receipts)	(Rs/MMT)					
5.2.6	Cost of limestone in stock at the end of the year	(Rs. Cr)					
5.2.7	Cost of limestone consumed during the year	(Rs. Cr)					
6	Other Charges and Adjustments						
6.1.1	Other Charges (pl. specify details)	Rs Crore					
6.1.2	Other Adjustments (Pl. specify details)	Rs Crore					
	Total Other Charges and Adjustments	Rs Crore					
7	Total Cost (4+5+6)	Rs Crore	617.23	3.03	2235.07	2196.24	2196.24
8	Cost of Generation per unit (at Generation Terminal) (7/1.4)	Rs/kWh	2.00	2.30	2.30	2.26	2.26
9	Energy Charge per unit (ex-bus) (7/1.7)						
9.1.1	Fuel 1-Coal	Rs/kWh	2.08	2.40	2.40	2.36	2.36
9.1.2	Fuel 2-HFO	Rs/kWh					
9.1.3	Fuel 3-LDO	Rs/kWh	0.03	0.03	0.03	0.02	0.02
	Total--(9)	Rs/kWh	2.11	2.43	2.43	2.39	2.39

F 6.1

Fixed assets & provisions for depreciation

Name of the Petitioner RVUN
 Name of the Power Station : CSCTPP Unit 5&6
 Unit#5
 FY 18-19 (235 Days)

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			at the beginning of the year	Additions during the year	Adjustment & deductons	At the end of the year	Cumulative upto the beginning of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	0.00	56.07	0.00	0.00	56.07	0.00	0.00	0.00	0.00	56.07	56.07
1A	Hydraulic works	5.28	322.81	0.00	0.00	322.81	0.00	10.97	0.00	10.97	322.81	311.84
2	Building & Civil works of Power plant	3.34	939.09	0.00	0.00	939.09	0.00	20.19	0.00	20.19	939.09	918.90
3	Plant & machinery including sub-station equipments	5.28	3570.37	0.00	0.00	3570.37	0.00	121.37	0.00	121.37	3570.37	3449.00
4	Communication equipment (lines and cable network)	5.28	42.08	0.00	0.00	42.08	0.00	1.43	0.00	1.43	42.08	40.65
5	Vehicles	6.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Furniture & fixtures	6.33	1.42	0.00	0.00	1.42	0.00	0.06	0.00	0.06	1.42	1.36
7	Office Equipments	6.33	0.14	0.00	0.00	0.14	0.00	0.01	0.00	0.01	0.14	0.13
8	Capital spares	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	IT Equipments	15.00										
10	IT/ SCADA Software	9.00										
11	Any other items	5.28										
	Total (1) to (11)		4,931.97	-	-	4,931.97	0.00	154.03	-	154.03	4,931.97	4,777.94

Unit # 5

FY 2019-20 (01 day)

(Figures in Rs Crore)

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deductons	At the end of the year	Cumulative upto the beginning of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	0.00	56.07	0.00	0.00	56.07	0.00	0.00	0.00	0.00	56.07	56.07
1A	Hydraulic works	5.28	322.81	0.00	0.00	322.81	10.97	0.05	0.00	11.02	311.84	311.79
2	Building & Civil works of Power plant	3.34	939.09	0.00	0.00	939.09	20.19	0.09	0.00	20.28	918.90	918.81
3	Plant & machinery including sub-station equipments	5.28	3570.37	0.00	0.00	3570.37	121.37	0.52	0.00	121.89	3449.00	3448.48
4	Communication equipment (lines and cable network)	5.28	42.08	0.00	0.00	42.08	1.43	0.01	0.00	1.44	40.65	40.64
5	Vehicles	6.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Furniture & fixtures	6.33	1.42	0.00	0.00	1.42	0.06	0.00	0.00	0.06	1.36	1.36
7	Office Equipments	6.33	0.14	0.00	0.00	0.14	0.01	0.00	0.00	0.01	0.13	0.13
8	Capital spares	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	IT Equipments	15.00										
10	IT/ SCADA Software	9.00										
11	Any other items	5.28										
	Total (1) to (11)		4,931.97	0.00	0.00	4,931.97	154.03	0.65	0.00	154.69	4,777.94	4,777.28

Unit # 5& 6
FY 19-20 (365days)

(Figures in Rs Crore)

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Cumulative upto the beginning of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	0.00	56.07	0.00	0.00	56.07	0.00	0.00	0.00	0.00	56.07	56.07
1A	Hydraulic works	5.28	742.47	93.71	0.00	836.18	11.02	41.56	0.00	52.58	731.45	783.60
2	Building & Civil works of Power plant	3.34	1812.57	12.25	0.00	1824.82	20.28	60.58	0.00	80.86	1792.29	1743.96
3	Plant & machinery including sub-station equipments	5.28	6449.93	86.32	0.00	6536.25	121.89	341.90	0.00	463.79	6328.04	6072.46
4	Communication equipment (lines and cable network)	5.28	76.09	22.37	0.00	98.46	1.44	4.60	0.00	6.03	74.65	92.42
5	Vehicles	6.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Furniture & fixtures	6.33	1.42	0.00	0.00	1.42	0.06	0.09	0.00	0.15	1.36	1.27
7	Office Equipments	6.33	0.14	0.00	0.00	0.14	0.01	0.01	0.00	0.01	0.13	0.12
8	Capital spares	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	IT Equipments	15.00										
10	IT/ SCADA Software	9.00										
11	Any other items	5.28										
	Total (I) to (11)		9,138.67	214.65	0.00	9,353.32	154.69	448.73	0.00	603.42	8,983.98	8,749.90

Unit # 5&6

FY 20-21

F 6.1

(Figures in Rs Crore)

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Cumulative upto the beginning of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	0.00	56.07	0.00	0.00	56.07	0.00	0.00	0.00	0.00	56.07	56.07
1A	Hydraulic works	5.28	836.18	33.15	0.00	869.33	52.58	45.03	0.00	97.61	783.60	771.73
2	Building & Civil works of Power plant	3.34	1824.82	283.70	0.00	2108.52	80.86	65.69	0.00	146.55	1743.96	1961.97
3	Plant & machinery including sub-station equipments	5.28	6536.25	197.43	0.00	6733.68	463.79	350.33	0.00	814.11	6072.46	5919.56
4	Communication equipment (lines and cable network)	5.28	98.46	8.29	0.00	106.75	6.03	5.42	0.00	11.45	92.42	95.30
5	Vehicles	6.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Furniture & fixtures	6.33	1.42	0.00	0.00	1.42	0.15	0.09	0.00	0.24	1.27	1.18
7	Office Equipments	6.33	0.14	0.00	0.00	0.14	0.01	0.01	0.00	0.02	0.12	0.11
8	Capital spares	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	IT Equipments	15.00										
10	IT/ SCADA Software	9.00										
11	Any other items	5.28										
	Total (I) to (11)		9,353.32	522.57	0.00	9,875.89	603.42	466.55	0.00	1,069.97	8,749.90	8,805.92

Unit # 5&6

FY 21-22

(Figures in Rs Crore)

S. No.	Particular	Rate of depreciation %	Gross fixed assets				Provisions for depreciation				Net fixed assets at the beginning of the year	Net Fixed Asset at the end of the year
			At the beginning of the year	Additions during the year	Adjustment & deductions	At the end of the year	Cumulative upto the beginning of the year	Additions during the year	Adjustment during the year	Cumulative at the end of the year		
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Land & land rights	0.00	56.07	0.00	0.00	56.07	0.00	0.00	0.00	0.00	56.07	56.07
1A	Hydraulic works	5.28	869.33	0.00	0.00	869.33	97.61	45.90	0.00	143.51	771.73	725.82
2	Building & Civil works of Power plant	3.34	2108.52	0.00	0.00	2108.52	146.55	70.42	0.00	216.97	1961.97	1891.55
3	Plant & machinery including sub-station equipments	5.28	6733.68	0.00	0.00	6733.68	814.11	355.54	0.00	1169.65	5919.56	5564.02
4	Communication equipment (lines and cable network)	5.28	106.75	0.00	0.00	106.75	11.45	5.64	0.00	17.09	95.30	89.66
5	Vehicles	6.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Furniture & fixtures	6.33	1.42	0.00	0.00	1.42	0.24	0.09	0.00	0.33	1.18	1.09
7	Office Equipments	6.33	0.14	0.00	0.00	0.14	0.02	0.01	0.00	0.03	0.11	0.10
8	Capital spares	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	IT Equipments	15.00										
10	IT/ SCADA Software	9.00										
11	Any other items	5.28										
	Total (I) to (11)		9,875.89	0.00	0.00	9,875.89	1,069.97	477.60	0.00	1,547.57	8,805.92	8,328.32

Form G 6.2a

Calculation of Interest on Normative Loan

Name of the Company
Name of the Power Station :
Region

RVUN
CSCTPP Unit 5&6

(Rs. Crore)

S. No.	Particular	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
		18-19 (235 Day)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2	3	4	5	6	7
1	Gross Normative loan - Opening	3945.576	3945.58	7310.94	7482.66	7900.71
2	Cumulative repayment of Normative Loan upto previous year	0.00	154.03	154.69	603.42	1069.97
3	Net Normative loan - Opening	3945.58	3791.54	7156.25	6879.24	6830.74
4	Increase/Decrease due to ACE/ de-capitalization during the Year	0.00	0.00	171.72	418.06	0.00
5	Repayments of Normative Loan during the year	154.03	0.65	448.73	466.55	477.60
6	Net Normative loan - Closing	3791.54	3790.89	6879.24	6830.74	6353.14
7	Gross Normative loan - Closing	3945.58	3945.58	7482.66	7900.71	7900.71
8	Average Net Normative Loan	3868.56	3791.21	7017.74	6854.99	6591.94
9	Weighted average Rate of Interest of actual Loans (Form 6.2b)	10.86	10.76	10.76	10.76	10.76
10	Interest on Normative loan	270.45	1.11	752.76	737.32	709.02

Form G 6.3

Consolidated report on additions to Fixed Assets during the year

Name of the Petitioner

RVUN

Name of the Power Station :

CSCTPP Unit 5&6

Rs in Cr

S.No.	Asset Description	Asset Code	FY 19-20						FY 20-21						
			(Actuals/audited)						(Actuals & Anticipated)						
			Cost	Interest	Finance Charges	Pre-Operative expenses	Exchange fluctuations	Total	Cost	Interest	Finance Charges	Pre-Operative expenses	Exchange fluctuations	Total	
1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	
	Land & land rights		0.00					0.00	0.00						0.00
	Hydraulic works		93.71					93.71	33.15						33.15
	Building & Civil works of Power plant		12.25					12.25	283.70						283.70
	Plant & machinery including sub-station equipments		86.32					86.32	197.43						197.43
	Communication equipment (lines and cable network)		22.37					22.37	8.29						8.29
	Vehicles		0.00					0.00	0.00						0.00
	Furniture & fixtures		0.00					0.00	0.00						0.00
	Office Equipments		0.00					0.00	0.00						0.00
	Capital spares		0.00					0.00	0.00						0.00
	IT Equipments		0.00					0.00	0.00						0.00
	IT/ SCADA Software		0.00					0.00	0.00						0.00
	Any other items		0.00					0.00	0.00						0.00
	Total (1) to (11)		214.65					214.65	522.57						522.57

Form G 6.4

RETURN ON EQUITY

Name of the Petitioner:

RVUN

Name of the Power Station :

CSCTPP Unit 5&6

S.No.	Particulars	Unit	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
			Y 18-19 (235 Day)	Y 2019-20 (01 day)	Y 19-20 (365days)	FY 20-21	FY 21-22
1	2	3	4	5	6	7	8
1	Equity at the beginning of the year		986.39	986.39	1827.73	1870.664	1975.178475
2	Capitalisation		0.00	0.00	214.65	522.57	0.00
3	Equity portion of capitalisation		0.00	0.00	42.93	104.51	0.00
4	Equity at the end of the year		986.39	986.39	1870.66	1975.18	1975.18
	Return Computation						
5	Return on Equity at the beginning of the year	15%*(1)	98.44	0.40	273.41	280.60	296.28
6	Return on Equity portion of capitalisation (on pro-rata basis)	15%*(3)/(n/12)	0.00	0.00	3.21	7.84	0.00
7	Total Return on Equity	(5)+(6)	98.44	0.40	276.62	288.44	296.28

Note:

Station-wise RoE (or basis of allocation for each Station) has to be provided

Statement of Additional Capitalisation after COD and Details for Financing

Name of the Petitioner:
Name of the Power Station
COD

RVUN
CSCTPP Unit 5&6

(Rs. Crore)

S.No.	Work/Equipment added after 31.03.2019	Proposed to be capitalised after 31.03.2020	Justification	Regulations under which such additional capitalisation has been claimed	Source of Finance				Admitted Cost ¹
					Loan	Total Loan	Equity	Internal Sources or Others (mention details)	
	1 Land & land rights	0.00			0	0	0		
	1A Hydraulic works	33.15			26.522968	26.523	6.630742		
	2 Building & Civil works of Power plant	283.70			226.9581728	226.958	56.739543		
	3 Plant & machinery including sub-station equipments	197.43			157.944	157.944	39.486		
	4 Communication equipment (lines and cable network)	8.29			6.6327592	6.63276	1.6581898		
	5 Vehicles	0.00			0	0	0		
	6 Furniture & fixtures	0.00			0	0	0		
	7 Office Equipments	0.00			0	0	0		
	8 Capital spares	0.00			0	0	0		
	9 IT Equipments	0.00			0	0	0		
	10 IT/ SCADA Software	0.00			0	0	0		
	11 Any other items	0.00			0	0	0		
	Total (1) to (11)	522.57	the actual audited expenses incurred before cut-off date	NERC Regulation 17(1)	418.06	418.06	104.51		

¹ In case the project has been completed and any tariff notification(s) has already been issued in the past by GOI, give the cost as admitted for the purpose of tariff notification already issued by (Name of the authority) (Enclose copy of the tariff Order)

Note:

1 Fill the form in chronological order year wise along with detailed justification clearly bring out the necessity and the benefits accruing to the beneficiaries.

2 In case initial spares are purchased alongwith any equipment, then the cost of such spares should be indicated separately. e.g. Rotor - 50 Crs. Initial spares- 5 Crs.

Form G 6.6

Interest on Working Capital

Name of the Petitioner
Name of the Power Station

RVUN
CSCTPP Unit 5&6

(Rs. Crore)

S. No.	Particulars	Unit	Unit#5 FY 18-19 (235 Days)	Unit # 5 FY 2019-20 (01 day)	Unit # 5& 6 FY 19-20 (365days)	Unit # 5&6 FY 20-21	Unit # 5&6 FY 21-22
1	2	3	4	5	6	7	8
1	Fuel Stock (as per norms)		118.31	136.91	277.13	271.91	271.91
2	Secondary fuel stock (as per norms)		2.03	1.99	4.03	3.49	3.49
3	O & M expenses (as per norms)		10.00	10.00	20.70	21.43	22.18
4	Maintenance Spares (as per norms)		24.00	24.00	49.68	51.42	53.23
5	Receivables (as per norms)		242.77	260.90	512.49	509.21	507.72
6	limestone, if applicable (as per norms)						
7	Total Working Capital		397.11	433.80	864.02	857.47	858.53
8	Rate of Interest (as per norms)		11.55	11.25	11.25	11.39	10.14
9	Interest on Working Capital		29.53	0.13	96.93	97.63	87.10

Form G 6.7

Insurance Expenses

Name of the Petitioner:

RVUN

Name of the Power Station :

CSCTPP Unit 5&6

(Rs. Crore)

S. No.	Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
		FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2		3	4	5	6
	Insurance Expenses					
a)	Provision made/ proposed for the year	6.251582838	0.02610715	17.68542771	17.55709221	17.13809297
b)	Acual insurance expenses incurred					
c)	Average Net Fixed Assets	4854.952629	4777.608421	8866.940468	8778.546105	8569.046485

* **Note:** Licensee to furnish the details of insurance expenses

Form G 6.8

Tax on R.O.E.

Name of the Petitioner:
Name of the Power Station :

RVUN
CSCTPP Unit 5&6

(Rs. Crore)

S. No.	Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
		FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2		3	4	5	6
A)	Advance Tax assessed & deposited on-----					
a)	for Quarter I & deposited on 15 th June.					
b)	for Quarter II & deposited on 15 th Sept.					
c)	for Quarter III & deposited on 15 th Dec.					
d)	for Quarter IV & deposited on 15 th March.					
	Total---(A)	0	0	0	0	0
B)	Deffered tax liability before 01.04.2009					

Note:- Tax calculated should be only for the generation business and should not include income from any other income streame like efficiency gain & incentive etc.

Form G 7.1
Proposed improvement in performance

Name of the Petitioner
Name of the Power Station :

RVUN
CSCTPP Unit 5&6

S.No.	Particulars	Unit#5	Unit # 5	Unit # 5& 6	Unit # 5&6	Unit # 5&6
		FY 18-19 (235 Days)	FY 2019-20 (01 day)	FY 19-20 (365days)	FY 20-21	FY 21-22
1	2	3	4	5	6	7
1	Plant load factor		83	84	84	84
2	Auxiliary consumption		5.25	5.25	5.25	5.25
3	Specific fuel consumption					
(l)	coal, kg / kWh		0.50	0.50	0.52	0.52
ii)	gas, SCM / kWh					
(iii)	oil, ml / kwh		0.50	0.50	0.50	0.50
(iv)	Limestone kg / kWh					
(v)	any other fuel					
4	Station heat rate, kcal / kwh		2222.08	2222.08	2222.08	2222.08
5	Annual Maitenance shut down days					
6	Forced / planned shut down except annual shut down					
(l)	number / year					
(ii)	cumulative duration, hours / year					
7	Fly ash utilisation, %					
8	Other bye product utilisation(give list)					
9	Outstanding dues, days of receivables					
10	Availability		83	84	84	84

Note:-1. Remarks to indicate manner in which performance parameters reflected in the tariff proposal

2.list is illustrative

Abstract of Capital Cost Estimates and Schedule of Commissioning for the New projects

Name of the Petitioner : RVUN
 Name of the Power Station : CSCTPP Unit 5&6
 New Projects
 Capital Cost Estimates

(Rs. In Cr)

Board of Director/ Agency approving the Capital cost estimates:	10952.26					
Date of approval of the Capital cost estimates:	13.11.2017					
	Present Day Cost			Completed Cost		
Price level of approved estimates	As of End of year 2019-20(Actual Expenditure) Rs. 9134.18 Cr.			As on Scheduled COD of the Station 9138.67		
Foreign Exchange rate considered for theCapital cost estimates						
Capital Cost excluding IDC & FC						
Foreign Component, if any (In Million US \$ or the relevant Currency)						
Domestic Component (Rs. Cr.)	6752.72			6756.24		
Capital cost excluding IDC & FC (Rs. Cr)	6752.72			6756.24		
IDC & FC						
Foreign Component, if any (In Million US \$ or the relevant Currency)						
Domestic Component (Rs. Cr.)	2381.46			2382.43		
Total IDC & FC (Rs.Cr.)	2381.46			2382.43		
Rate of taxes & duties considered						
Capital cost Including IDC & FC						
Foreign Component, if any (In Million US \$ or the relevant Currency)						
Domestic Component (Rs. Cr.)	9134.18			9138.67		
Capital cost Including IDC & FC (Rs. Cr)	9134.18			9138.67		
Schedule of Commissioning						
COD of Unit-5	09.08.18					
COD of Unit-6	02.04.19					

COD of last Unit/Block	02.04.19					

Break-up of Capital Cost for Coal/ Lignite / gas/liquid fuel based projects

Name of the Petitioner:

RVUN

Name of the Power Station :

CSCTPP Unit 5&6

Rs. Crore.

S.No.	Break Down	Cost in Rs. Crores			Variation (Rs. Cr.)	Reasons for Variation	Admitted Cost (Rs. Cr.)
		Revised Project Cost of unit 5&6 as on November-17	Actual Expenditure as on COD	Provisions			
1	2	3	4	5	6	7	8
1	EPC Contract	5997.13	5935.51	168.32			
2	River Water System(Supply)	339.51	282.10	31.80			
		37.38	33.93	0.00			
		45.68	33.45	0.00			
		44.08	39.04	0.00			
		31.77	0.00	0.00			
	Intake Well	100.00	0.00	0.00			
	Lhasi Dam	58.93	59.40	1.07			
	Raising of height of Anicut	61.02	18.51	0.00			
3	Land	56.11	56.07	0.00			
4	Town Ship	47.66	5.66	100.66			
5	Other Civil Work(railway siding)	252.00	81.91	180.61			
		369.55	137.75	31.90			
7	Pre-operative	118.34	72.91	0.00			
8	IDC	2000.00	2382.43	0.00			
9	Finance Charges(loan process charge)	33.10	-	0.00			
10	Estimated cost of laying of 33 KV line from CTPP to Pachchad and Parwan Pumping station under deposit work			8.22			
11	FGD	1360.00	-	1360.00			
12	Parwan dam			1276.58			
13	Total	10952.26	9138.67	3159.16			

Note:

1. Above list is illustrative

2. In case of time & Cost over run, a detailed note giving reasons of such time and cost over run should be submitted clearly bring out the agency responsible and whether such time & cost over run was beyond the control of the generating company.

Form G 8.

Details of Project Specific Loans

Name of the Petitioner RVUN
 Name of the Power Station CSCIPP Unit 5&6
 Commercial Operation Date

Particulars	FY 2009-10		FY 2010-11		FY 2011-12		FY 2012-13		FY 2013-14		FY 2014-15		FY 2015-16		FY 2016-17		FY 2017-18		FY 2018-19		FY 2019-20		FY 2020-21 upto Dec	
	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2	Package1	Package2
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Source of Loan ¹	PFC	REC	PFC	REC	PFC	REC	PFC	REC	PFC	REC	PFC	REC	PFC	REC	PFC	REC	PFC	REC	PFC	REC	PFC	REC	PFC	REC
Currency ²	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees	Rupees
Amount of Loan sanctioned	0	0	3794	2330	3794	2530	3794	2530	3794	2530	3794	2530	3794	2530	3794	2530	5200.53	3467.69	5200.53	3467.69	5200.53	3467.69	5200.53	3467.69
Amount of Gross Loan drawn upto previous year/during current/ensuing year/COD ^{3,4,5,13,15}	0	0	0	0	0	0	0	0	770.59	50	1541.17	438.08	3227.66	1069.17	3670.72	2336.63	3793.99	2424.61	4693.36	2877.49	4693.36	2877.49	4942.70	3202.24
Interest Type ⁶																								
Fixed Interest Rate, if applicable																								
Base Rate, if Floating Interest ⁷																								
Margin, if Floating Interest ⁸																								
Are there any Caps/Floor ⁹																								
If above is yes,specify caps/floor																								
Moratorium Period ¹⁰																								
Moratorium effective from																								
Repayment Period ¹¹																								
Repayment effective from																								
Repayment Frequency ¹²	Quarterly																							
Repayment Instalment ^{13,14}	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50.96
Base Exchange Rate ¹⁶																								

Name of the Petitioner: ----- RVUN
 Name of the Power Station ----- CSMTP Unit 5&6

F 8.5

Rs. Crore

S.No.	Particulars	FY 10		FY 11		FY 12		FY 13		FY 14		FY 15		FY 16		FY 17		FY 18		FY 19		FY 20		FY 21 (up to Dec)			Total											
		Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency	Exchange Rate on draw down date	Amount in Indian Rupee	Quantum in Foreign currency		Exchange Rate on draw down date	Amount in Indian Rupee									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
1	Phasing of Expenditure																																					
	Capital Cost excluding IDC			40.00			0.00			50.00		60.00			1010.59		1383.66			2817.58			2010.52			351.69			1571.80				185.06			574.09	10054.99	
	IDC			0.00			0.00			0.00		0.00			62.47		172.53			374.98			627.51			724.25			461.84				0.97			2425.52		
	Total Expenditure			40.00			0.00			50.00		60.00			1073.06		1556.19			3192.56			2638.03			1075.94			2033.64				186.03			575.06	12480.51	
	Phasing of expenditure (%)			0.32			0.00			0.40		0.48			8.60		12.47			25.58			21.14			8.62			16.29				1.49			4.61		
2	Funding Pattern																																					
	Equity (Amount)			40.00			0.00			50.00		60.00			190.00		225.00			500.00			300.00			140.44			219.55				185.05			0.00	1910.05	
	Equity (%) of Total Equity			2.09			0.00			2.62		3.14			9.95		11.78			26.18			15.71			7.35			11.49				9.69			0.00		
	Debt (Amount)			0.00			0.00			0.00		0.00			820.59		1158.66			2317.58			1710.52			211.25			1352.25				0.01			574.09	8144.94	
	Debt (%) of Total Debt			0.00			0.00			0.00		0.00			10.07		14.23			28.45			21.00			2.50			16.60				0.00			7.05		
3	Loans																																					
3.1	Foreign Loans																																					
3.1.1	Foreign Loan 1																																					
	Draw down Amount																																					
	IDC																																					
	Financing charges																																					
3.1.2	Foreign Loan 2																																					
	Draw down Amount																																					
	IDC																																					
	Financing charges																																					
3.1.3	Foreign Loan 3																																					
	Draw down Amount																																					
	IDC																																					
	Financing charges																																					
3.1.4	--																																					
	--																																					
	--																																					
3.1	Total Foreign Loans																																					
	Draw down Amount																																					
	IDC																																					
	Financing charges																																					
3.2	Indian Loans																																					
3.2.1	Indian Loan 1 (PFC)																																					
	Draw down Amount			0.00			0.00			0.00		0.00			770.59		770.58			1686.49			443.06			123.27			899.37				0.00			249.34	4942.71	
	IDC			0.00			0.00			0.00		0.00			62.23		131.15			298.69			408.13			449.35			285.13				0.60		0.00	1635.28		
	Financing charges																																					
3.2.2	Indian Loan 2 (REC)																																					
	Draw down Amount			0.00			0.00			0.00		0.00			50.00		388.08			631.09			1267.46			87.98			452.88				0.00			324.75	3202.24	
	IDC			0.00			0.00			0.00		0.00			0.24		41.38			76.29			219.38			274.90			176.71				0.37		0.00	789.27		
	Financing charges																																					
3.2.3	Indian Loan 3																																					
	Draw down Amount																																					
	IDC																																					
	Financing charges																																					
3.2	Total Indian Loans																																					
	Draw down Amount			0.00			0.00			0.00		0.00			820.59		1158.66			2317.58			1710.52			211.25			1352.25				0.00			574.09	8144.95	
	IDC			0.00			0.00			0.00		0.00			62.47		172.53			374.98			627.51			724.25			461.84				0.97		0.00	2424.55		
	Financing charges																																					
4	Total of Loans drawn			0.00			0.00			0.00		0.00			820.59		1158.66			2317.58			1710.52			211.25			1352.25				0.00			574.09	8144.95	
4.1	IDC			0.00			0.00			0.00		0.00			62.47		172.53	</																				