



Petition No. 1200 of 2017

Before

**UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION
LUCKNOW**

QUORUM

Hon'ble Shri Arvind Kumar, Chairman

Hon'ble Shri Sanjay Kumar Singh, Member

IN THE MATTER OF: Petition under Section 62 and Section 86(I)(a) of the Electricity Act, 2003 for determination of Final Tariff and Approval of Capital Cost for Anpara D Thermal Power Plant comprising of Unit 1 and Unit 2 of 500 MW each.

AND

IN THE MATTER OF

Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL)

Shakti Bhawan, 14-Ashok Marg, Lucknow.

.....Petitioner

Vs

- 1. Uttar Pradesh Power Corporation Limited (UPPCL)**
Shakti Bhawan, 14-Ashok Marg, Lucknow
- 2. Madhyanchal Vidyut Vitran Nigam Ltd.**
4-A, Gokhale Marg, Lucknow – 226001
- 3. Poorvanchal Vidyut Vitran Nigam Ltd.**
Poorvanchal Vidyut Bhawan, P. O. Diesel Locomotive Works, Varanasi – 221004
- 4. Paschimanchal Vidyut Vitran Nigam Ltd.**
Victoria Park, Meerut-250001
- 5. Dakshinanchal Vidyut Vitran Nigam Ltd.**
Urja Bhawan, Mathura bypass Road, Agra – 282007
- 6. Kanpur Electricity Supply Co. Ltd.**
KESA House, 14/71, Civil Lines, Kanpur – 208001





7. Noida Power Company Limited,

Plot No. ESS, Knowledge Part-IV, Greater Noida-201310

.....Respondent(s)

The following were present:

1. Shri D.K. Sharma, CE (Commercial), UPRVUNL
2. Shri Hari Shyam, SE (Commercial), UPRVUNL
3. Shri Anurag B., CE, UPRVUNL
4. Shri Sandeep Asthana, AE, UPRVUNL
5. Shri Rajiv Srivastav, Advocate, UPRVUNL
6. Shri Shailendra Tewari, Consultant, UPRVUNL
7. Shri Desh Deepak Verma, Consultant, UPRVUNL
8. Shri Deepak Raizada, CE-PPA, UPPCL
9. Shri Jagnayak Singh, SE-PPA, UPPCL
10. Shri Gajendra Singh, EE PPA, UPPCL
11. Shri Shubham Srivastava, AE PPA, UPPCL
12. Shri Tushar Mathur, Advocate, UPPCL
13. Smt. Nikita Choukse, Advocate, UPPCL

ORDER

(Date of Hearing: 18.02.2025)

1. The Petitioner, U. P. Rajya Vidyut Utpadan Nigam Limited (UPRVUNL) filed Present Petition under Section 62 and Section 86(I)(a) of the Electricity Act, 2003 for approval of capital cost and determination of final tariff for Anpara D Thermal Power Plant for the period from FY 2016-17 to FY 2018-19. The generating station comprises of two units (Unit-6 & 7) of 500 MW each.
2. The Petitioner has prayed as follows:
 - i. Accept this Petition and Determine the Final Tariff for Anpara D Thermal Power Station for the MYT Period encompassing financial years FY 2016-17 to 2018-19 under the control period based on its final capital cost.
 - ii. Approve the final capital cost of Anpara D Thermal Power Station, as prayed for by the Petitioner in the instant Petition.
 - iii. Condone any inadvertent omissions/errors/short comings and permit the applicant to add/change/modify/alter this Petition and make further submissions as may be required at latter stages.





- iv. Pass such orders as the Commission may deem fit and proper and necessary in the facts and circumstances of the case, to grant relief to the Petitioner.

Background of the Case:

3. The Govt. of U.P. had accorded its approval for setting up a 2x 500 MW (Unit-6 & 7) thermal power plant in Sone Bhadra district of U.P. This project was an extension project in the premises of Anpara A (3x210 MW) and Anpara B (2x500 MW).
4. On 06.07.2015, UPRVUNL had filed Petition No. 1025 and 1026 of 2015 for (i) True up for FY 2011-12 to FY 2013-14 (ii) determination of MYT and approval of ARR for period 2014-19 for its existing thermal power stations and (iii) determination of provisional tariff for Anpara-D.
5. The Commission vide its Order dated 29.04.2016 in Petition No. 1025 and 1026 of 2015, had determined provisional tariff for Anpara-D @ 95% of the Annual Fixed charges worked out on capital expenditure incurred of Rs. 6089.06 Cr as on 08.08.2014 against UPRVUNL's submission of Rs. 7027.40 Cr.

S.N.	Particular	Submitted by UPRVUNL (Rs.Cr)	Considered by the Commission Provisionally for FY 2016-17 (Rs.Cr)
1	Capital cost filed by the Petitioner	7027.40	6089.06
2	Annual Fixed Charges		
3	Interest on loans	566.11	511.96
4	Return on Equity	326.77	283.14
5	Depreciation	390.27	333.30
6	Operation and Maintenance Expenses	180.80	180.80
7	Interest on working Capital	89.61	83.45
8	Annual Fixed Charges	1553.56	1392.66
9	Provisional AFC allowed (95%)		1323.02
	AFC /unit	2.21	1.89
	Energy Charge /unit	1.70	1.44

6. The Commission in the aforesaid order directed that on completion of the Project, the Petitioner shall file the details of capital expenditure actually

by





incurred, duly audited and certified by the statutory auditors for the consideration of the Commission. Any over or under recovery of charges by the generating company on account of provisional tariff shall be subject to retrospective adjustments based on final tariff determined by the Commission under Regulation 25 of UPERC Generation Tariff Regulations, 2014.

7. The Commission, subsequently, dismissed Review Petition No.1117/2016 & 1126/2016 against the aforesaid Order dated 29.04.2016, wherein, the issue of Capital cost and variable charges were raised by UPPCL. The Commission held that no change was required in the Order dated 29.04.2016 as it was only provisional.
8. Subsequently, units of Anpara D Thermal Power Plant were declared under commercial operation as per following details:

Particulars	Scheduled COD	Actual COD
First Unit (06)	12-04-2011	08-05-2016
Second Unit (07)	12-07-2011	18-10-2016

Present Petition

9. On 02.06.2017, Petitioner filed the present petition for approval of capital cost and determination of final tariff for Anpara D Thermal Power Plant for the period from FY 2016-17 to FY 2018-19 and submitted the following in the petition:

a) Major reasons for delay in Commissioning of the Project:

- Anpara D Thermal Power Plant, being the first of its kind in the country which was built on ash pond, encountered significant changes in the design from initial conceptualization to commissioning leading to increase in quantum of civil works & supplies by around two to four-fold, thereby incurring additional time and resources.
- As several 400kV & 132kV transmission lines belonging to Hindalco / PGCIL / NTPC passed through the project site and were necessarily to be relocated strategically by putting them under shut down. Additionally, several foundations were laying under the "Doob Chhetra"

54





of Rihand Reservoir and were submerged under the deep-water causing RoW issue etc. Therefore, the start of construction of the Project was delayed.

- iii. During the construction of the Project, there was complete stoppage of supply of aggregates from February 2012 to December 2012 due to closure of Dala mines on account of closure on mining by State Govt, resulting in suspension of most of the critical civil works including TG floors of powerhouse, CW system, etc.
- iv. Moreover, there were frequent labor unrests which resulted into stoppage of work at project site and could be resolved only after continuous interventions by District Officers and senior officials from Govt. of UP.
- v. The mobilization of resources by BHEL including manpower deployment had been inadequate leading to delay in supply and execution of works and therefore, milestones had to be revised number of times. BHEL not only delayed the finalization of tender of civil work leveling and grading work but also that of deploying piling agencies, which caused delayed start of civil work. The work at site could be started by BHEL on 6th February 2010, a delay of almost 24 months at the initial level itself. UPRVUNL has imposed liquidate damages on BHEL for delay in completion of the project.

- b) The capital cost, annual fixed charges and energy charges in terms of the provisions of the UPERC Generation Tariff Regulations, 2014, as claimed by UPRVUNL are as follows:

Gross Fixed Assets (Rs. / Cr.)

Particulars	2016-17	2017-18	2018-19
Opening GFA	6872.52	7397.68	7799.00
Capitalisation	525.16	401.32	-
Deletions			
Closing GFA	7397.68	7799.00	7799.00





Annual Capacity (Fixed) Charges (Rs. /Cr.)

Particulars	Unit	2016-17	2017-18	2018-19
Depreciation		383.90	410.34	422.03
Interest on Loan Capital		528.29	520.27	489.94
Return on Equity		330.86	352.40	361.73
O&M Expenses		180.80	192.20	204.30
Interest on Working Capital		87.78	89.33	89.84
Total Capacity Charges		1511.64	1564.54	1567.85
Energy ex bus	MU	7018	7018	7018
FC per unit	Rs. / kWh	2.15	2.23	2.23
On the basis of No. of days				
Unit-1	Operational	328	365	365
Unit-2	Days	165	365	365
Allowable Capacity Charges	Unit-1	679.20	782.27	783.92
Allowable Capacity Charges	Unit-2	341.67	782.27	783.92

Energy Charges

Description	Unit	2016-17	2017-18	2018-19
Capacity	MW	1000	1000	1000
PLF	%	85%	85%	85%
Gross Station Heat Rate	Kcal/kWh	2396	2396	2396
Auxiliary Energy Consumption	%	5.75%	5.75%	5.75%
Energy Generation - Gross	MU	7446	7446	7446
Auxiliary Energy Consumption	MU	428	428	428
Ex-bus Energy Sent Out	MU	7,018	7,018	7,018
Specific Oil Consumption	ml/kWh	0.75	0.75	0.75
Wt. Avg. GCV of Oil	KCal/Lt	10,500	10,500	10,500
Price of Oil	Rs. /MT	47350	47,350	47,350
Wt. Avg. GCV of Coal	Kcal/kg	3556	3556	3556
Price of Coal	Rs. /MT	2,607	2,607	2,607
Heat Contribution from SFO	Kcal/kWh	8	8	8
Oil Consumption	KL	5585	5585	5585
Heat Contribution from Coal	Kcal/kWh	2362	2362	2362
Specific Coal Consumption	Kg/kWh	0.66	0.66	0.66
Coal Consumption	MMT	4.95	4.95	4.95
Total Cost of Oil	Rs Cr	26.44	26.44	26.44
Total Cost of Coal	Rs Cr	1,289.30	1,289.30	1,289.30
Total Fuel Cost	Rs Cr	1,315.74	1,315.74	1,315.74
Rate of Energy Charge from Secondary Fuel Oil ex-bus	Paise/kWh	3.77	3.77	3.77
Rate of Energy Charge from Coal ex-bus	Paise/kWh	183.72	183.72	183.72
Rate of Energy Charge ex-bus per kWh	Paise/kWh	187.48	187.48	187.48





Total Charges

Particulars	Unit	2016-17	2017-18	2018-19
Fixed Charges	Rs./kWh	2.15	2.23	2.23
Energy Charges	Rs./kWh	1.88	1.88	1.88
Total Charges	Rs./kWh	4.03	4.11	4.11

10. UPRVUNL has claimed total capital cost of Rs. 7799 Cr for the project as on 31.03.2019 including capitalization of Rs. 6872.52 Cr till the date of project COD, and additional capital expenditure incurred of Rs. 926.48 Cr in respect of work after COD and up to cutoff date on account of Deferred liabilities.

Additional submissions of the Petitioner

11. On 12.07.2017, UPRVUNL filed additional submission with revised additional capex during 2016-17 and 2017-18, while keeping the total addl. capex at Rs. 926.48 Crs and corresponding tariff projections as under:

Gross Fixed Assets (Rs. /Cr.)

Particulars	2016-17	2017-18	2018-19
Opening GFA	6872.52	7086.28	7799.00
Capitalisation	213.76	712.72	
Deletion			
Closing GFA	7086.28	7799.00	7799.00

Annual Capacity (Fixed) Charges (Rs./Cr.)

Particulars	Unit	2016-17	2017-18	2018-19
Depreciation		374.34	400.28	421.06
Interest on Loan Capital		516.83	509.89	492.16
Return on Equity		323.62	345.16	361.73
O&M Expenses		180.80	192.20	204.30
Interest on Working Capital		87.17	88.72	89.86
Total Capacity Charges		1482.75	1536.26	1569.11
Energy ex bus	MU	7018	7018	7018
FC per unit	Rs. / kWh	2.11	2.19	2.24
On the basis of No. of days				
Unit-1	Operational Days	328	365	365
Unit-2		165	365	365
Allowable Capacity Charges	Unit-1	666.22	768.13	784.56
Allowable Capacity Charges	Unit-2	335.14	768.13	784.56





Total Charges

Particulars	Unit	2016-17	2017-18	2018-19
Fixed Charges	Rs./kWh	2.11	2.19	2.24
Energy Charges	Rs./kWh	1.87	1.87	1.87
Total Charges	Rs./kWh	3.99	4.06	4.11

Reply-1 of the Respondent (UPPCL)

12. On 21.08.2017, UPPCL filed its Reply-1 and submitted as under:

- The Energy Task Force approved estimated project cost of Rs. 7799 Cr. with IDC of Rs. 2353.37 Cr. However, actual IDC is Rs. 2153.15 Cr. Thus, total cost must be reduced by Rs. 200.22 Cr.
- The project cost has escalated from Rs. 5843.05 Cr. to Rs. 7799 Cr. i.e. an increase of Rs. 1955.95 Cr on account of erection, testing and commissioning and start-up Fuel. However, expenditure on initial Capital spares has reduced to Rs. 66.21 Cr. against projected expenditure of Rs. 118.23 Cr., which might result in higher maintenance cost and down time in future.
- Petitioner, though, has claimed additional capital expenditure of Rs. 213.76 Crs. in 2016-17 and Rs. 712.72 Crs. in 2017-18 but requisite details of such expenditure have not been furnished.
- The Petitioner has considered Debt: Equity ratio of 70:30 on normative basis, however, as per actuals, Debt drawdown till project COD was Rs. 4919.18 Cr. out of total cost of Rs. 6875.52 Crs as on COD against normative Debt of Rs. 4810.76 Cr. Since actual Debt employed was higher than 70%, therefore, actual debt deployed amount needs to be considered.
- The Petitioner is required to furnish methodology for determination of GSHR as considered in the Petition, details of design heat rate along with documentary evidence.

Rejoinder-1 of the Petitioner (UPRVUNL)

13. On 22.11.2017 UPRVUNL filed its Rejoinder- 1 and submitted as under:

- The IDC of Rs. 2153.15 crore was the total IDC capitalised in accounts up

54





to 18th October 2016, however, later on an entry was passed in account for part IDC which could not be capitalised but belonged to the period up to 18th October 2016; the COD of the Project. The total IDC of Rs. 2349.48 crore has been claimed in the total project cost of Rs. 7,799 Cr. against approved estimate of Rs. 2353.37 Cr. Thus, there is a saving of Rs. 3.89 crore. The revised Project Cost works out to be Rs. 7,795.11 Cr.

- b. Liquidated Damages to the tune of Rs. 152 Cr was imposed on BHEL for delay in the project activities.
- c. The increase in Project Cost to Rs. 7795.11 Cr. from the earlier project cost of Rs. 5843.02 Cr, i.e., Rs. 1952.09 Cr. has been segregated into two major portions i.e. Rs. 609.24 Cr in the Hard Cost of the Project and Rs. 1342.83 Cr in IDC allocated to the Project.
- d. Petitioner has elaborated the reasons for the delay in project commissioning as already submitted in the petition, which are as follows:
 - i. Delay in submission of Final Feasibility Report by IIT Roorkee: The final feasibility report by IIT Roorkee was furnished on 14.07.2008 after delay of 6 months due to repeated field tests and number of tests on fly ash to ensure the appropriate ground improvement technique, which in turn delayed the Engineering activities of the project including Civil & Structural engineering of the project.
 - ii. R-factor Issue: The issue of differences in opinion regarding value of R-factor, as considered by BHEL and NTPC (Consultant), could be resolved only on 24.09.2009 pursuant to several efforts by UPRVUNL leading to delay of 3 months.
 - iii. Delay in removal of Transmission Line & its structure: There were four 132 kV Transmission Lines consisting of 10 circuits of Hindalco and two Transmission Lines of PGCIL and NTPC passing through the project site, which were necessary to be relocated for the construction of Anpara 'D' Project. The shifting of these lines could be completed on 4th September 2009 only after dismantling of NTPC line, construction of foundation,





erection of towers on relocated site and subsequent shutdown of PGCIL line as allowed by NREB, causing delay of around 20 months from zero date.

- iv. Delay in removal of Transmission Tower foundation: Several Transmission tower foundation structures were deep submerged under the "Doob Chetra" of Rihand Reservoir. After many rounds of discussion and deliberations, BHEL agreed to engage competent agency for dismantling of tower foundation. Hence, there was 15 months delay i.e. from July 2010 to October 2011 in removal of transmission Tower Foundation.
- v. Delay due to Law & Order problems by Locals/land ousters: Agitation by displaced persons seeking employment at site and other impractical demands led to problem of Law and order at site and continued for a substantial period of time, due to which most of the skilled manpower left the site. Total delay on this account was around 8 months from April 2011 to November 2011.
- vi. Delay due to shortage of aggregates due to closure of Dala mines: There was complete stoppage of supply of aggregates from Feb'12 due to closure of Dalla mines resulting in suspension of almost all civil works. Subsequently, this issue was taken up to the highest level in the Govt. of U.P. and could be resolved in month of Dec'2012.
- vii. Unprecedented Heavy rains: There were unprecedented heavy rainfalls during the month from June-Sept of 2011 2012 & 2013, which not only affected the progress of the work but also increased the quantum of work of excavation and filling the foundations with ash, leading to delay of around 6 months.
- viii. Delay in Construction of Chimney: During the progress of the Project, defects were noticed at height of 2.7 M and the same were rectified after dismantling of affected portion. However, work was again stopped by NTPC at 38.1 M due to excessive defects in Shell Concerting in the month of September 2012. Prof. Dr. Menon of IIT Chennai, an expert in the field,

64.





when approached, suggested certain tests, namely core and UPV test, to establish the integrity of the concrete. Finally, the work resumed after a delay of 6 months.

- ix. Delay due to availability of start-up power: Start-up Power for the start of pre-commissioning activities viz; Boiler-light up etc. was made available by UPPTCL only after a delay of more than 24 months.
 - x. Delay due to Boiler tube leakage of Unit-6: After synchronization of the first unit, COD of second unit got delayed due to Boiler tube leakage and recurring tube failures in Re-heater and super-heater zone in Unit 1, which took around 9 months to resolve and resume the unit.
 - xi. Fire instance in the storage yard of BHEL: There was a major fire in the storage yard of BHEL on 21st April 2016, in which huge quantity of optical fiber cables, electrical cable drums, two transformers, acoustic enclosure of turbine, motorized valves actuators, control valves and other important electrical and C&I items were damaged. Procurement action was initiated immediately; however, arrangements of these items took 6 to 9 months of time, delaying the overall construction period of the project.
 - xii. Arrangements of Cannibalized items for Unit #7: As per schedule submitted by BHEL, the time gap between COD of two units was 2 months. However, despite the best efforts of the Petitioner for arrangement of cannibalized items in a timely manner, there was nearly 5 months' time gap between COD of both the units.
- e. The fixed charges for Unit-1 and Unit-2 have been determined for the full year and then based on the number of days for which Unit-1 and Unit-2 have been operational, fixed charges have been prorated. The IDC for Unit-1 has been booked up to 8th May 2016 and for Unit II the IDC has been charged up to 18th October 2016.
- f. The Gross Heat Rate of 2369 Kcal/kwh is in line with the methodology provided in Regulation 18(iii)(c) of UPERC Generation Regulations, 2014 applicable for coal based thermal power stations achieving COD after

by





01.04.2014. However, the Petitioner has observed an inadvertent error in the data considered for calculation of GSHR. The Petitioner in its previous submission had considered the Max Turbine Heat Rate for Anpara 'D' as 1950 kCal/kwh, whereas as per the original plant design it was fixed at 1944.50 kCal/kwh and the Boiler Efficiency was fixed at 85.20%. However, the Minimum Boiler efficiency has to be 86% in line with the UPERC Generation Regulations, 2014. Accordingly, the Petitioner has worked out the Design Heat Rate for Sub bituminous Indian Coal Stations as 2261 KCal/kWh. Further the same has been multiplied by the factor of 1.045 to achieve at the Gross Station Heat Rate of 2363 kCal/kWh.

Reply-2 of the Respondent (UPPCL)

14. On 18.12.2017, UPPCL filed its Reply-2 and submitted as under:

- a. Liquidated damages of Rs. 152 Cr. levied on BHEL, may be deducted from capital cost to determine 'actual expenses incurred' under Regulation 19(1).
- b. Expenditure on CSR of Rs. 21 Cr cannot be part of capital cost.
- c. UPRVUNL is required to classify reasons for delay as controllable/uncontrollable and claim IDC/IEDC only for uncontrollable factors as stipulated under Regulation 20.

Rejoinder-2 of the Petitioner (UPRVUNL)

15. On 10.01.2018, UPRVUNL filed its Rejoinder-2 and submitted as under:

- a. Liquidated damages of Rs. 152 Cr. levied on BHEL has already been accounted in the financial statement for FY 2016-17. Since, matter is under dispute with BHEL, adjustment on this account in the capital cost may be considered after final outcome of dispute.
- b. Expenditure on CSR was mandatory requirement as per the MOEF Notification and same should be allowed.

Record of Proceedings

16. The Commission vide its Order dated 20.12.2017 decided to undertake the prudence check of capital cost as per UPERC (Terms & Conditions of Generation

54



3



Tariff) Regulations, 2014 and hold further hearing thereafter. The Commission opted Quality and cost-based system (QCBS) method for appointing prudence check committee for deciding the capital cost of 2x500 MW Anpara-D Project. Though, the Expression of Interest was advertised in Newspaper on 15.0.2018 and last date of receipt of bids was 15.11.2018, which was extended several times, but no response was received. The Commission, on 14.05.2019, thus decided to appoint a committee comprising Officers from UPRVUNL, UPPCL and UPERC.

17. UPRVUNL, on 21.10.2021, submitted a summary of the Capital cost in pursuance to the Committee meeting held on 6.09.2021. In this report, UPRVUNL submitted the Government approval of the Project, award process along with Capital cost details for supply of main equipment, erection & commissioning, civil works and BoP packages. The cost movement details in various Govt. approvals were also submitted against original cost as per DPR. UPRVUNL also summarized the reasons for increase in hard cost of the project as well as the reasons for delay in commissioning of the project leading to increase in IDC. UPPCL, after several reminders, submitted its response to the summary report of UPRVUNL on 13.06.2023, after a period of nearly two and half years. The summary of allowable project cost by UPPCL Vs claimed by UPRVUNL is as follows:

Summary of capital cost claimed by UPRVUNL v/s allowable Project Cost by UPCL:

(Rs. in Crore)

Head	Approved Cost after third/ last cost revision (In Rs. Crore) – 24.11.2016	Allowable as per UPPCL	Disallowance as per UPPCL
Hard Cost	5347.09	5269.50	77.59*
Interest During Construction	2349.48	1610.97	738.51**
Working Capital Margin	98.54	98.54	-
Total Cost	7795.11	6979.01	816.10

* The amount consists of disallowance of Rs. 56.59 Cr., towards construction of 400/765 kV switchyard and Rs. 21 Cr., towards amount spent under CSR scheme of MoEF.

** The period of delay claimed on account of removal of NTPC Transmission lines and foundations, Re-construction of chimney & fire instance in storage yard of BHEL.

54





18. The Commission, after reviewing the details submitted by both the parties, issued a data gap query to UPRVUNL on 16.06.2023 and sought following details:

- (i) The soft copy of completely filled Tariff Formats in MS Excel with formulas and linkages.
- (ii) The copy of Detailed Project Report (DPR) for the project.
- (iii) The copy of EPC Agreement with BHEL.
- (iv) The duly certified COD declaration certificate
- (v) Details of revenue earned out of infirm power generated during synchronization and achieving full load operation of each unit so as to declare commercial operation of the Unit.
- (vi) The petitioner is required to justify the reason for considering original estimate of Rs 5843.05 Crore in Tariff Form 5B against initially approved amount of Rs. 5358.80 Crore as per DPR.
- (vii) The petitioner in Tariff Form 5B has claimed the actual expenditure of Rs 6872.52 Crore as on COD against the original estimate of Rs 5843.05 Crore. The petitioner is required to clarify whether the change in scope was necessitated pursuant to own study or on the basis of recommendation of EPC Contractor.
- (viii) UPRVUNL shall submit following details:
 - a. Completely filled Form-5 A, 5B, 5C, 5D and any other incomplete forms
 - b. All the relevant approvals with respect to the Capital Cost as approved after 1st, 2nd, and 3rd Interim Review by the Board of Directors.
 - c. Actual capital cost capitalized as on COD, year wise additional capitalization in the accounts and annual audited accounts for the period from FY 2016-17 to FY 2018-19.
 - d. Detail of debt financing for the project including terms and conditions of long-term loans
 - e. Computations of IDC giving details of tranche wise details of equity and debt infusion in the specified format in MS Excel with appropriate formulae and linkages





- f. List of spares along with corresponding amount included in the claimed final capital cost.
- g. Supporting documents to support delay in project COD.

19. UPRVUNL submitted its reply on July 3 and July 13, 2023. Subsequently, UPRVUNL submitted additional details and revised tariff formats on 12.09.2023.

20. The Commission, in order to undertake prudence check of capital cost and hold future hearing in the matter of determination of tariff, vide its letter dated 12.12.23, sought comprehensive report which would contain all relevant documents, duly corroborated with annexures, tariff forms and reply to the Commission's data gap queries dated 16.6.23.

21. On 30.03.2024, UPRVUNL and UPPCL submitted a signed combined report in continuation to their respective comments dated 21.10.2021 and 13.06.2023. The following information and details have been placed on the Commission record as per their earlier submissions and combined report of UPRVUNL and UPPCL:

- a) The Government of Uttar Pradesh, through its Order no. 3585/24-1/2006-1059/P-1/2006 dated September 25, 2006, mandated that for the establishment of the 2x500 MW Anpara D project, the Boiler-Turbine-Generator (BTG) and associated civil works should be allocated to BHEL based on negotiations, while tenders may be solicited for the Balance of Plant (BoP). The Letter of Intent (LoI) dated January 3, 2007 was issued to NTPC for the purpose of offering consultancy services both prior to and following the award.
- b) Based on technical specifications, NTPC sought a quotation from BHEL for the BTG system along with associated civil works. BHEL quoted a lump sum price Rs. 3540.00 Cr. inclusive of all taxes and duties. After negotiation, on 24.10.2007, LoI and work order of amount Rs. 3390 Cr. was issued to BHEL with price break up as under:





S. No.	Details of Heads	Price (Rs/Cr.)
I-	Supply of Main Equipment & Mandatory Spares:	
a.	Supply of Main Equipment & Mandatory Spares (Ex-BHEL works/ BHEL's Subcontractor's works/ Port of Entry in India basis) excluding taxes & duties.	2205.00
b.	Local Freight for Main Equipment & Mandatory Spares (Excluding Taxes & Duties)	55.00
	Sub Total	2260.00
c.	Taxes & Duties: Main Equipment & Mandatory Spares (Excise Duty @ 16%, Education Cess @ 3%, Central Sales Tax 3% for dispatches from outside the state of Uttar Pradesh and local Sales Tax/Trade Tax 4% as applicable on the dispatches from with the state of Uttar Pradesh) Taxes & Duties on Freight (Service Tax @ 12% & Education cess @ 3% on 25% of the freight value)	310.76
	Sub Total (Supply + Taxes & Duties)	2570.76
II-	Erection & Commissioning	
a.	Unloading at site, handling erection, testing & commissioning, completion of trial operation including Comprehensive insurance covering transit & erection, testing & commissioning till trial Operation (excluding Service Tax & Education cess)	225.00
b.	Taxes & Duties i.e., Service Tax 12% & Education cess @ 3% on Erection, Commissioning and Insurance	27.81
	Sub Total (Erection & Commissioning + Taxes & Duties)	252.81
III-	Civil Works	
a.	Civil Works excluding Taxes & Duties	555.00
b.	Services Tax @ 2% and Education cess @ 3% & WCT as Applicable	11.43
	Sub Total (Civil + Taxes & Duties)	566.43
	Grand Total (Supply of Main Equipment & Mandatory Spares, Freight, Erection & Commissioning, Civil works including all Taxes & Duties)	3390.00

c) As per contract, an advanced payment of 10% was made to BHEL on Zero Date of the project i.e. 13.01.2008. The project was scheduled to be completed on 12.07.2011 i.e. within 42 months from the Zero Date.

d) The GoUP and the consultant (NTPC) have allocated the following BoP packages to the lowest bidders through an open tender process:

S. No.	Package	Agency	Date of Award	Schedule completion period
1	Coal Handling	M/s L&T, New Delhi	27.05.2009	28 Months

by





S. No.	Package	Agency	Date of Award	Schedule completion period
2	Water System	M/s Gannon Dunkerley & Co. Ltd., New Delhi	06.08.2010	22 Months
3	Wagon Tippler	M/s Thyssenkrupp Industries India, Pune	26.05.2010	6 Months
4	400 KV/765 KV Switchyard	UPPTCL	10.03.2010	Ist Phase: Mar 2011 IIInd Phase- Sep, 2011 IIIrd Phase- Dec, 2011
5	MGR	M/s RITES	16.12.2009	26 Months

e) UPRVUNL submitted following details of cost movement:

(Rs./Cr.)				
Head	Original Cost (1) as per DPR	Approved Cost after 1st cost revision	Approved Cost after 2nd cost revision	Approved/ Claimed Cost after 3rd/ last cost revision
Hard Cost	4737.85	4737.85	5347.09	5347.09
Interest During Construction	522.40	1006.63	1581.77	2353.37
Working Capital Margin	98.54	98.54	98.54	98.54
Total Cost	5358.80	5843.02	7027.40	7799

22. **Details of increased Hard Cost:** The reasons for increase in hard cost by Rs. 609.24 and views of UPRVUNL and UPPTCL are described below:

i. Increase in cost of Transmission line shifting:

UPRVUNL: The cost for the shifting of the transmission line has increased from Rs. 54.46 Cr to Rs. 57 Cr (Rs. 2.54 Cr), due to payment of supervision charges.

UPPTCL: UPRVUNL has paid supervision charges to UPPTCL as per BOD approval in 34th meeting held on 01.04.2013, therefore, may be allowed as UPERC MYT Transmission Tariff Regulations 2014 are silent on this issue.

ii. Construction of 400/765 kv switchyard by UPPTCL:

by





UPRVUNL: The cost for the construction of switchyard has increased from Rs. 343.80 Cr to Rs. 457.69 Cr, i.e., Rs. 113.89 Crs. As per E-tender, UPPTCL awarded the contract for consultancy and construction of 400/765 kV switchyard to S.N.C. Lavalin, Canada and Areva T&D India (Currently Alstom India Ltd.) in March 2010 at price of Rs. 396.26 Crore (Consultancy - Rs. 14.41 Crore and Construction of 400/765 kV S/s - Rs. 381.86 Crore). Over and above, Rs. 14.89 Crore was paid to UPPTCL for the operation of the S/s for three years and supervision charges of Rs. 57.30 Crore to UPPTCL@15% as approved by the BOD in its 34th meeting. UPRVUNL has paid Rs. 3.80 Crore to Areva T&D India (Currently Alstom India Ltd.) for the work of Generator relay panel and Rs. 0.33 Crore to ABB for the work of interconnecting line from 2x400 kV Anpara- 'D' to Anpara-'B' 400 kV relay panel end. This has total cost impact of Rs. 113.89 Cr.

UPPCL: Based on the additional information and documentary evidence provided by UPRVUNL, hard cost towards construction of 400/765 KV switch yard has now been allowed by UPPCL.

iii. Coal Handling System:

UPRVUNL: The cost for Coal Handling System has risen by Rs. 213.55 Cr, increasing from Rs. 217.83 Cr to Rs. 431.38 Cr. As per the DPR prepared by NTPC in 2006, the estimated cost for the coal handling plant was Rs. 217.60 Crore. However, in 2008 NTPC had provided a revised estimate of Rs. 312 Crore for CHP package. Accordingly, an open tender was invited, and contract was awarded to L&T at Rs. 363.50 Crore. Further, it was not possible to supply coal by BOBR wagons only. Therefore, as per Railway's suggestion it was decided to establish two number wagon tipplers at a cost of Rs. 53.52 Crore to fulfill the requirement and Rs. 8.95 Crore towards transfer point 1 A, which in turn increased the cost. Also, UPRVUNL has procured 3 no. of Bulldozer amounting to Rs. 5.04 Crore as per administrative approval. This has total cost impact of Rs. 213.55 Cr.

UPPCL: UPRVUNL has provided letter issued from East Central Railway (ECR), wherein ECR has stated that project coal supply was not possible

54





by BOBR rake only and advised that Wagon Tippers with sufficient capacity must be installed to cater projected traffic. In view of the above, amount pertaining to Wagon Tripler (Rs. 53.52 Cr), towards transfer point (Rs. 8.95 Cr.) and Bulldozer (Rs. 5.04 Cr.) may be allowed subject to prudence check by the Commission.

iv. MGR and Coal Transportation:

UPRVUNL: The cost for MGR and Coal Transportation has increased from Rs. 95.00 Cr to Rs. 309.48 Cr. At the time of DPR submitted by NTPC in December 2006, MGR construction was being studied by RITES, hence a provision was made in the DPR to extend the existing MGR system to Anpara-D with additional rolling stock. It was decided that RITES would get an additional line from Krishna Shilla Exchange yard to Anpara-D and modification of Krishna Shilla station/ exchange yard, which lead to an increase in cost. This has total cost impact of Rs. 214.48 Cr.

UPPCL: This cost may be allowed by the Commission subject to prudence check.

v. Consultancy of project by NTPC:

UPRVUNL: The cost for NTPC has increased from Rs. 56.20 Cr to Rs. 68.00 Cr. The consultancy charges paid to NTPC were Rs. 60.30 Crore excluding services tax and educational tax. This has total cost impact of Rs. 11.80 Cr.

UPPCL: UPRVUNL has not provided proper justification.

vi. Registry of Land for Anpara-D by UPJVNL:

UPRVUNL: It has paid one-time charges amounting to Rs. 21.67 Crore to UPJVNL for the transfer of 197-hectare land of Rihand Reservoir to UPRVUNL for a period of 99-year lease. This has total cost impact of Rs. 19.90 Cr





UPPCL: UPRUVNL has provided a copy of the lease agreement from UPJVNL for the transfer of such land, therefore, this may be allowed subject to prudence check by the Commission.

vii. Amount by MoEF under CSR scheme:

UPRVUNL: As per Ministry of Environment and Forest letter dated 21-01-2014, validity of environmental clearance of Anpara- 'D' was increased till 17-09-2017. In the said aforesaid letter, it was mentioned that an amount of Rs. 21 Cr. (minimum) shall be earmarked as a one-time capital cost for the CSR programme. Subsequently a recurring expenditure of Rs. 4.2 Crore (minimum) per annum shall be earmarked for CSR activities. This has total cost impact of Rs. 21 Cr.

UPPCL: CERC vide its order dated 17-02-2017 in Petition No. 16/MP/2016 has disallowed expenditure incurred towards CSR on environmental clearance under Change in Law. Also, MERC in its True-Up order for FY 2009-10 and FY 2010-11 has disallowed expenses towards community service responsibility, which was also upheld by APTEL. CSR is the obligation of the specific corporation and is not related to the cost or revenue of business of selling electricity, the petitioner is not entitled for adjustment for the expenditure on CSR. Accordingly, expenses towards CSR cannot be passed on the procurers. Therefore, same may not be allowed.

viii. Increase in Service Tax Rate from 2.06% to 4.94% in LOA No. 2129/SE/PPMM/ANP 'D' dated 15-04-2008 issued to M/s BHEL for civil works:

UPRVUNL: As per clause 2.5 of the LOA, there was a provision that any other Taxes & Duties applicable after the date of LOA i.e. 24-10-2007 or statutory variation in rates of Taxes/ Duties shall be payable extra by UPRVVNL, if it exceeds the ceiling limit of Rs. 11.43 Crores. Further, Deputy Chief Accounts officer of Anpara vide its letter dated 25-07-2014 has informed regarding the increase in the rate of service tax from 2.06%

by





to 4.944%. Due to the increase in tax rate. This has total cost impact of Rs. 12.08 Cr.

UPPCL: This may be allowed as statutory taxes are payable as per prevailing law.

23.Details of increase in IDC: The reasons for increase in IDC and views of UPPCL are as below:

UPPCL's submissions for incremental IDC:

- i. Delay in submission of Final Feasibility Report by IIT Roorkee and Finalization of Basis of Design and R factor issue: This project is one of the first of its kind as the TPP has been made over an abandoned Ash Pond. Considering above, it is possible that the finalization of feasibility report might have taken longer than expected. Therefore, delay due to final feasibility report may be allowed.
- ii. Delay in removal of NTPC's Transmission Lines & its structures: It appears that the delay caused by the removal of Transmission lines was due to inadequate planning of UPRVUNL and therefore the incremental IDC related to this issue may be disallowed. However, based on the additional information and documentary evidence provided by UPRVUNL, IDC of Rs. 143.54 crores due to delay pertaining to removal of transmission line may be allowed.
- iii. Delay in removal of NTPC Transmission Tower foundation: It appears that the delay caused by the removal of Transmission Tower Foundation was due to inadequate planning of UPRVUNL and therefore the incremental IDC related to this issue may be disallowed.
- iv. Delay due to Law & Order problems by Locals/Land outers: This issue is a Force Majeure issue and was an un-controllable event for UPRVUNL. Thus, incremental IDC related to this issue may be allowed.
- v. Delay due to shortage of aggregates due to closure of Dalla Mines: Closure of Dalla mines can be considered as uncontrollable factors. Further, it was

by





mentioned in UPRVUNL's submissions that despite taking the issues up to with the highest level of the GoUP, the delay could not be controlled. Therefore, incremental IDC related to such issues may be allowed.

- vi. Unprecedented Heavy Rains: Delay and hardship at construction site due to heavy rain can be considered as uncontrollable factors. However, due to absence of supporting evidence, delay pertaining to heavy rains has now been disallowed.
- vii. Delay in Construction of Chimney: Delay due to re-construction of Chimney may not be considered as an uncontrollable factor as it was the result of poor planning and poor quality of the work. Therefore, burden of the same may not be passed on to the consumers. Therefore, incremental IDC related to this issue may be disallowed.
- viii. Fire instance in the storage yard of BHEL: In absence of any supporting documents and report of the fire incident, delay due to procurement of lost items due to fire may not be considered as an uncontrollable factor. Therefore, burden of the same may not be passed on to the consumers. Therefore, incremental IDC related to this issue may be disallowed.

24. In addition to reasons given in the petition at para 9 and rejoinder (1) at para 13 above, UPRVUNL, vide its submission dated 30.05.2024, has further substantiated its claim of Hard Cost and IDC along with supporting documents as detailed below:

- a. **Hard Cost**: As per UPRVUNL, the total increase in Hard Cost is 609.24 Cr with respect to the original cost. However, UPPCL allowed only 588.24 Cr. and rejected the claim of Rs. 21 Cr towards the CSR Scheme. UPRVUNL contested that expenditure of Rs. 21 Cr. towards CSR activities was mandated by the MoEF letter dated 21.01.2014. CSR expenses should be considered part of capital cost based on several considerations including regulatory compliance with Ministry's directive and sustainable development of communities.





b. **IDC:** UPRVUNL submitted the following in response to UPPCL's contention of disallowance of delay on account of various issues:

- i. Removal of NTPC Transmission Tower Foundation: After removal of transmission line and their structures, it was discovered that some of the transmission structures had become submerged in the deep waters of Rihand Reservoir. This unforeseen circumstance arose due to extensive nature of work, which was not initially accounted for in the project scope. Consequently, this led to uncertainty regarding the scope of work, with BHEL expressing reluctance to undertake the task. After several discussions, BHEL agreed to engage a competent agency to handle the dismantling of tower foundations.
- ii. Unprecedented Heavy Rains: Between June to September period of the years 2011 to 2013, the region experienced unprecedented heavy rainfall, which significantly impacted the project's progress. As per Regulation 16(19)(a) of the UPERC Regulation, 2014, exceptionally adverse weather conditions come under a Force Majeure event. Furthermore, it is highlighted that rain data spanning only 50 years is available in the public domain.
- iii. Delay in Construction of Chimney: Defects were observed at a height of 2.7 meters and 38.1 meters and time was taken to undertake corrective measures. UPRVUNL reconstructed the chimney with a commitment to ensure the safety of staff and the longevity of the project. The collective impact of these issues resulted in a delay of approximately 9 months in restarting the chimney shell concreting process.
- iv. Fire instance in the storage yard of BHEL: On April 21, 2016, a significant fire erupted in the storage yard of BHEL due to extreme weather conditions characterized by high winds and temperature. The fire caused extensive damage to various critical components. It took approximately 6 to 9 months to arrange for their replacement. It





qualifies as a Force Majeure event as per Regulation 16 (19) of the UPERC Regulation, 2014.

25.The revised amount allowable by UPPCL on project cost of Anpara D, as compared to that at para 17 above is as below:

Head	Claimed Capex by UPRVUNL	Allowed Capex by UPPCL	Disallowed Capex by UPPCL
Hard Cost	5347.09	5326.09	21.00*
IDC	2349.48	1682.74	666.74**
Working Capital Margin	98.54	98.54	-
Total Cost	7795.11	7107.37	689.74

*Rs. 21 Cr., towards amount spent under CSR scheme of MoEF has been disallowed in line with UPERC's previous order in case of ROSA and LPGCL.

**The period of delay claimed on account of removal of Transmission Line Foundations, Re-construction of chimney, Heavy rains & fire instance in storage yard of BHEL has been disallowed.

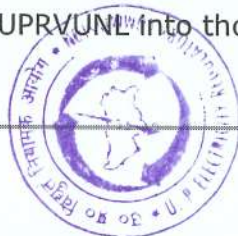
Admittance Order of the Commission

26.On 26.07.2024, the Commission issued Admittance Order and decided to hold a Public Hearing on 30.08.2024 while also inviting the suggestions /objections of the stakeholders. In accordance with direction of the Commission, UPRVUNL also published a Public Notice on 29.07.2024 in English and Hindi Newspaper and invited comments of the stakeholders.

Record of Proceedings:

27.On 30.08.2024, during the public hearing, representative of Respondent (UPPCL) reiterated its objection to the claim of CSR in capital cost and delay claimed due to heavy rains in the absence of documentary evidence demonstrating the impact of heavy rains. Sh. Avdhesh, Verma, Adhyaksh U.P. Rajay Vidyut Upbhokta Parishad, submitted that cost of the project increased from Rs. 7027 cr. to Rs. 7799 cr. due to delay caused by implementing agency, BHEL, a Central Government company. Therefore, BHEL should be penalised for the project's delay rather than the State's consumers.

28.UPPCL, in its response dated 04.09.2024 categorised various delay activities as claimed by UPRVUNL into those allowed and disallowed by UPPCL:





a. Incremental IDC owing to delay in following activities may be allowed:

- i. Submission of Final Feasibility Report by IIT Roorkee,
- ii. Finalization of basis of design,
- iii. R factor issue,
- iv. Removal of NTPC's Transmission Lines & its structures,
- v. Law & Order problems by Locals/Land outers,
- vi. Shortage of aggregates due to closure of Dalla Mines

b. Incremental IDC owing to delay in following activities may be disallowed:

- i. Removal of NTPC Transmission Tower foundation,
- ii. Unprecedented Heavy Rains.
- iii. Construction of Chimney,
- iv. Fire instance in the storage yard of BHEL.

29. The Commission vide order dated 20.09.2024, subsequent to the Public hearing dated 30.08.2024, directed UPRVUNL to submit timeline of critical activities as per original DPR and the delay in actual completion, juxtaposing critical and non-critical activities on time horizon in a PERT diagram. The Commission also directed the UPPCL and UPRVUNL to submit a list of issues on which both the parties agree or disagree, along with reasons.

30. On 25.09.2024, UPRVUNL submitted additional information as directed by the Commission vide its order dated 20.09.2024. Summarily, UPRVUNL submitted that UPPCL & UPRVUNL are on common ground for IDC of Rs. 1682.72 Cr. against Total IDC of Rs. 2349.48 Cr as on COD of the Project. UPPCL has contested allowing of Rs. 666.74 Cr (2349.48-1682.72) as IDC owing to delay in following activities (1) Removal of NTPC Transmission Tower foundation, (2) Unprecedented Heavy Rains (3) Delay in Construction of Chimney and (4) Fire instance in the storage yard of BHEL. However, UPRVUNL subsequently had submitted 110 years rain data to support its claim of delay due unprecedented heavy rain and approved L1 Schedule and monthly progress report for Anpara-D from BHEL.





31. On 26.09.2024 UPPCL submitted additional information pursuant to the Commission's order dated 20.09.2024, wherein it has submitted regarding agreed upon and non-agreed issues w.r.t. hard cost and IDC as below:

A. List of issues agreed upon w.r.t Hard cost

S.N.	Description of work	Estimated Cost as per DPR (Rs./Cr.)	Actual Cost (Rs./Cr.)	Increase in cost	UPCL's Remark
1.	Transmission line shifting	54.46	57.00	2.54	may be allowed
2.	Construction of 400/765 kV switchyard.	343.80	457.69	113.89	may be allowed
3.	Coal Handling.	217.83	431.38	213.55	may be allowed
4.	Cost of MGR & Coal Transportation	95.00	309.48	214.48	may be allowed
5.	Consultancy cost to NTPC	56.20	68.00	11.80	may be allowed
6.	Cost of land from UPJVNL	1.80	21.70	19.90	may be allowed
7.	Cost of BHEL civil work due to increase in service tax.	11.43	23.51	12.08	may be allowed

B. List of issues not agreeable upon w.r.t Hard cost

S.N.	Description of work	Estimated Cost as per DPR (Rs./Cr.)	Actual Cost (Rs./Cr.)	Increase in cost	UPCL's Remark
1.	Cost of CSR Programs	00.00	21.00	21.00	may not be allowed

C. List of issues agreed upon w.r.t IDC

S.N.	Reason of delay	Timeline as per DPR	Actual Completion Schedule	Period of Delay	UPCL's Remark
1	Submission of Final Feasibility Report by IIT Roorkee	13.01.2008	14.07.2008	7 months	may be allowed
2	Finalization of Basis of Design	19.07.2008	23.12.2009	17 months	may be allowed
3	R factor issue	Jul-08	Sep 08	3 months	may be allowed
4	Removal of NTPC's Transmission Lines & its structures.	09.01.2009	09.09.2009	9 months	may be allowed
5	Shortage of aggregates due to closure of Dalla Mines	Feb 12	Dec 12	11 months	may be allowed

by





S.N.	Reason of delay	Timeline as per DPR	Actual Completion Schedule	Period of Delay	UPCL's Remark
6	Availability of Starup Power	30.08.2012	31.08.2014	24 months	may be allowed
7	Boiler Tube Leakage in Unit 6	-	07.06.2015	9 months	may be allowed

D. Non agreeable issues w.r.t IDC

S.N.	Reason of delay	Timeline as per DPR	Actual Completion Schedule	Period of Delay	UPCL's Remark
1	Removal of NTPC Transmission Tower foundation	10.07.2010	11.10.2011	16 months	may be disallowed
2	Unprecedented Heavy Rains			12 months (Jun-11 to Sep-11, Jun-12 to Sep-12, and Jun-13 to Sep-13)	may be disallowed
3	Delay in Construction of Chimney	31.12.10	Oct-2012	9 months	may be disallowed
4	Fire instance in the storage yard of BHEL			6-9 months	may be disallowed

32. Based on the above details, UPPCL has summarised that there is delay of 62 months and 64 months for unit-1 and 2, respectively as the SCODs for Unit-1 and Unit-2 were 12.04.2011 and 12.07.2011, against the actual commissioning on 8.5.2016 and 18.10.2016. UPPCL has proposed that a delay of 40 months might be allowed. Consequently, UPPCL allowed an IDC amounting to ₹1,682.72 crore, out of a total IDC of ₹2,349.48 crore as on COD of the Project.

33. The matter was again heard on 05.11.2024. After hearing the parties, the Commission vide its order dated 12.11.2024, directed UPRVUNL to bring an officer in the next hearing who would have been a senior member of the project execution team to reply satisfactorily to the Commission's query. The Commission also directed UPRVUNL to furnish its response on the following queries with supporting documents:





- a. Details of activities carried out under CSR expenditure claimed of Rs. 21 Cr.
 - b. Steps taken to mitigate the impact of Law & Order problems at project site and actions taken in response to BHEL letters to UPRVUNL regarding stoppage of work and safe working environment at Anpara-D thermal power plant.
 - c. Reason for claiming 11 months delay from February 2012 to December 2012 on account of delay due to shortage of aggregate from Dala mines as BHEL had informed UPRVUNL in June 2012 itself.
 - d. Plant layout- civil and engineering drawings indicating location of transmission tower foundations and reason for claiming 16 months delay, which is overlapping with claimed delay period under heavy rains and law & order problems by locals
 - e. Impact of fire incidence on the COD of Unit-2 of Anpara-D thermal power plant.
 - f. How various critical activities including COD of Unit-1 and Unit-2 of plant were impacted due to delay in construction of chimney
 - g. Details of liquidated damages recovered from BHEL for delay in the project along with full reasons.
34. On 21.12.2024, UPRVUNL submitted detailed information in compliance to the Commission's order dated 12.11.2024 on following issues:
- a. Cost towards the CSR program: UPRVUNL stated that the relevant documents were not available.
 - b. Law & order problem by locals: UPRVUNL has submitted that BHEL was reluctant to fulfil its obligation of deploying displaced persons led to labor unrest, which could only be resolved after intervention by UPRVUNL and district administration.





- c. The issue of shortage of aggregates due to closure of Dala Mines: UPRVUNL has submitted that BHEL vide its letter dated 16.06.2012 informed UPRVUNL regarding shortage of aggregates. It was only after high level meeting between BHEL's CMD and Chief Minister (U.P.) in Nov'12, supply of aggregates was streamlined by BHEL from alternate source of supply.
- d. Delay in removal of NTPC Transmission Tower Foundation: UPRVUNL has submitted that BHEL faced challenges on site due to the large size and unexpected complexity of the Transmission Tower Foundations which didn't match with provided drawings.
- e. Fire instance in the storage yard of BHEL: UPRVUNL has submitted that the fire incident in storage yard of BHEL caused damage and loss of critical components required for commissioning of Unit 7 resulting in delay in achieving COD of Unit 7.
- f. Delay in Construction of Chimney: UPRVUNL has submitted that construction of chimney work was scheduled to be completed in Nov'2010 but could be completed in Dec'14 only due to delay in start of work and halting of construction work during April to September 2011, Oct to March'12 and Sept'12 to April'13 due to law and order problem, irregularities like honey-combing, cracks etc. which led to dismantling the entire chimney shell constructed up to 2.7 M height and rebuilding the same.
- g. Liquidated Damage: UPRVUNL has submitted that it had recovered LD of Rs. 152 Cr from BHEL.

35. The matter was again heard on 07.01.2025. After hearing the parties, the Commission vide its Order dated 27.01.2025 directed UPRVUNL to submit evidential documents pertaining to (i) Law & Order problems by Locals/Land outers (ii) Shortage of aggregates due to closure of Dalla Mines and (iii) Removal of NTPC Transmission Tower foundation. The Commission also enquired about internal communications with BHEL regarding expediting the procurement of mandatory (damaged) items required for commissioning of Unit-7 to justify delay of six months in commissioning of Unit -7 with regard





to fire instance. The Commission observed that the unwarranted delay of 18 months in construction of chimney vis a vis original schedule was planning failure on the part of UPRVUNL.

36. On 07.02.2025 UPRVUNL submitted its response as under:

- i. Law & Order problems by Locals/Land outers: UPRVUNL submitted Board Order No. 145 viniyam anubhag/ Rajya Vidyut Parishad -87-153-A/1978, dated 07.02.1994 and 2139-W-/ Rajya Vidyut Parishad -6/80, dated 18.06.1980 and UPSEB Policy of 1987, which were related to R&R and employment of families affected by land acquisition for establishment of Apar A and Anpara B projects.

A meeting was held on date 16.11.2010 at the office of DM, Sonbhadra, Gram Pradhan of displaced villages, displaced people and their union leader, and other dignitaries. Regarding demand for temporary employment, it was decided that the district administration will not pressurize anybody/Employment provider for providing employment. UPRVUNL also submitted its letter dated 26.04.2011 to DM, Sonbhadra, wherein UPRVUNL had requested DM, Sonbhadra to take action against the ongoing protest near the project gate. Subsequently, on 10.05.2011, a meeting was held at Damini Guest house, wherein it was decided that a committee will be formed and on recommendation of committee, temporary employment would be given to 270 people.

- ii. Shortage of aggregates due to closure of Dalla Mines: UPRVUNL has not made any submission w.r.t. the Commission's observations in this regard.
- iii. Removal of NTPC Transmission Tower foundation: UPRVUNL submitted that the Land was handed over to BHEL on "As is where is basis" and BHEL was agreed for carrying out Levelling and Grading of Land in front of CMD, UPRVUNL. However, BHEL reverted vide their letter dated 31.05.2010 that BHEL was not anticipating huge civil structures as were found at Site. In view of the aforesaid BHEL letter, a series of meetings were held between UPRVUNL, BHEL and NTPC.





Further, UPRVUNL has submitted that the size of foundations was not uniform and comparable to normal transmission tower foundations, and compared typical standard design documents for Normal Dry Soil Foundation and Submerged foundations for Year 2010 and Year 1972 as below:

Transmission Tower Foundation Design Comparison					
	2010 Design		1972 Design		Actual size of Foundation found at Anpara D Site
	Concrete Vol M ³	Excavation M ³	Concrete Vol M ³	Excavation M ³	Concrete Vol M ³
Normal Dry Soil	9.369	63.5	9.87	89.755	19.38 M ³ (3.8 M x 3.4 M x 1.5 M)
Submerged	45.00	196.83	67.278	271.04	192.1 M ³ (11.3 M x 6.8 M x 2.5 M)

Regarding the foundation drawings, UPRVUNL submitted that the drawings for the foundations fouling in the Mill & Bunker area of Unit-7 of the Transmission Lines of Hindalco were obtained from them and were made available to BHEL.

- iv. Fire instance in the storage yard of BHEL: UPRVUNL submitted that BHEL vide 31.12.2024 has informed that surveyor report was submitted to insurance company directly by the surveyor and around Rs. 2 Cr. was received against insurance claim. Further, BHEL, vide email dated 2.02.2025, had provided only general procurement time of power / control cables & oil filled service transformer.
- v. Delay in construction of Chimney: UPRVUNL reiterated detailed chronology of events of various activities from 26-09-2011 to December 2014, as already submitted in earlier submissions.

37. The matter was again heard on 18.02.2025. During the hearing, counsel for UPRVUNL reiterated its submissions made in its information dated 07.02.2025. Counsel for UPPCL submitted that UPRVUNL has blamed BHEL for delay in removal of Transmission Tower foundation, but actually it was planning failure

by





on part of the UPRVUNL. Similarly, delay in construction of chimney was also planning failure on part of the UPRVUNL. Regarding fire instance in the storage yard of BHEL, counsel for UPPCL submitted that UPRVUNL had not provided procurement details of damaged items and actions taken to expedite the procurement process. Counsel for UPPCL also submitted that statistical data submitted by UPRVUNL for rain falls are not enough.

38. After hearing the parties, the Commission, after considering the request of the counsel for the parties, permitted the parties to file their respective written submissions within two weeks. The matter was reserved for order, subject to the above.

39. UPRVUNL and UPPCL filed Written Submissions dated 07.03.2025 and 10.03.2025 respectively and reiterated their earlier submissions.

Commission's Analysis and View

40. The Government of Uttar Pradesh, through its Order no. 3585/24-1/2006-1059/P-1/2006 dated September 25, 2006, mandated that for the establishment of the 2x500 MW Anpara D project, the Boiler-Turbine-Generator (BTG) and associated civil works to be allocated to BHEL based on negotiations, while tenders to be solicited for the Balance of Plant (BoP). The Letter of Intent (LoI) dated January 3, 2007 was issued to NTPC for pre and post consultancy work. As per Govt. Order dated 06.07.2007, negotiation Committee comprising of following was made for negotiation with BHEL:

1	Chief Secretary (Energy), GoUP	Chairperson
2	Chief Secretary (Finance), GoUP OR his Representative	Member
3	Member (Thermal), CEA OR his Representative	Member
4	Managing Director, UPRVUNL	Member
5	Director (Finance), UPPCL	Member

41. BHEL quoted a lump sum price Rs. 3540.00 Cr. inclusive of all taxes and duties. After negotiation, a price of Rs. 3400.00 Cr. was agreed, inclusive of all taxes and duties at present rates and applicable mandatory spares. Against the





above price, on 24.10.2007, LoI and work order for an amount Rs. 3390 Cr. was issued to BHEL for BTG, associated packages and civil works and as per the order 15% advance payment date was to be the zero date. The price break-up as per BHEL was as below:

S.No.	Details of Heads	Price (Rs/Cr.)
I-	Supply of Main Equipment & Mandatory Spares:	
a.	Supply of Main Equipment & Mandatory Spares (Ex-BHEL works/ BHEL's Subcontractor's works/ Port of Entry in India basis) excluding taxes & duties.	2205.00
b.	Local Freight for Main Equipment & Mandatory Spares (Excluding Taxes & Duties)	55.00
	Sub Total	2260.00
c.	Taxes & Duties: Main Equipment & Mandatory Spares (Excise Duty @ 16%, Education Cess @ 3%, Central Sales Tax 3% for dispatches from outside the state of Uttar Pradesh and local Sales Tax/Trade Tax 4% as applicable on the dispatches from with the state of Uttar Pradesh) Taxes & Duties on Freight (Service Tax @ 12% & Education Cess @ 3% on 25% of the freight value)	310.76
	Sub Total (Supply + Taxes & Duties)	2570.76
II-	Erection & Commissioning	
a.	Unloading at site, handling erection, testing & commissioning, completion of trial operation including Comprehensive insurance covering transit & erection, testing & commissioning till trial Operation (excluding Service Tax & Education Cess)	225.00
b.	Taxes & Duties i.e Service Tax @ 12% & Education Cess @ 3% on Erection, Commissioning, and Insurance	27.81
	Sub Total (Erection & Commissioning + Taxes & Duties)	252.81
III-	Civil Works	
b.	Civil Works excluding Taxes & Duties	555.00
b.	Services Tax 2% and Education cess @ 3% & WCT as Applicable	11.43
	Sub Total (Civil + Taxes & Duties)	566.43
	Grand Total (Supply of Main Equipment & Mandatory Spares, Freight, Erection & Commissioning, Civil works including all Taxes & Duties)	3390.00

42.As per contract, an advanced payment of 10% was made to BHEL on Zero Date of the project i.e. 13.01.2008. The project was scheduled to be completed on 12.07.2011 i.e. within 42 months from the Zero Date.

43.The Govt. of UP and the consultant (NTPC) have allocated the following BoP packages to the lowest bidders through an open tender process:

by





S. No.	Package	Agency	Date of Award	Schedule completion period
1-	Coal Handling	M/s L&T, New Delhi	27.05.2009	28 Months
2-	Water System	M/s Gannon Dunkerley & Co. Ltd., New Delhi	06.08.2010	22 Months
3-	Wagon Tippler	M/s Thyssenkrupp Industries India, Pune	26.05.2010	6 Months
4-	400 KV/765 KV Switchyard	UPPTCL	10.03.2010	Ist Phase: Mar 2011 IIInd Phase- Sep 2011 IIIrd Phase- Dec, 2011
5-	MGR	M/s RITES	16.12.2009	26 Months

44. Now both the units of Anpara-D, Unit 6 & 7, have been commissioned. UPRVUNL has claimed cost of Rs. 6872.52 Crs. as on COD of the Project and additional capitalisation of 213.76 Crs. in 2016-17 and Rs. 712.72 Crs in FY 2017-18. The details of scheduled and actual COD of these units with revised Govt. approvals are as follows:

Particulars	Scheduled COD	Actual COD
First Unit (06)	12-04-2011	08-05-2016
Second Unit (07)	12-07-2011	18-10-2016

(Rs. /Cr.)

Head	Original Cost (1) as per DPR	Approved Cost after 1st cost revision	Approved Cost after 2nd cost revision	Approved cost after 3rd/ last revision
Hard Cost	4737.85	4737.85	5347.09	5347.09
Interest During Construction	522.40	1006.63	1581.77	2353.37
Working Capital Margin	98.54	98.54	98.54	98.54
Total Cost	5358.80	5843.02	7027.40	7799

45. In pursuance to the Commission's appointed Committee, UPRVUNL and UPPCL submitted their response and reply dated 21.10.2021 & 13.06.2023 respectively. UPRVUNL and UPPCL subsequently submitted jointly signed report dated 30.03.2024 in compliance with the Commission's direction, considering their earlier submissions. Subsequently, UPPCL has slightly changed its stance in the joint report dated 30.03.2024 and categorized 'increase in hard cost towards construction of 400/765 kV switchyard' and 'IDC





due to delay pertaining to removal of transmission line' in the allowed category but disallowed 'IDC due to delay caused due to heavy rains'.

46.The Commission, thereafter, issued admittance order dated 26.07.2024 inviting suggestions/objections of stakeholders and scheduled public hearing on 30.08.2024.

47.UPRVUNL has, vide its submission dated 25.09.2024, admitted that both the parties were on common ground for allowing IDC of Rs. 1683 Cr. out of total delayed period IDC of Rs. 2350 Cr. It has also been categorially brought out in the submission that the contesting issues between the parties for deciding IDC of Rs. 667 Cr. pertained to four activities, namely, (i) Delay in the removal of Transmission Tower Foundation (ii) Unprecedented Heay rains (iii) Delay in Construction of Chimney and (iv) Fire instance in the storage yard of BHEL.

48.The Commission, during various subsequent hearings held on 05.11.2024 and 07.01.2025, raised queries and sought information/details with respect to (i) allowable IDC of Rs. 1683 Cr. (ii) Contentious IDC of Rs. 667 Cr. Both parties have submitted information as sought by the Commission with respect to both (i) and (ii) above, vide their submissions dated 21.12.2024 and 07.02.2025. The final hearing in the matter was held on 18.02.2025 and the order was reserved. UPPCL and UPRVUNL have also filed their respective written submissions dated 10.03.2025 and 07.03.2025.

49.The Commission has perused the joint report dated 30.03.2024, report dated 04.09.2024 submitted by UPPCL, respective submissions of UPPCL and UPRVUNL dated 25.09.2024 and 26.09.2024. The Commission has also considered all the responses submitted by UPRVUNL and UPPCL w.r.t. queries raised by the Commission vide various ROP orders, documents placed on records and comments of all stakeholders. The Commission has also taken due consideration of submissions made by Sh. Avdhesh Verma of Uttar Pradesh Rajya Upbhokta Parishad.

The Commission, in the succeeding paragraphs, has dealt with the issues under Hard Cost and IDC and thereafter it has proceeded with the determination of capital cost of the project and determination of tariff.

by.





Hard Cost:

As per submission of the UPRVUNL, original estimated hard cost of the project as per DPR prepared in Dec 2006 was Rs. 4737.85 Cr. UPRVUNL claimed revised hard cost of the project of Rs. 5347.09 Cr as on COD of the Project. Revised cost estimate was approved by the Board of the company. There is an increase in hard cost of Rs. 609.24 Cr with respect to the hard cost in the DPR. The Commission has dealt with each of the hard cost issues in succeeding paragraphs. The break-up of this increase in hard cost is as follows:

Break-Up of increased Hard Cost (Rs. / Cr.)

S.N.	Description of work	Estimated Cost as per DPR (Dec 2006)	Actual Cost	Increase in cost
1.	Transmission line shifting (Plant built on Ash Dyke Land)	54.46	57.00	2.54
	Construction of 400/765 kV switchyard.	343.80	457.69	113.89
3.	Coal Handling.	217.83	431.38	213.55
4.	MGR & Coal Transportation	95.00	309.48	214.48
5.	Consultancy cost to NTPC	56.20	68.00	11.80
6.	Cost of land from UPJVNL	1.80	21.70	19.90
7.	cost of CSR program as informed by MoEF	0.0	21.00	21.00
8.	Cost of BHEL civil work due to increase in service tax.	11.43	23.51	12.08
			Total Increase	609.24

Issue 1: Increase in cost of Transmission line shifting:

50. UPRVUNL has submitted that increase of Rs. 2.54 Cr. in transmission line shifting was due to payment of supervision charges as per BOD approval in the 34th Meeting. UPPCL has stated that supervision charges may be allowed as applicable regulations are silent towards payment of supervision charges. The Commission has considered the BOD approval in the 34th Meeting dated 01.04.2013 regarding payment of supervision charges to UPPTCL and hence allows the incremental cost of Rs. 2.54 Cr. in transmission line shifting.

Issue 2: Construction of 400/765 kV switchyard by UPPTCL:





51. UPRVUNL has claimed Rs. 457.69 cr. against original estimated cost of Rs. 343.80 Cr for construction of 400/765 kV switchyard. There is an increase of Rs. 113.89 Cr. The Petitioner has furnished the following reasons towards increase in of Rs. 113.89 Cr:

- a. Contract for construction 400/765 kV switchyard: NTPC has prepared the DPR in December 2006 for construction of 400/765 kV switchyard by UPPTCL. However, the contract for construction of 400/765 kV switchyard was awarded to Areva T&D India by UPPTCL vide LoI dated 23.01.2010 as per following terms:

S.N.	Contract	Description of work	Contract Value (Rs./Cr.)
1	First Contract	Supply & Delivery of equipment & material	275.63
2	Second Contract	Handling, Erection, Testing & Commissioning works	7.52
3	Third Contract	Civil works	98.71
4	Forth Contract	Three (3) years O&M	14.89
		Total	396.75

Increase of Rs. 52.95 crore (= 396.75 - 343.80) was due to change in estimate on account of price escalation in the intervening period.

- b. Supervision charges: UPRVUNL paid supervision charges of Rs. 57.30 crore (15% of Rs. 381.86 crores (sum of Contract for Supply & Delivery of equipment & material Rs. 275.63 crores + Contract for Handling & Erection Rs. 7.52 crores + Contract for Civil works Rs. 98.71 crores)) to UPPTCL as per BOD approval in the 34th Meeting.
- c. Generator relay panel: UPRVUNL paid Rs. 3.80 Crore to Areva T&D India for the work of Generator relay panel.
- d. Interconnecting line: UPRVUNL paid Rs. 0.33 Crore to ABB for the work of interconnecting line from 2x400 kV Anpara- D to Anpara-B 400 kV relay panel end.

52. The Commission has noted that the rate discovered for contract for construction 400/765 kV switchyard was through transparent e-tendering process. Further, UPRVUNL has paid supervision charges of Rs. 57.30 crore to

54





UPPTCL as per BOD approval in the 34th Meeting and Rs. 3.80 Crore to Areva T&D India for the work of Generator relay panel and Rs. 0.33 Crore to ABB for the work of interconnecting line from 2x400 kV Anpara- D to Anpara-B 400 kV relay panel end. The Commission has considered the submission of UPPCL, which has not objected to increase in costs. Considering the tender was awarded in 2010 against the DPR cost of 2006 and discovered price of the switchyard is through transparent e-tendering process, the Commission allows the incremental cost of Rs. 113.89 Cr.

Issue 3: Coal Handling System:

53. The cost of Coal Handling System has increased by Rs. 213.55 Cr, from Rs. 217.83 Cr to Rs. 431.38 Cr. The Petitioner has furnished the following reasons towards increase of Rs. 213.55 Cr:

- i. CHP package: As per the DPR prepared by NTPC in 2006, the estimated cost for the coal handling plant was Rs. 217.83 crore. However, in 2008 NTPC had provided a revised estimate of Rs. 312 crs for CHP package and the contract was awarded to L&T at Rs. 363.50 Crore through tendering process. Increase of Rs. 146 crore (363.50- 217.83) was due to increase in cost of civil work due to change of type of land from normal land to Abandoned Ash dam land.
- ii. Additional wagon tipplers: UPRVUNL paid Rs. 53.52 Cr for additional two nos. wagon tipplers as advised by East Central Railway.
- iii. Transfer point 1(A): UPRVUNL paid Rs 8.95 Cr. towards transfer point 1(A).
- iv. Three (3) nos. of bulldozers: UPRVUNL paid Rs. 5.04 Cr for 3 nos. of bulldozers as per administrative approval.

54. The Commission has considered the submission of UPRVUNL and UPPCL, which has not objected to increase in costs. The Commission notes that contract for CHP package was awarded to L&T at Rs. 363.50 crore through tendering process, therefore the Commission allows the incremental cost of Rs. 146 crores. The Commission also notes that East Central Railway, vide its letter

57



3



dated 23.11.2009, to UPRVUNL advised UPRVUNL that project coal supply was not possible by BOBR rake only and additional wagon tipplers were required. Therefore, the amount pertaining to wagon tipplers (Rs. 53.52 Cr.), towards transfer point (Rs. 8.95 Cr.) and Bulldozer (Rs. 5.04 Cr.) are also allowed in addition to increase in contract price.

Issue 4: MGR and Coal Transportation:

55. UPRVUNL has submitted that MGR study for coal transportation was undertaken by UPRVUNL through RITES. However, for DPR cost purposes, a provision was made in the DPR (submitted by NTPC on December 2006) to extend the existing MGR system of Anpara to Anpara-D with additional rolling stock. RITES, in its DPR, recommended for additional line from Krishnashila exchange yard to Anpara-D and modification of Krishnashila exchange yard, to handle additional traffic due to increase in coal requirement of upcoming power plants at Anpara, which led to increase in cost.

The Commission notes that said incremental cost as claimed by UPRVUNL for additional line from Krishnashila exchange yard to Anpara-D was recommended by RITES based on requirement to handle additional traffic. Therefore, the Commission allows the incremental cost of Rs. 214.48 crore.

Issue 5: Consultancy of project by NTPC:

56. UPRVUNL has claimed Rs. 68 cr. for consultancy charges paid to NTPC. The Commission, having noted that consultancy charges of Rs. 60.30 Cr. (excluding taxes) was approved during 157th BOD Meeting of UPRVUNL, approves the increase in cost of consultancy of the project.

Issue 6: Cost of Land from UPJVNL:

57. UPRVUNL has claimed Rs. 21.70 cr. for cost of land from UPJVNL against original cost of Rs. 1.80 Cr for transfer of 197-hectare land of Rihand Reservoir for 99 years lease. UPRVUNL has provided a copy of the lease agreement dated 19th July 2013 from UPJVNL for the transfer of such land. Therefore, the Commission allows incremental cost due to the same.





Issue 7: Expenditure towards CSR

58. UPRVUNL has submitted that validity of environmental clearance of Anpara- D was extended till 17-09-2017 vide MoEF's letter dated 21-01-2014 wherein one of the conditions was to assign Rs. 21 Cr. as a one-time capital cost for the CSR programme and a recurring expenditure of Rs. 4.2 Cr. annually. UPRVUNL has submitted that the expenditure incurred on CSR was in accordance with regulatory compliance with Ministry's directive and should therefore be permitted as part of capital cost of the project.

59. UPPCL has submitted that CSR is the obligation of the specific corporation and is not related to the cost or revenue of business of selling electricity. The expenses towards CSR should be met through profit rather than capital cost. Therefore, same may not be allowed. UPPCL has placed its reliance on the judgement of the Commission's previous Order in case of ROSA and LPGCL.

60. The Commission, vide its order dated 12.11.2024, directed UPRVUNL to furnish details of activities carried out under CSR expenditure claimed with supporting documents. In response, UPRVUNL submitted that documents related to CSR expenditure could not be arranged from old records of site.

61. The Commission observes that the Petitioner in the instant Petition has not furnished the required details of activities carried out under CSR expenditure. The corpus of Rs. 21 Crore would be vested with UPRVUNL after the completion of project life and if considered as part of capital cost of the project, would lead to an undue burden on the end consumers. Hence, in view of the above, corpus of Rs. 21 Crore cannot be considered for calculation of Fixed Charges. Hence the claim preferred by the petitioner cannot be allowed.

Issue 8: Cost of BHEL civil work due to increase in service tax

62. UPRVUNL has claimed Rs. 23.51 cr. against original estimated cost of Rs. 11.43 Cr for BHEL civil work due to increase in Service Tax Rate. As per clause 2.5 of the Letter of Award (LoA): No. 2129/SE/PPMM/ANP 'D' dated 15-04-2008 issued to BHEL for civil works tax, Service Tax Rate increased from 2.06% to 4.944%.





63.The clause 2.5 of the LoA No. 2129/SE/PPMM/ANP 'D' dated 15-04-2008 is reproduced below:

"2.5 Any other Taxes & Duties applicable after the date of LoI i.e. 24.10.2007 or statutory variation in rates of Taxes/Duties shall be payable extra by UPRVUNL if it exceeds the ceiling limit of Rs. 11.43 Cr. However, if the total tax liability of BHEL is less than that indicated in Para 2.2(b) above, UPRVUNL will pay such reduced amount only."

64.The Commission observes that payment of increased service tax is statutory, and the Petitioner is entitled to claim the financial impact on account of increase in the rate of services tax from 2.06% to 4.944%. Therefore, in term of above Clause of the LoA, additional impact incurred by the Petitioner on account of increase in Service Tax on Works Contract i.e. Rs. 12.08 Cr. is allowed to the Petitioner.

65.The summary of hard cost of project as claimed by UPRVUNL and that approved by the Commission is given below:

S.N.	Description of work	Claimed by UPRVUNL	Approved by the Commission
1.	Transmission line shifting (Plant built on Ash Dyke Land)	57.00	57.00
	Construction of 400/765 kV switchyard.	457.69	457.69
3.	Coal Handling System	431.38	431.38
4.	MGR & Coal Transportation	309.48	309.48
5.	Consultancy cost to NTPC	68.00	68.00
6.	Cost of land from UPJVNL	21.70	21.70
7.	cost of CSR program as informed by MoEF	21.00	00.00
8.	Cost of BHEL civil work due to increase in service tax.	23.51	23.51
		609.24	588.24

66.**IDC up to COD of the Project/ 17.10.2016:** As per submission of the UPRVUNL, original estimated IDC of the project as per DPR prepared in Dec 2006 was Rs. 522.40 Cr. UPRVUNL claimed revised IDC of the project of Rs. 2153.15 Cr. as on COD of the Project.

67.The summary of the events and reasons for the time over-run as furnished by the UPRVUNL, which have led to the delay in declaration of commercial operation of Units 6 & 7 of the Project, are as under:

67





S.N.	Description of work	Timeline as per DPR	Actual Completion Schedule	Period of Delay	Reason given by UPRVUNL for delay
1	Submission of Final Feasibility Report by IIT Roorkee	13.01.2008	14.07.2008	6 months	Delay in submission of Final feasibility report from IIT Roorkee
2	Finalization of Basis of Design	19.07.2008	24.09.2009	14 months	
3	R factor issue	Jul-08	Sep 08	3 months	Finalization of R factor
4	Removal of NTPC's Transmission Lines & its structures.	09.01.2009	09.09.2009	8 months	Delay in obtaining shutdown approval for dismantling of Transmission Line
5	Removal of NTPC Transmission Tower foundation	10.07.2010	11.10.2011	15 months	Drawings of transmission tower foundations were not available, and size of foundations was not comparable to normal transmission tower foundations
6	Delay in Construction of Chimney	Oct-2012	Jun-2013	9 months	Defects in Shell concreting during construction of chimney
7	Law & Order problems by Locals/Land outers.	Apr-2011	Nov-2011	8 months	BHEL's reluctance to fulfil its obligation of deploying displaced persons
8	Shortage of aggregates due to closure of Dalla Mines	Feb-2012	Dec-2012	11 months	Despite taking the issues up to with the highest level of the GoUP, the delay cannot be controlled
9	Unprecedented Heavy Rains	Jun-11 to Sep-11, Jun-12 to Sep-12 and Jun-13 to Sep-13		12 months	This rainwater affected the progress of the work and qualify as a Force Majeure event
10	Availability of Starup Power	30.08.2012	31.08.2014	24 months	Issues between UPPTCL and its agency for erection of commissioning of line





11	Boiler Tube Leakage in Unit 6	07.09.2014	07.06.2015	9 months	COD of units got delayed due to boiler tube leakages
12	Fire instance in the storage yard of BHEL			6-9 months	Due to procurement of damaged items

68.As per L1 Schedule of Anpara D, zero date of the project was 13.01.2008. The scheduled commissioning dates of Unit-6 and Unit-7 of the project were 12-04-2011 and 12-07-2011 respectively. However, the Unit-6 and Unit-7 of the project were commissioned on 08.05.2016 and 18.10.2016 respectively. As such, there was a total time delay of 62 months and 64 months for Unit-6 and Unit-7 of the project respectively.

69.The reasons for delay in commissioning the project as placed on record of the Commission are numerous and may appear overlapping, however, the project commissioning is a combination of multiple activities at different locations of the project, therefore, the Commission, in the subsequent paragraphs, has examined each and every reason for the delay in detail based on the submissions of the parties and documents available on record:

Issue 1 to 3: Delay in submission of Final Feasibility Report (Ground Improvement Report) by IIT Roorkee, Finalization of Basis of Design including that of R factor

70.UPRVUNL has claimed cumulative delay of 20 months in start of the project construction activities, which spans from zero date of 13-01-2008 to 24-09-2009, due to delay in submission of feasibility report and finalization of Basis of Design including that of R factor. The Commission has analyzed this issue in detail as below:

71.The interim Feasibility Report for civil works was forwarded to BHEL on 24th September 2007, however, the same was incomplete as detailing of effectiveness of "*Ground improvement techniques and possible liquefaction potential for Anpara D project*" was not provided. Thereafter, several discussions with IIT Roorkee and BHEL officials were held, and it was expected





that the Final Feasibility Report from IIT Roorkee would be delivered by Zero date i.e., 13.01.2008.

72. This report was to be the basis for the start of the project; as without the availability of the report the construction of the Project could not have been initiated as this site is on the abandoned ash pond and lies in seismic zone-III. The final feasibility report got delayed, due to repeated field tests and number of tests on fly ash to ensure the appropriate ground improvement techniques, and was furnished by IIT Roorkee on 14.07.2008, i.e., delayed by about 6 months, which in turn delayed the Engineering activities of the project including Civil & Structural engineering of the project.

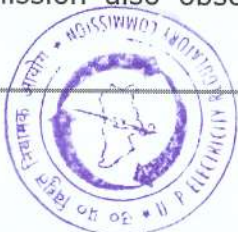
Sr. No.	Events	Date
1.	Scheduled "Zero Date" of submission of Final Feasibility report	13.01.2008
2.	Actual date of submission of feasibility report	14.07.2008

Therefore, there was a delay of 6 months in submission of feasibility report by IIT Roorkee.

73. Post receiving the Final Feasibility Report in July'08, BHEL started project engineering with R-Factor as 5, whereas in Dec'08 NTPC (Consultant) commented to adopt R factor as '3' instead of '5'. Though Engineering of the project was in progress, a dead lock happened on this issue in July'2009, resulting in delay of drawings approval by NTPC. Post several deliberations the issue was resolved in the meeting held at IIT Roorkee on 24.09.2009, wherein the issue was cleared with R factor as '5'. Therefore, there was a delay of 9 months in finalizing the design basis of the project.

Sr. No	Events	Date
1.	NTPC recommend adopting R factor of 3 against R factor of 5 as per feasibility report	24.12.2008
2.	Resolution of Disputes and fixing the R factor as 5	24.09.2009

74. The Commission notes that project is one among first of its kind as the TPP had been made over an abandoned Ash Pond and it is possible that the finalization of feasibility report might have taken longer than expected. Further the Commission also observes that the Petitioner had also made several





correspondences with the various agencies including IIT Roorkee to resolve the issue of Basis of Design and R factor. Hence, we are of the view that the above-mentioned issue was beyond the reasonable control of the Petitioner.

75. Though feasibility report was submitted in July'08, the dispute arose in Dec'08 regarding the value of R factor to be considered for design, resolution of the dispute took 9 months from Dec'08 to Sept'09, therefore the overall delay caused was 15 months. Therefore, total delay of 15 months from zero date of Jan'08 to Sept'09 is allowed by the Commission.

Issue 4: Delay due to removal of transmission lines

76. UPRVUNL has claimed a delay of 8 months from 09.01.2009 to 09.09.2009 due to removal of Transmission Lines & its structures. The Petitioner has stated that there were four 132kV transmission lines consisting of 10 circuits of Hindalco and two transmission lines of PGCIL and NTPC passing through the project site, which were necessary to be relocated for the construction of Anpara 'D' Project. UPRVUNL and PGCIL wrote various letters to NTPC to provide shut down of concerned transmission lines so that work of dismantling of the line could be started. The reason for this delay is stated to be the delay in obtaining shutdown approval so as to start dismantling of Transmission Line.

77. UPRVUNL has also submitted that this has been one of the major reasons for delay in project activities, which in turn delayed the very initial activity of the project levelling and grading works of land and impacted civil & erection works.

78. The Commission has pursued the documents placed on record and found that:

- a. There were four 132 kV transmission lines consisting of 10 circuits of M/s Hindalco and two transmission lines of M/s PGCIL and NTPC passing through project site, which were necessary to be relocated for construction of Anpara D project.
- b. The transmission lines of M/s Hindalco transmitted power to Hindalco's Aluminum plant at Renukoot. M/s Hindalco communicated that Aluminum plant was a continuous process plant and shut down of all the circuits at a





time was not possible. After due diligence and extensive deliberations, M/s Hindalco agreed to shutdown of only two circuits at a time. Hence, the relocation of transmission line to the alternative location was done one by one.

- c. One no. 132 kV NTPC transmission line was dismantled in March,09 and consequent to dismantling of this line, approximately 70% of the site was made available to BHEL for ground improvement work.
- d. After the construction of foundations and erection of towers on a relocated site the shutdown of the then existing 400 kV D/C PGCIL line was allowed by NREB on request of UPPTCL on 1st August,2009 and shifting of line was completed on 4.9.2009.
- e. There were complex cross over among 132 kV & 400 kV line due to which each line was strategically put under shut down and relocated.
- f. Delay further enhanced due to litigation on right of way for construction of new line at relocated place and payment of crop compensation to owners of the land and also on account of technical changes due to hostile challenges of underground strata.
- g. The events related to the removal of transmission lines are as follows:

Sr. No	Events	Date
1.	Dismantling of 132 KV Tx lines of NTPC which resulted in 70% Land availability to BHEL	March'2009
2.	Shutdown of 400 KV D/C PGCIL Line at relocation site	01.08.2009
3.	Completion of shifting of 400 KV D/C PGCIL Line	04.09.2009

79.The Commission has taken cognizance that the issue involved in relocation of Transmission Lines of Hindalco, NTPC and PGCIL, which were passing over the project site. Shifting of Transmission lines of Hindalco required shutdown of Hindalco Aluminum Plant; however, Hindalco could take shutdown only 2 circuits at Aluminum Plant, which resulted in delay in relocating transmission lines. There was Complex cross over among 132 KV & 400 KV lines which was required to be shutdown strategically. The delay further enhanced due to

by





litigation on RoW for the construction of new line at the relocated place and payment of crop compensation.

80. The Commission notes that the Petitioner had made efforts for timely removal of Transmission Lines & its structures. PGCIL also had made correspondence with the NTPC and had actively pursued the matter with regard to shutdown of concerned transmission lines but since the matter involves multiple stakeholders, the Petitioner had minimal controlling influence in the matter. Hence, we are of the view that the above-mentioned issue was beyond the reasonable control of the Petitioner.

81. Therefore, in view of the above analysis, a delay of 8 months due to removal of transmission lines is allowed.

Issue 5: Removal of NTPC Transmission Tower foundations

82. UPRVUNL has claimed a delay of 16 months from 10.07.2010 to 11.10.2011 on account of removal of NTPC's Transmission Tower foundations. The reason of delay due to removal of transmission tower foundations, as furnished by the Petitioner, is the unavailability of drawings of transmission tower foundations, uncertainty in the scope of work and non-readiness of BHEL to take up this work. UPRVUNL also submitted that the size of foundations were not uniform and were not comparable to normal transmission tower foundations.

83. UPPCL, not accepting the reasons given by UPRVUNL, has submitted that the delay caused by the removal of Transmission Tower Foundation was due to inadequate planning of UPRVUNL and the Petitioner was blaming the EPC-BHEL for the said delay. Therefore, this claim is devoid of any merit and ought to be disallowed.

84. The Commission has perused the documents placed on record and notes that after removal of transmission lines and its structure, there were many foundations structure which were under the "Doob Chetra" of Rihand Reservoir submerged under deep water (ranging from 3 to 5 meters). Some foundations remained submerged for a longer period and some got frequent water filling itself during removal work. UPRVUNL has argued that the land was handed

54





over to BHEL on an "as is where is" basis, however, BHEL was not ready to take up this work due to ambiguity in responsibility to carry out the levelling and grading of the Anpara D project site. On 31st May 2010, BHEL apprised UPRVUNL regarding challenges faced on site due to the large size and unexpected complexity of the Transmission Tower Foundations. The Transmission Tower Foundations did not match the provided drawings and removal of foundations involved dismantling of massive RCC structures in the BTG and BOP areas.

85. The Commission considers the fact that it was well known to UPRVUNL that there were transmission lines passing through the site and therefore, removal of transmission line would entail not only obtaining relevant drawings but also action plan for removal of associated foundation structures. Therefore, the Commission, vide its Order dated 27.01.2025, directed UPRVUNL to submit evidential documents to demonstrate its action plan for removal of foundation structure. The Commission after perusing the submissions, observes that though since beginning of the project UPRVUNL was fully aware that foundations of transmission towers were to be removed, but as the site was given to BHEL on 'as is where basis', it did not make any action plan causing uncertainty and indecision in scope of work. After many rounds of discussions and deliberations, BHEL agreed to engage a competent agency for dismantling the tower foundations in meeting on 10.7.2010. Hence, there was 15 months delay i.e. from July, 2010 to October, 2011 in removal of transmission tower foundations. The delay caused in removal of Transmission Tower foundations is clearly found to be a planning failure on the part of UPRVUNL as it failed to envisage complexity of issue at the drawing board stage itself. **Therefore, the said delay of 15 months, as claimed by the Petitioner, is not allowed.**

Issue 6: Law & Order problems by Locals/Land ousters

86. UPRVUNL has claimed a delay of 8 months from Apr-2011 to Nov-2011 due to Law & Order problems by Locals/Land ousters. UPRVUNL has submitted that 800 displaced individuals were to be employed by various working agencies including BHEL on contractual basis. However, BHEL's reluctance to fulfil its obligation of deploying displaced persons led to labour unrest and protest for





rehabilitation. Due to continuous law and order situation problems at site in April,11, it resulted in no work force entering the Anpara D site. Consequently, most of the skilled manpower left the site and remobilization in full-fledged manner took additional time and it was only by the end of Nov"11 that the work could resume in normal manner.

87.The Commission, vide its Orders dated 12.11.2024, directed UPRVUNL to furnish the details regarding steps taken to mitigate the impact of Law & Order problems at project site and actions taken in response to BHEL letters to UPRVUNL regarding stoppage of work and safe working environment at Anpara-D thermal power plant. Subsequently, the Commission, vide its Order dated 27.01.2025, also directed UPRVUNL to submit evidential documents including communications to the local authorities prior to July 2011, when UPRVUNL had reported this issue to local authorities. In response, UPRVUNL submitted the details of actions taken w.r.t. compensation and employment against the acquisitioned land and correspondences with the District Administration concerning the law-and-order situation including Letter to District Magistrate dated 26.04.2011.

88.The Commission takes into consideration various correspondences of BHEL to UPRVUNL, wherein BHEL had stated that UPRVUNL acknowledged the problem in Sept 2011 and addressed the issues of land ousters and announced compensation.

89.It is evident that UPRVUNL has not recognised and addressed the issue of compensation timely. Further, it was the duty of UPRVUNL to address the law-and-order problem at plant site and provide safe and secure working environment to BHEL. UPRVUNL was required to arrange security either through local administration or any other agency. However, the Commission is of view that the above-mentioned issue when suddenly confronted, then it involved multiple stake holders viz; BHEL, other agencies working at the site and local administration for getting the impasse resolved, hence it should be treated as beyond the reasonable control of the Petitioner. **Therefore, the said delay of 8 months, as claimed by the Petitioner, has been condoned.**





Issue 7: Delay in construction of chimney

90. UPRVUNL has claimed a delay of 9 months in construction of Chimney from Oct-2012 to Jun-2013. UPRVUNL has submitted that the delay in construction of chimney happened due to various irregularities found in chimney shell and subsequent discussions and remedial actions taken. It has been submitted that though the foundation work was completed on 22-04-2011 but further activity of shell casting could begin only on 26-09-2011 due to disruption of work on account of prevailing Law and Order problem. The second halt occurred from 2nd October 2011 to 2nd week of March 2012 due to irregularities like honeycombing, cracks, and undulations, whereby BHEL dismantled the entire chimney shell constructed up to +2.7 Meter height and rebuilt the same after much persuasion. The third halt occurred from 16th September 2012 to 9th April 2013 due to stoppage of concrete work at 38.1 Meter height as delamination of concrete surface was noticed. Subsequently, remedial actions were taken and testing followed thereafter. UPPCL has submitted that delay due to re-construction of Chimney may not be considered as an uncontrollable factor as it was the result of inadequate planning on part of UPRVUNL.

91. The Commission notes that as per L1 Schedule of Anpara D, scheduled date for the construction of chimney was November 2010, however, the same could get ready only in December 2014. BHEL had deployed M/s Lanco for construction works for Chimney, however, reviewing the slow pace of work, UPRVUNL raised apprehension about Lanco's capabilities for execution of work. In the progress review meeting held at Lucknow on 12.11.2012 under Chairmanship of CMD, UPRVUNL with BHEL and NTPC, it was decided that if BHEL proceeds with the same vendor, i.e. M/s Lanco for construction of chimney, entire risk and responsibility of chimney would rest with BHEL. Subsequently, at the height of 2.7 M, defects were noticed and were rectified after dismantling of affected portion.

92. Subsequently, work was again stopped at 38.1 M due to excessive defects in Shell Concreting. The decision for dismantling of affected portion at 38.1 M was given by NTPC in month of Sep'12 & UPRVUNL communicated the same to BHEL on 4th Oct'12. NTPC suggested the name of Prof. Dr. Menon of IIT





Chennai, an expert in field for resolution of this issue. Prof. Dr. Menon suggested core and UPV tests to establish the integrity of the concrete. Additional tests took more time & thus in the process of all above events, lot of time got consumed. Finally, after a delay of 6 months, UPRVUNL gave clearance to resume work on 9.4.2013 and shell concreting could only be commenced on 27.6.13. UPRVUNL, in the backdrop of falling of chimney in one of their project (Parichha), was not in position to take any kind of risk in chimney construction and hence cumulatively there was a delay of about 9 months in re-starting the concreting of Chimney.

93. The Commission observes that it is evident from various correspondences from UPRVUNL to BHEL and reports of third-party agencies like NCCBM and IIT Chennai that sub-contractor (Lanco) did poor quality of concreting in the Chimney construction and UPRVUNL itself has expressed its resentment to Lanco regarding poor workmanship in chimney construction. UPRVUNL, in its letter to BHEL on 29.09.2011, has communicated that Lanco did not have sufficient specialized manpower and other resources to carry out quality work. Further, though the decision to dismantle the chimney was given by NTPC in Sep 2012 but UPRVUNL gave clearance to resume work on 09.04.2013 only, after a delay of 6 months i.e. Sept-2012 to Apr-2013. The Commission is not convinced with the reasons given by UPRVUNL for delay in construction of chimney. Delays in re-construction of Chimney may not be considered as an uncontrollable factor as it was the result of poor planning and quality of the work on part of UPRVUNL and its sub-contractors. The burden of the same may not be passed on to the consumers. **Therefore, the said delay of 9 months, as claimed by the Petitioner, is not allowed.**

Issue 8: Delay due to shortage of aggregates

94. UPRVUNL has claimed a delay due to shortage of aggregates due to closure of Dalla Mines for 11 months from Feb-2012 to Dec-2012. UPRVUNL submitted that the unavailability of aggregates was beyond its control and caused delays in critical construction activities, including the casting of the chimney, TG Deck and other infrastructure works. Despite several efforts by UPRVUNL, including multiple communications with the District Magistrate of Sonebhadra and high-

54





level interventions by the Government of Uttar Pradesh (GoUP), the supply of aggregates remained disrupted for an extended period. This situation severely hindered the EPC contractor, BHEL, from expediting the work, ultimately leading to substantial project delays. It was only after the joint efforts of GoUP, the District Magistrate, mining officers, and BHEL that the aggregate supply was resumed in January 2013, allowing the project to move forward. UPRVUNL prayed that the delay on account of Dalla mines issue along with increase in IDC should be allowed. UPPCL submitted that closure of Dalla mines can be considered as uncontrollable factors and delay due to the same may be allowed.

95. The Commission notes that there was complete stoppage of supply of aggregates from Feb, 12 due to closure of Dalla mines on account of which almost all civil work was suspended. The issue was taken up to the highest level in the Government of UP and only after intervention at highest level, the deadlock could get resolved in month of Dec, 12 and supply of the aggregate in adequate quantity could restore from Jan'13 only.

Considering the submissions of the petitioner and the documentary evidence like UPRVUNL's correspondences with District Magistrate (DM), Sonbhadra, and Directorate of Geology & Mining, U.P, submitted in justification for the said delay, the Commission is of the view that the said factors leading to the delay were beyond the control of the petitioner for which the petitioner cannot be made responsible. **Therefore, the said delay of 11 months, as claimed by the Petitioner, has been condoned.**

Issue 9: Unprecedented Heavy Rains

96. UPRVUNL has claimed a delay of 4 month each from Jun-Sept of 2011, 2012 & 2013 due to unprecedented heavy rainfall during these months. UPRVUNL, in this regard, has submitted that rainwater not only affected the progress of the work but also increased the quantum of work as civil excavated foundation was getting filled by Ash with flowing rainwater again and again causing delay in the construction of project. UPRVUNL submitted 50 years rain fall data for Sonbhadra District. UPPCL has submitted that, as per UPERC Regulations,

by





'Heavy Rainfall' is not explicitly categorized as a Force Majeure event. Further, exceptionally adverse weather conditions may qualify as a Force Majeure event only if they surpass statistical measures established over the last hundred years, as per the definition of 'Force Majeure' contained thereon. Consequently, the delay attributed to heavy rain ought to be disallowed by the Commission.

97. UPRVUNL vide its rejoinder dated 22.11.2017, submitted actual rain fall data for the Year 2011, 2012 and 2013 and compared with the historical '50 years average rain' to show the percentage departure in rain fall in Sonbhadra District as below:

% Departure	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2011	-60%	-83%	100%	-87%	47%	106%	-43%	32%	152%	-56%	100%	100%
2012	42%	-3%	-3%	81%	87%	-70%	6%	24%	100%	-99%	25%	83%
2013	-92%	243%	14%	367%	82%	27%	1%	4%	-69%	218%	100%	100%

98. Subsequently, UPRVUNL submitted following rain fall data issued by the India Metrological Department (IMD) in respect of Sonbhadra District-

District	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sonbhadra	100 yr average	19	22	12	6	13	124	311	310	192	38	8	6
Sonbhadra	2010	1.2	2.0	-	-	6.6	24.3	185.4	147.7	156.6	11.6	4.8	-
Deviation %		-94%	-91%	-100%	-100%	-48%	-80%	-40%	-52%	-18%	-69%	-38%	-100%
Sonbhadra	2013	1.5	47.7	11.7	29.4	2.1	160.3	289.9	303.1	65.8	110.8	-	-
Deviation %		-92%	119%	-5%	388%	-83%	29%	-7%	-2%	-66%	192%	-100%	-100%
Sonbhadra	2016	21.1	-	30.3	-	14.1	74.3	526.4	484.9	234.1	34.0	-	-
Deviation %		9%	-100%	146%	-100%	12%	-40%	69%	56%	22%	-10%	-100%	-100%

Deviation %- Percentage Departure from 100 years period averages of rainfall

15





99. The Commission has perused the submissions of UPRVUNL to check whether the rainfall might have affected the work progress. On comparing actual rainfall with the 100 years period averages of rainfall, the Commission observes that the maximum positive departure during June 2013 to September 2013 was of 29% in the month of June. The meagre excess rainfall in June month in comparison to the "100 years average rainfall" does not substantiate the fact that rain had flooded the project area and stopped the work. The period of June'11 to Sept'11 is coinciding with the issue of law & order problem, which has been deliberated and allowed at para nos. 86-89. The period of June'12 to Sept'12 is coinciding with the issue of shortage of aggregates and has been deliberated and allowed at para nos. 94-95. **Therefore, the Commission disallows the delay claimed on account of rainfall.**

Issue 10: Delay in availability of Startup Power

100. UPRVUNL has claimed a delay of 24 months due to delay in availability of Startup Power from 30.08.2012 to 31.08.2014. UPRVUNL has submitted that issues between UPPTCL and its agency for erection and commissioning of line caused this delay. As per UPRVUNL, availability of Startup Power was required from 30.08.2012 to meet the revised schedule for Hydro Test and Boiler Light up of Unit-6. UPRVUNL submitted that issues between UPPTCL and its agency for erection and commissioning of line caused this delay. UPPCL has submitted that UPRVUNL has placed on record documentary support w.r.t. the said delay and the same may be allowed.

101. The Commission notes that the issue of availability of Startup Power was not raised by UPRVUNL neither in the "Summary of prudence check and verification of capital cost dated 21.10.2021" nor in the combined report dated 30.03.2024. In fact, UPRVUNL raised this issue for the first time in its submission dated 25.09.2024. The Commission notes that the start up power was to be supplied from Anpara B to Anpara D, for which line was to be erected and commissioned by UPPTCL, but due to some issues between UPPTCL and its agency, it was not executed in time. After that UPPTCL awarded work to another agency which delayed work. In view of huge delay, it was decided to take power from Anpara C which could be made available only on 31.8.2014.





From Petitioner's submission it is apparent that, willy-nilly, they missed the seriousness towards planning as well as necessary monitoring during the implementation stages of the project. The Commission also notes that with this issue, the Petitioner has not specified necessary and adequate details along with remedial measures taken to further mitigate this delay. The Commission further notes that monitoring the contracting agencies during the implementation stage is sole responsibility of the petitioner. In this regard, we feel that such factors are generally conceived integrated during the planning stage in any prudent project programme where remedial measures in case of any failures are taken care of at the time of preparation of DPR. Hence, the reason forwarded by the Petitioner in this regard does not cut much ice as it is nothing but an abject failure on the part of generator at the stage of planning. **Therefore, any additional delay due to non-availability of startup power cannot be allowed.**

Issue 11: Boiler Tube Leakage in Unit 6

102. UPRVUNL has claimed a delay of 9 months due to Boiler Tube Leakage in Unit 6 after synchronization/ commissioning of the Unit-6. It has been submitted that there was boiler tube leakage on 7.6.2015 in unit #6 and thereafter recurring tube failures in re-heater and super-heater zone. To overcome these BTL failures in boiler, BHEL got these failures checked by their Trichy Team of Boiler experts and thereafter carried out replacement of Boiler Tubes comprehensively in Re-heater and other boiler areas. However, the whole process took around 9 months for resuming unit. **The Commission observes that these incidents occurred after the COD of Unit-6. Therefore, increase in IDC on this account cannot be allowed.**

Issue 12: Fire instance in the storage yard of BHEL

103. UPRVUNL has claimed a delay of 6-9 months due to fire instance in the storage yard of BHEL. UPRVUNL has submitted that a fire incident occurred on April 21, 2016 in Store Yard No. 6 of BHEL due to very high winds and temperature, in which huge quantity of optical fibre cables, electrical cable drums, two transformers, acoustic enclosure of turbine, motorized valves actuators, control valves and other important electrical and C&I items were





damaged. Procurement action was initiated immediately; however, arrangements of these items took six to nine months of time, delaying the overall construction period of the project. UPRVUNL submitted a report by the CISF, vide its Letter No. E-13018, dated April 22, 2016, regarding the incident.

104. UPPCL has submitted that in absence of any supporting documents and report of the fire incident, delay due to procurement of lost items due to fire may not be considered as an uncontrollable factor. Therefore, burden of the same may not be passed on to the consumers and incremental IDC related to such issue may be disallowed.

105. The Commission, vide its Order 27.01.2025, directed UPRVUNL to submit internal communications/ correspondences with BHEL regarding expediting the procurement of mandatory (damaged) items required for commissioning of Unit-7 to justify delay of six months in commissioning of Unit -7 and also sought details pertaining to timelines and tendering process regarding procurement of those items, which were damaged in fire incidence in the storage yard of BHEL respectively. In response, UPRVUNL submitted general procurement (ordering) time of certain items as communicated by BHEL vide its response dated 04.02.2025.

106. The Commission notes that fire incident occurred on April 21, 2016, and actual COD of Unit-6 was declared on 08.05.2016. Unit -7 had to commission with the gap of 3 months from Unit-6 as per contractual schedule. UPRVUNL has neither demonstrated impact of fire incident on the COD of Unit-7 nor it has been able to justify that the fire incident was not due to negligence of UPRVUNL and its contractors. **Therefore, the said delay of 6-9 months, as claimed by the Petitioner, has been disallowed.**

Summary of allowed and disallowed issues related to increase in IDC

107. Keeping in view the above-stated reasons and considering the overlapping time periods of different events and having analyzed the submissions of the UPRVUNL and UPPCL, the summary of the time delay allowed and disallowed with respect to various issues is as under:

by





S.N.	Description of work	Claimed by UPRVUNL			Allowed/Disallowed by the Commission
		Timeline as per DPR	Actual Completion Schedule	Period of Delay	
1-	Submission of Final Feasibility Report by IIT Roorkee	13.01.2008	14.07.2008	6 months	Allowed 6 months
2-	Finalization of Basis of Design	19.07.2008	24.09.2009	14 months	Allowed 9 months
3-	R factor issue	Jul-2008	Sep-2008	3 months	
4	Removal of NTPC's Transmission Lines & its structures.	09.01.2009	09.09.2009	8 months	Allowed 8 months
5	Removal of NTPC Transmission Tower foundation	10.07.2010	11.10.2011	15 months	Disallowed
6	Delay in Construction of Chimney	Oct-2012	Jun-2013	9 months	Disallowed
7	Law & Order problems by Locals/Land outers.	Apr-2011	Nov-2011	8 months	Allowed 8 months
8	Shortage of aggregates due to closure of Dalla Mines	Feb-2012	Dec-2012	11 months	Allowed 11 months
9	Unprecedented Heavy Rains	Jun-11 to Sep-11, Jun-12 to Sep-12, and Jun-13 to Sep-13		12 months	Disallowed
10	Availability of Starup Power	30.08.2012	31.08.2014	24 months	Disallowed
11	Boiler Tube Leakage in Unit 6	07.09.2015	07.06.2015	9 months	Disallowed
12	Fire instance in the storage yard of BHEL			6-9 months	Disallowed

Disallowance in IDC

108. Having analyzed all the reasons for delay, as above, in achieving COD of the project as per submissions of the petitioner and respondents, the Commission decides that the time delay of 42 months is condonable against

by





the delay of 64 months. The allowable IDC has been worked out as follows, for the purpose of project capital cost for tariff determination:

	Scheduled COD	Actual COD	Delay	Delay allowed	Disallowed	Wt. avg. allowed delay
First Unit (06)	12-04-2011	08-05-2016	62 Months	42	20	66.68%
Second Unit (07)	12-07-2011	18-10-2016	64 Months	42	22	

IDC approved by the Commission:

IDC as per Original SCOD (Rs. / Cr)	A	522.40
IDC as on COD of the Project	B	2153.15
Increase in IDC (Rs. /Cr)	C=B-A	1630.75
Increase in IDC allowed (66.68 %)	D=C*66.68	1087.44
Increase in IDC disallowed (Rs. / Cr.)	E=C-D	543.30
Total IDC allowed	F=A+D	1609.84

109. Therefore, as shown in above table, the Commission decides that 66.68% of the increase in IDC on account of delay in project commissioning is allowable. Hence, the Commission approves the total IDC of Rs. 1609.84 crore for Units of the project.

Infirm power:

110. The Petitioner in Form-5B, has claimed start up fuel cost of Rs. 335 Cr., under the head of the Erection Testing and Commissioning, which has been included in the total expenditure of Rs. 6872.52 Cr till the date of project COD. The Commission had directed the Petitioner to submit details of revenue earned out of infirm power generated during synchronization and achieving full load operation of each unit so as to declare commercial operation of the Units. In response, the Petitioner submitted following details pertaining to injection of infirm power and revenue earned thereof:

	Energy Sent Out (MUs)	Revenue earned (Rs/Cr.)
Unit- 6	106.95	21.21
Unit- 7	711.49	143.0664
Total	818.44	164.28

111. The Commission notes that the Petitioner in its claimed expenditure of Rs. 6872.52 Cr has adjusted Rs. 135.53 Cr. as revenue earned from infirm power. The balance amount of Rs. 28.75 Cr, pertaining to the period after COD, has





not been considered. Accordingly, the start-up fuel cost, after adjustment of infirm power revenue of Rs. 199.47 Cr (= 335-135.53) has been considered in the capital cost of the project as on COD.

Liquidated Damages for Delay:

112. The Commission, vide its Order dated 12.11.2024, directed UPRVUNL to submit details of liquidated damages recovered from BHEL for delaying the project. In response, UPRVUNL, vide its additional submission dated 20.12.2024, submitted that Rs. 152 crores (5% of total contract value Rs. 3040 crores) as liquidated damages were recovered from BHEL and submitted following details:

Detail of Liquidity Damages Adjusted of M/s BHEL As per Order 5517/CE/PPMM/ANP Dated 19.11.2011

Month	Unit	Agreement No. & Date	Gross Bill Amount	Amount Adjusted Against LD
Nov-11	BHEL Ranipet	2127, 15.04.2008	67246118	56700574
Nov-11	BHEL New Delhi	2127, 15.04.2008	62184550	52377743
Nov-11	BHEL Bangalore	2127, 15.04.2008	63502400	53557400
Nov-11	BHEL Haridwar	2127, 15.04.2008	70249093	58738393
Nov-11	BHEL Trichy	2127, 15.04.2008	601119013	510006373
Nov-11	BHEL Bhopal	2127, 15.04.2008	38272238	31912640
Nov-11	BHEL Noida	2127, 15.04.2008	66126190	54884737
Nov-11	BHEL Hyderabad	2127, 15.04.2008	126139719	107079621
Nov-11	BHEL New Delhi	2128, 15.04.2008	23248648	17468945
Nov-11	BHEL New Delhi	2129, 15.04.2008	81224932	62495308
Nov-11	BHEL New Delhi	2129, 15.04.2008	113329022	87202175
	Sub Total Nov-11		1312641923	1092423909
Dec-11	BHEL Haridwar	2127, 15.04.2008	72824431	61704221
Dec-11	BHEL New Delhi	2127, 15.04.2008	48985138	40683336
Dec-11	BHEL Bhopal	2127, 15.04.2008	38759566	32902691
Dec-11	BHEL Trichy	2127, 15.04.2008	44292486	37410912
Dec-11	BHEL Bangalore	2127, 15.04.2008	51849820	43633045
Dec-11	BHEL Varanasi	2127, 15.04.2008	1424790	1218696
Dec-11	BHEL New Delhi	2128, 15.04.2008	13577502	10202084
Dec-11	BHEL Noida	2127, 15.04.2008	2055000	1705650
Dec-11	BHEL Ranipet	2127, 15.04.2008	9371419	7806827
Dec-11	BHEL Hyderabad	2127, 15.04.2008	64315770	54540770
Dec-11	BHEL Chennai	2127, 15.04.2008	5841299	5841299
	Sub Total Dec-11		353297221	297649731
Jan-12	BHEL Trichy	2127, 15.04.2008	163823657	129926360
	Sub Total Jan-12	2127, 15.04.2008	163823657	129926360
	Grand Total		1829762801	1520000000





113. UPRVUNL, vide its Rejoinder dated 10.01.2018, submitted that LD amount of Rs. 152 crores levied on BHEL has already been accounted in the financial statement for FY 2016-17.

114. The Commission notes that as per the terms and conditions of the EPC contract awarded to BHEL, there was a provision for payment of liquidated damages (limited to a maximum of 5% of contract price of each unit) on the EPC contractor, if the contractor fails to commission the two Units within the time schedule. The Commission observes that LD amount of Rs. 152 crores recovered from BHEL has already been accounted for and adjusted in the capital cost, while making payment to BHEL against the invoices raised.

Capital Cost as on COD of Unit-7/Project

115. The auditor certified capital cost amounting to Rs. 6,872.52 crore including IDC of Rs. 2153.15 crore as on COD of Unit-7 is considered. The hard cost component of capital cost as on COD of Unit-7 works out to Rs. 4,698.37 crores after deducting CSR expenditure of Rs. 21 Cr. The IDC amounting to Rs. 1609.84 crore is allowed after condonation of time over run of 42 months. Accordingly, the capital cost of the project allowed for the purpose of tariff as on COD of the project i.e. 17.10.2016 is as under:

Table 1: Capital Cost (Rs./Cr.)

Particulars	Cost up to COD of Unit-7 claimed by UPRVUNL	Cost up to COD of Unit-7 approved by the Commission
Hard Cost	4,719.37	4,698.37
IDC	2,153.15	1,609.84
Total Cost	6,872.52	6,308.21

Additional Capitalisation:

116. UPRVUNL has claimed additional capital expenditure of Rs. 213.76 crore from COD of Unit-7/Project to 31.03.2017 and Rs. 712.72 crore for FY 2017-18. The Commission is of the view that the additional capitalisation claimed by UPRVUNL shall be considered at the time of truing-up in terms of Regulation 6 of UPERC (Terms and Conditions of Generation Tariff) Regulations, 2014.

64



3



Gross Fixed Assets:

117. The UPERC Generation Regulations, 2014, specifies that the Capital Cost of the new project shall be the capital cost admitted by the Commission up to the date of commercial operation of the project. Accordingly, the Commission, has considered the value of Gross Fixed Assets for the Anpara-D as COD of the Unit-7/ project i.e. 17.10.2016. Further, the Commission has not considered any additional capitalization during the control period as the same would be later claimed by the UPRVUNL in True-up Petition.

Table 2: Gross Fixed Assets Summary for FY 2016-17 to FY 2018
(Rs./Cr)

S. No.	Particulars	Claimed by UPRVUNL			Approved by the Commission		
		FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Opening GFA	6,872.52	7,086.28	7,799.00	6,308.21	6,308.21	6,308.21
2	Capitalization	213.76	712.72	-	-	-	-
3	Deletions	-	-	-	-	-	-
4	Closing GFA	7,086.28	7,799.00	7,799.00	6,308.21	6,308.21	6,308.21
5	Average GFA	6,979.40	7,442.64	7,799.00	6,308.21	6,308.21	6,308.21

Debt:Equity Ratio

118. As per the regulations, in case of generating stations, debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. Where equity employed is more than 30%, the amount of equity for determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan. As per the account statements submitted by the Petitioner the total loan drawl as on COD was Rs. 4758.11 Cr., which is 69.23% of the claimed GFA. The equity comes out to be 30.77% which exceeds normative 30% equity. Therefore, the Commission has restricted the equity portion to 30% as per Regulation (24) and has considered debt equity ratio of 70:30 for determination of tariff.





Depreciation

119. The Petitioner has claimed depreciation considering the weighted average rate of depreciation of 5.45% for the period of COD of Unit-7 to 31.03.2017 and 5.65% for the FY 2017-18 and 5.40% for the FY 2018-19. The summary of depreciation claimed by UPRVUNL is given below:

Table 3: Depreciation claimed by UPRVUNL for FY 2016-2017 (Rs/ Cr.)

S. No.	Name of the Asset	Gross Block as on COD	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
1	LAND & LAND RIGHTS	26.08	-		0.00%	-
2	BUILDINGS	849.09	79.31		3.34%	29.68
3	RESIDENTIAL COLONY FOR STAFF	6.79	-		3.34%	0.23
4	OTHER CIVIL WORK	281.81	-		3.34%	9.41
5	PLANT & MACHINERY	2,873.92	128.41		5.83%	171.29
6	TURBINE GEN. STEAM PWR GENE.	684.67	-		5.83%	39.92
7	COAL HANDLING PLANT & HANDLG EQPT	670.96	-		5.83%	39.12
8	PLT-FOUNDTN HYDEL PWR-GENE-PLT	72.14	-		5.83%	4.21
9	TRANS PLT TRANS RATING 100KVA	77.32	-		5.83%	4.51
10	ASH Handling	428.94	-		5.83%	25.01
11	SWITCH GEAR INCDG CABLE CONNTS	494.34	-		5.83%	28.82
12	OTHER MISC. EQPT.	146.22	-		5.83%	8.52
13	LINES CABLE NETWORK ETC.	194.05	-		5.83%	11.31
14	CAPITAL SPARES GENERATING STATIONS (95%)	66.21	6.04		3.34%	2.31
	TOTAL	6,872.52	213.76	-	5.45%	374.34

Table 4: Depreciation claimed by UPRVUNL for FY 2017-2018 (Rs/ Cr.)

Sl. No.	Name of the Asset	Gross Block as on 31.03.2017	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
1	LAND & LAND RIGHTS	26.08	-	-	0.00%	-
2	BUILDINGS	928.40	-	-	3.34%	31.01



Sl. No.	Name of the Asset	Gross Block as on 31.03.2017	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
3	RESIDENTIAL COLONY FOR STAFF	6.79	-	-	3.34%	0.23
4	OTHER CIVIL WORK	281.81	-	-	3.34%	9.41
5	PLANT & MACHINERY	3,002.33	712.72	-	5.83%	195.81
6	TURBINE GEN. STEAM PWR GENE.	684.67	-	-	5.83%	39.92
7	COAL HANDLING PLANT & HANDLG EQPT	670.96	-	-	5.83%	39.12
8	PLT-FOUNDTN HYDEL PWR-GENE-PLT	72.14	-	-	5.83%	4.21
9	TRANS PLT TRANFS RATING 100KVA	77.32	-	-	5.83%	4.51
10	MATERIALS HANDLG EQPT-EARTH HOVER	428.94	-	-	5.83%	25.01
11	SWITCH GEAR INCDG CABLE CONNTS	494.34	-	-	5.83%	28.82
12	OTHER MISC. EQPT.	146.22	-	-	5.83%	8.52
13	LINES CABLE NETWORK ETC.	194.05	-	-	5.83%	11.31
14	CAPITAL SPARES GENRATING STATIONS (95%)	72.25	-	-	3.34%	2.41
	TOTAL	7,086.28	712.72	-	5.65%	400.28

Table 5: Depreciation claimed by UPRVUNL for FY 2018-2019 (Rs/ Cr)

Sl. No.	Name of the Asset	Gross Block as on 31.03.2018	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
1	LAND & LAND RIGHTS	26.08	-	-	0.00%	-
2	BUILDINGS	928.40	-	-	3.34%	31.01
3	RESIDENTIAL COLONY FOR STAFF	6.79	-	-	3.34%	0.23
4	OTHER CIVIL WORK	281.81	-	-	3.34%	9.41
5	PLANT & MACHINERY	3,715.05	-	-	5.83%	216.59
6	TURBINE GEN. STEAM PWR GENE.	684.67	-	-	5.83%	39.92





Sl. No.	Name of the Asset	Gross Block as on 31.03.2018	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
7	COAL HANDLING PLANT & HANDLG EQPT	670.96	-	-	5.83%	39.12
8	PLT-FOUND TN HYDEL PWR-GENE-PLT	72.14	-	-	5.83%	4.21
9	TRANS PLT TRANFS RATING 100KVA	77.32	-	-	5.83%	4.51
10	MATERIALS HANDLG EQPT-EARTH HOVER	428.94	-	-	5.83%	25.01
11	SWITCH GEAR INCDG CABLE CONNTS	494.34	-	-	5.83%	28.82
12	OTHER MISC. EQPT.	146.22	-	-	5.83%	8.52
13	LINES CABLE NETWORK ETC.	194.05	-	-	5.83%	11.31
14	CAPITAL SPARES GENRATING STATIONS (95%)	72.25	-	-	3.34%	2.41
	TOTAL	7,799.00	-	-	5.40%	421.06

120. The UPERC Generation Regulations, 2014 provides that the depreciation shall be calculated for each year of the tariff period, on the value of Capital Cost of the assets admitted by the Commission. The rate of depreciation shall continue to be charged at the rate specified in Appendix III till cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.

121. Accordingly, the Commission has worked out the allowable depreciation for the period from FY 2016-17 to FY 2018-19 on value of Gross Fixed Assets at the COD of Unit-7 as under:

Table 6: Depreciation approved by the Commission for FY 2016-2017 (Rs/Cr)

S. No.	Name of the Asset	Gross Block as on COD	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
1	LAND & LAND RIGHTS	23.94	-	-	0.00%	-
2	BUILDINGS	779.37	-	-	3.34%	26.03

5





S. No.	Name of the Asset	Gross Block as on COD	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
3	RESIDENTIAL COLONY FOR STAFF	6.23	-	-	3.34%	0.21
4	OTHER CIVIL WORK	258.67	-	-	3.34%	8.64
5	PLANT & MACHINERY	2,637.94	-	-	5.83%	153.79
6	TURBINE GEN. STEAM PWR GENE.	628.45	-	-	5.83%	36.64
7	COAL HANDLING PLANT & HANDLG EQPT	615.87	-	-	5.83%	35.90
8	PLT-FOUNDTN HYDEL PWR-GENE-PLT	66.22	-	-	5.83%	3.86
9	TRANS PLT TRANFS RATING 100KVA	70.97	-	-	5.83%	4.14
10	ASH Handling	393.72	-	-	5.83%	22.95
11	SWITCH GEAR INCDG CABLE CONNTS	453.75	-	-	5.83%	26.45
12	OTHER MISC. EQPT.	134.21	-	-	5.83%	7.82
13	LINES CABLE NETWORK ETC.	178.11	-	-	5.83%	10.38
14	CAPITAL SPARES GENERATING STATIONS (95%)	60.77	-	-	3.34%	2.03
	TOTAL	6,308.21	-	-	5.37%	338.86

Table 7: Depreciation approved by the Commission for FY 2017-2018
(Rs/ Cr)

Sl. No.	Name of the Asset	Gross Block as on 31.03.2017	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
1	LAND & LAND RIGHTS	23.94	-	-	0.00%	-
2	BUILDINGS	779.37	-	-	3.34%	26.03
3	RESIDENTIAL COLONY FOR STAFF	6.23	-	-	3.34%	0.21
4	OTHER CIVIL WORK	258.67	-	-	3.34%	8.64
5	PLANT & MACHINERY	2,637.94	-	-	5.83%	153.79
6	TURBINE GEN. STEAM PWR GENE.	628.45	-	-	5.83%	36.64
7	COAL HANDLING PLANT & HANDLG EQPT	615.87	-	-	5.83%	35.90
8	PLT-FOUNDTN HYDEL PWR-GENE-PLT	66.22	-	-	5.83%	3.86
9	TRANS PLT TRANFS RATING 100KVA	70.97	-	-	5.83%	4.14
10	ASH Handling	393.72	-	-	5.83%	22.95





11	SWITCH GEAR INCDG CABLE CONNTS	453.75	-	-	5.83%	26.45
12	OTHER MISC. EQPT.	134.21	-	-	5.83%	7.82
13	LINES CABLE NETWORK ETC.	178.11	-	-	5.83%	10.38
14	CAPITAL SPARES GENRATING STATIONS (95%)	60.77	-	-	3.34%	2.03
	TOTAL	6,308.21	-	-	5.37%	338.86

**Table 8: Depreciation approved by the Commission for FY 2018-2019
(Rs/ Cr)**

Sl. No.	Name of the Asset	Gross Block as on 31.03.2018	Additions During the Year	Adjustment for deletion of units	Depreciation Rates	Depreciation Amount
1	LAND & LAND RIGHTS	23.94	-	-	0.00%	-
2	BUILDINGS	779.37	-	-	3.34%	26.03
3	RESIDENTIAL COLONY FOR STAFF	6.23	-	-	3.34%	0.21
4	OTHER CIVIL WORK	258.67	-	-	3.34%	8.64
5	PLANT & MACHINERY	2,637.94	-	-	5.83%	153.79
6	TURBINE GEN. STEAM PWR GENE.	628.45	-	-	5.83%	36.64
7	COAL HANDLING PLANT & HANDLG EQPT	615.87	-	-	5.83%	35.90
8	PLT-FOUNDTN HYDEL PWR-GENE-PLT	66.22	-	-	5.83%	3.86
9	TRANS PLT TRANFS RATING 100KVA	70.97	-	-	5.83%	4.14
10	ASH Handling	393.72	-	-	5.83%	22.95
11	SWITCH GEAR INCDG CABLE CONNTS	453.75	-	-	5.83%	26.45
12	OTHER MISC. EQPT.	134.21	-	-	5.83%	7.82
13	LINES CABLE NETWORK ETC.	178.11	-	-	5.83%	10.38
14	CAPITAL SPARES GENRATING STATIONS (95%)	60.77	-	-	3.34%	2.03
	TOTAL	6,308.21	-	-	5.37%	338.86

Interest on Loan Capital

122. Petitioner has claimed tariff considering the debt-equity ratio of 70:30, in terms of the Regulation of UPERC Generation Regulations, 2014. Further, Petitioner has submitted that it has computed interest on loan capital for the period from FY 2016-17 to FY 2018-19 considering the rate of interest of 12.50%.





123. The applicable rate of interest as per the REC loan agreements dated 27.06.2008 and 30.03.2017 and REC supplementary loan agreements dated 04.03.2014 and 26.12.2014 as submitted by the Petitioner, has been considered 11% per annum (post COD).

124. The gross normative loan corresponding to admissible capital cost works out to Rs. 4,415.75 crore as on COD of Unit-7. Addition to normative loan on account of additional capital expenditure disallowed in para 116 has not been considered. Depreciation allowed has been considered as repayment of normative loan during the respective year of the period from FY 2016-17 to FY 2018-19. Based on the above, interest on loan has been worked out as under:

Table 9: Interest on Loan (Rs/ Cr)

S. No.	Particulars	Claimed by UPRVUNL			Approved by the Commission		
		FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Opening Loan	4,810.76	4,586.06	4,684.68	4,415.75	4,076.89	3,738.03
2	Addition	149.63	498.90	-	-	-	-
3	Normative Repayment	374.34	400.28	421.06	338.86	338.86	338.86
4	Decapitalisation				-	-	-
5	Closing Loan	4,586.06	4,684.68	4,263.62	4,076.89	3,738.03	3,399.18
6	Average Debt	4,698.41	4,635.37	4,474.15	4,246.32	3,907.46	3,568.60
7	Interest Rate	12.50%	12.50%	12.50%	11.00%	11.00%	11.00%
8	Interest on Loan	587.30	579.42	559.27	467.10	429.82	392.55

Return on Equity

125. The Petitioner has claimed Return on Equity (ROE) considering base rate of 15.50% for the period from FY 2016-17 to FY 2018-19.

126. Regulation 24 of UPERC Generation Regulations, 2014 prescribes the provisions for calculation of return on equity for the purpose of computation of fixed charges. The Return on Equity has been computed @ 15.5% as specified in the said Regulations. The gross normative equity corresponding to admissible capital cost works out to Rs. 1,892.46 crore as on COD of Unit-7. Addition to normative equity on account of additional capital expenditure disallowed in para 116 has not been considered. Accordingly, ROE has been worked out as under:





Table 10: Return on Equity (Rs/ Cr)

S. No.	Particulars	Claimed by UPRVUNL			Approved by the Commission		
		FY 2016-2017	FY 2017-2018	FY 2018-2019	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Opening Equity	2,055.82	2,119.95	2,333.76	1,892.46	1,892.46	1,892.46
2	Additions	64.13	213.82	-	-	-	-
3	Less: Decapitalisation				-	-	-
4	Closing Equity	2,119.95	2,333.76	2,333.76	1,892.46	1,892.46	1,892.46
5	Average Equity	2,087.88	2,226.85	2,333.76	1,892.46	1,892.46	1,892.46
6	Rate of Return on Equity (%)	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
7	RoE	323.62	345.16	361.73	293.33	293.33	293.33

Operation & Maintenance Expenses

127. Regulation 25(iv)(a) of UPERC (Terms & Conditions of Generation Tariff) Regulations 2014 deals with the allowance of O&M expenses as below:

(in Rs lakh/ MW)

Financial Year	500 MW sets
2014-15	16.00
2015-16	17.01
2016-17	18.08
2017-18	19.22
2018-19	20.43

128. The Petitioner has claimed O&M expenses based on above the normative norms for the period from FY FY 2016-17 to FY 2018-19 as under:

Table 11: O&M Expenses

S. No.	Particulars	Unit	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Capacity	MW	1000	1000	1000
2	Norms	(Lakh/MW)	18.08	19.22	20.43
3	O&M Expenses	Rs Crore	180.8	192.2	204.3

129. The normative O&M expenses claimed by the Petitioner, in terms of the Regulation 25(iv)(a) of the 2014 Tariff Regulations, is allowed.

Interest on Working Capital (IWC)

130. Regulation 25(v)(a) of the 2014 Tariff Regulations provides the norms for the computation of normative working capital as under:





- (a) Working capital shall be allowed on a normative basis and for coal based generating stations shall include:
- (i) Cost of coal towards stock for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations, corresponding to the Target Availability
 - (ii) Cost of coal for 30 days for generation corresponding to the Target Availability;
 - (iii) Cost of secondary fuel oil for two months corresponding to the target availability and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;
 - (iv) Operation and Maintenance expenses for one month;
 - (v) Maintenance spares @ 20% of operation and maintenance expenses; and
 - (vi) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the target availability.

131. The Petitioner has claimed interest on working capital as under for the period from FY2016-17 to FY 2018-19

Table 12: Interest On Working Capital Claimed by UPRVUNL (Rs/ Cr)

S. No.	Particulars	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Cost of Coal1 (45 Days)	158.95	158.95	158.95
2	Cost of Main Secondary Fuel Oil	4.41	4.41	4.41
3	O & M Expenses	15.07	16.02	17.03
4	Maintenance Spares	36.16	38.44	40.86
5	Receivables	466.42	475.33	480.81
6	Total Working Capital	681.00	693.15	702.06
7	Rate of Interest (%)	12.80%	12.80%	12.80%
8	Interest on Working Capital	87.17	88.72	89.86

Fuel Cost and Energy Charges in Working Capital

132. As regards the details of coal and secondary fuel oil for computation of the Energy charges, the Petitioner has submitted auditor certified monthly average landed cost of coal and oil and weighted average GCV of coal and oil as part of Form – 15:

Sl. No.	Month	Jan-17	Feb-17	Mar-17	Average
1	Weighted average landed cost of Oil (Rs/KL)	47,259.00	47,259.90	47,529.90	47,349.60





Sl. No.	Month	Jan-17	Feb-17	Mar-17	Average
2	Weighted average GCV of Oil as fired (kCal/Ltr.)	10,500.00	10,500.00	10,500.00	10,500.00
3	Average Landed Cost of Coal (Rs/MT)	2,900.50	2,459.72	2,460.84	2,607.02
4	Weighted average GCV of coal/ as fired (kCal/Kg)	3,549.00	3,545.00	3,573.00	3,555.67

133. The cost for fuel components in working capital has been computed at 85% NAPAF and based on "as received" GCV of coal & average landed cost of coal procured along with secondary fuel oil for the months of January 2017, February 2017 and March, 2017. Accordingly, the cost for fuel component for the purpose of tariff is allowed as under:

Table 13: Cost For Fuel Components (Rs/ Cr)

S. No.	Particulars	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Cost of coal for 15 days for pit-head generating stations	52.98	52.98	52.98
2	Cost of coal for 30 days	105.97	105.97	105.97
3	Cost of secondary fuel oil for two months	4.41	4.41	4.41

134. The Petitioner has claimed the Energy Charge Rate (ECR) ex-bus of 187.48 paise/kWh from 17.10.2016 (COD of Unit-7) till 31.03.2019 for Anapra D, based on the GCV and price of fuel (coal and secondary fuel oil) submitted under Form -15.

135. The Commission has considered the Price and GCV of coal and oil, for the months of January 2017, February 2017 and March, 2017 for computation of energy charges. UPRVUNL, vide its rejoinder dated 22.11.2017, clarified that it had inadvertently considered the Gross Heat Rate of 2369 Kcal/kwh instead of the 2363 KCal/kWh. Accordingly, the rate of energy charges, based on the normative operational norms, is determined and approved as under:

Table 14: Rate of Energy Charges Approved by the Commission

Description	Unit	2016-17	2017-18	2018-19
Capacity	MW	1000.00	1000.00	1000.00
PLF	%	85%	85%	85%
Gross Station Heat Rate	Kcal/kWh	2362.79	2362.79	2362.79
Auxiliary Energy Consumption	%	5.75%	5.75%	5.75%
Energy Generation - Gross	MU	7446.00	7446.00	7446.00
Auxiliary Energy Consumption	MU	428.15	428.15	428.15

by





Description	Unit	2016-17	2017-18	2018-19
Ex-bus Energy Sent Out	MU	7017.86	7017.86	7017.86
Specific Oil Consumption	ml/kWh	0.75	0.75	0.75
Wt. Avg. GCV of Oil	KCal/Lt	10500.00	10500.00	10500.00
Price of Oil	Rs./KL	47349.60	47349.60	47349.60
Wt. Avg. GCV of Coal	kCal/kg	3555.67	3555.67	3555.67
Price of Coal	Rs./MT	2607.02	2607.02	2607.02
Heat Contribution from SFO	Kcal/kWh	7.88	7.88	7.88
Oil Consumption	KL	5584.50	5584.50	5584.50
Heat Contribution from Coal	Kcal/kWh	2354.92	2354.92	2354.92
Specific Coal Consumption	kg/kWh	0.66	0.66	0.66
Coal Consumption	MMT	4.93	4.93	4.93
Total Cost of Oil	Rs Cr	26.44	26.44	26.44
Total Cost of Coal	Rs Cr	1285.65	1285.65	1285.65
Total Fuel Cost	Rs Cr	1312.09	1312.09	1312.09
Rate of Energy Charge from Secondary Fuel Oil ex-bus	Paise/kWh	3.77	3.77	3.77
Rate of Energy Charge from Coal ex-bus	Paise/kWh	183.20	183.20	183.20
Rate of Energy Charge ex-bus per kWh	Paise/kWh	186.96	186.96	186.96

136. Accordingly, the energy charges for 2 months for the purpose of interest on working capital has been worked out as under:

(Rs/ Crore)

S. No.	Particulars	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Energy charges for two months	218.68	218.68	218.68

O & M Expenses:

137. Based on the O&M expense norms specified under the 2014 Tariff Regulations, the O&M expenses for one month are allowed as under:

(Rs/ Crore)

S. No.	Particulars	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	O&M expense for one month	15.07	16.02	17.03

Maintenance Spares:

138. As specified in Regulation 25(v)(a) of the 2014 Tariff Regulations, maintenance spares @ 20% of the operation and maintenance expenses is allowed as under:

54





(Rs/ Crore)

S. No.	Particulars	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Maintenance Spares @ 20% of O&M expenses	36.16	38.44	40.86

Receivables:

139. Receivables equivalent to two months of capacity charge (Table 16) and energy charges (Table 14) has been worked out and allowed as under:

(Rs/ Crore)

S. No.	Particulars	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Energy Charges - for two months	218.68	218.68	218.68
2	Capacity Charge - for two months	227.43	223.10	218.88
	Total	446.11	441.78	437.57

140. The Petitioner has submitted that it has computed IWC for the period from FY 2016 -17 to FY 2018-19 considering the 'Bank Rate' as SBI Base Rate plus 350 basis points as on 01.04.2016. The Petitioner has considered the rate of IWC as 12.80%.

141. The Commission has considered the interest rate on working capital requirement at 12.80% for period from FY 2016-17 to FY 2018-19 as per the UPERC Generation Tariff Regulations 2014. Accordingly, components of working capital and interest on working capital are worked out and allowed as under:

Table 15: Interest on Working Capital Approved by the Commission (Rs/ Cr)

S. No.	Particulars	FY 2016-2017	FY 2017-2018	FY 2018-2019
1	Cost of coal for 15 days for pit-head generating stations corresponding to the target availability	52.98	52.98	52.98
2	Cost of coal for 30 days for generation corresponding to the target availability	105.97	105.97	105.97
3	Cost of secondary fuel oil for two months corresponding to the target availability	4.41	4.41	4.41
4	Operation and Maintenance expenses for one month	15.07	16.02	17.03



S. No.	Particulars	FY 2016-2017	FY 2017-2018	FY 2018-2019
5	Maintenance spares @ 20% of operation and maintenance expenses	36.16	38.44	40.86
6	Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the target availability.	446.11	441.78	437.57
7	Total Working Capital	660.25	659.15	658.36
8	Rate of Interest (%)	12.80%	12.80%	12.80%
9	Interest on Working Capital	84.51	84.37	84.27

Annual Fixed Charges for the Period from FY 2016-17 to FY 2018-19

142. Based on above, the annual fixed charges allowed for the Anpara D for the period from FY 2016-17 to FY 2018-19, is summarized as under:

Table 16: Annual Fixed Charges Approved by the Commission (Rs/ Cr)

S. No.	Particulars	Unit	FY 2016-2017*	FY 2017-2018	FY 2018-2019
1	Depreciation	Rs Crore	338.86	338.86	338.86
2	Interest on Loan Capital	Rs Crore	467.10	429.82	392.55
3	Return on Equity	Rs Crore	293.33	293.33	293.33
4	Interest on Working Capital	Rs Crore	84.51	84.37	84.27
5	O & M Expenses	Rs Crore	180.80	192.20	204.30
	Total Capacity Charges	Rs Crore	1,364.60	1,338.58	1,313.31
	Energy Ex Bus	MUs	7,017.86	7,017.86	7,017.86
	FC per unit	INR/kWh	1.94	1.91	1.87
On the basis of No. of days					
Unit-1	Operational	328	365	365	
Unit-2	Days	165	365	365	
	Allowed Capacity Charges	Unit-1	613.13	669.29	656.65
	Allowed Capacity Charges	Unit-2	308.44	669.29	656.65

(*The Commission notes that the actual CODs of Unit-6 and Unit-7 were 08.05.2016 and 18.10.2016 respectively. Therefore, the annual fixed charges for the FY 2016-17 have been apportioned among the Unit-6 and Unit-7 of the Anpara D based on the number of operating days in FY 2016-17. Accordingly, the annual fixed charges for the Unit-6 and Unit-7 works out to be Rs. 613.13 crore and Rs. 308.44 crore respectively.)

Other Provisions

I. Billing & Payment: -

UPRVUNL is entitled to raise the bills as per this tariff order under provisions of UPERC (Terms & Conditions of Generation Tariff) Regulations as prevalent from time to time. Capacity charges shall be recoverable at target availability





specified in Regulation 18. Recovery of capacity (fixed) charges below the level of target availability shall be on pro rata basis in accordance with Regulation 25 of the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2014.

II. Over or Under recovery of charges on account of provisional tariff and final tariff: -

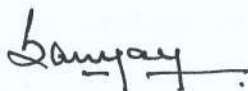
As per the Regulation 5, sub clause (3) of the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2014 over or under recovery of charges by the Petitioner on account of provisional tariff shall be subject to retrospective adjustment on the basis of final tariff determined by the Commission through this order.

Therefore, Petitioner shall be entitled to recover the over / under recovery of charges on account of provisional tariff and final tariff along with simple interest calculated @ Bank Rate as on 1st April of the relevant year till the date of issuance of this Order.

III. Truing up of Capital Expenditure and Tariff for the tariff Period FY 2014-2019:-

The Petitioner shall submit the True Up petition for the capital expenditure incurred up to 31.03.2019, in accordance with Regulation 6 of the Uttar Pradesh Electricity Regulatory Commission (Terms and Conditions of Generation Tariff) Regulations, 2014.

The Petition is hereby disposed of.


(Sanjay Kumar Singh)

Member




(Arvind Kumar)

Chairman

Place: Lucknow

Dated: 04.07.2025