

ODISHA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAWAN
PLOT NO. 4, CHUNOKOLI, SHAILASHREE VIHAR,
BHUBANESWAR-751021

Present : **Shri U. N. Behera, Chairperson**
Shri S. K. Parhi, Member
Shri Gajendra Mohapatra, Member

Case No.70 of 2020

DATE OF HEARING : **05.02.2021**

DATE OF ORDER : **26.03.2021**

IN THE MATTER OF : **An application for approval of Aggregate Revenue Requirement (ARR) and Generation Tariff of OHPC Stations for the FY 2021-22 under Sections 61, 62, 64 & 86 of the Electricity Act, 2003 read with related provisions of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and OERC (Conduct of Business) Regulations, 2004.**

ORDER

The Odisha Hydro Power Corporation (OHPC) Ltd. has filed an application before this Commission for determination of Aggregate Revenue Requirement (ARR) and fixation of Generation Tariff for its different power stations for the financial year 2021-22.

PROCEDURAL HISTORY (Para 1 to 5)

1. The OHPC is a “Generating Company” under the meaning of Sec.2 (28) of the Electricity Act, 2003 (herein after referred as ‘the Act’). After the unbundling of the Odisha State Electricity Board (OSEB) in the year 1996, the assets, liability and personnel of the Board were transferred to this generating company to carry out the business of generation of hydro-electricity. The entire power produced by OHPC through its various generating stations is fully dedicated to the State of Odisha. Thus, OHPC is supplying its entire power to GRIDCO Ltd., who in turn is supplying the same to the Distribution Utilities of the State. After the Electricity Act, 2003 came into force and promulgation of the Government of Odisha Transfer Scheme, 2005, GRIDCO Ltd. as the deemed trading licensee was entrusted with the bulk supply

business and the existing Bulk Supply Agreements and Power Purchase Agreements (PPAs) have been assigned to it. Under the existing legal set up, GRIDCO Ltd. is evacuating the powers from the generating stations of OHPC and delivering it to the Distribution Licensees.

2. As per Regulation 61(2) of the OERC (Conduct of Business) Regulations, 2004, a generating company is required to file an application by 30th November of each year to the Commission for determination of tariff for any of its generating stations, for sale of energy in the State of Odisha giving details of costs associated with the generation and sale of energy from the generating stations. Accordingly, on 27.11.2020 OHPC Ltd., as a generating company, had filed the Aggregate Revenue Requirement (ARR) and fixation of generation tariff i.e. Capacity and Energy Charge application in respect of each of its generating stations separately before the Commission for the FY 2021-22. The said application is as per the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 which had been notified in the Odisha Gazette on 15.07.2020. OHPC has filed its reply to the query of the Commission on its application on 13.01.2021.
3. After due scrutiny and admission of the aforesaid application, the Commission has directed OHPC Ltd. to publish its application in the approved format. In compliance to the same public notice was given in leading and widely circulated newspaper and was also posted in the Commission's website, in order to invite objections/suggestions from the general public. The applicant was also directed to file its rejoinder to the objections/suggestions filed by the objectors. In response to the aforesaid public notice the Commission has received 4 number of objections from the following persons /organizations :
 - (1) Mr. Prashant Kumar Das. M/s. GRIDCO Limited. Regd. Office: Jan Path, Bhubaneswar-751022.
 - (2) Shri R. P. Mahapatra, Retd. Chief Engineer & Member (Gen., OSEB), Plot No. 775(P.), Lane-3, JayadevVihar, Bhubaneswar-751013,
 - (3) Shri Ramesh Ch. Satpathy, Plot No. 302(B), Beherasahi, Nayapalli, Bhubaneswar-751012,
 - (4) Mr. Ananda Kumar Mohapatra, Plot no. 639/1021, Lane No.-2, LaxmiVihar, P.O.-BankualTankapani Road. PS. Saheed Nagar, BBSR, Khurda, Odisha-751002

The Commission impleaded the Principal Secretary to Government, Department of Energy, Government of Odisha, Bhubaneswar as parties to the above proceeding to put forth their views for fixation of tariff of OHPC Ltd. by OERC.

The date of virtual hearing was fixed as 05.02.2021 at 11.00 AM via video conference and was duly notified in the leading and widely circulated newspaper mentioning the list of objectors. All the above named objectors along with the representative of Department of Energy, Government of Odisha and the authorized representative of CMD, GRIDCO Ltd. were present during tariff hearing and their written submissions filed before the Commission were taken on record and also considered by the Commission. The applicant submitted its reply to issues raised by the various objectors.

4. In exercise of the power u/S. 94(3) of the Electricity Act, 2003 and to protect the interest of the consumers, the Commission had appointed World Institute of Sustainable Energy (WISE), Pune as Consumer Counsel for objective analysis of the applicant's Aggregate Revenue Requirement and determination of generation tariff proposal for its individual power stations for the financial year 2021-22. The Consumer Counsel presented views on the matter during the hearing.
5. The Commission convened the State Advisory Committee (SAC) meeting on 22.02.2021 to discuss about the Aggregate Revenue Requirement (ARR) application and generation tariff proposal of the generating company for FY 2021-22. The Members of SAC presented their valuable suggestions and views on the matter for consideration of the Commission.

ARR PROPOSAL OF OHPC FOR FY 2021-22 (PARA 6 TO 33)

Installed Capacity

6. The installed capacity of various Hydro Stations owned by Odisha Hydro Power Corporation (OHPC) is 2087.50(2027.50+ 60) MW including Odisha share of Machhkund. The Installed Capacity of MHEP is 120MW (i.e. 17MW x 3 = 51MW and 23MW x 3 = 69MW). So the 50% Odisha Share from MHEP being 60 MW, has been considered for computation of total Installed Capacity of OHPC.

Design Energy

7. The Design Energy (DE) of a Hydro Power Station is an important parameter for determination of tariff. The existing design energy of OHPC power stations is given in table below.

Table - 1
Design energy for FY 2021-22 (in MU)

Sl. No.	Name of the Power Station	Design Energy approved for FY2020-21	Saleable Design Energy approved for FY 2020-21	Design Energy proposed for FY 2021-22	Saleable Design Energy proposed for FY 2021-22
1	RHEP	525.00	519.75	525.00	519.75
2	UKHEP	832.00	823.68	832.00	823.68
3	BHEP	1183.00	1171.17	1183.00	1171.17
4	HHEP	684.00	677.16	684.00	660.516
5	CHEP	490.00	485.10	490.00	485.10
Sub Total of Old Power Stations		3714.00	3676.86	3714.00	3660.216
6	UIHEP	1962.00	1942.38	1962.00	1942.38
Total		5676.00	5619.24	5676.00	5619.24

Reservoir Level and Anticipated Generation

8. The reservoir level of Power Stations reported by OHPC as on 15.11.2019 vis-à-vis on 25.11.2020 is given in the following table.

Table -2
Reservoir level of power stations

Sl. No.	Reservoirs	As on 15.11.2019	As on 15.11.2020
1.	Rengali	123.78 mtr.	120.41 mtr.
2.	Kolab	857.19 mtr.	852.74 mtr.
3.	Balimela	1513.90 ft.	1502.00 ft.
4.	Hirakud	629.87 ft.	627.87 ft.
5.	Indravati	640.47 mtr.	637.56 mtr..

9. The actual generation of different Power Stations under OHPC from 01.04.2020 up to 17.11.2020 and anticipated generation up to 31.03.2021 for the FY 2020-21 prepared on the basis of the availability of water, irrigation requirement and peak load requirement of power in co-ordination with DoE, DoWR, GRIDCO and SLDC as furnished by the OHPC is given in the following table.

Table - 3
Actual /Anticipated Energy Generation

Sl. No.	Name of the power stations	Actual generation from 01.04.20 up to 17.11.20 (in MU)	Anticipated generation from 18.11.20 to 31.03.21 based on DoWR& DoE Schedule (in MU)	Total Anticipated generation for the FY 2020-21 based on DoWR& DoE Schedule (in MU)
1.	RHEP	879.1718	234.367	1113.539
2.	UKHEP	568.688	165.133	733.821
3.	BHEP	1198.123	447.600	1645.723
4.	HHEP	494.824	143.200	638.024
5.	CHEP	245.047	86.600	331.647
6.	UIHEP	1343.9745	539.200	1883.175
Total		4729.828	1616.10	6345.928

Project Cost

10. The revalued cost of old power stations under OHPC is Rs.1196.80 Cr as on 01.04.1996 as per the notification vide S.R.O No. 254/96 dtd. 01.04.1996 of Department of Energy, Government of Orissa. The Commission in its Order dated 23.03.2006 at clause no. 5.4 (C) had approved the same. Further, the Commission, in the order dated 20.03.2008 has approved Rs. 1195.42 Cr as final capital cost of UIHEP for the purpose of determination of tariff. However, the Tariff of Old power stations was determined on the historical cost of old power station of OHPC for Rs. 479.80 Cr as per the Notification No. 1068 Dtd. 29.01.2003 of DoE, GoO. OHPC has considered additional capitalization as per clause no. 12 of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 and extra additional capitalization on account of amended Companies (Ind AS) Rules to be considered under OERC norms. OHPC, based on the Audited Accounts of FY2019-20(prepared as per INDAS 2015), has considered the additional capitalization of Rs.26.85 Cr for calculation of Tariff for FY 2021-22. The Commission had approved Rs.18.55 Cr as decapitalization of the asset of different power stations of OHPC from FY2011-12 to FY2018-19. There is de-capitalization of Rs.0.245 Cr in case of Old power stations of OHPC & Rs. 0.277Cr in case of UIHEP for FY 2019-20. Thus the total decapitalization of Old power station from FY2011-12 to FY2019-20 is Rs.13.905Cr which has been deducted from the original Historic Cost as on 01.04.1996. Similarly, Rs.4.912Cr towards decapitalization of UIHEP has been deducted from its project cost. The project Cost considered for Computation of ARR and Tariff for FY2021-22 is furnished in the Table below:

Table -4
Project Cost for tariff Calculation for FY 2021-22

(Rs. in Cr.)				
Name of the power stations	Historic Cost as on 01.04.1996	Asset reduction during FY 2011-12 to FY 2019-20	New additions proposed in Tariff calculation FY 2021-22	Project Cost considered Tariff calculation based on Historic Cost
1	2	3	4	5=2+4-3
RHEP	91.09	0.09	61.40	152.40
UKHEP	108.31	0.49	27.15	134.97
BHEP	115.42	0.53	224.49	339.38
HHEP	72.75	11.51	265.91	327.15
CHEP	92.23	1.28	51.74	142.69
Sub Total	479.80	13.90	630.69	1096.59
UIHEP	1194.79 (approved project cost)	4.91	55.99	1245.87
Total	1674.59	18.82	686.68	2342.45

Tariff for Energy Billing to CSPDCL

11. Further, the Chhattisgarh State Power Distribution Company Limited (CSPDCL) is taking a plea to pay the energy charges to OHPC at the tariff of HHEP, Burla, which is actually applicable for the consumers of Odisha, and which is determined by the Commission, considering the supportive measures extended by the Government of Odisha.

However, OHPC has computed the tariff for billing of energy to CSPDCL as per CERC (Terms and Conditions of Tariff) Regulations, 2019 and prays to approve the tariff for energy billing to CSPDCL @ 180.003 paisa/unit for the FY 2021-22.

Determination of Annual Fixed Cost for FY 2021-22

12. OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 specifies methodology for computation of tariff for supply of electricity from hydro generating stations. The tariff shall comprise of capacity charge and energy charge to be shared on 50:50 basis for recovery of annual fixed cost.

The Annual Fixed Cost of a hydro generating station shall consist of the following components:

- a) Return on equity (ROE)
- b) Interest on loan
- c) Depreciation

- d) Operation and Maintenance expenses
- e) Interest on working capital
- a) **Return on Equity (RoE)**

OHPC has considered 30% of additional capitalization in UIHEP as equity base. Further OHPC has considered equity base as 30% of the revalued cost of old power stations as on 01.04.1996 along with additional capitalization from 1996-97 to 2018-19 and audited cost for capitalization and decapitalization for FY 2019-20. 30% of this additional capitalization is considered as equity base as per the provision in clause no 16 of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020.

Table - 5
Computation of RoE for different power stations of OHPC for FY 2021-22

Name of the Power Station	Capital Addition considered for RoE for FY 2020-21 (in Rs. Cr.)	Share of Equity (%)	Value of Equity capital (in Rs. Cr.)	ROE @16% Proposed for 2021-22 (in Rs. Cr.)	RoE approved by OERC for 2020-21 (in Rs. Cr.)
1	2	3	4=2*3	5=16% of 4	6
RHEP	61.402	30	18.421	2.947	2.484
UKHEP	27.154	30	8.146	1.303	1.034
BHEP	224.492	30	67.348	10.776	10.663
HHEP	265.906	30	79.772	12.764	12.648
CHEP	51.735	30	15.521	2.483	2.422
UIHEP	1245.87	25&30	314.267	50.283	49.653
Total	1876.56		503.474	80.556	79.267

Moreover, OHPC has claimed the income tax paid for FY 2019-20 on the core business as reimbursement from GRIDCO.

b) Interest on Loan:

The loan liabilities of OHPC consists of State Government loan, PFC loans and Normative Loans.

Table - 6
Present Status of UIHEP Govt. Loan based on the approvals of OERC (in Rs.Cr)

Original Approved Project Cost	1195.42
Project cost after deducting the infirm power cost	1194.79
Equity @25%	298.70
Govt. Loan of UIHEP	497.86
Depreciation allowed from 2010-11 to 2020-21 @ Rs 30.23 Crore	332.53
Loan Repayment made till FY 2019 -20& to be paid for FY2020-21	332.53
Balance Outstanding Loan as on 01.04.2021	165.33

Cumulative interest on UIHEP Govt. Loan from FY 2006-07 to FY 2020-21 @ 7% (Govt. proposed to consider as regulatory asset)	394.73
Cumulative interest on normative loan from FY 2001-02 to FY 2020-21@ 7% (Not paid)	118.39

PFC loan of Rs. 319.49 Cr. has already been repaid in full by FY 2009-10. OHPC has so far paid Rs. 302.30 Cr. to Govt. by March 2020. The depreciation approved for FY 2020-21 for Rs. 30.23Cr. shall be paid by the end of this Financial Year 2020-21. Interest on UIHEP Loan has been provided by OHPC in its books of account every year as per the direction of the Commission in the tariff order of OHPC for FY2015-16. So, the cumulative interest of UIHEP, Govt. Loan up to FY 2020-21 stands at Rs. 394.73 Cr.

Status of UIHEP Loan liability as on 31.03.2020

- i) PFC loan of Rs. 319.49 Cr. will stand repaid.
- ii) Rs. 302.23 Cr. @ Rs 30.23 Cr. approved and repaid to Govt.
- iii) Interest on Govt Loan of UIHEP not approved by the Commission
- iv) Principal and Interest on Normative loan not approved by the Commission.

The Commission in the Para 131 of Compendium of Tariff Order of OHPC for FY 2013-14 has observed that *the total principal repayment (Govt loan) will take 17 years i.e. beginning with 2010-11 and will terminate by 2027-28. Thereafter, the interest payment will be taken into consideration. The loan repayment for normative loan may start after the total repayment of Govt. loan as approved above, at the same rate of Rs.30.23 Cr. each year i.e. beginning with 2028-29. The interest component will be considered after the total repayment of the principal in line with the Govt. loans.*

Status of UIHEP Loan liability as on 31.03.2040

- i) PFC loan of Rs. 319.49 Cr. repaid.
- ii) Govt. Loan of Rs. 497.86 Cr. shall stand repaid.
- iii) Normative Loan of Rs. 78.74Cr. shall stand repaid.
- iv) Cumulative depreciation passed in the Tariff Upto FY2028-29 shall be Rs. 319.49Cr. +Rs. 497.86Cr. + Rs. 78.74Cr. = Rs. 896.09Cr.(stands repaid)

- v) Balance Depreciation to be recovered within the balance useful life i.e. upto FY2039-40 = Rs1075.311Cr (90% of project cost) – Rs896.09 Cr (Cumm. Dep. Recovered) = Rs179.22 Cr. (not recovered) ----- (a)
- vi) Cumulative Interest on Govt. Loan of UIHEP starting from FY 2029-30 to FY 2039-40 @ Rs 30.23 Cr will be partly paid and balance unpaid amount not approved by Commission shall stand at Rs 33.65 Cr .(not recovered) -----
- (b)
- vii) Cumulative Interest on normative loan not approved by the Commission shall stand at Rs 160.92 Cr. (not recovered) ----- (c)

Total liability of UIHEP Loan as on **31.03.2036 or 31.03.2040** will be Rs 373.79 Cr (a+b+c above) will remain unpaid even after useful life of the project.

Normative Loans - The normative loans of CHEP, RHEP & UKHEP is considered @ 9.8% as per Clause No. 22 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. The normative loan of BHEP, Balimela is considered @ 9.6 % for FY 2021-22 based on PFC interest rate applicable to BHEP. Similarly, the normative loan of HHEP, Burla is considered @ 8.75 % for FY 2021-22 based on PFC interest rate applicable to HHEP. The Normative loan of UIHEP due to the additional capitalization based on audited accounts of FY 2019-20 is considered @7% being the prevailing rate of interest for State Govt. Loan as per the OERC tariff norms.

The Commission has never allowed interest and/or principal of the Normative Loan of Rs. 78.74Cr. in previous Tariff approvals of OHPC. The accumulated interest calculated upto 31.03.2021 will be Rs. 118.39 Cr. at the prevailing rate of interest of State Govt. Loan @7%. Hence, based on the earlier directions of the Commission, OHPC has not considered the impact of interest on Govt Loan & Normative Loan of UIHEP in the Tariff Calculation of OHPC for the FY2021-22. Similarly, OHPC has not claimed the accumulated interest on Govt Loan & Normative Loan of UIHEP as regulatory asset in view of the directives of the Commission.

Table - 7
Statement of Outstanding Loan & Interest thereon for the FY2021-22

(Rs in Cr)			
Sl. No.	Source of Loan	Loan O/S as on 01.04.2021	Interest on Loan for the FY 2021-22
1	State Govt. Loan of UIHEP @7%*	165.33	0.00

Sl. No.	Source of Loan	Loan O/S as on 01.04.2021	Interest on Loan for the FY 2021-22
2	Normative Loan of Rs78.74Cr for UIHEP, Mukhiguda @ 7%	78.74	0.00
3	Normative Loan for Add. Cap. FY2015-16 to FY 2019-20Chiplima @ 9.80%	2.05	0.171
4	Normative Loan for Add. Cap. FY2015-16 to FY 2019-20 UKHEP@ 9.80%	5.14	0.45
5	Normative Loan for Add. Cap. FY2015-16 to FY 2019-20 HHEP@ 8.75%	22.31	1.590
6	Normative Loan for Add. Cap. FY2015-16 to FY2019-20 BHEP@ 9.6%	4.70	0.38
7	Normative Loan for Add. Cap. FY 2015-16 to FY 2019-20 RHEP@ 9.80%	2.25	0.19
8	Normative Loan for Add. Cap. FY 2015-16 to FY 2019-20 UIHEP@ 7.0%	25.401	1.522
9	Normative Loan for R&M of Unit #1, Rengali @ 9.80%	3.55	0.26
10	Normative Loan for R&M of Unit #2, Rengali @ 9.80%	4.92	0.40
Total		314.38	4.97

The Power Station wise interest on loan and guarantee commission as described above is given below:

Table - 8
Interest on loan of different power house of OHPC

(in Rs. Cr.)

Sl. No.	Source of loan	Interest on loan for FY 2021-22						
		RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	TOTAL
1.	Normative loan	0.854	0.446	0.383	1.590	0.717	1.522	4.968
2.	Govt. Loan	-	-	-	-	-	-	-
Total		0.854	0.446	0.383	1.590	0.717	1.522	4.968

OHPC prays before the Commission to approve Rs 4.968Cr. in the tariff of OHPC for the FY2021-22 for payment of Interest towards Normative Loans of the different Power Stations of OHPC as mentioned in the above table

c) Depreciation:

OHPC has computed depreciation for the FY 2021-22 @ 2.57% on the Historic project cost as on 01.04.1996 (excluding de-capitalization) plus an additional capitalization w.e.f. 01.04.1996 up to FY 2019-20. The Unit wise depreciation so calculated is compared with the Loan repayment and the amount whichever is higher is considered as depreciation for Tariff computation.

The comparative statement for actual repayment of loans and depreciation @2.57% for the FY 2021-22 as shown in the Table below to arrive at the depreciation amount to be claimed in the ARR & Tariff of OHPC for the FY 2021-22.

**Table - 9
Depreciation Claim for the FY 2021-22**

(Rs. Cr.)

Sl. No.	Power Stations	Project Cost	Loan Repayment Amount	Depreciation @ 2.57%	Depreciation Claimed	Remark
1.	RHEP	152.40	3.99	3.92	3.99	Equal to loan Repayment
2.	UKHEP	134.97	1.16	3.47	3.47	Depreciation @ 2.57%
3.	BHEP	339.38	1.41	8.72	8.72	Depreciation @ 2.57%
4.	HHEP	327.15	8.26	8.41	8.41	Equal to loan Repayment
5.	CHEP	142.69	0.61	3.67	3.67	Depreciation @ 2.57%
6.	UIHEP	1245.87	37.54	32.02	37.54	Equal to loan Repayment
Total		2342.45	52.99	60.20	65.80	

d) Operation & Maintenance (O&M) Expenses:

OHPC has calculated O & M Expenses as per the Generation Tariff Regulations, 2020 and escalated @ 5.72 % on approved O&M expenses for FY 2020-21. The Commission has deducted an amount of Rs. 10.075Cr. from the O&M Expense of UIHEP, Mukhiguda towards the Dam Maintenance Expense received from DoWR for the FY 2019-20 while computing the O&M expenses of UIHEP for FY 2020-21. Assuming the same principle, OHPC has deducted Rs10.075Cr. from the escalated O&M expenses of UIHEP for the FY2021-22.

Accordingly, OHPC has calculated O&M expenses of different power stations of OHPC for FY 2021-22 by escalating the O&M expenses for FY 2020-21 @ 5.72% as per principle adopted by the Commission in earlier tariff order of OHPC.

**Table - 10
Statement of O & M Expenses for FY 2021-22**

(Rs. Cr.)

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
1	O & M expenses for	53.19	54.56	47.64	57.35	27.58	240.32	87.48	27.69	355.49

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
	FY 2020-21 Approved by OERC.									
2	O & M expenses for FY 2021-22 with escalation @ 5.72% over FY 2020-21	56.23	57.68	50.37	60.63	29.16	254.07	92.48	29.27	375.82
3	Corporate Office expenses apportioned to different units under OHPC based on Design Energy	3.61	4.62	7.36	3.98	1.04	20.61	8.66	29.27	
4	Total O & M Expenses for the FY 2021-22	59.84	62.30	57.73	64.61	30.20	274.68	101.15		375.82
Less: Amount Received from DoWR.										
5	Less : Income to be received from DOWR towards dam maintenance of UIHEP									
								(-)10.075		(-)10.075
6	Total O&M Expenses for the FY 2021-22	59.84	62.30	57.73	64.61	30.20	274.68	91.072		365.749

e) Interest on Working Capital

As per OERC Generation Tariff Regulation 2020, the basis for calculation of working capital shall include the following:

1. Receivables
2. Maintenance spares @ 15% of operational and maintenance expenses
3. Operation and maintenance expenses for one month.

The rate of interest on working capital considered is the SBI MCLR @7.75 % as on 1st April, 2020 plus 300 basis points which turns out to be 10.75%. In accordance with clause no 24(4) of OERC Generation Tariff Regulation 2020, the interest on working

capital shall be payable on normative basis. The station wise interest on working capital as proposed by OHPC is presented in the table below.

Table - 11
Interest on Working Capital for FY 2021-22

(Rs. Crs)

Sl. No	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	Receivables of fixed cost	11.73	11.72	13.42	15.10	6.33	58.30	31.01	89.31
2	Maintenance spares @ 15% of O&M expenses	8.98	9.35	8.66	9.69	4.53	41.20	13.66	54.86
3	O&M expenses for one month	4.99	5.19	4.81	5.38	2.52	22.89	7.59	30.48
4	Total working capital	25.70	26.26	26.89	30.18	13.37	122.39	52.26	174.65
5	Interest on working capital calculated @ 10.75%	2.762	2.823	2.890	3.244	1.437	13.157	5.618	18.775

Total Annual Fixed Cost

13. Based on the above parameters the station wise ARR and tariff calculated for the FY 2021-22 as proposed by OHPC is summarized below.

Table - 12
ARR and Tariff for the FY 2021-22

Details expenses	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
Existing Saleable Design Energy (MU)	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24
(Rs. in Cr.)								
Return on Equity	2.947	1.303	10.776	12.764	2.483	30.273	50.283	80.556
Interest on Loan	0.854	0.446	0.383	1.590	0.171	3.445	1.522	4.968
Depreciation	3.992	3.469	8.722	8.408	3.667	28.258	37.541	65.799
O&M Expenses	59.842	62.301	57.729	64.608	30.197	274.677	91.072	365.749
Interest on working capital	2.762	2.823	2.890	3.244	1.437	13.157	5.618	18.775
Total ARR	70.398	70.342	80.500	90.614	37.956	349.811	186.035	535.846
Average Tariff (p/u)	135.45	85.40	68.73	133.81	78.24	95.14	95.78	95.36

Application Fee and the Publication Expenses:

14. As per the OERC tariff regulation 2020, the application filing fee and the expenses incurred on publication of notices may in the discretion of the Commission, be allowed to be recovered by the generating company directly from the beneficiaries. As per the Commission notification no. 1992 dated 31.08.2009 in the clause no. 17,

Commission has fixed a fee of Rs. 5000/- per MW as application fee for determination of tariff of conventional fuel based plant/ hydel plants, subject to maximum limit of Rs. 25,00,000/- (Rupees Twenty-five lakhs).

15. In consideration of the above order, OHPC has to deposit application fee of Rs. 25 Lakhs for the FY2021-22. OHPC may be allowed to recover the same amount from GRIDCO. OHPC proposes Rs. 1.50 lakhs as reimbursement towards publication expenses for FY2021-22. So, the Commission may approve Rs.27.008 lakhs to be reimbursed from GRIDCO for application fee and publication expenses including differential of publication expenses for past two years.

Table - 13
Application Fees and Publication Expenses

Sl. No.	Particulars	Amount to be reimbursed
1	Application fee for FY2021-22	25.00
2	Publication expenses for FY2021-22	1.50
3	Differential Publication Expense of FY2019-20	0.209
4	Differential Publication Expense of FY2020-21	0.299
	Total	27.008

Electricity duty on Auxiliary Consumption:

16. Electricity Duty on auxiliary consumption etc. payable by OHPC to the State Government and other statutory bodies shall be passed on to GRIDCO in the shape of supplementary bill raised by OHPC. The Rate of Electricity Duty / Unit have been revised from 30 paisa per Unit to 55 paisa per Unit with effect from 12th May, 2017 as per the Gazette Notification No. 912 dtd. 12.05.2017.
17. Based on Odisha Electricity (Duty) Amendment Rules, 2017 by Govt. of Odisha in Dept. of Energy vide Notification No.617 dated 24.01.2017, OHPC is paying the Electricity Duty in “J” format, where Electricity Duty is payable on total Energy Generated minus total Energy Sold. This implies that the Electricity Duty is payable on the Auxiliary Equipment consumption and Transformer loss within the Power Station.
18. In view of the above OHPC claims the following as Reimbursement of Electricity Duty @ 55 paisa / unit for its different power stations for the FY 2021-22 and prays before the Commission for reimbursement of the same from GRIDCO.

Table - 14
ED claim for OHPC power station for FY 2021-22

(Rs. in Crs)					
Power Stations	Design Energy (in MU)	Proposed Percentage of Auxiliary Energy Consumption (in %)	Auxiliary Energy Consumption to be approved (in MU)	ED Rate Applicable (in Rs/Unit)	ED proposed for Reimbursement by OHPC @55p/u & AUX @1% (in Crs)
RHEP	525	1	5.25	0.55	0.289
UKHEP	832	1	8.32	0.55	0.458
BHEP	1183	1	11.83	0.55	0.651
HHEP	684	1	6.84	0.55	0.376
CHEP	490	1	4.90	0.55	0.270
UIHEP	1962	1	19.62	0.55	1.079
Total	5676	1	56.76	0.55	3.122

Differential Reimbursement of ED on AUX for FY2016-17

19. As per the Odisha Electricity (Duty) Amendment Act, 2016 vide their Gazette Notification No. 1981 Dtd. 05.11.2016 and subsequent implementation of Odisha Electricity (Duty) Amendment Rules, 2017 by Govt. of Odisha in Dept. of Energy vide Notification No.617 dated 24.01.2017, OHPC Power Stations are paying the Electricity Duty in “J” format, where Electricity Duty is payable on total Energy Generated minus total Energy Sold from the FY 2017-18. Though OHPC Power Stations had started depositing ED on actual AUX (auxiliary equipment consumption + transformer losses within the Power Station) during the FY 2017-18, but have not deposited the ED on transformer losses portion from 05.11.2016 i.e. from the date the Odisha Electricity (Duty) Amendment Act, 2016 was made effective in the State and up to 31.03.2017 during the FY 2016-17. Accordingly, all the OHPC Power Stations have been instructed to deposit the differential ED to the Govt. of Odisha as per the J-format (enclosed at Annexure-13) on actual AUX (i.e. Total Generation – Total Energy Sold) and some of the Power Stations have already deposited the same to the Govt. of Odisha.
20. In view of the above, OHPC requests for the differential ED reimbursement (Rs. 1.359 Cr.) of individual Power Stations for the period from 05.11.2016 to 31.03.2017 as follows:

Table - 15
Differential ED for OHPC Power station for FY 2016-17

(In Rs. Cr.)

Power Stations	Design Energy (in MU)	ED approved for FY2016-17 @ 0.5% of Design Energy & @ 30p/u	ED for 218days (from 01.04.2016 to 04.11.2016) @ 0.5% of DE and @ 30p/u	ED for 147days (from 05.11.2016 to 31.03.2017) @ 1.0% of DE and @ 30p/u	Total ED revised proposal as per Govt. Notification	Differential ED of FY2016-17 proposed for reimbursement in the Tariff Application of FY2021-22
1	2	3	4	5	6=4+5	7=6-3
RHEP	525.000	0.079	0.047	0.158	0.205	0.126
UKHEP	832.000	0.125	0.075	0.250	0.324	0.199
BHEP	1183.000	0.177	0.106	0.355	0.461	0.284
HHEP	684.000	0.103	0.061	0.205	0.266	0.163
CHEP	490.000	0.074	0.044	0.147	0.191	0.117
UIHEP	1962.000	0.294	0.176	0.589	0.764	0.470
Total	5676.000	0.852	0.509	1.703	2.211	1.359

License fee for use of water for generation of Electricity:

21. As per the gazette Notification Dt. 01.10.2010, OHPC has to pay @Rs. 0.01/KWh as Licence Fee on water used for generation of electricity from all Hydro Electric Project to the tune of Rs. 5.676 Crs. based on design energy which is to be reimbursed to OHPC by GRIDCO.
22. The Revenue & Disaster Management Department have amended the Odisha Irrigation (Amendment) Rule, 2016 which was published in Odisha Gazette on 27.09.2016. As per the amendment made in Rule-23-A (2) (f) of the Odisha irrigation Rule the license fee for drawl or allocation of water was enhanced @10% per annum w.e.f 1st day of April. Accordingly OHPC was paying water cess @1.1paise/ unit for the FY 2017-18, @1.2 paise/ unit for the FY2018-19 & @1.3paise/ unit for the FY2019-20 & @1.4paise/unit for FY2020-21 and got reimbursed from GRIDCO. Accordingly, OHPC shall pay Licence Fee on water used for generation of electricity for FY 2021-22 @1.5 paise/ unit.

Table - 16
License fee for use of water for generation of electricity FY 2021-22

(Rs. in Crs)

Power Stations	Design Energy (in MU)	Licence Fee on water Proposed by OHPC @0.015Rs/Kwh of Generation (in Crs)	Remarks
RHEP	525	0.788	OHPC will claim reimbursement @Rs
UKHEP	832	1.248	

BHEP	1183	1.775	0.015/Kwh on actual generation of each Power Station.
HHEP	684	1.026	
CHEP	490	0.735	
UIHEP	1962	2.943	
Total	5676	8.514	

OHPC prays before the Commission for approval of provisional amount of Rs 8.514 Cr towards License fee mentioned in the table above as Reimbursement from GRIDCO subject to approval of reimbursement to the extent of actual water cess paid to the Govt. based on actual generation pattern for the FY2021-22.

SLDC charges

23. As per OERC (fees & charges of state load dispatch centre and other related matters) regulations, 2010, SLDC has to levy and collect annual charges from the users towards system operation charges and market operation charges.

The Commission has approved Rs 1.19 Cr. for the FY 2020-21. Since OHPC has not received the ARR, fees & charges of SLDC for the FY 2021-22, the previous year rate of @Rs 7022.14 per MW per annum fees & charges applicable to OHPC has been escalated @5.72% to arrive at the charges payable by OHPC for the FY 2021-22. Accordingly, OHPC proposes Rs. 1.2580 Cr. as SLDC charges for FY 2021-22 payable by OHPC on an average available installed capacity of 1708 MW.

Reimbursement of Contribution Made to ERPC

24. OHPC has paid Rs. 15 lakhs towards contribution to ERPC establishment fund and Rs. 1 lakh towards contribution to ERPC fund. Assuming the same claim of ERPC, OHPC has claimed Rs. 0.16 Cr. as a pass through in the tariff for FY 2021-22 to be reimbursed from GRIDCO. OHPC requested to provide this amount in ARR of GRIDCO.

Income Tax

25. OHPC has paid Rs.48.2469Cr. Towards income tax for FY 2019-20 on operational income of Rs. 562.8698Cr. which is a core business. Thus OHPC prays before the Commission to allow the same to be reimbursed from GRIDCO in the Tariff of OHPC for FY 2021-22.

Tariff for Machhkund H.E. (Jt.) Scheme

26. Machhkund Hydro Electric Project is a joint scheme of Government of Andhra Pradesh and Government of Orissa with 70% and 30% shares respectively, with option of Government of Odisha to draw an additional 20% power at a price of Rs. 0.08 per unit as per the interstate supplementary agreement in the year 1978 between Government of Andhra Pradesh and Government of Odisha.
27. Being an inter-state Joint Project between Odisha & Andhra Pradesh, execution of necessary inter-state agreement was signed between Govt. of Odisha / OHPC and Govt. of Andhra Pradesh / APGENCO on 23rd October 2020. As per the provisions made in the Agreement for acquiring additional 20% share of the Joint Scheme, Govt. of Odisha / OHPC shall make payment of Rs 27.42 Crores to GoAP/APGENCO towards present depreciated cost of the Project and share the expenditure on account of RM & U works for all the generating units along with auxiliaries and switchyard system in the ratio of 50:50.
28. Accordingly, the Cost of Power Billing by APGENCO to OHPC / GRIDCO @ 8paise/unit for the energy drawal by Odisha beyond 30% upto 50% shall be discontinued from the date of payment of Rs 27.42 Crores as mentioned above. Similarly, the share of annual audited O&M expenditure of MHEP between the two States in the proportion of their maximum demand in MW availed during the year shall also be discontinued.
29. After payment of Rs 27.42 crores as per the Clause No.3 of the Agreement, Govt of Odisha / OHPC shall have 50% legitimate share of MHEP Joint Scheme and shall draw 50% of shareable power / energy generated $[(\text{Gross generation minus AUX})/2]$ on real time basis from MHEP in line with the provisions made under Clause No.13 and accordingly make payment of 50% share of the cost of Operation and Maintenance charges as may be required / actually incurred for the project every year.

The proposed tariff of 2.5150 Rs/Unit of Orissa drawl of Machhkund power for FY 2021-22 has been computed on cost reimbursement basis. The tariff proposed by OHPC is based on assumption that GRIDCO will draw power up to 50% of design energy of Machhkund which is equivalent to 259.875 MU.

Table - 17
Projected Tariff of Machhkund H. E. (J) Scheme for FY 2021-22

Projected Tariff of Machhkund (JT.) HEP for 2021-22	
Present Installed Capacity of MHEP (Jt.) Scheme (MW)	120
(50%) Odisha Share as per New Agreement dated 23.10.2020 (MW)	60
Design Energy of MHEP for Generation (MU)	525
Normative Auxiliary Energy Consumption (AUX) (%)	1%
Normative Auxiliary Energy Consumption (AUX) (MU)	5.25
Saleable Design Energy for sharing between Andhra Pradesh & Odisha (MU)	519.75
(50%) Saleable Design Energy Share of Odisha (MU)	259.875
Drawal of Toal Share of Odisha Energy by GRIDCO (MU)	259.875
O&M Escalation factor @ 5.72 % for two years over the O&M Bill of MHEP for FY 2019-20.	1.1177
	(Rs. in Cr.)
Total Audited Cost of O&M Bill of MHEP (Jt.) for the FY 2019-20	64.48768
50% O&M Expenditure share (Orissa share of Actual O&M Expenditure for 2019-20)	32.2438
1. Payment of 20% share of Present Depreciated Project Cost of MHEP (Jt.) by OHPC	27.4200
2. O&M Expenditure for FY 2021-22 applying the escalation factor	36.0380
3. The provisional interest on the above investment of Rs 27.42 Crores @ Bank rate of SBI i.e. 10.75%.	1.60
4. The provisional interest liability on advance payment towards 15% of annual O&M Expenditure of Rs 5.50 Crores.	0.30
Total Expected Expenditure during the FY 2021-22	65.358
Tariff (Rs/Kwh)	2.5150
OHPC shall raise monthly energy bills to GRIDCO at the tariff Rs 2.5150/kWh during the FY 2021-22 to make payment of O&M cost to APGENCO and recover the own expenditure of Rs 27.42 Crores along with interest accrued thereof as per the new Agreement.	
Reimbursements of Statutory Dues/Duty/Cess:	
(Rs in Crores)	
1. Actual ED @ 55 paise/kWh on AUX at the present level of 3% AUX on Odisha share of Design Energy of 262.50 MU:	Rs 0.433125 Crores
2. Water Cess @ 1.5 paise / kWh on Odisha share of Design Energy of 262.50 MU:	Rs 0.39375 Crores
3. Total Reimbursement by OHPC from GRIDCO:	Rs 0.826875 Crores

Two-Part Tariff

30. As per clause 28 of the OERC (Terms and conditions for determination of Generation Tariff) Regulation 2020, the annual fixed cost of a power station shall be recovered on monthly basis through capacity charge (inclusive of incentives) and energy charge to be shared on 50:50 basis.

1) The capacity charge (inclusive of incentive) payable to a hydro generating station for a calendar month shall be

Capacity charge (CC) = AFC x 0.5 x NDM/NDY x (PAFM/NAPAF) in Rupees.

Where, AFC = Annual Fixed Cost specified for the year in rupees
 NAPAF= Normative Annual Plant Availability Factor in percentage
 NDM = Number of days in the month
 NDY = Number of days in the year
 PAFM = Plant Availability Factor achieved during the month in percentage.

The PAFM shall be computed in accordance with the following formula:

$$PAFM = 10000 \times \frac{\sum_{i=1}^N DC_i}{\{N \times IC \times (100 - Aux)\}} \%$$

Where,

Aux = Normative auxiliary energy consumption in percentage

N = No of days in the month

IC = Installed capacity in MW of the complete generating station

DC_i = Declared Capacity (in ex-bus MW) for the ith day of the month which the station can deliver for at least (3) hours, as certified by the nodal load dispatch centre after the day is over.

- 2) The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary, during the calendar month on ex-power plant basis at the computed energy charge rate.

Total energy charge payable to the generating company for a month shall be

{(Energy charge rate in Rs./ Kwh) x (Schedule energy (ex-bus)) for the month in Kwh}

- 3) Energy charge rate (ECR) in Rupees per Kwh on ex-bus plant basis for a hydro generating station shall be determined up to three decimal places based on the following formula, subject to provisions in clause(4.41) of OERC (Terms and Conditions for determination of Generation Tariff regulations) 2014.

$$ECR = AFC \times 0.5 \times 10 / \{DE \times (100 - Aux) \times 100\}$$

Where,

DE= Annual design energy specified for the hydro generating station in MWh, subject to provisions in Clause-3(1)(s) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020.

31. Accordingly, annual capacity charges, annual energy charges and energy charge rate of different power stations of OHPC for FY 2021-22 is shown below.

Table-18
Capacity charge and energy charge of OHPC power stations FY 2021-22

Name of the power stations	Annual Fixed Cost (ARR) (Rs. in Crs)	Annual Capacity Charge (ACC) (Rs. in Crs)	Annual Energy Charge (AEC) (Rs. in Crs)	Salable design energy (MU)	Energy Charge Rate (ECR) (in p/u)
RHEP	70.398	35.199	35.199	519.75	67.723
UKHEP	70.342	35.171	35.171	823.68	42.700
BHEP	80.500	40.250	40.250	1171.17	34.367
HHEP	90.614	45.307	45.307	677.16	66.907
CHEP	37.956	18.978	18.978	485.10	39.122
UIHEP	186.035	93.017	93.017	1942.38	47.888

Normative Plant Availability Factor (NAPAF)

32. The Commission in Case No. 52 of 2019 had fixed the NAPAF of different power stations for the control period 2019-20 to 2023-24. OHPC has filed a review petition with a prayer to review the Order dated 20.03.2020 in Case No. 52 of 2019 and inter-alia re-determine the Designed NAPAFs. Therefore, considering the Benchmark NAPAFs approved in the earlier Order of the Commission dated 02.11.2010 in Case No. 65 of 2010 and methodology adopted by CERC for determination of NAPAFs of Hydro Electric Power Stations, OHPC proposes the revised NAPAFs of the different power station for the next block period (i.e. FY-2019-20 to FY 2023-24) as follows:

Table-19
Normative Plant Availability Factor (NAPAF) for FY 2021-22

Power Stations	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP
NAPAF (%)	77	81	81	65	68	88

Prayer

33. OHPC's proposal for annual revenue requirement for FY 2021-22 is as follows
- OHPC pray before the Commission to kindly approve the following in the ARR & Tariff Order of OHPC Power Stations for the FY 2021-22:
- The ARR amounting to Rs 535.846 Crs. of OHPC Power Stations at an average tariff @ 95.36 Paise/Unit.
 - The ACC, AEC & ECR of different Power Stations of OHPC.
 - The miscellaneous reimbursement of Rs 62.9749 Crore by OHPC from GRIDCO.

4. The tariff for energy billing to CSPDCL @ 1.80003 Rs / kWh considering Up-valued cost of HHEP and the norms of CERC (Terms & Conditions of Tariff) Regulations, 2019.
5. The tariff of MHEP (Joint Scheme) @ 2.5150 Rs/unit with provision of Rs 65.358 Crores in the ARR of OHPC & GRIDCO to enable OHPC to make payment of O&M cost to APGENCO and recover the own expenditure of Rs 27.42 Crores including interest accrued thereof as per the new Agreement. Further provision of an amount of Rs 0.826875 Crores for payment of statutory dues subject to actual truing up.
6. The average available Installed Capacity as 1708 MW for payment of SLDC charges.
7. The Power Station wise NAPAFs proposed by OHPC.

VIEWS OF THE OBJECTORS (Para 34 to 60)

Design Energy

34. One of the objectors pointed out that the OHPC is generating more power than the Design Energy. Other objector submitted that the consideration of design energy in place of projected energy is nothing but to inflate the generation tariff deliberately and intentionally.

NAPAF of OHPC hydro stations

35. One of the objectors submitted that the NAPAF approved by the Commission for the previous approved control may be considered for determination of capacity charge for FY 2021-22. Other objector suggested OHPC to determine the NAPAF for different hydro stations as per order of the Commission in case of 52/2019 instead of lower NAPAF submitted by OHPC in the current petition.

GRIDCO submitted that OHPC may be asked to furnish station wise installed capacity of various stations for calculation of PAFM for FY 2021-22. GRIDCO requested to approve NAPAF as approved in the previous tariff order and Case No 52/2019 instead of lower NAPAF submitted by OHPC in this petition.

Additional Capitalization

36. One Objector submitted that the Commission direct the OHPC to submit details of additional capitalisation justifying under which criteria are the items of additional

expenditure falling. OHPC may state whether the new additional capitalization proposed during FY 2021-22 have been duly approved by the Commission.

Additional capitalisation on account of IND-AS 2015 should not be applicable for determination of tariff based on reimbursement of cost incurred. The Commission may therefore determine the project cost on the same basis as per that approved for the determination of tariff for the past periods. The Objector has supported that it is good that decapitalisation is considered in the process of additional capitalisation to reach the project cost.

37. The Objector has submitted that OHPC should not place upvaluation demand of Government of Odisha as it has already been settled and finalized.

Installed Capacity

38. GRIDCO suggested in case of prolonged outage of different hydro units, the Commission may direct OHPC to bring back its various units which are currently under R & M and maintenance into operation before going for the annual maintenance of different units of plants.

Another objector has submitted that OHPC has applied in their ARR to reduce installed capacity which is not acceptable.

One Objector has claimed that he has verified level data of all with OHPC power stations. But observed that the water levels of reservoir as on 30.9.2020 were in better position in comparison to the same date of calendar year 2019.

Manpower

39. One objector has said that OHPC should furnish the list of engineers and their qualification, experience etc those who are managing the power houses.

Detailed list of land and buildings

40. The Objector submitted to produce the detailed list of land, building which are currently under occupation of OHPC unit heads before hearing of the case

MDDL of Hirakud Project

41. One of the objector submitted that the reason for increasing the MDDL of Hirakud power plant to 595 ft. is said to be the need for water at the tail end of the canals for raising seedlings, is unacceptable. The Commission may add 32.4 MU to the data

submitted by OHPC towards generation of HHEP while determining the ARR and Tariff. The Commission may add the loss of generation at CHEP, the data for which has not been submitted. The Commission may direct OHPC to take suitable action in this regard to recover the water charges from the industries and also for operation of the Hirakud reservoir with MDDL of 590 ft. the Department of Water Resources (DoWR), Govt of Odisha, may kindly be impleaded as a party .

Energy Status Report

42. Another Objector suggested that OHPC should produce the energy status report from the month of April, 2018 to till date.

Water charges

43. OHPC is not the proper authority to recover the charges from the industries towards drawal of water. It is therefore not able to even execute agreements with the concerned industries.

Water levels of reservoir

44. One of the Objectors has claimed that he has verified level data of all with OHPC power stations. But observed that the water levels of reservoir as on 30.9.2020 were in better position in comparison to the same date of calendar year 2019.

Repair and Maintenance of Plants

45. One Objector pointed that renovation and modernization of generating units are not being taken up and completed in time as the performance of OHPC is poor. OHPC is investing the surplus funds available in other activities.

Investment made by OHPC

46. The Objector suggested that OHPC to give details as to how much funds they have spent in joint venture companies such as OTPCL, Green Energy Corporation and any other Company along with OPGC. The Objector has suggested to produce list of joint venture company where OHPC being a promoter and their total expenditure.

Depreciation

47. One of the Objectors stated to consider the depreciation amount for different plants as per the actual loan repayment instead of considering between loan repayment and depreciation calculated @ 2.57 %.

O&M Expenses

48. Another Objector submitted to reduce escalation of 5.72 % on O&M considering lower wholesale price index (WPI) inflation prevailing in the country and such benefits should be passed on to the consumers of the state.

The Objector also suggested that OHPC should produce the report of actual operation and maintenance expenses for last 5 years .

Interest on working capital

49. GRIDCO submitted not to consider the receivable equivalent to 60 days as claimed by OHPC regarding interest on working capital.

Return on Equity

50. GRIDCO submitted the following with regard to Return on Equity,
- i. RoE for OHPC will be as per PPA executed between OHPC and GRIDCO. RoE shall be computed at the base rate of 14% for all generating stations but OHPC has calculated the RoE at the rate of 16% instead of 14% in its application for approval of ARR for FY 2021-22.
 - ii. RoE on additional capital expenditure will be computed on weighted average rate of interest on actual loan portfolio.
 - iii. RoE for OHPC on additional capitalisation should be based on actual rate of interest against 16% claimed by OHPC in its petition.

Other costs and Charges

51. An Objector submitted that the Commission may direct OHPC to submit their claims on application fees and Publication expenses in true up of respective years along with documentary evidence and requests to approve such expense post prudence check.

In case of differential ED of Rs 1.359 crore, GRIDCO suggested to not to allow any additional amount to OHPC as the said amount is not accordance with the respective order.

ARR and Tariff

52. The Objector has submitted that the Average Tariff for individual power station of FY 2021-22 is very high as compared to that approved for the previous years. The Objector has suggested that application filed by OHPC for increasing tariff should not

be accepted as the company is paying dividend and have surplus fixed deposit. The Objector has observed that OHPC estimated the anticipated generation for FY 20-21, but fails to disclose the projected power generation for the ensuing FY 21-22. The approval of ARR and determination of generation tariff cannot be fair in the absence of projected power generation for ensuing year and actual data for previous FY.

GRIDCO submitted a tentative station wise total annual fixed cost for FY 2021-22, which is Rs 493.66 Crore. GRIDCO suggested that the miscellaneous earnings of OHPC like interest from fixed deposit etc. may be adjusted against the ARR and balance should be passed on to the consumer through tariff.

Receipts from Industries

53. The Objector has suggested OHPC to produce the amount received from different industries availing water for their uses.

Secondary Fund

54. OHPC has submitted the Status of secondary fund. The reduction in generation in a particular year cannot be considered as due to Hydrology failure. So, OHPC has to submit the necessary data to prove that the less generation in a particular year was on account of hydrology failure.

Performance of OHPC

55. The Objector has suggested to appoint a fact finding committee to access efficiency of each units of OHPC for the greater interest of the consumers. The Objector has submitted that the actual performance of OHPC, and its power stations is not known to any parties. Also, OHPC has failed to file the truing up position.

Status of Burla and Machhkund

56. The Objector has suggested OHPC to produce the actual generation status of all Burla Power houses. The Objector has requested status report of Machhkund power project. Objector has requested actual rate of power generated in Muchhkund power project

Interest Rates

57. The Objector has submitted that maximum interest rate of 9.8 % is paid for the outstanding loan of OHPC. Rupee loans sanctioned after July 2010 would be priced with reference to base rate. The Objector has submitted that the current bank rate

notified by the RBI is 4.65% and the OHPC has claimed a very higher rate of interest of 10.75%.The Objector has requested not to consider the receivable equivalent to 60 days as claimed by OHPC regarding interest on working capital

Previous Objections and suggestions

58. An Objector stated that, among many of previous objections and suggestions some of those are complied and some are still pending.

Other issues

59. An Objector suggested that OHPC should publish their vision document before the hearing of tariff orders.
60. One of the Objectors requested to direct OHPC to submit their claims on application fees and Publication expenses in true up of respective years along with documentary evidence and requests to approve such expense post prudence check.

REJOINDER AND REPLY OF OHPC TO QUERIES RAISED BY OBJECTORS IN WRITTEN SUBMISSION / DURING HEARING (PARA 61 TO 140)

The compliance by OHPC to the suggestions/objections raised by the objectors as well as the reply to the queries raised during the hearing is summarized as under:

Design Energy

61. OHPC submitted that the design energy of a Hydro Electric Project is a basic design criteria which is calculated prior to the project inception considering statistical data of rainfall over the catchment and gross total inflow from all source and generator-turbine capacities. Accordingly, the Design Energy has been defined in OERC (Terms & Conditions for Determination of Generation Tariff) Regulations 2020 as follows:

“Design Energy” means the quantum of energy which can be generated in a 90% dependable year with 95% installed capacity of the hydro generating station.”
62. OHPC submitted that the actual generation from a hydroelectric project depend on the rainfall pattern, availability of water in the reservoir & machines for generation, demand of the state. Further the water available in a carry-over reservoir is very often carried over to the next year due to uncertainty and irregular pattern of rainfall which affects the actual generation in a particular year. Therefore, there is always a mismatch between actual generation & design energy. Accordingly, OHPC power stations have

never generated exactly equal to its Design Energy (5676 MU) during any financial year. In most of the financial years, the total generation of OHPC is less than the Design Energy of 5676 MU due to the reasons mentioned above.

63. The water in the reservoir of different power stations shall reach MDDL (Minimum Draw Down Level) before monsoon or by the end of water year i.e. by 30th June. The prediction of generation can be done in co-ordination with DoE, DoWR, OHPC, GRIDCO & SLDC. However, the filling of reservoir due to monsoon rainfall is quite uncertain it cannot be predicted in advance. So, OHPC can't furnish the projected generation for FY2021-22 at present. However, the Projection of generation for FY2021-22 shall be submitted in the Tariff application of OHPC for FY2022-23 which shall be submitted before the Commission by 30.11.2021.
64. OHPC further submitted that in Tariff calculation, OHPC considered the Design Energy of individual power stations consistently as per the regulation & the Commission also approves it. Any excess or shortfall in generation w.r.t Design Energy is adjusted in Hydrology Fund as per the directives of the Commission.

NAPAF of OHPC hydro stations

65. **Approval of NAPAF of OHPC power stations for the block period 2019-2024:**

The OERC at para no.122 of the Tariff Order of OHPC for FY 2019-20 has observed as follows:

“In accordance to Para 5.4 (VII) of OERC (Generation) Regulation 2014 Commission has to determine the NAPAF of OHPC power stations for next block period i.e from 01.04.2019 to 30.03.2024. For determination of NAPAF, OHPC is required to submit the details of renovation works carried out along with their time period of completion so as to find the availability of machines accurately during last five years. Since OHPC has not submitted the detailed machine-wise availability of its plants Commission has decided to fix NAPAF of OHPC plants provisionally as that of last block period.”

Accordingly, OHPC had filed a separate application with all relevant documents for approval of NAPAF of different power stations of OHPC for the block period FY 2019-20 to FY 2023-24. The Case was registered as 52 of 2019. The final order was approved as follows:

“Para-14:- Commission re-determines the NAPAF of OHPC stations for the next control period i.e. from 2019-20 to 2023-24 as given in the table below:

Table 4

<i>Name of Power Stations</i>	<i>HHEP</i>	<i>CHEP</i>	<i>BHEP</i>	<i>RHEP</i>	<i>UKHEP</i>	<i>UIHEP</i>
<i>NAPAF (%)</i>	<i>75</i>	<i>75</i>	<i>83- for first 3 years 87 – for subsequent 2 years</i>	<i>80</i>	<i>87</i>	<i>88</i>

Monthly capacity charge of each OHPC stations shall be computed for the FY 2020-21 based on the above NAPAF.”

After going through the above Order, OHPC Board of Directors in 157th meeting advised to file review petition before the Commission OERC for review of the Order dated 20.03.2020 in Case No.52 of 2019 with a prayer to reduce NAPAF to a realistic achievement.

OHPC stated that in the context of non-consideration of NAPAF as proposed by OHPC for its power stations for the block period 2019-2024, which had been proposed in line with the principles/ guidelines set by the CERC for the present block period, OHPC had filed review petition with a prayer to review the Order dtd. 20.03.2020 in Case No. 52 of 2019 on the basis of errors apparent on the face of the record as well as sufficient reason for revision of the Order dtd. 20.03.2020 of the OERC on account of deviations from the following:

- (i) Benchmark NAPAFs approved in the earlier Order of the OERC dtd. 02.11.2010 in Case No. 65 of 2010.
- (ii) Methodology adopted by the CERC for determination of NAPAFs of Hydro Electric Power Stations.

In view of the above OHPC prayed before the OERC with due submission of facts to review their Order dated 20.03.2020 in Case No. 52/2019 and re-determine the Designed NAPAFs of following five (05) Power Stations for the FY 2019-20 to FY 2023-24.

HHEP, Burla:

Approved Designed NAPAF (75%) of HHEP is less than the Benchmark NAPAF (79%). But the approved Designed NAPAF (75%) is much higher than the actual last 5 years (2014-2019) average PAF (64.77%). Therefore OHPC pray before the The OERC to revise the Designed NAPAF of HHEP at 65% considering last five year performance as per CERC Norms and which is also in line with the previous approvals of the OERC for 1st & 2nd Blocks.

CHEP, Chiplima:

Approved Designed NAPAF (75%) of CHEP is less than the Benchmark NAPAF (90%). But the approved Designed NAPAF (75%) is much higher than the actual last 5 years (2014-2019) average PAF (67.60%). Therefore OHPC submitted that the OERC to revise the Designed NAPAF of CHEP at 68% considering last five year performance as per CERC Norms and which is also in line with the previous approvals of the OERC for 1st & 2nd Blocks.

BHEP, Balimela:

Approved Designed NAPAF (83% for 1st three years & 87% for next two years) of BHEP is less than the Benchmark NAPAF (90%). But the approved Designed NAPAF (83% for 1st three years & 87% for next two years) is much higher than the actual last 5 years (2014-2019) average PAF (81.25%). Moreover any recent anticipated improvement in performance of BHEP due to completion of R&M of Unit-1 to Unit-6 shall not be considered in deciding the present block period i.e for FY 2019-20 to FY2023-24 Designed NAPAF but shall be considered for the 4th Block Period. **Therefore OHPC submitted that the OERC to revise the Designed NAPAF of BHEP at 81% considering last five year performance as per CERC Norms and which is also in line with the previous approvals of the OERC for 1st & 2nd Blocks.**

RHEP, Rengali:

Approved Designed NAPAF (80%) of RHEP is more than the Benchmark NAPAF (77%). As per Clause 14.5.2 of CERC Statement of Reasons the maximum limit of Designed NAPAF shall be capped at its Benchmark NAPAF (77%). The OERC has not considered the Capping of Designed NAPAF at 77% although the average actual PAF (81.87%) happened to be more than Benchmark NAPAF (77%). **Therefore OHPC submitted that the OERC for capping of Designed NAPAF for RHEP at 77% as per CERC Norms 2019.**

UKHEP, Baraniput:

Approved Designed NAPAF (87%) of UKHEP is less than the Benchmark NAPAF (90%). But the approved Designed NAPAF (87%) is much higher than the actual last 5 years (2014-2019) average PAF (81.28%). **Therefore OHPC pray The OERC to revise the Designed NAPAF of UKHEP at 81% considering last five year**

performance as per CERC Norms and which is also in line with the previous approvals of The OERC for 1st & 2nd Blocks.

CERC Tariff Regulation 2019-24:

CERC in the Tariff Regulation for the Block Period FY2019-24 at Para No 50(A)(2) made allowance in NAPAF determination under special circumstances, e.g. abnormal silt problem or other operating conditions, and known plant limitations for the following Power Stations.

Allowance provided in NAPAF for some of the stations by CERC are furnished below:

Table - 20

Power Station	Type of Plant Capacity No. of Units x MW	Approved NAPAF (%) for Block Period 2014-2019	Approved NAPAF (%) for Block Period 2019-2024
TLDP III	Pondage 4x33	85	77
Chutak	ROR 4x11	50	48
Doyang	Storage 3x25	73	70
Dhauliganga	Pondage 4x70	90	78
Kopili I	Storage 4x50	79	69
Khandong	Storage 2x25	69	67

Therefore considering the project specific constraints and actual performance, CERC decreased the NAPAF of the Power Stations as shown in the Table above.

Accordingly the proposed NAPAFs for the block 2019-2024 as per the above review petition are shown in the Table below.

Table - 21

Power Stations	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP
NAPAF (%)	77	81	81	65	68	88

OHPC has requested the Commission to approve the NAPAF as shown in the table above for the different power stations under OHPC for the block period 2019-2024.

Station-wise Installed Capacity:

66. The reduction of Installed Capacity for computation & certification of PAFM by SLDC shall be governed as per Clause No.4.1.3 of approved PPA between OHPC & GRIDCO for R&M works and as per para no.22 of Order dtd.11.06.2020 in case no 56 of 2019 regarding approval of Capital Maintenance. So there is no need to calculate the projected installed capacity for the FY2021-22.

Additional Capitalization

67. OHPC submitted that OHPC has made additional capitalization as per Clause No 12(3) of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 for different power stations. OHPC further clarified that there is no specific guideline by the Commission to specify the amount above which prior approval is required from the Commission before Additional Capitalisation. However, OHPC is regularly taking prior approval of the Commission before executing the Renovation & Modernization works & Capital Works. As per practice, OHPC is considering small Additional Capitalization of individual power stations from the audited accounts and the Commission also approves the same.
68. OHPC has stated that the applicability of IND-AS 2015 in the Tariff of OHPC has already been discussed in the public hearing of Tariff of OHPC for the FY 2018-19 & FY 2019-20. After due scrutiny the Commission has already approved the IND-AS impact from FY 2014-15 to FY 2018-19 in the Tariff Order of OHPC.

OHPC has considered an amount of Rs26.859 Crs towards Additional Capitalization of different Power Stations of OHPC for the FY2021-22. The power house wise sheets of Audited Accounts is also furnished in the Original Tariff Application of OHPC.

Installed Capacity

69. OHPC submitted that in the tariff Application for FY 2021-22 has not applied for any reduction of Installed Capacity for computation of Tariff. However, there shall be reduction in the Installed Capacity for Units considered for R&M as per Clause No. 4.1.3 of the agreed PPA between OHPC & GRIDCO which was also duly vetted by OERC, including separate Orders of the Commission for computation of PAFM & recovery of Capacity Charges from GRIDCO in case of Capital Maintenance and R&M of generating Units.

OHPC has already sought approval of DoWR for construction of multipurpose dam as it involves flood control, irrigation, submergence of villages with R&R, forest and environment issues.

Prolonged outage of different hydro units:

70. GRIDCO has shown the availability of Units of different power stations of OHPC on 13.01.2021. The outage of the Units are due to routine periodic maintenance,

Renovation & Modernization & Forced outage. The reasons of outage are discussed as follows:

Outage due to Renovation & Modernization

71. Presently Unit-5 & Unit-6 of HHEP, Burla and Unit-1 & Unit-2 of BHEP, Balimela are under Renovation & Modernization. The delay analysis of R&M works of these Units is enclosed with the application. OHPC is sincerely trying hard to bring all these 4 Units in the FY2021-22. Unit-5 & Unit-6 of HHEP, Burla is expected to be synchronized to Bus by 30.06.2021 and 31.05.2021 respectively. Similarly, Unit-1 & Unit-2 of BHEP, Balimela shall be brought back to service by 30.03.2021 & 28.02.2021 respectively.

Periodic Maintenance:

72. As per OEM maintenance schedule the periodic planned maintenance like monthly maintenance, quarterly maintenance & annual maintenance of different Units of a power station are planned and shutdown of the Units are taken after prior approval of SLDC. These maintenances are barely necessary so that the performance of that unit is maintained throughout the year. In this process, Unit-3 of UIHEP Mukhiguda is under Annual Maintenance from 28.12.2020 and is expected to be synchronized by 27.01.2021. Similarly, Unit-5 of RHEP, Rengali is under Annual Maintenance from 16.12.2020 and is expected to be synchronized by 15.03.2021.

Forced Outage of Machines:

73. Due to unpredicted situations either on account of Grid disturbance or some internal problem, few generating Units come under forced outages which are brought back into operation after necessary repair maintenance.
- The Unit-3 of CHEP, Chiplima which was under forced outage due to shear pin failure was made available within a short period.
 - Unit-4 of BHEP, Balimela is under shut down from 31.12.2020 due to oil level drop in Generator Thrust bearing oil bath. The repair & maintenance work is under progress and the Unit shall be synchronized to Grid by 28.02.2021.
 - Unit-5 of BHEP, Balimela is under forced outage from 13.12.2020 due to Stator Fault. The repair and maintenance work is under progress and is expected to brought back to service by 28.02.2021.

- Unit-3 of UKHEP, Baraniput is under forced outage from 07.01.2020 with TGB temperature very high. M/s. BHEL the OEM has recommended the following works for rectification of the existing problem.
 - 1) Dismantling & reassembly of generator and top cover.
 - 2) Repair of stator core.
 - 3) Repair & rectification of thrust collar.
 - 4) Checking of flatness of runner disc.

So after completion of all the above repair works the Unit-3 of UKHEP, it is expected to be brought back to service by dtd. 15.04.2021.

Prolonged Forced Outage of Machine

74. Unit-1 of HHEP, Burla is under forced outage from 14.03.2018 due to Turbine and Generator coupling cover water leakage & Unit-7 of HHEP, Burla is under forced outage from 06.12.2019. The reason for delay of these machines was given in the petition.

Manpower

75. OHPC submitted that the detailed list of Engineers of OHPC managing the Power Houses had already been furnished as rejoinder to Tariff application of OHPC for FY 2017-18, FY 2018-19, FY 2019-20& FY 2020-21.

Detailed list of land and buildings

76. OHPC submitted that the land, buildings of all Units of OHPC are under the occupation of OHPC Unit Heads. But, transfer of the RoR works of the lands and buildings in favor of OHPC are under process. The detail list of lands & Building now under occupation of OHPC Unit Heads are given below:

Table - 22

Sl. No.	Name of the Unit	Land in Acres
1	Upper Indravati Hydro Electric Project, Mukhiguda, Dist-Kalahandi	2500Acres
2	Upper Indravati Hydro Electric Project, Khatiguda, Dist-Nabarangpur	22500Acres
3	Balimela Hydro Electric Project, Balimela, Dist-Malkangiri	500 Acres
4	Upper Kolab Hydro Electric Project, Baraniput, Dist-Koraput.	382 Aeres
5	Rengali Hydro Electric Project, Rengali Dam Site, Dist-Angul	1600 Acres
6	Hirakud Hydro Electric Project, Burla, Dist-Sambalpur	500 Acres

Sl. No.	Name of the Unit	Land in Acres
7	Chiplima Hydro Electric Project, ChiplimaDist-Sambalpur and Power Channel	417 Acres 3163 Acres

MDDL of Hirakud Project

77. OHPC submitted that this issue has already been clarified in detail under the title “Revision of Design Energy of HHEP & CHEP on account of restriction in generation below 595 ft at HHEP, Burla” at page no. 6 & 7 of the tariff application of OHPC for the FY 2020-21. Accordingly it has been mentioned that “*OHPC is constantly loosing energy charges for 31 MU (i.e. 14.81 MU for HHEP, Burla & 15.95 MU for CHEP, Chiplima) every year on account of restriction in generation from Hirakud reservoir below 595 ft. R.L by DoWR, Govt. of Odisha. OHPC has consistently been raising this issue in its earlier tariff applications furnishing all the facts in detail with prayer to the Commission either to consider the reduction in D.E of HHEP, Burla& CHEP, Chiplima proportionately or allow compensation in accordance with the Clause No.11 of the Electricity Act, 2003.*”
78. OHPC further stated that it is raising the regular bills to all the User Industries on the allocation of water from the FY 2010-11 onwards but not on actual drawal and have intimated the Department of Water Resources, Govt. of Odisha about their non-payment. The DoWR , Govt. of Odisha have the authority for further course of action in case of defaulting industries as per the terms of the Principal Agreement executed between the DoWR and User Industries.OHPC submitted that the energy compensation dues lying pending with the User Industries are high, but it is provisional and subject to revision on account of the applicable rate, which may be finalized in the final order of the High Court of Odisha.
79. However, in pursuance to the interim order of the The Hon’ble High Court of Odisha, a very small amount to the tune of Rs 8.32 crore deposited by the industries towards energy compensations in various years is available with OHPC and is kept as a separate fund as per the suggestion of the CAG. After the decision of Hon’ble High Court of Odisha, the Commission may take suitable decision to give effect to this fund. Earlier OHPC had suggested to adjust this amount in the deficit Hydrology Fund.

Original decision of the Hon'ble High court of Odisha vide Case No. WP(C) No-8409 dated 30.3.2012 of 2011 between Keonjhar Navanirman Parishad -Vrs- State of Odisha & Others, Govt. of Odisha at para 24(ii) is as follows:

“The State Govt. is directed to take steps to compute the amount of compensation to be recovered from the industrial Units which had used the water and ensure that the said amount is recovered and paid to OHPC within a period of three months from today, failing which such industrial units shall not be allowed to draw water from the reservoirs.x....x....x...”

OHPC further added that in the 1st committee meeting on 03.07.2012 in the Conference Hall of DoWR taken by Principal Secretary, DoWR on policy for optimum utilization of water in the reservoirs by industries and running of Hydro Electric Project with their optimum capacity, it was decided that OHPC will execute supplementary agreement with the Industries drawing water from Reservoirs. The DoWR will issues administrative order to the industries drawing water for execution of such agreement. In spite of issue of Administrative order from DoWR none of the Industries have executed the Supplementary agreement with OHPC. Some of the industries have taken the shelter of law regarding the execution of Supplementary Agreement, higher rate of energy compensation charges. The case is now sub-judice in the High court of Odisha.

80. The above matter in detail has also been intimated to OERC vide Memo No. 8599 Dtd. 22.09.2016 in response to Lr. No. 1161 Dtd. 25.08.2016 of Secretary OERC & Lr. No. 6336 dtd. 29.08.2016 of Additional Secretary to Government for a decision in this regard as the energy compensation charges should have been collected by the DoWR and paid to OHPC for necessary adjustment in the secondary energy fund.
81. Recently a meeting was held on dtd.15.12.2020 on virtual mode under chairmanship of Chief Secretary, Govt. of Odisha on drawl of water by M/s Hindustan Aeronautics Limited (M/s, HAL), Sunabeda and payment of energy compensation charges to OHPC. Chief Secretary, Govt. of Odisha expressed concern over such high rate of energy compensation charge and directed Principal Secretary, DoWR to constitute a committee to review the executive instruction dtd. 01.10.2013 issued by Principal Secretary, DoWR.
82. OHPC submitted in case of the Hirakud Reservoir with MDDL of 590ft. OHPC may claim the amount towards loss of generation, both for maintaining MDDL at higher side of 595ft instead of 590ft to support Ravi irrigation at the upstream and also for

loss due to drawl of water from the reservoirs by industries, from DoWR, who is responsible for the loss of generation and payment of energy compensation charges to OHPC. In the opinion of OHPC the loss of generation arising out of drawl of water from the reservoirs by industries is considered analogous to loss due to Hydrology Failure. Since Hydrology failure is claimed under Secondary Energy Fund which has a present deficit of Rs.246.78Cr, the compensation received from the industries due to such drawl of water will be accounted for out of the same. This has already been intimated to the Commission in the Tariff filing of OHPC for FY 2015-16.

83. In view of the above the contention of the Objector is not correct. The design energy of HHEP & CHEP may be suitably reduced by the Commission considering all previous submissions of OHPC.
84. OHPC submitted that Irrigation in Hirakud command area through different canals are the responsibility of DoWR. The desilting of canal mouth and reservoir through periodical dredging is coming under the jurisdiction of DoWR which shall facilitate better irrigation to the end reach canal areas, thus enhancing the generation possibility from RL 595ft to at least 590ft RL. The suggestion of objector for installation of big pumps by OHPC for pumping water into the irrigation canal is not acceptable to OHPC and hence the Commission is requested not to consider the same.
85. OHPC further submitted that the guidelines by the High Court of Odisha as regards to proper maintenance of reservoirs, water bodies at para 24(ii) of the Order dtd. 30.03.2012 in WP(C) No-8409 of 2011, it is stipulated that the DOWR should create a corpus by imposing a levy on the Industries drawing water from different Reservoirs for the purpose of maintenance of Reservoirs and water sources, by making periodical dredging and removal of shoals etc. In this regard the High Court directed the DOWR to frame appropriate legal provision within three months' time.
86. In this connection, to the above directives of the High Court of Odisha, the Principal Secretary, DOWR in the 1st Meeting of the Committee on formulation of Policy for utilization of water decided as under at Para No. 14 of the Minutes dated 03.07.2012.

“For maintenance of reservoirs and water bodies a corpus will be created. A Cabinet note is to be moved by DOWR for creation of annual maintenance fund by Water Resources Department which may escalate at the rate of 10% per annum. Fund will be utilized for dredging of the reservoir for regaining lost capacity and maintenance of water bodies. EIC Water Resource will calculate the details of annual maintenance fund requirement and modalities of implementation of such scheme.”

OHPC further stated that the above issue had also been raised by Mr. Mohapatra in the public hearing of OHPC's ARR & Tariff for the FY 2020-21. The Commission had directed OHPC to submit the details of the issues dealt in the above Order by the High Court of Odisha, so that a ruling may be issued from the OERC. Hence, Commission may kindly enquire the status on the above from DOWR as it is a long back directive of High Court of Odisha in the year 2012 in WP(C) No-8409 of 2011 and kindly issue the required ruling on the said Order.

Energy Status Report

87. OHPC submitted that the information regarding the actual generation status of OHPC power stations since FY 2009-10 to FY2020-21 (upto 15.01.2021)

Status of Generation of different power stations of OHPC for FY2020-21:

88. The Reservoir Level of OHPC Power Stations as on 15.01.20 vis-à-vis on 15.01.21 is given below:

Table-23

Sl. No.	Reservoirs	As on 15.01.2020	As on 15.01.2021
1.	Rengali	122.72 meter	118.51meter
2.	Kolab	856.25 meter	851.74meter
3.	Balimela	1505.60 ft.	1494.10 ft.
4.	Hirakud	627.77 ft.	624.45ft.
5.	Indravati	639.81 meter	637.85meter

89. The actual generation of different Power Stations under OHPC from 01.04.2020 up to 15.01.2021 and anticipated generation up to 31.03.2021 for the FY 2020-21 prepared on the basis of the availability of water, irrigation requirement and peak load requirement of power in co-ordination with DoE, DoWR, GRIDCO and SLDC is furnished below.

Table-24

Sl. No.	Name of the power stations	Actual generation from 01.04.20 up to 15.01.21 (in MU)	Anticipated generation from 16.01.21 to 31.03.21 based on DoWR& DoE Schedule (in MU)	Total Anticipated generation for the FY 2020-21 based on DoWR& DoE Schedule (in MU)
1.	RHEP	941.204	90.000	1031.204
2.	UKHEP	640.635	144.000	784.635
3.	BHEP	1390.317	216.000	1606.317
4.	HHEP	555.893	64.920	620.813
5.	CHEP	282.120	41.784	323.904

6.	UIHEP	1396.2615	520.800	1917.0615
Total		5206.4305	1077.504	6283.9345

Water Charges

90. OHPC submitted that OHPC is regularly raising the Energy Compensation bills to the user industries. The Govt. of Odisha in the Department of Water Resources is the Administrative Department who is the competent authority to take the issue to the right forum. OHPC has intimated DoWR regarding the defaulting industries who have not made payment to OHPC

Repair and Maintenance of Plants

91. OHPC submitted that they are regular in taking up the periodical Renovation & Modernization work of the old Units of different power stations. The details are furnished in the table below:

Table-25

Power Stations	Unit No.	Original date of Commissioning	Date of Renovation	Life of machine till last commissioning
HHEP, Burla	1	11.05.1958	16.04.1998	22years
	2	11.11.1957	01.04.1998	22years
	3	18.12.1956	01.01.2006	15years
	4	13.05.1957	01.01.2006	15years
	5	19.04.1962	Under progress	
	6	05.08.1963	Under progress	
	7	13.09.1990	-	29years
CHEP, Chiplima	1	15.07.1962	29.07.1998	21years
	2	26.11.1962	01.05.2008	21years
	3	01.02.1964	21.01.2020	01 year
RHEP, Rengali	1	27.08.1985		
	2	26.03.1986		
	3	10.08.1989		31years
	4	19.03.1990		30years
	5	14.08.1992		28years
UKHEP, Baraniput	1	10.03.1988		32years
	2	14.04.1988		32years
	3	12.02.1990		30years
	4	12.01.1993		27years
BHEP, Balimela	1	14.08.1973	Under progress	
	2	25.01.1974	Under progress	
	3	24.08.1974	Will be taken shortly	
	4	26.03.1975	Will be taken	

			shortly	
	5	07.05.1976	Will be taken shortly	
	6	05.01.1977	Will be taken shortly	
	7	23.12.2008		12years
	8	23.01.2009		11years
UIHEP, Mukhiguda	1	19.09.1999		21years
	2	28.12.1999		21years
	3	04.10.2000		20years
	4	16.04.2001		19years

92. OHPC added that OHPC has 31 Hydro power plants units situated at 6 different Projects. Out of these 31 Units, 15 Units are more than 40 years old as on date. Out of these 11 Units Renovation 06 Units have already been completed and Renovation and Modernization work of 05 Units are under execution since 2015-16(03 Units) & 2016-17(02 Units). These Units are mentioned below:

Table -26

Projects	Units under R&M	Remarks
CHEP	Unit-3	Already under commercial operation
HHEP	Unit-5 & Unit-6	Expected to be commissioned by July-2021
BHEP	Unit-1,2,3,4,5 & 6	Unit-1 & 2 are under execution in 1 st phase and are expected to be commissioned by March-2021. Other units are to be taken up for R&M in a phased manner.

93. From the above table it is clear that OHPC has completed or continuing the R&M works of all old Units whose performance have decreased in the due course of time. OHPC is regularly carrying out need based Capital Maintenance work by replacement of critical parts to increase the reliability of the machines. Also due to obsolesce of technology OHPC is changing the AVR, Governing System, Battery and DC system & Relay and Annunciation system at regular interval during Annual Maintenance or Capital Maintenance as per the recommendation of OEM & approval of OHPC BoD. OHPC is taking the approvals of the Commission for Capital Maintenance as well as R&M works.
94. OHPC has decided to take up the RLA study of old generating units. For this purpose, the negotiation & finalization of the contract is under progress. The RLA study of the old machines shall be taken up shortly. Based on the RLA study OHPC shall take up need based R&M/Capital Maintenance Work in a phased manner. OHPC also

submitted that the views of the Objectors regarding poor performance of OHPC due to non-consideration of timely R&M works, is wrong.

Investment made by OHPC

95. OHPC provided the amount spent by OHPC as on date in JVs / Subsidiaries / Associate Companies are as follows:

Table 27

(Rupees in Lacs)

Name of JVs / Associates	As Equity	As loan	As Advance	Total
OTPCL	15720.47	-	-	15720.47
GEDCOL	5032.00	4550.00	862.06	10444.06
OCPL	18954.00	-	-	18954.00
BWCCL	1000.00	-	-	1000.00
OPGC	99690.60	-	-	99690.60

96. OHPC submitted the information regarding list of Joint Venture / Subsidiary / Associates where in OHPC being a promoter is furnished in the Table below:

Table -28

Sl. No.	Name of the Joint Venture/ Subsidiary /Associates
1.	Odisha Thermal Power Corporation Ltd (OTPC) J V Company between OHPC & OMC 50% each.
2.	Baitarini West Coal Company Ltd (BWCCL) J V Company between OHPC, Gujrat Power Corporation Limited (GPCL) & Kerala State Electricity Board (KSEB) 1/3 each.
3.	Odisha Coal & Power Ltd. (OCPL) Company between OPGC & OHPC with 51% & 49%.
4.	Green Energy Development Corporation of Odisha Ltd. (GEDCOL) - 100% subsidiary of OHPC
5.	Odisha Power Generation Company Limited (OPGC) Company between Govt. of Odisha & OHPC with 51% & 49%

97. OHPC further submitted the total expenditure incurred by those companies till December 2019 are as follows which includes the amount paid by OHPC.

GEDCOL: Rs.208.63 Cr.

OTPCL: Rs.285.27 Cr.

BWCCL: Rs.32.63 Cr.

OCPL: Rs.1330.38 Cr.

Depreciation

98. OHPC stated that The Commission at clause no. 23(4) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 has specified for OHPC as follows:

“Provided that for existing plants of OHPC as per the directions of the High Court of Orissa, depreciation will be calculated at pre-1992 norms notified by Government of India on the book value of the assets:

Provided, further that for existing plants of OPGC (UNIT-I & II), the applicable depreciation rate shall be as determined by Commission from time to time.”

99. From FY 2003-04 onwards, as per the directions of the High Court of Odisha, depreciation was calculated at pre-1992 norms notified by Government of India on the book value of the assets. For the purpose of determination of Annual Fixed Cost, the Commission usually compute depreciation @ 2.57% of the project cost.
100. OHPC further submitted that due to additional capitalization on account of R&M works & Capital Maintenance work the Project Cost of each power station has increased. Similarly due to additional capitalization in each year the Project Cost of individual power stations increase. OHPC has not recovered the 90% of the project cost till date. It may also be noted that the OHPC does not recover the approved depreciation since the amount billed for Energy Charge & Capacity Charge is not equal to ARR approved. In the recent years the amount billed to GRIDCO as energy bill is less than the ARR approved. Thus depreciation actually recovered is quite less than depreciation approved. The accumulated depreciation recovered can be assessed after finalization of Truing up petition of individual power stations.

Thus as approved by the Commission OHPC has computed depreciation 2.57% of Project Cost (Historic Cost+ Additional Capitalization – Decapitalization) and compared with loan repayment. The higher value is considered as Depreciation. In any case accumulated depreciation shall not exceed 90% of the Project Cost.

O& M Expenses

101. OHPC submitted that the Commission at clause no. 25(C) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 under the head Operation and Maintenance Expenses has stipulated as *“O&M norms for the existing plants of OPGC(UNIT-I & UNIT-II) & OHPC will be determined by the commission from time to time.”*

102. Based on the provisions of the Generation Tariff Regulation, the Commission OERC is allowing the O&M expenditure of OHPC Power Stations for the coming financial year at an escalated rate 5.72% over and above the approved O&M expenditure of the previous year. In the similar line, OHPC has computed the O&M expenses for the FY 2021-22. Any excess or less in actual audited O&M expenditure from the approved in tariff, shall be taken care in trueing up exercise. OHPC requested the Commission to decide suitably.

Interest on working capital

103. OHPC requested the Commission to take suitable decision in this regard.

104. Return on Equity

105. OHPC submitted that according to Clause No. 20(2) of OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020: *“Provided that return on equity in case of OPGC (Unit - I & II) and OHPC stations shall be as per the provisions of the PPA.”* OHPC also added that the Commission in the recent past years has approved the Return on Equity as per the provisions of PPA. OHPC in the present Tariff has followed the same principle for computation of RoE. Also according to provisions made in Clause No. 21(1) OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 the income tax of the Generating Company shall be recovered from the beneficiaries (This will exclude income tax on other streams i.e. from non-generation business).

Other costs and Charges

106. OHPC stated that the Application fees and Expenses are reimbursement item on actual basis & provisional amount of Rs1.2Lac is claimed in the Tariff Application for the FY2019-20 & FY2020-21. The differential amount is claimed in following year if the actual expenditure on account of Publication Expenses exceed the approved amount. Therefore, OHPC has made a claim on the excess payment made towards Publication Expenses for the year 2019-20 & 2020-21. OHPC pray before the Commission to approve differential publication expense of Rs0.209 Lakhs for FY2019-20 & Rs0.299 Lakhs in FY2020-21.
107. OHPC submitted that OHPC is paying Electricity Duty to Govt. of Odisha as per the Odisha Electricity (Duty) Amendment Act, 2016 vide their Gazette Notification No. 1981 Dtd. 05.11.2016 and subsequent implementation of Odisha Electricity (Duty)

Amendment Rules, 2017 by Govt. of Odisha in Dept. of Energy vide Notification No.617 dated 24.01.2017.

108. Further clause 11.6.5 of PPA executed between OHPC & GRIDCO stipulates as follows:

“Amendment to this Agreement and/ or tariff schedule-5 therein shall be made consequent upon any changes/ amendment in rules/ regulation/ directives issued by GOI/GOO/ CERC/ OERC.”

This differential ED from 05.11.2016 to 31.03.2017 had arose due to Odisha Electricity (Duty) Amendment Act, 2016 vide their Gazette Notification No. 1981 Dtd. 05.11.2016. The differential ED for FY2017-18 has already been approved by The OERC in the Tariff order of OHPC for FY2018-19. The differential ED for the period 05.11.2016 to 31.03.2017 is not approved by the OERC. Hence, OHPC requested OERC to approve reimbursement of differential ED amounting to Rs 1.359 Cr for the FY 2016-17 and accordingly provisioned in the ARR of OHPC & GRIDCO for FY2021-22

ARR and Tariff

109. OHPC submitted that the average Tariff Approved by the Commission for OHPC is remaining between 70.77 paise per unit in FY2013-14 to 91.39 paise per unit upto the FY 2020-21.OHPC has prepared Tariff application of different power stations for FY2021-22 based on OERC(Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 & the principle adopted by the Commission during approval of Tariff in the previous year(i.e. FY2020-21).
110. The project cost for determination of ARR & Tariff of OHPC Power Stations for the FY 2021-22 is based on Historic project cost of old power stations as on 01.04.1996 (for UIHEP, approved project cost of Rs.1194.79 crore) along with approved additional capitalization/ decapitalization upto 2018-19 and audited additional capitalization & decapitalization for FY 2019-20.OHPC added that the above amount is outcome of managing its business by OHPC within the amount/ARR approved by the Commission OHPC over the last 25 years since its formation. OHPC has been able to save this amount of depreciation Fund & ROE Fund after meeting all its financial obligations viz: Loan servicing, payment of Taxes/ Duties/ Cess etc, payment of dividend to Govt., and day to day operational expenses. This depreciation &RoE fund

is parked by OHPC as deposits in Banks. OHPC has been undertaking various RM&U as well as Capital Maintenance works of various generating units out of the said surplus fund without availing loan from the open market which bears a high interest rate. This is being done in order to provide necessary comfort to consumer of the State.

111. OHPC has Rs.781.00 crores as balance in its bank till date as earmarked balance in the banks for the following purpose.

	<u>(Amount in Rupees)</u>
Terminal Liabilities	88,00,00,000
JV & New Projects	1,38,00,00,000
RMU & New Projects	<u>5,55,00,00,000</u>
Total	7,81,00,00,000

This surplus money mainly arises due to cumulative effect of the following items since inception of OHPC which are earned under regulatory frame work and approved by the Commission.

1. Return on Equity with accumulated interest on OHPC own investment.
 2. Interest on Working Capital.
 3. Interest on normative loan.
 4. Balance Depreciation Fund with interest towards OHPC own investment.
112. The amount available in the Depreciation fund including interest and the amount available under ROE including interest are kept for ploughing back in the OHPC projects for meeting the expenditure on account of Renovation, Modernization & Upgrading of the existing generating units. In the present on-going R,M&U programme of the generating units at CHEP, HHEP & BHEP all the expenditures are being funded by OHPC from the above mentioned fund instead of borrowing upto 70% of the cost from the financial institutions at a higher rate of interest. By the way OHPC is able to provide necessary comfort to the consumers of the State by supplying low cost hydro power which ultimately keeps the BSP of GRIDCO at lower side.
113. In view of the above the miscellaneous earning as available in the above fund need not be adjusted in the ARR as proposed by GRIDCO. The Commission has not also considered the adjustment of miscellaneous earning in the ARR.

114. OHPC submitted that Payment of dividend by OHPC to Govt. of Odisha (but not Govt. of India as stated by the Objector) is the compliance of Sec-123 of the Companies Act 2013. As per the said section when a company makes any profit, it is liable to pay dividend to its shareholders. So OHPC paid dividend to its shareholders i.e. Department of Energy, Govt. of Odisha and it has no effect on the tariff of OHPC being a non-tariff item.

Total Annual Fixed Cost:

115. OHPC does not agree with the tentative station-wise Tariff calculation for FY2021-22 furnished by the objector. OHPC requested the Commission to approve station wise Tariff of different power stations of OHPC for FY2021-22 as furnished in the Table-18 & 19 of the application.

Receipts from Industries

116. OHPC submitted that the matter regarding energy compensation bill raised by OHPC to different industries drawing water from reservoir is sub-judice. So industry wise water consumption due will be furnished later to the Commission.

Recently, Chief Secretary in the proceeding of meeting held on 15.12.2020 directed Principal Secretary, DoWR to constitute a committee comprising of (1) Principal Secretary, DoWR, (2) Principal Secretary, DoE, (3) Principal Secretary, Department of Industry, (4) Principal Secretary Department of Revenue & Disaster Management cum CMD, OHPC Ltd. to review the executive instruction dtd. 01.10.2013 issued by Principal Secretary, DoWR.

Status of secondary fund

117. OHPC submitted that the high head power stations of OHPC i.e UIHEP, UKHEP & BHEP have carryover reservoir. There is no spillage of water from Dam under normal condition. Thus the share of water for Generation is completely utilized to generate electricity. Any breakdown of machine affects the availability of machine and have effect on PAF of the power station. However optimum utilization of water to achieve design energy is carried out by balance available machines. Thus the impression of the objector regarding reduction in generation in a particular year was not on account of Hydrology failure but due to the breakdown of machinery is not correct.
118. However, in low head power stations like RHEP & HHEP the non-availability of machine during spilling days affect the achievement of Design Energy. The CHEP is a

run off river type power station whose generation completely depends upon the availability of water in its power channel, fed from discharge water of HHEP generation. Hence through proper coordination between OHPC & SLDC spillage of water is minimized through auto siphon at Burla.

119. Similarly, the water utilization at RHEP for generation is very satisfactory. But in HHEP due to outage of machine for R&M works and Capital maintenance there is loss in generation during the spilling days of Monsoon.

Thus the impression of the objector regarding reduction in generation in a particular year was not on account of Hydrology failure but due to the breakdown of machinery is not correct.

Performance of OHPC

120. OHPC has filed the Truing Up of ARR from FY1996-97 to FY2015-16 before The Commission for approval. The Case is registered as 55 of 2020 and the decision of the Commission is pending. After obtaining the Trued Up project cost of individual power stations for FY2015-16 OHPC shall file the Truing Up for the balance years as per the OERC Terms & Conditions for determination of Generation Tariff Regulations, 2014 & 2020.
121. The Fixed Cost (FC) & Variable Cost (VC) data are not available for hydro power station. The Annual Fixed Cost (AFC), Energy Charge (EC), Capacity Charge (CC) & Energy Charge Rate (ECR) of OHPC is available in Tariff Order of OHPC for the FY2020-21 which is already in the OHPC website and the website of The OERC. However, OHPC is submitting the approved AFC, EC, CC & ECR for FY2020-21 in the Table below.

Table -29
Energy Charge and Capacity Charge for 2020-21

Name of the Power Stations	ARR Approved	Capacity Charges (Rs in Crs.)	Energy Charges (Rs in Crs.)	Saleable Design Energy (in MU)	Energy Charge Rate(P/U)
RHEP, Rengali	67.227	33.613	33.613	519.750	64.672
UKHEP, Baraniput	66.296	33.148	33.148	823.680	40.244
BHEP, Balimela	77.241	38.621	38.621	1171.170	32.976
HHEP, Burla	87.595	43.798	43.798	677.160	64.678
CHEP, Chiplima	36.234	18.117	18.117	485.100	37.347
UIHEP, Mukhiguda	178.975	89.488	89.488	1942.380	46.071

122. Similarly, OHPC is submitting the proposed AFC, EC, CC & ECR for FY2021-22 in the Table below.

Table - 30
Proposed Capacity Charge and Energy Charge for FY2021-22

Name of the power stations	Annual Fixed Cost (ARR) (Rs. in Crs)	Annual Capacity Charge (ACC) (Rs. in Crs)	Annual Energy Charge (AEC) (Rs. in Crs)	Salable design energy (MU)	Energy Charge Rate (ECR) (in p/u)
RHEP	70.398	35.199	35.199	519.75	67.723
UKHEP	70.342	35.171	35.171	823.68	42.700
BHEP	80.500	40.250	40.250	1171.17	34.367
HHEP	90.614	45.307	45.307	677.16	66.907
CHEP	37.956	18.978	18.978	485.10	39.122
UIHEP	186.035	93.017	93.017	1942.38	47.888

Status of Burla And Machkund

123. OHPC submitted that the actual generation of HHEP, Burla from FY2009-10 to December 2020 is enclosed as Annexure-VIII.

OHPC requested to refer Para 69 Named *Effect of newly signed Inter-state agreement of MHEP(Jt.) between Govt. of Andhra Pradesh/ APGENCO & Govt. of Odisha/ OHPC*

Interest Rates

124. OHPC submitted that the normative loans of different power stations of OHPC are computed as per Clause No. 22(5) of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. Though, 9.8% State Govt. loan has been repaid, the normative loans of the respective units are still pending. The normative loans of CHEP, RHEP & UKHEP is considered @ 9.8% based on interest rate of Govt. Loan previously existing. The normative loan of BHEP, Balimela is considered @ 9.6 % for FY 2021-22 based on PFC interest rate applicable to BHEP. Similarly, the normative loan of HHEP, Burla is considered @ 8.75 % for FY 2021-22 based on PFC interest rate applicable to HHEP, Burla. The Normative loan of UIHEP due to the additional capitalization based on audited accounts of FY 2019-20 is considered @7% being the prevailing rate of interest for State Govt. Loan as per the OERC tariff norms. The Commission after due verification has approved the interest on loan in the previous Tariff Order.

125. Clause No. 24(3) of OERC(Terms & Conditions for determination of Generation Tariff) Regulation 2020 stipulates as follows:

“Rate of interest on working capital shall be on normative basis and shall be equal to the Bank Rate as on 01.04.2020 or on 1st April of the year in which the generating station or a unit thereof, is declared under commercial operation, whichever is later.”

126. The Bank Rate is defined in Clause No. 3(h) of OERC(Terms & Conditions for determination of Generation Tariff) Regulation 2020 which is reproduced as follows:

“Bank Rate means the one-year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 300 basis points.”

127. OHPC during calculation of rate of interest on working capital has considered the Bank Rate as per OERC(Terms & Conditions for determination of Generation Tariff) Regulation 2020.

Previous Objections and suggestions

128. The ARR & Tariff of OHPC Power Stations is computed for FY 2021-22 without considering the impact of Govt. Notification No. 5843 Dtd. 03.07.2015 in respect of upvaluation of generation asset

Shortfall in anticipated generation

129. OHPC in the rejoinder dtd. 29.01.2021 to the ARR application of OHPC for FY2021-22 had projected total generation of OHPC as 6283.93MU considering actual generation upto 15.01.2021 as 5206.4305MU & anticipated generation from 16.01.2021 to 31.03.2021as 1077.504MU. Similarly, OHPC during its Public hearing on 05.02.2021 had projected total generation of OHPC as 6265.95MU considering the actual generation upto 31.01.2021 as 5396.1034MU & anticipated generation from 01.02.2021 to 31.03.2021as 868.992MU. So there was a short fall of 17.98MU in the anticipated generation from earlier projection. The anticipated generation vrs actual generation form 16.01.2021 to 31.01.2021 is shown in the table below:

Table - 31

Power Stations	Anticipated Generation from 16.01.21 to 31.01.2021 (in MU)	Actual Generation trom 16.01.21 to 31.01.2021 (in MU)	Difference (in MU)
RHEP	19.2	12.87	(-)6.33
UKHEP	30.72	31.95	1.23
BHEP	46.08	47.24	1.16
HHEP	15.36	15.49	0.13

CHEP	9.22	9.87	0.65
UIHEP	96.00	72.81	(-)23.19
Total	216.576	189.67	(-) 26.90

130. From the above table it is clear that during the period from 16.01.2021 to 31.01.2021 all power stations except RHEP & UIHEP has generated as per the anticipated generation. Major shortfall during this period was 23.19MU from UIHEP. This overall shortfall of 26.90MU was adjusted slightly and overall shortfall by 31.03.2021 remains as 17.98MU.
131. Since the OHPC power stations are part of multipurpose projects, therefore usually OHPC provide generation schedule of upcoming month in consultation with SLDC, DoWR& GRIDCO. But as per the Grid requirement by SLDC on real time basis and looking into the irrigation & Downstream requirement by DoWR, actual generation slightly changes from the schedule. As a result, there is a meagre variation of 17.98MU from the projection. However, OHPC in co-ordination with SLDC, DoWR& GRIDCO tries to utilize water up to optimum level.

Effect of newly signed Inter-state agreement of MHEP(Jt.) between Govt. of Andhra Pradesh/ APGENCO & Govt. of Odisha/ OHPC:

132. OHPC submitted that the decision of Govt. of Odisha to acquire 50% stake by paying the differential depreciated cost of 20% share of MHEP(Jt.) project and the present necessity arising to renovate, modernize and up rate the Machkund power house, the required inter-state agreement was signed between Govt. of Odisha / OHPC and Govt. of Andhra Pradesh / APGENCO on 23rd October 2020. OHPC filed its ARR & Tariff Application before OERC on 27.11.2020 for approval. The copy of the agreement has been submitted as Annexure-18 of the Original ARR and Tariff application of OHPC for FY2021-22.
133. Previously, OHPC in the ARR & Tariff application for the FY2017-18 had brought to the notice of the Commission at Para 3(B) under the head “Uncertainty in Recovery of Investment in R&M works/ Capital Maintenance of Units” as follows:

“In this connection, it is not out of place to mention here that shortly OHPC is also going to make substantial investment for RM&U of 06No. of Units at Machkund Hydro Electric(Joint) Project, on 50% cost and power sharing basis by APGENCO and OHPC on behalf of Govt. of Andhra Pradesh and Odisha respectively.

So far The Commission OERC is only approving the tariff of MHEP(Joint) Project on reimbursable basis, where GRIDCO is paying / reimbursing to APGENCO the portion of Operation & Maintenance expenses of MHEP(Joint) Project shared on maximum

demand(MW) utilized between the two States (i.e.Odisha& Andhra Pradesh) as per the terms of the Original Interstate Agreement(1946) and paying the energy charges for the energy portion beyond 30% upto 50% of the shareable energy @8 paisa per Kwh as per the terms of the supplementary Interstate Agreement(1978). The copies of the above two agreements are Annexed as Annexure - 20 for kind perusal.”

134. The Commission has recognized the transmission & distribution constraints in evacuating 50% Odisha share of energy from Machkund at para no. 138 of the final order of OHPC for FY2017-18. However, there was no specific direction from the Commission towards augmentation of the evacuation system.

Machhkund Agreement

135. MHEP being an inter-state Joint Project between Odisha & Andhra Pradesh, related day to day administrative, technical, financial & commercial activities pertaining to Machhkund power house were(are) carried out through the provisions set out in different agreements such as Original Machhkund Agreement dtd. 14.01.1945, Supplementary agreement dtd. 15.12.1978 etc and shared between the two States in the manner prescribed therein.
136. The Govt. of Odisha transferred its 30% share of the generation asset of MHEP joint scheme to OHPC on 01.04.1997. By that time, MHEP was a fully depreciated project and there was no prescribed tariff for this project under prevailing Tariff mechanism. Further no PPA has been signed between OHPC & GRIDCO so far. Although The Commission is determining a generation Tariff for MHEP, the same is calculated on cost reimbursement basis i.e. GRIDCO is paying the cost of O&M bill & power bill to APGENCO through OHPC for the Odisha share of power from MHEP as per the provisions of the said agreements.
137. Accordingly, for every financial year, OHPC used to submit the Tariff proposal of Machhkund Joint Project based on audited O&M expense available at that time & escalate such Audited O&M Expenditure for the coming financial years applying prescribed escalation factor of CERC/ OERC prevailing at that time. Also for 20% additional power, OHPC used to compute the cost at the rate 8 paise per Kwh. Accordingly, OHPC has been submitting the Tariff proposal of Machhkund which is being approved by the Commission in the Tariff Order of OHPC. The issue of execution of PPA towards transaction of Machhkund power has not been raised earlier during the public hearing of Tariff of OHPC in the previous years. OHPC/GRIDCO & APGENCO regularly reconcile the Energy drawl & Bill raised.

New beneficial agreement for Odisha consumer

138. OHPC submitted that as per the provisions made in this new Agreement Govt. of Odisha / OHPC have acquired the additional 20% share of the Machhkund Joint Scheme, after making payment of Rs 27.42 Crores to GoAP/APGENCO on 22.12.2020 towards present 20% depreciated cost of the Project.

As per the provisions of the Supplementary Agreement 1978 the Cost of Power Billing by APGENCO to OHPC / GRIDCO @ 8paise/unit (**subject to revision as per the terms of the agreement**) for the energy drawl by Odisha beyond 30% upto 50% shall be considered to be discontinued from 22.12.2020. Similarly the sharing of annual audited O&M expenditure of MHEP between the two States in the proportion of their maximum demand in MW availed during the year taking into the consideration of adjustment of 20MW transferred to AP by Odisha in line with the provisions of the Original Machhkund Agreement 1945, have also been discontinued from 22.12.2020.

MHEP in absence of prescribed regulated Tariff mechanism, the expenditure of Capital as well as Revenue nature are booked under O&M Expenditure and shared between the two States during that financial year. In view of the above OHPC have considered recovery of Rs.27.42 Crs. along with normal O&M Expenditure for computation of Tariff of MHEP for FY2021-22.

OHPC stated that Director (Hydel), APGENCO vide letter no. 162/20 dtd.20.05.2020 has informed that the actual cost of per unit of AP share at Machhkund Power House annually is around Rs.1.21 to Rs.1.22 per Kwh. In view of this APGENCO express concern that there is a huge loss to APGENCO due to non-revision of cost of 20% energy, which is being sold from AP share to Odisha thereafter. **The Govt. of Andhra Pradesh had directed APGENCO to take necessary action to revise the cost of 20% energy being sold from AP share to Odisha @Rs.0.08/ Kwh to actual cost of generation.**

In view of the above the provision of billing of energy from 30% to 50% drawal by Odisha @ 8 paise/unit no more exists as per the above claim of GOAP/APGENCO which is in line with the agreed provisions of the Supplementary Agreement'1978 between the two States.

OHPC submitted that OHPC in the present ARR & Tariff application has proposed Tariff of 251.498 paise/ Kwh for MHEP(Jt.) considering 50% share of O&M Expense(based on audited figure of O&M for FY2019-20) & Rs27.42Cr as depreciated value of 20% Project Cost. There are two components of 251.498 paise i.e. (a) 11.669 paise towards the impact of recovery of Rs 27.42 Crore alongwith interest towards 20% depreciated project cost and (b) 139.829 paise towards the recovery of Rs 36.0380 towards O&M expenses, which are shown in the Table below.

Table – 32

(Paise per Unit)

Computation of MHEP tariff proposed by OHPC for fy2021-22 under different conditions		
	Tariff of MHEP(Jt.) for FY2021-22 considering provisions of new agreement (considering 50% share of O&M Expense & Rs.27.42Cr as depreciated value of 20% Project Cost)	251.498
Component (a)	Impact of recovery of Rs.27.42 Crore along with interest towards 20% depreciated project cost	111.669
Component (b)	Impact of recovery of Rs.36.0380 towards O&M expenses	139.829

From the above table following conclusions can be drawn:

- There may be a provisional Tariff hike to Rs2.5149 per kWh for FY2021-22 considering one-time recovery of Rs27.42Cr above along with interest portion and 50% of the total O&M expenditure.
- The component of Tariff of MHEP considering one-time recovery of Rs27.42Cr as depreciated value of 20% Project Cost only shall be 111.669 paise/ kWh as shown above.
- The component of Tariff of MHEP considering only 50% share of O&M Expenditure shall be 139.829 paise/ kWh. Thus the power purchase cost may be around Rs1.39 per Kwh from FY2022-23 till Commercial Operation Date (CoD) after completion of R&M works as shown above if the same O&M Expenditure for FY2019-20 is considered.

Benefits of new agreement:

- After signing of new Machkund agreement and making payment of 20% depreciated project cost, the State of Odisha/ OHPC has become eligible for 50% shareholder of MHEP(Jt.) project, thus adding additional 24MW to State Hydro energy potential at a cheap cost.

- Besides the above, the consumers of Odisha shall have the access to avail 50% power from the future upcoming projects of Machkund- Sileru River system viz. Lower Machkund Small Hydro Electric Project of 20MW(2x 10MW), Jalaput Dam Toe Small Hydro Electric Project 18MW (3x6MW) & Balimela Dam Toe Project 60MW (2x30MW) through this New Machkund Agreement.
- Due to RoR problem it is very difficult to execute a hydroelectric project in the State of Odisha. Hydro power plants provide clean & green energy. So it shall be prudent to make investments in the above feasible hydroelectric projects for the interest of the State.
- After recovery of Loan amount in about 12-15years the Tariff shall be low for the consumer of Odisha.
- Lower Machkund Small Hydro Electric Project of 20 MW (2x 10 MW) & Jalaput Dam Toe Small Hydro Electric Project 18MW (3x6 MW) shall be taken up after execution of Tripartite agreement. This will be helpful to satisfy Renewable Power Obligation/ Hydro Power obligation of the State.
- The implementation of Balimela Dam Toe Project 60 MW (2x30 MW) shall be taken up as per the decision of Project Administration Committee. This project shall be implemented by APGENCO & OHPC jointly on 50:50 cost and benefit share basis.
- These upcoming Projects will be helpful to satisfy Renewable Power Obligation/ Hydro Power obligation of the State in future.
- Besides the above there are inherent plus points of hydro power such as quick response to system fluctuations, quick start & stop of generating units, first ramp up & ramp down properties, Black start facilities & sharing of VAR etc. through the above mentioned hydroelectric projects for the Odisha grid.

Other issues

139. OHPC submitted that there is no specific observation of the Commission in this regard. However, OHPC is in the process of preparing the Vision document which will be submitted in future.
140. OHPC further stated that GEDCOL has been formed as public limited 100% subsidiary company of OHPC for development of 1 MW and above solar & hybrid

power projects and small hydro-electric projects. The status report GEDCOL for development of small hydroelectric project (SHEP) in the State was also given.

VIEWS OF CONSUMER COUNSEL (Para 141)

141. On behalf of World Institute of Sustainable Energy, Pune the Consumer Counsel had made a presentation on the Analysis of ARR and Tariff filing of OHPC for 2021-22. The Consumer counsel's observations /suggestions are elaborated below.

- Comparative analysis of ARR approved by the Commission for FY 2020-21 to that of the proposed ARR for FY 2021-22 reveals that there is 4.34 % increase proposed in the ARR for FY 2021-22. For Machhkund HEP, proposed tariff is Rs 2.515 / kWh, whereas approved tariff for FY 2020-21 was Rs 0.625 / kWh.
- The reservoir level as on Nov 2020 are noted to be low compare to the level recorded as on Nov 2019; however, anticipated generation for FY 2020-21 is projected higher than FY 2019-20. The Commission may review the same. If the factors behind the increase are controllable, then the tariff may be set accordingly.
- OHPC has considered the historical cost of its power stations as on 01.04.1996 plus new capitalization and decapitalization after 01.04.1996 up to FY 2019-20 for computation of tariff for FY 2021-22. As per last year's order, the Commission had already approved additional capitalization of Rs.659.81 Cr. For FY 2019-20, additional capitalization of Rs.26.86 Cr has been claimed for tariff determination of FY 2021-22. During FY 2018-19, approved additional capitalization was Rs 5.278 Cr. The projected capitalization for FY 2019-20 may be reviewed.
- While calculating equity base, the additional capitalization up to FY 2019-20 has been claimed, which may be reviewed by the Commission.
- OHPC has not considered interest on government loan and normative loan of UIHEP for FY 2021-22 as per the directives of the Commission in previous orders. OHPC has claimed interest on normative loan on account of additional capitalization for its different power stations which may be approved as per earlier orders of the Commission.

- OHPC has computed depreciation for FY 2021-22 @ 2.57% of historic project cost as on 01.04.1996 plus additional capitalization from 01.04.1996 to FY 2019-20. Depreciation may only be approved after due scrutiny of loan repayment of different plants of OHPC.
- OHPC has claimed expenses on O&M following clause no. 25 of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. OHPC has escalated approved O&M of different power stations for FY 2020-21 @5.72% to arrive at the O&M expenses for FY 2021-22. OHPC has deducted Rs. 10.075 Cr. from O&M expenses of UIHEP, Mukhiguda for FY 2021-22 on account of dam maintenance expense receivable from DoWR. The escalation factor may be approved as per the provisions given in OERC (Terms & Conditions for Determination of Generation Tariff) Regulation, 2020. The Commission may verify the amount to be received from DoWR towards Dam Maintenance Sharing of UIHEP.
- OHPC has claimed interest on working capital on normative basis as per provision under clause no. 24(4) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. Working capital may be approved based on approved O&M cost and annual fixed cost.

OBSERVATIONS OF THE STATE ADVISORY COMMITTEE (SAC) (PARA 142)

142. The 28th meeting of the State Advisory Committee (SAC) was held in online mode at 11.00 AM on 22.02.2021. Shri Prasanta Kumar Pradhan said that the Case No. 43 of 2017 in APTEL has to be considered while finalising the ARR. He also pointed out that a gap of Rs.258 cr in tariff which could not be realised because of Covid situation last year would have to be passed on this year. He added that the power purchase price of OHPC and NTPC is going up and the effect of this on BSP will be 9 -10 paise/ unit and this will put a pressure on tariff.

VIEWS OF GOVERNMENT OF ODISHA (PARA 143)

143. The Commission has sought views of Government of Odisha vide its Letter DIR(T)-405/21-22/313 dated 25.02.2021 on the issue of keeping in abeyance the effect of upvaluation of assets of OHPC. Since no reply has been received it is assumed that the moratorium on upvaluation shall continue for FY 2021-22 also.

**COMMISSION'S OBSERVATIONS AND ANALYSIS OF OHPC'S PROPOSAL
(PARA 144 TO 252)**

144. The Commission has carefully examined and analysed the proposal of OHPC. The written and oral submissions of the objectors have been considered while determining the tariff. The tariff proposal of OHPC contains technical parameters such as type of hydro stations, Normative Annual Plant Availability Factor (NAPAF), potential of energy generation and financial details like loans, capital cost, calculation of depreciation, interest etc. OHPC has furnished the technical and financial details in respect of each of the old power stations as well as of UIHEP. The station-wise apportionment of capital cost, audited figures for additional capitalisation, component wise O&M expenses in respect of all these stations have also been provided along with tariff calculations.
145. During the course of public hearing, the objectors had raised certain issues having direct impact on tariff of OHPC. Point-wise response was submitted by OHPC. Commission's analysis on the issues related to tariff of OHPC are discussed as under:
- Power Procurement from OHPC
 - Project Cost
 - Annual Fixed Cost
 - Two-part Tariff (Capacity Charge & Energy Charge)
 - Tariff for Chhatisgarh State Power Distribution Company Limited (CSPDCL)
 - Issues relating to Machhkund Hydro Electric Project
146. The Annual Revenue Requirement of OHPC power stations for FY 2021-22 have been determined based on OERC (Terms and Conditions of Determination of Generation Tariff) Regulations, 2020.

Power Procurement from OHPC

147. The design energy of OHPC approved by the Commission is 5676.00 MU. Auxiliary energy consumption for surface hydro electric power generating stations with static excitation system is considered at 0.5% of energy generated. Transformation loss from generation to transmission voltage is also to be calculated at 0.5% of energy generated. Accordingly, energy sent out from the generating stations of OHPC to GRIDCO has been determined by deducting 1% on gross generation after deduction of auxiliary consumption which comes to 5619.240 MU.

Machhkund

148. OHPC stated that this hydro power station is a joint project of Government of Odisha and Andhra Pradesh with an installed capacity of 120 MW (i.e. 17 MW x 3 = 51 MW and 23 MW x 3 = 69 MW). Therefore, the 30% Odisha share from MHEP amounting to 36 MW has been considered for computation of total Installed Capacity of OHPC with the design energy of 525 MU. Now, the drawl of 262.50 MU (50%) is proposed by GRIDCO based on the supplementary agreement between the concerned States. The Commission, therefore, approves 262.500 MU to be drawn from this station during 2021-22.

Other Stations

149. OHPC in the ARR petition has proposed for the revision of Design Energy of HHEP & CHEP on account of restriction in generation below 595 ft. at HHEP, Burla. OHPC has stated that it is constantly loosing energy charges for 31MU (i.e. 14.81MU for HHEP, Burla & 15.95MU for CHEP, Chiplima) every year on account of restriction in generation from Hirakud reservoir below 595ft. R.L by DoWR, Govt. of Odisha. OHPC has raised this issue in its earlier tariff applications with prayer to consider the reduction in design energy of HHEP, Burla & CHEP, Chiplima proportionately or allow compensation in accordance with the Clause No.11 of the Electricity Act, 2003.
150. The response of DoWR/ DoE is still awaited. After getting Notification from Govt. of Odisha the reduction of Design Energy of HHEP, Burla & CHEP, Chiplima can be made effective in the Tariff computation from the year of notification or retrospectively. Accordingly OHPC in the present ARR petition, has not considered reduction in Design Energy of HHEP, Burla & CHEP, Chiplima due to restriction in Generation at HHEP, Burla below RL 595ft in Hirakud Reservoir and pending decision from DoE/ DoWR.
151. OHPC has therefore proposed the following Design Energy for its Power stations for computation of tariff for the FY 2021-22 OHPC has further submitted that the deficit of secondary energy fund amounting to Rs 246.78Cr may be recognized.

Table - 33**(in MU)**

Sl. No.	Name of the Power Station	Design Energy approved for FY2020-21	Saleable Design Energy approved for FY 2020-21	Design Energy proposed for FY 2021-22	Saleable Design Energy proposed for FY 2021-22
1	RHEP	525.00	519.75	525.00	519.75
2	UKHEP	832.00	823.68	832.00	823.68
3	BHEP	1183.00	1171.17	1183.00	1171.17
4	HHEP	684.00	677.16	684.00	677.16
5	CHEP	490.00	485.10	490.00	485.10
Sub Total of Old Power Stations		3714.00	3676.86	3714.00	3676.86
6	UIHEP	1962.00	1942.38	1962.00	1942.38
Total		5676.00	5619.24	5676.00	5619.24

152. The said proposal is similar to the approval accorded by the Commission towards saleable Design Energy for last year's tariff FY 2020-21. The proposed Saleable Design Energy of different power stations of OHPC for FY 2021-22 as furnished in the Table above was analysed. The Commission after analysis approves Total Saleable Energy of OHPC power stations at 5619.24 MU. For Machkund power plant the Saleable Design Energy for FY 2021-22 is approved at 262.500 MU.

Project Cost

153. OHPC has submitted that the revalued cost of old power stations under OHPC was Rs. 1196.80 Crs. as on 01.04.1996 as per the Department of Energy, Government of Orissa of Notification vide S.R.O No. 254/96 Dt. 01.04.1996. The Commission in their order dated 23.03.2006 has approved the same. Further, the Commission, in the order dated 20.03.2008 approved Rs. 1195.42 Crs. as final capital cost of UIHEP for the purpose of determination of tariff. However, the Tariff of Old power stations were determined on the historical cost of old power station of OHPC for Rs. 479.80 Crores as per the Notification No. 1068 Dtd. 29.01.2003 of DoE, GoO.
154. OHPC has also made additional capitalisation as per clause 3.4 of OERC (Terms and Conditions for Determination of Tariff) Regulations, 2020 for different power stations for various associated works.
155. OHPC in view of the observation of the Commission in the Tariff Order of OHPC for the FY 2017-18 and assuming the extension of keeping in abeyance of the Upvaluation of Asset by the Govt. of Odisha for the Generators (OHPC) like previous years, has considered the Project Cost of old power stations equal to historic Cost as

on 01.04.1996 plus new additions after 01.04.1996 up to FY 2019-20 (audited) and calculated the ARR & Tariff of OHPC old power station for FY 2021-22. Accordingly the Project Cost of Rs 1245.87 Cr is considered by OHPC for calculation of ARR & Tariff of UIHEP for FY 2021-22.

Additional capitalisation

156. OHPC has stated that it has made additional capitalization as per Clause No 12 of OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 for different power stations for different works like Power House Electrical & Mechanical Works, Water Supply Installation, Electrical Installation, Buildings, Power House Civil Works, Hydraulic Works, Dam, Tunnel & substation equipments etc.
157. OHPC has stated that based on the Audited Accounts of FY2019-20 (prepared as per IND AS 2015), has considered the additional capitalization of Rs. 26.859 Crs for calculation of Tariff for FY2021-22 details of which is furnished in the following table.

Table - 34
New Additions (in Crs)

SL. No	Power Stations	New additions from 01.04.1996 to 31.03.2019 (Approved)	New additions during FY 2019-20 (Audited as per IND-AS 2015)	New additions proposed in Tariff calculation FY 2021-22
1	2	3	4	5=3+4
1	RHEP	59.33	2.072	61.402
2	UKHEP	21.54	5.614	27.154
3	BHEP	222.14	2.352	224.492
4	HHEP	263.50	2.406	265.906
5	CHEP	50.470	1.265	51.735
6	Sub Total	616.970	13.710	630.69
7	UIHEP	1237.63	13.149	1250.779
8	Total	1854.60	26.859	1881.47

158. The Commission had earlier approved new addition of Old Power Stations of OHPC from 01.04.1996 to 31.03.2019 at Rs 616.970 Crs and that of UIHEP as Rs1237.63Crs totaling to Rs1854.60 Crs upto FY 2018-19. After new additions as per the Audited Accounts of FY2019-20 amounting to Rs. 26.85 crore the total new additions proposed in the tariff calculation for FY 2021-22 is Rs. 1881.47 crore.

Decapitalisation

159. As regards decapitalisation OHPC has given the details of asset reduction of different power stations of OHPC from FY2011-12 to FY19-20 which is furnished in the following table:

Table- 35

(Rs. in Crs)				
Sl. No.	Power Stations	Asset reduction during the FY2011-12 to FY2018-19 (Approved)	Asset reduction during the FY 2019-20 (Audited)	Asset reduction during the FY 2011-12 to FY 2019-20
1	2	3	4	5=3+4
1	RHEP	0.08	0.009	0.089
2	UKHEP	0.48	0.014	0.494
3	BHEP	0.33	0.204	0.534
4	HHEP	11.50	0.011	11.511
5	CHEP	1.27	0.008	1.278
6	Sub Total	13.67	0.245	13.905
7	UIHEP	4.88	0.032	4.912
8	Total	18.55	0.277	18.817

160. The Commission had approved Rs18.55Crs as decapitalisation of the asset of different power stations of OHPC from FY2 011-12 to FY 2018-19. There is de-capitalization of Rs 0.245 Cr in case of Old power stations of OHPC & Rs 0.277Cr in case of UIHEP for FY 2019-20. Thus the total decapitalisation of Old power station from FY2011-12 to FY2019-20 is Rs13.905 Crs. which has been deducted from the Historic Cost. Similarly Rs. 4.912 Crs. towards decapitalisation of UIHEP has been deducted from its project cost for determination of Tariff.
161. The Commission had approved new additions of old power stations of OHPC from 01.04.1996 to 31.03.2018 as Rs.612.95 cr. and that of UIHEP as Rs.1231.50 cr. Thus the total approved new additions upto FY 2017-18 was Rs.1844.45 cr. Further OHPC has incurred new additions of Rs.5.278 cr. (4.03 cr. for old power stations and 1.255 cr. for UIHEP) as per INDAS-2015 audited accounts for FY 2018-19.
162. The Project Cost for Computation of Tariff for FY2021-22 considering the total approved (up to FY 2018-19) & audited expenditure for FY 2019-20 on account of Additional Capitalization & Decapitalization, proposed by OHPC is furnished in the Table below:

Table - 36
Project Cost for tariff Calculation for FY 2021-22

(Rs. in Crs.)

Name of the power stations	Historic Cost as on 01.04.1996	Asset reduction during FY 2011-12 to FY 2019-20	New additions proposed in Tariff calculation FY 2021-22	Project Cost considered Tariff calculation based on Historic Cost
1	2	3	4	5=2+4-3
RHEP	91.09	0.09	61.40	152.40
UKHEP	108.31	0.49	27.15	134.97
BHEP	115.42	0.53	224.49	339.38
HHEP	72.75	11.51	265.91	327.15
CHEP	92.23	1.28	51.74	142.69
Sub Total	479.80	13.90	630.69	1096.59
UIHEP	1194.79 (approved project cost)	4.91	55.99	1245.87
Total	1674.59	18.82	686.68	2342.45

163. In light of the above submissions, the Commission after scrutiny approves total capital cost of Rs.2342.45 Cr. (Rs. 1674.59 Cr. + Rs.686.68 cr. - Rs.18.82 Cr) upto 31st March 2020 which is considered for the tariff calculation of 2021-22.
164. The Commission has also not considered the effect of up-valuation of assets in determining the Tariff and ARR for FY 2021-22 in view of the principles adopted by the Commission for fixation of tariff which is continued for the year 2021-22.

Determination of Tariff

Interest on Loan:

165. OHPC stated that the loan liabilities of OHPC consist of State Government loan and Normative Loans.

State Government Loan (UIHEP)

In case of old stations of OHPC as on date there is no outstanding loan liability. In case of UIHEP there is a component of state government loan and the balance is considered as normative loan provided by OHPC.

Capital cost of UIHEP as approved by the Commission earlier is Rs.1194.79 Cr.

Breakup of UIHEP approved project cost

Govt. loan	:	Rs.497.86 cr.
PFC loan	:	Rs.319.49 cr,
Equity	:	Rs.298.70 cr.
Normative loan (Balancing figure)	:	Rs.78.74 cr.

Total : **Rs.1194.79 cr.**

166. OHPC stated that the OERC approved the Original project cost of UIHEP as Rs1194.79 Crs out of which 90% of the project cost (i.e. Rs. 1075.311Crs) is to be recovered through depreciation. Since the last Unit (i.e. Unit No.4) of UIHEP was commercialized on 19.04.2001, the FY 2001-02 is considered as the year of Commercialization for UIHEP. The useful life of the Hydro power station is considered as 40 years from the date of CoD of the power stations as per new regulations, 2020. As a result during its useful life period of the project the loan liability has to be recovered through tariff. As such, all the loan liability including interest of UIHEP should be recovered by the FY2039-40.
167. OHPC has not considered the impact of Interest on UIHEP Govt. Loan; Interest on Normative Loan of Rs78.74 Crs. Also OHPC has not claimed the Cumulative interest of these two loans as regulatory assets in view of the above directions of the Commission.
168. Present Status of UIHEP Govt. Loan based on the approvals of the Commission is given in the following table:-

Table - 37

	(Rs. in Cr.)
Original Approved Project Cost	1195.42
Project cost after deducting the infirm power cost	1194.79
Equity @25%	298.70
Govt. Loan of UIHEP	497.86
Depreciation allowed from 2010-11 to 2020-21 @ Rs30.23 Crore	332.53
Loan Repayment made till FY 2019 -20 & to be paid for FY2020-21	332.53
Balance Outstanding Loan as on 01.04.2021	165.33
Cumulative interest on UIHEP Govt. Loan from FY 2006-07 to FY 2020-21 @ 7%	394.73 Crore(Govt. proposed to consider as regulatory asset)
Cumulative interest on normative loan from FY 2001-02 to FY 2020-21 @ 7%	118.39 Crore (Not paid)

169. PFC loan of Rs 319.49 has already been repaid in full by FY 2009-10. OHPC has so far paid Rs302.30 Cr to Govt. by March 2020. The depreciation approved for FY 2020-21 for Rs 30.23 Cr shall be paid by the end of this Financial Year (2020-21).
170. Interest on UIHEP Loan has been provided by OHPC in its books of account every year as per the direction the Commission in the tariff order of OHPC for FY2015-16. Therefore, the cumulative interest of UIHEP, Govt. Loan up to FY 2020-21 stands at Rs 394.73Cr.

Normative Loans of different Power Stations due to Additional Capitalization

171. OHPC has stated that though, 9.8% State Govt. loan has been repaid, the normative loans of the respective units are still pending. The normative loans of CHEP, RHEP & UKHEP is considered @ 9.8% as per Clause No. 22 of OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020. The normative loan of BHEP, Balimela is considered @ 9.6 % for FY 2021-22 based on PFC interest rate applicable to BHEP. Similarly, the normative loan of HHEP, Burla is considered @ 8.75 % for FY 2021-22 based on PFC interest rate applicable to HHEP, Burla. The Normative loan of UIHEP due to the additional capitalization based on audited accounts of FY 2019-20 is considered @7% being the prevailing rate of interest for State Govt. Loan as per the OERC tariff norms.
172. As regards the Normative Loan of Rs 78.74Crs of UIHEP, OHPC stated that based on the earlier directions of the Commission OHPC has not considered the impact of interest on Govt Loan & Normative Loan of UIHEP in the Tariff Calculation of OHPC for the FY2021-22. Similarly OHPC has not claimed the accumulated interest on Govt Loan & Normative Loan of UIHEP as regulatory asset in view of the directives of the OERC in this regard.
173. Considering the above facts, the unit wise interest on loans as described above, the amount proposed by the OHPC for the FY 2021-22 is presented in the following table:

Table – 38
Interest on Loan for the FY 2021-22

(Rs. In Crs)

Sl. No.	Source of loan	Interest on loan for FY 2021-22						TOTAL
		RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	
1.	Normative loan	0.854	0.446	0.383	1.590	0.171	1.522	4.968
2.	Govt. Loan	-	-	-	-	-	-	-
	Total	0.854	0.446	0.383	1.590	0.171	1.522	4.968

174. The Commission after analysis of the same approves an interest payment of Rs.4.968 cr. for all stations of OHPC for FY 2021-22. The corresponding figure for the last year was Rs.5.213 cr.

Depreciation:

175. OHPC has stated that earlier, upto FY 2000-01, the depreciation was being calculated on the prevalent norms i.e. post'94 rate. Such calculation substantially raised the revenue requirement due to upfront loading. Thereafter, since 2001-02, as a part of corrective measures depreciation was limited to the principal loan repayment during a particular year. However, during 2003-04, as per the directions of the High Court of Orissa, depreciation was calculated at pre-1992 norms notified by Govt. of India on the book value of the assets. During 2004-05 again, the Commission calculated depreciation limiting to principal repayment.
176. The OERC (Generation Tariff) Regulation, 2020 provides for the calculation of depreciation at pre-1992 norms notified by Government of India on the book value of the assets.
177. Accordingly OHPC has computed depreciation for the FY 2021-22 at the pre-92 rates of 2.57% on the Historic project cost as on 01.04.1996 (excluding de-capitalization) plus additional capitalization w.e.f. 01.04.1996 up to FY 2019-20. For UIHEP the de-capitalization is deducted from the Original project cost approved by the Commission. Based on the recent tariff approvals of the Commission in the Unit wise depreciation so calculated is compared with the Loan repayment and the amount whichever is higher is considered as depreciation for Tariff computation.
178. OHPC stated that as regards depreciation of UIHEP the Commission is allowing Rs.30.23 Cr annually under depreciation for repayment of State Govt. loan starting from the FY2010-11 onwards. Besides that an amount of Rs.7.311 Cr has also been paid towards repayment of principal on account of additional capitalization. Thus, the total repayment of loan allowed in case of UIHEP is = Rs.37.54 Cr. (Rs.30.23 + Rs.7.311cr). Accordingly, depreciation claimed by OHPC for FY 2021-22 is summarized in the following table :

Table – 39
Depreciation for 2021-22

(Rs. In Cr.)

Sl. No.	Power Stations	Project Cost	Loan Repayment Amount	Depreciation @ 2.57%	Depreciation Claimed	Remark
1.	RHEP	152.40	3.99	3.92	3.99	Equal to loan Repayment
2.	UKHEP	134.97	1.16	3.47	3.47	Depreciation @ 2.57%
3.	BHEP	339.38	1.41	8.72	8.72	Depreciation @ 2.57%
4.	HHEP	327.15	8.26	8.41	8.41	Depreciation @ 2.57%
5.	CHEP	142.69	0.61	3.67	3.67	Depreciation @ 2.57%
6.	UIHEP	1245.87	37.54	32.02	37.54	Equal to loan Repayment
Total		2342.45	52.99	60.20	65.80	

179. The Commission has analysed the submission of the OHPC towards claim of depreciation in the ARR. As per the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 the depreciation shall be computed from the date of commercial operation of generation station or unit thereof. The values base for the purpose of depreciation shall be the capital cost of the assets admitted by the Commission. The Regulation further provides that for existing plants of OHPC as per the direction of the High Court of Orissa, depreciation will be calculated at pre-1992 norms notified by Government of India on the book value of assets.
180. The OHPC in the above table have calculated the depreciation taking into account the depreciation at pre-1992 notified value of 2.57% (Rs.60.20 crore) and compared it with the loan repayment obligation (Rs.52.99 crore). The final claim is the highest of the two there by claiming Rs.65.80 crore for the ARR calculation. Some of the objectors have submitted that the depreciation shall be limited to the loan repayment obligation. However, since the depreciation is essential towards both the loan obligation and replacement of old assets, the Commission after analysis allows the depreciation of Rs.60.20 crore for the ARR of 2021-22.

Return on Equity (RoE) and Income Tax

181. OHPC stated that the Commission in it's tariff order dtd.19th April, 2002 in Case No. 65 of 2001 and Case No. 04 of 2002 vide Para 6.4.17 decided the equity component of

OHPC. Based on the above order and subsequent Government Notification dtd.29.01.2003, the Return on Equity was allowed to OHPC on new investments made after 01.04.1996.

182. The OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 Clause No. 20(2) provides for the mechanism of allowing ROE which is reproduced as follows:

“Provided that return on equity in case of OPGC (Unit - I & II) and OHPC stations shall be as per the provisions of the PPA.”

183. The Commission in the recent past years has approved the Return on Equity as per the provisions of PPA. OHPC in the present Tariff has followed the same principle for computation of RoE. Also according to provisions made in Clause No. 21(1) OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 the income tax of the Generating Company shall be recovered from the beneficiaries (This will exclude income tax on other streams i.e. from non-generation business).

184. The Commission, in the order dated 20.03.2008 has approved Rs. 1194.79 Crs. as final capital cost of UIHEP for the purpose of determination of tariff. Since UIHEP was commissioned after 01.04.1996, the investment in UIHEP is considered as new investment. Equity Base for Govt. investment in UIHEP was considered as Rs 298.70 Crs (i.e.25% of the project cost). Any decapitalization made in UIHEP is deducted from the Original Approved Cost and Equity is calculated @25% on balance Original Project Cost after deduction of decapitalization. However for further additional capitalization over Original Project Cost by OHPC, the equity base of 30% has been considered as per the provision in clause No. 16 of OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020. The Commission has approved the same in the past years. OHPC has considered the same principle in the present tariff for the FY 2021-22.

185. OHPC further stated that in case of Old power Stations OHPC has computed the Equity Base considering approved Additional Capitalization from 1996-97 onwards upto 2018-19 & audited cost for capitalization for FY 2019-20. 30% of these additional capitalization are considered as Equity Base as per the provision in clause No. 16 of OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020.

186. OHPC had paid Rs.48.2469 Crs towards income tax for FY 2019-20 on the core business. This has been reflected in the audited accounts of OHPC.
187. The details of computation of RoE for different power stations of OHPC for the FY 2021-22 as per the OERC (Terms & Conditions for determination of Tariff) regulations, 2020 is furnished in the following table:

Table - 40
Computation of RoE for different power stations of OHPC for FY 2021-22:-
(Rs. in Crs.)

Name of the Power Station	Capital Addition considered for RoE for FY 2020-21 (in Crs)	Share of Equity (%)	Value of Equity capital (in Crs)	ROE @16% Proposed for 2021-22 (in Crs)
1	2	3	4=2*3	5=16% of 4
RHEP	61.402	30	18.421	2.947
UKHEP	27.154	30	8.146	1.303
BHEP	224.492	30	67.348	10.776
HHEP	265.906	30	79.772	12.764
CHEP	51.735	30	15.521	2.483
UIHEP	1245.87	25&30	314.267	50.283
Total	1876.56		503.474	80.556

188. ROE on UIHEP the project is to be calculated as per the given table.

Table - 41

Description	Amount in Crore
Project Cost	1194.79
Decapitalisation (Less)	4.912
Additional Capitalisation (Add)	55.19
Total Project Cost	1245.87
Equity Capital considered (25% of Project cost minus Decapitalisation i.e. Rs 1189.87cr)	297.46
Add 30% equity towards net additional capitalization of Rs. 55.19cr	16.79
Total Equity of UIHEP	314.26

189. The Commission has analysed claim of Return of Equity by OHPC in the tariff petition for FY 2021-22. The OERC (Terms and conditions for determination of Generation Tariff) Regulations, 2020 provides that the Return on Equity shall be computed at the base rate of 14% for all generating stations. However, the Regulation further provides that the RoE in case of OHPC stations shall be as per provisions of the PPA. The Commission scrutinised the PPA of the OHPC plants and it is found that for old plants the Return on Equity is 15.5% and for UIHEP the RoE is

16%. Accordingly, the RoE calculation has been carried out on such percentage of RoE which is shown in the following table:

Table - 42
Return on Equity for FY 2021-22

(Rs. in Cr.)

Sl. No.	Name of the Power Stations	Total Additional Capitalisation from 01.04.1996 to 31.03.2020	Equity Capital rate	Equity Capital	ROE for the FY 2021-22
	1	2	3	4	5
1	RHEP	61.40	30%	18.421	2.855
2	UKHEP	27.15	30%	8.146	1.263
3	BHEP	224.49	30%	67.348	10.439
4	HHEP	265.91	30%	79.772	12.365
5	CHEP	51.74	30%	15.521	2.406
6	UIHEP*	1245.87	25% & 30%*	314.267	50.283
7	Total	1876.56		503.474	79.610

190. The Commission approves return on equity for all stations of OHPC amounting to Rs.79.610 Cr. for the FY 2021-22.

O&M Expenses

191. OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 at clause no. 25 stipulates the following under the head Operation and Maintenance Expenses for hydro generating stations as follows:

“In case of the hydro generating stations declared under commercial operation on or after 01.04.2014, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation & resettlement works) and shall be subject to annual escalation of 5.72% per annum for the subsequent years.”

“O&M norms for the existing plants of OPGC(UNIT-I & UNIT-II) & OHPC will be determined by the commission from time to time.”

192. In the ARR calculation OHPC for computation of O&M Expense of different power stations of OHPC for the FY 2021-22 has escalated the approved O&M expenses for FY 2020-21 @ 5.72%. OHPC has also deducted an amount of Rs10.075Crs from the O&M Expense of UIHEP, Mukhiguda towards the Dam Maintenance Expense received from DoWR for the FY 2019-20 while computing the O&M expenses of UIHEP for FY 2021-22. The following table summarizes such O & M Expenses.

Table- 43
Statement of O & M Expenses for different power stations of OHPC for FY 2021-22

(Rs. Crs.)

Sl. No.	Particulars	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	CO	Total
1	O & M expenses for FY 2020-21 Approved by OERC.	53.19	54.56	47.64	57.35	27.58	240.32	87.48	27.69	355.49
2	O & M expenses for FY 2021-22 with escalation @ 5.72% over FY 2020-21	56.23	57.68	50.37	60.63	29.16	254.07	92.48	29.27	375.82
3	Corporate Office expenses apportioned to different units under OHPC based on Installed Capacity	3.61	4.62	7.36	3.98	1.04	20.61	8.66	29.27	
4	Total O & M Expenses for the FY 2021-22	59.84	62.30	57.73	64.61	30.20	274.68	101.15		375.82
Less: Amount Received from DoWR.										
5	Less : Income to be received from DOWR towards dam maintenance of UIHEP							(-) 10.075		(-) 10.075
6	Total O&M Expenses for the FY 2021-22.	59.84	62.30	57.73	64.61	30.20	274.68	91.072		365.749

193. The Commission after scrutiny approves an amount of Rs.365.74 Cr. as O & M expenses for the year 2021-22 as proposed by OHPC. The corresponding approval figure for the FY 2020-21 was Rs.346.17 cr.

Interest on Working Capital

194. The OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 stipulates the following towards computation of interest on working capital which is reproduced as follows:

“Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken loan for working capital from any outside agency.”

195. OHPC in its ARR petition for the FY2021-22 has computed Interest on Working Capital of different power station as per the previous approval of the Commission.

Further the Regulation at clause no. 24(3) stipulates the following regarding rate of interest on working capital for OHPC

“Rate of interest on working capital shall be on normative basis and shall be equal to the Bank Rate as on 01.04.2020 or on 1st April of the year in which the generating station or a unit thereof, is declared under commercial operation, whichever is later.”

196. Regulation at clause clause no. 3(1)(h) stipulates the following regarding the bank rate:

“Bank Rate means the one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 300 basis points.”

197. The MCLR as on 1st April 2020 of SBI for one year was 7.75%. OHPC has considered such MCLR rate of SBI as on 01.04.2019 plus 300 basis point for computation of Interest on working capital.

198. Interest on working Capital of different power stations of OHPC for the FY 2021-22 as indicated in the following table:

Table- 44
Interest on Working Capital for FY 2021-22

(Rs. in Crs.)

Sl. No	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	Receivables of fixed cost	11.73	11.72	13.42	15.10	6.33	58.30	31.01	89.31
2	Maintenance spares @ 15% of O&M expenses	8.98	9.35	8.66	9.69	4.53	41.20	13.66	54.86
3	O&M expenses for one month	4.99	5.19	4.81	5.38	2.52	22.89	7.59	30.48
4	Total working capital	25.70	26.26	26.89	30.18	13.37	122.39	52.26	174.65
5	Interest on working capital calculated @ 10.75%	2.762	2.823	2.890	3.244	1.437	13.157	5.618	18.775

199. The commission analysed the submission the OHPC towards interest on working capital. The OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 provides that the working capital for hydro generating stations shall cover receivables equivalent to 45 days of fixed cost, maintenance spares @ 15% of O&M expenses and O&M expenses for one month including security expenses. The rate of interest on working capital shall be on normative basis and shall be equal to the bank rate as on 01.04.2020. The Commission accordingly arrived at the interest on working capital taking the provisions of the Regulation which is given in the following table.

Table - 45
Interest on Working Capital for the FY 2021-22

		(Rs. in Crs.)							
Sl. No.	Description	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total
1	O & M Expenses for One Month	4.99	5.19	4.81	5.38	2.52	22.89	7.59	30.48
2	Maintenance spares @15% of O & M Expenses	8.98	9.35	8.66	9.69	4.53	41.20	13.66	54.86
3	Receivable equivalent to 45 days of Annual Fixed Cost	8.68	8.67	9.92	11.17	4.68	43.13	22.94	66.06
4	Total Working Capital	22.64	23.21	23.39	26.25	11.73	107.22	44.19	151.40
5	Interest on Working Capital calculated @ 10.75%	2.434	2.495	2.515	2.822	1.260	11.526	4.750	16.276

200. The Commission approves an amount of Rs.16.276 Cr. as interest on working capital for the year 2021-22.

Non Tariff Income

201. The OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 has stipulated as follows regarding Non- Tariff Income:

NON-TARIFF INCOME

- (1) *The amount of Non-Tariff Income of the Generating Company as approved by the Commission in accordance with Regulation 41 shall be deducted while determining its Annual Fixed Charge:*

Provided that the Generating Company shall submit full details of its forecast of Non-Tariff Income to the Commission in such form as may be stipulated by the Commission.

- (2) *The Non-Tariff Income shall include: (a) Income from rent of land or buildings; (b) Income from sale of scrap; 36 (c) Income from investments; (d) Income from sale of ash/rejected coal; (e) Interest income on advances to suppliers/contractors; (f) Net Income from supply of electricity by the Generating Company to the housing colonies of its operating staff and supply of electricity by the Generating Company for construction works at the generating Station, after adjusting the expenses incurred for supply of such electricity; (g) Income from rental from staff quarters; (h) Income from rental from contractors; (i) Income from hire charges from contactors and others; (j) Income from advertisements; (k) Income from sale of tender documents; (l) Any other Non-Tariff Income.*

202. The Commission scrutinized the Non tariff income earned by the OHPC as shown in the available audited accounts for FY 2019-20. It was revealed from the audited accounts that OHPC has shown under Other Income head Rs. 210.09 crore as on year ended 31st march 2020. Out of such income the interest on bank deposit is Rs. 118.78 crore. As per the OERC Generation regulation 2020 this amounts is required to be

deducted from the calculated Annual Fixed Cost while determining the ARR for FY 2021-22. The Commission in the present tariff has taken into consideration Rs. 30 crore of non tariff income while arriving at the Annual Fixed Cost with a consideration that the existing tariff is not impacted appreciably. However the Commission hereby directs that in the subsequent ARR petition for FY 2022-23 and onwards the OHPC shall take into account the Non tariff income while computing the Annual Fixed Cost complying with the provisions of the Regulation in this regard.

Total Annual Fixed Cost

203. Based on the above parameters the power station wise ARR and tariff of OHPC have been calculated for the FY 2021-22. The values of ARR along with its different components and the average tariff computed considering the total Saleable Design Energy of 5619.24MU for the FY 2021-22 is shown in the following table.

Table - 46
Station wise ARR and Tariff for the FY 2021-22 considering saleable D.E. of 5619.24 MU

Components	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total FY 2021-22
Saleable Design Energy (MU)	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24
Return on Equity	2.86	1.26	10.44	12.36	2.41	29.33	50.28	79.61
Interest on Loan	0.85	0.45	0.38	1.59	0.17	3.45	1.52	4.97
Depreciation	3.92	3.47	8.72	8.41	3.67	28.18	32.02	60.20
O & M expenses	59.84	62.30	57.73	64.61	30.20	274.68	91.07	365.75
Interest on Working Capital	2.43	2.49	2.51	2.81	1.26	11.49	4.66	16.15
Total Cost	69.90	69.97	79.78	89.78	37.70	347.12	179.56	526.68
Deduct Non Tariff Income	3.32	3.32	3.79	4.26	1.79	16.48	8.52	25.00
Total ARR	66.58	66.65	75.99	85.52	35.91	330.65	171.04	501.68
Average Tariff (P/U) for 2021-22	128.10	80.91	64.89	126.29	74.02	89.93	88.06	89.28

204. The Commission approves total ARR of Rs.501.68 crs. at an average price of 89.28 p/u as against proposed ARR of Rs.535.846 cr. @ 95.36 p/u.

Reimbursements for FY 2021-22

ARR & Tariff Application Fees and related Publication Expenses

205. OHPC stated that the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 under the head Application and Publication Expenses has stipulated the following:

“The application filing fee and the expenses incurred on publication of notices in the application for approval of Tariff, may in discretion of the Commission, be allowed to be recovered by the generating company, directly from the beneficiaries.”

206. As per the Commission’s Notification No. 1992 on Dt. 31.08.2009 in the Clause No. 17, the fee has been fixed of Rs. 5, 000/- per MW as application fee for determination of tariff of conventional fuel based plant/Hydel Plants, subject to maximum limit of Rs. 25, 00, 000/- (Rupees Twenty Five Lakhs Only). In consideration of the above order, OHPC has to deposit application fee of Rs. 25 Lakhs for the FY2021-22.

OHPC has thus submitted to allow it to be recovered the same amount from GRIDCO.

207. OHPC further stated that out of expenditure of Rs1.49990 Lakhs towards publication expense during Tariff approval of OHPC for the FY2020-21 the approval for the same was Rs1.20 Lakhs. The difference of Rs0.299Lakhs may be allowed in the present tariff. Similarly a difference of Rs 0.20892 lakhs for FY2019-20 (expenditure of Rs1.40892 Lakhs minus approval of Rs1.20Lakhs) may also be allowed .
208. OHPC in the ARR petition has proposed Rs1.50 Lakhs as reimbursement towards publication expenses for FY2021-22. Therefore the total approval of Rs26.70 Lakhs may be allowed to be reimbursed from GRIDCO the details of which are given in the following table.

Table – 47
Application Fee & Publication Expenses
(Rs. in Lakhs)

Sl. No.	Particulars	Amount to be reimbursed
1	Application fee for FY2021-22	25.00
2	Publication expenses for FY2021-22	1.50
3	Differential Publication Expense of FY2019-20	0.209
3	Differential Publication Expense of FY2020-21	0.299
	Total	27.008

209. In view of the above, OHPC has claimed Rs.27.00 lakhs towards the Application Fee & Publication Expenses. The commission after scrutiny approves Rs.27.00 lakhs as reimbursement towards application fee and publication expenses as pass through in the ARR of GRIDCO for FY 2021-22.

License fee for use of water for generation of Electricity:

210. OHPC submitted that as per the Revenue & Disaster Management Department amended Odisha Irrigation (Amendment) Rule, 2016 published in Odisha Gazette on

27.09.2016 the license fee for drawl or allocation of water was enhanced @10% per annum w.e.f 1st day of April. Accordingly the water cess paid by OHPC at the notified rates was reimbursed from GRIDCO. OHPC will pay Licence Fee@1.5 paise/ unit on water used for generation of electricity for FY 2021-22 which is projected in the following table.

Table - 48
Licence Fee on water used for generation of electricity for OHPC Power station for FY 2021-22

Power Stations	Design Energy (in MU)	Licence Fee on water Proposed by OHPC @0.015Rs/Kwh of Generation (in Crs)	Remarks
RHEP	525	0.788	OHPC will claim reimbursement @Rs 0.015/Kwh on actual generation of each Power Station.
UKHEP	832	1.248	
BHEP	1183	1.775	
HHEP	684	1.026	
CHEP	490	0.735	
UIHEP	1962	2.943	
Total	5676	8.514	

211. The Commission considered the above proposal of OHPC and provisionally approves an amount of Rs.8.51 cr. mentioned in the table above to be reimbursed from GRIDCO in the FY 2021-22 based on the design energy of OHPC power stations @1.5 p/KWh.

212. Electricity Duty on Auxiliary Consumption

a) Reimbursement of ED on AUX for the FY 2021-22.

As per the agreed PPA, the taxes and duties including ED on auxiliary consumption etc payable by OHPC to the State Government and other statutory bodies shall be passed on to GRIDCO in the shape of supplementary bill raised by OHPC. GRIDCO will make payment accordingly within 30 days of receipt of bills.

The State Govt in the Dept. of Energy has revised the rate of ED vide notification No.912 dated the 12.05.2017. Accordingly, the Rate of Electricity Duty / Unit has been revised from 30 paise per Unit to 55 paise per Unit with effect from 12th May 2017 as per the Gazette Notification No. 912 dtd. 12.05.2017. Accordingly OHPC has computed ED @55paise per Unit for all power station for FY 2021-22 as reimbursement.

Table - 49
ED for OHPC Power station for FY 2021-22

Power Stations	Design Energy (in MU)	Proposed Percentage of Auxiliary Energy Consumption (in %)	Auxiliary Energy Consumption to be approved (in MU)	ED Rate Applicable (in Rs/Unit)	ED proposed for Reimbursement by OHPC @55p/u & AUX @1% (in Crs)
RHEP	525	1	5.25	0.55	0.289
UKHEP	832	1	8.32	0.55	0.458
BHEP	1183	1	11.83	0.55	0.651
HHEP	684	1	6.84	0.55	0.376
CHEP	490	1	4.90	0.55	0.270
UIHEP	1962	1	19.62	0.55	1.079
Total	5676	1	56.76	0.55	3.122

OHPC has thus submitted to approve reimbursement of ED amounting to Rs3.122Cr for the FY 2021-22 from GRIDCO in the ARR.

b) Differential Reimbursement of ED on AUX for FY2016-17:

As per the Odisha Electricity (Duty) Amendment Act, 2016 vide their Gazette Notification No. 1981 Dtd. 05.11.2016 and subsequent implementation of Odisha Electricity (Duty) Amendment Rules, 2017 by Govt. of Odisha in Dept. of Energy vide Notification No.617 dated 24.01.2017, OHPC Power Stations are paying the Electricity Duty in “J” format, where Electricity Duty is payable on total Energy Generated minus total Energy Sold from the FY 2017-18. The Commission in the Tariff Order of OHPC for the FY 2018-19 had accepted the proposal of OHPC towards reimbursement of ED on 1% AUX for the FY 2017-18 and approved the differential ED reimbursement of Rs 2.11 Crores for the FY 2017-18 along with Rs 3.122 Crores for the FY 2018-19 totaling to Rs 5.232 Crores for reimbursement.

OHPC states that though OHPC Power Stations had started depositing ED on actual AUX (auxiliary equipment consumption + transformer losses within the Power Station) during the FY 2017-18, but have not deposited the ED on transformer losses portion from 05.11.2016 i.e. from the date the Odisha Electricity (Duty) Amendment Act, 2016 was made enforced in the State and up to 31.03.2017 during the FY 2016-17.

OHPC in its earlier Tariff Application had not claimed differential ED of individual power stations from 05.11.2016 to 31.03.2017 as per the Odisha Electricity (Duty) Amendment Act, 2016 vide their Gazette Notification No. 1981 Dtd. 05.11.2016 and

Odisha Electricity (Duty) Amendment Rules, 2017 by Govt. of Odisha in Dept. of Energy vide Notification No.617 dated 24.01.2017.

Meanwhile Indian Audit and Accounts Department vide its POM No.3 dated 07.07.2020 had raised a para on “Loss to the Government Exchequer due to less payment of Electricity Duty of Rs5.07Cr by deviating Odisha Electricity (Duty) Amendment Rule2017.” Accordingly all the OHPC Power Stations have been instructed to deposit the differential ED to the Govt. of Odisha as per the J-format on actual AUX (i.e. Total Generation – Total Energy Sold). Since approval by OERC for reimbursement of ED for the FY 2016-17 was limited upto 0.5% of the gross generation, OHPC was unable to reimburse ED on AUX upto 1% of gross generation for the period from 05.11.2016 to 31.03.2017 during the FY 2016-17.

213. In view of the above OHPC in the present Tariff Application submitted the proposal for the differential ED reimbursement of individual Power Stations for the period from 05.11.2016 to 31.03.2017 as follows:

Table – 50
Differential ED for OHPC Power station for FY 2016-17

(Rs. in Crore)

Power Stations	Design Energy (in MU)	ED approved for FY2016-17 @0.5% of Design Energy & @30p/u	ED for 218days (from 01.04.2016 to 04.11.2016) @0.5% of DE and @30p/u	ED for 147days (from 05.11.2016 to 31.03.2017) @1.0% of DE and @30p/u	Total ED revised proposal as per Govt. Notification	Differential ED of FY2016-17 proposed for reimbursement in the Tariff Application of FY2021-22
1	2	3	4	5	6=4+5	7=6-3
RHEP	525.000	0.079	0.047	0.158	0.205	0.126
UKHEP	832.000	0.125	0.075	0.250	0.324	0.199
BHEP	1183.000	0.177	0.106	0.355	0.461	0.284
HHEP	684.000	0.103	0.061	0.205	0.266	0.163
CHEP	490.000	0.074	0.044	0.147	0.191	0.117
UIHEP	1962.000	0.294	0.176	0.589	0.764	0.470
Total	5676.000	0.852	0.509	1.703	2.211	1.359

214. In view of the above explanations OHPC have submitted to approve the total ED reimbursements of Rs 4.481 Cr for the FY 2016-17 and FY 2021-22 as furnished in the following table below:

Table - 51
ED on Auxiliary consumption

(Rs. in Lakhs)

Sl. No.	Particulars	Amount to be reimbursed
1	ED on Auxiliary Consumption for FY2021-22	3.122

2	Differential ED on Auxiliary Consumption for FY2016-17	1.359
	Total	4.481

215. In view of the submissions of the OHPC for allowing differential ED for the FY 2016-17 & FY 2021-22 the commission allows an amount of Rs.4.481 Cr. which shall be reimbursed by GRIDCO to OHPC on account of ED on auxiliary consumption and transformation loss for the years 2021-22.

SLDC Charges

216. OHPC submitted that as per OERC (Fees & Charges of State Load Dispatch Centre and Other Related Matters) Regulations, 2010 SLDC has to levy and collect annual charges from the users towards system operation charges and market operation charges. The Commission fixed Rs.7022.14/MW/Annum to be collected from the generators towards annual charges of SLDC for the FY2020-21. Considering the average available capacity of 1700 MW of OHPC (as submitted by SLDC in its ARR application), the total SLDC charges of OHPC had been approved for Rs.1.19 crs. for the FY 2020-21, which is to be collected by SLDC from OHPC on monthly basis and OHPC has to reimburse the same from GRIDCO.
217. OHPC stated that for FY 2021-22, the previous year approved charges applicable to OHPC has been escalated @5.72% to arrive at the charges payable for FY 2021-22. Accordingly, Rs. 1.2580 Crs. has been proposed as fees & charges of SLDC payable by OHPC on the average available Installed Capacity of 1708 MW of OHPC Power Stations for the FY 2021-22 considering the shutdown of different generating units on account of Renovation & Modernization & other planned maintenance.
218. The Commission in light of such submission provisionally approves Rs 1.25 Cr to be reimbursed from GRIDCO by OHPC towards payment of SLDC fees & charges for the FY 2021-22 considering 1708 MW towards average available Capacity of OHPC power Stations for the FY 2021-22.

Reimbursement of contribution made to ERPC

219. OHPC submitted that it is contributing towards ERPC establishment fund & ERPC fund from the FY 2006-07 onwards as per their demand note. Annually OHPC is paying Rs.15 Lakhs towards contribution to ERPC Establishment Fund & Rs 01 Lakh towards contribution to ERPC Fund. Assuming the same claim of ERPC, OHPC has

claimed this amount of Rs 16.0 Lakhs as a pass through in the tariff for FY 2021-22 to be reimbursed from GRIDCO. Any excess claim (above Rs16.0 Lakhs) made by ERPC for the FY 2021-22 will be claimed as additional reimbursement in the subsequent Tariff year.

220. The Commission approves a total reimbursement claim for an amount of Rs.0.16 cr. towards ERPC contribution for FY 2021-22 from GRIDCO.

Income Tax

221. OHPC submitted that the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020 at clause no. 21 under the head Tax on Income stipulates the following:

“Income tax of the Generating Company shall be recovered from the beneficiaries. This will exclude income tax on other income streams (income from non-generation and non-transmission business.”

Income Tax paid by OHPC for the FY2019-20 is detailed below:

Table- 52

Particulars	Amount (Rs in Lakhs)	Amount of TAX Paid @34.9444% (Rs in Lakhs)
Core Income	56286.98	4824.69
Non-Core Income (FD interest)	11878.49	4150.82
Total income before meeting all expenses.	68165.47	8975.51

222. Accordingly OHPC is entitled to get reimbursement of Rs 48.2469 Crs towards income tax for FY 2019-20 on core business amounting to Rs 562.8698Cr. OHPC therefore submitted to approve a total claim of Rs 48.2469Crs from GRIDCO in the Tariff of OHPC for FY 2021-22 towards reimbursement of Income Tax as per the Audited Accounts of FY2019-20.

223. The Commission has examined the Audited Accounts of OHPC for FY 2019-20. It is revealed from the audited balance sheet that out of total profit before tax (PBIT) of Rs.246.60 cr. interest of Rs.118.78 cr. has been earned on fixed deposits(non-core activities). Applying the applicable tax rate (of 34.9444%) on this amount the tax amount comes to rs.46.84 cr. on non-core activities. Thus after excluding Rs.46.84 cr. from the total income tax of Rs.89.75 cr. paid during FY 2019-20, the balance of Rs.42.90 cr. is the tax on core business. Therefore, the Commission approves Rs.42.90 cr. towards income tax as reimbursement claim from GRIDCO.

224. The details of reimbursement claim from GRIDCO towards ED on auxiliary consumption, license fee for use of water for generation of electricity, SLDC charges, Application fee and publication expenses, ERPC Charges, Income Tax on Core business and amount paid towards additional 20% share of Machhkund Project to be reimbursed from GRIDCO for FY 2021-22 of OHPC are summarized in the table below:

Table – 53
Details of Reimbursement for FY 2021-22 (Rs. Cr.)

Component of Costs	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
(a) License fee for use of water for generation of electricity for FY 2021-22.	0.788	1.248	1.775	1.026	0.735	2.943	8.514
(b) ED on Auxiliary Energy Consumption for FY2021-22.	0.289	0.458	0.651	0.376	0.27	1.079	3.122
(c) Differential ED on Auxiliary Energy Consumption for period 05.11.2016 to 31.03.2017.	0.126	0.199	0.284	0.163	0.117	0.47	1.359
(d) SLDC charges							1.370
(e) Application fees and publication expenses for FY2021-22							0.265
(f) Differential publication expenses for FY2019-20							0.021
(g) Differential publication expenses for FY2020-21							0.029
(h) ERPC charges							0.160
(i) Income Tax as per Audited Account of FY 2019-20							42.900
(j) Reimbursement towards additional 20% share of Machhkund Project							27.420
Total							85.160

225. In light of the above, the Commission approves the total reimbursement of Rs.85.160 Crore. The above expenditure is to be included in GRIDCO's ARR and hence shown as revenue requirement in OHPC for FY 2021-22.

Two-Part Tariff

226. As per clause no. 28 of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020, the annual fixed cost of a power station shall be recovered on monthly basis under Capacity Charge (inclusive of incentives) and Energy Charge to be shared on 50:50 basis. Further as per clause no. 28(11) of the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020,

“The computation and payment of capacity charge and energy charge for existing plants of OHPC will be as determined by the Commission from time to time.”

227. Accordingly, the Annual Capacity Charges (ACC), Annual Energy Charges (AEC) and Energy Charge Rate (ECR) of different power stations of OHPC for the FY 2021-22 is shown in the following table:

Table- 54
Capacity Charge and Energy Charge of OHPC Power Stations for the FY2021-22

Name of the Power Stations	Annual Fixed Cost	Capacity Charges (Rs in Crs.)	Energy Charges (Rs in Crs.)	Saleble Design Energy (in MU)	Energy Charge Rate(P/U)
RHEP, Rengali	66.58	33.29	33.29	519.75	64.05
UKHEP, Baraniput	66.65	33.32	33.32	823.68	40.46
BHEP, Balimela	75.99	38.00	38.00	1171.17	32.44
HHEP, Burla	85.52	42.76	42.76	677.16	63.15
CHEP, Chiplima	35.91	17.95	17.95	485.10	37.01
UIHEP, Mukhiguda	171.04	85.52	85.52	1942.38	44.03
	501.68	250.84	250.84	5619.24	50.03

228. The recovery of capacity charge and energy charge for a calendar month shall be as per the OERC (Terms & Conditions for determination of Generation Tariff) Regulation, 2020.

Normative Annual Plant Availability Factor (NAPAF)

229. As per OERC Tariff Regulations, 2020 the 50% of the annual fixed cost of a generating station is to be recovered through capacity charge. The OERC (Terms & Conditions for Determination of Generation Tariff) Regulations 2020 has stipulates the determination of Normative annual plant availability factor (NAPAF) for hydro generating stations. The relevant extract is reproduced below:

*“The norms of operation as given hereunder shall apply to hydro generating stations:
(a) Normative annual plant availability factor (NAPAF) for hydro generating stations:*

(vii) The Normative annual plant availability factor (NAPAF) for existing Hydro Generating Stations of OHPC Ltd will be as determined by the Commission from time to time.”

230. OHPC stated that the Commission in Case No. 52 of 2019 had fixed the NAPAF of different power stations for the control period 2019-20 to 2023-24 as follows:

Table-4

Power Stations	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP
NAPAF (%)	80	87	83- for first 3 years 87 – for subsequent 2 years	75	75	88

Monthly capacity charge of each OHPC stations shall be computed for the FY 2020-21 based on the above NAPAF.”

231. OHPC further submitted that after going through the above order, OHPC filed a review petition before the Commission for review of the Order dated 20.03.2020 in Case No.52 of 2019 with a prayer to reduce NAPAF to a realistic achievement keeping in view the life of the machines vis-à-vis the performance of machines during last 5 years.
232. Accordingly pending disposal of the review order by the Commission, NAPAF will be applicable as determined by the Commission in Case No.52 of 2019 dated 20.03.2020 for the OHPC stations for the control period i.e. from 2019-20 to 2023-24.

Tariff for CSPDCL on drawal of power from HHEP, Burla

233. OHPC stated that that as per the MoM, the long term customer, the erstwhile Chhattisgarh State Electricity Board (CSEB), presently Chhattisgarh State Power Distribution Company Limited (CSPDCL) is drawing energy from Hirakud generation towards 5MW share of Chhattisgarh State (erstwhile share holder being Madhya Pradesh). The CSPDCL has been pleading since FY 2006-07 to pay the energy charges at the tariff approved by the OERC for HHEP, Burla, applicable for the consumers of Odisha, considering the supportive measures extended by the Govt. of Odisha which is considerably less than the actual cost of generation from HHEP on which billing was made to them as per the Minutes of Meeting dtd. 24.12.2004.
234. OHPC further stated that the energy billing @ cost of generation and other applicable terms & conditions have been decided by the Hon'ble High Court, Jabalpur, MP vide orders dated 16.12.2004 & dated 02.09.2005 in W.P. No. 1241/2002; Order dated 17.08.2006 of the Ministry of Power, Govt. of India; Minutes of Meeting dated 24.12.2004 under the Chairmanship of the Chief Secretary, Govt. of Odisha. In spite of this CSPDCL, Chhattisgarh did not accept the concept of energy billing @ cost of generation of Hirakud Power.
235. Finally in a meeting at Raipur between OHPC & CSPDCL on 28.10.2014, it was decided that a *PPA shall be executed between OHPCL & CSPDCL* for purchase of 5 MW power from Hirakud Hydro Electric Project, Burla. It was also decided that from 2008-09 onwards CSPDCL shall pay at a rate as approved by OERC provisionally till the rate is approved by appropriate Commission and afterwards necessary adjustment shall be done in accordance to law.”

236. Accordingly as per the request of OHPC the Commission have provisionally fixed the ECR for billing to CSPDCL for the FY 2015-16 to FY 2020-21. OHPC stated that it is in the process of truing up of the expenditure for its power stations which has already been filed before OERC for approval. Considering the approved up-valued project cost of HHEP after truing-up, OHPC shall compute the ECR for billing to CSPDCL from the FY 2006-07 onwards, and file an application before the Commission for approval of the same.
237. However for the ensuing year FY 2021-22 OHPC has computed the tariff for billing of Energy to CSPDCL as per the CERC (Terms and Conditions of Tariff) Regulation'2019 as furnished at Table below.

Table- 55
Tariff for CSPDCL for 2021-22

Details of Expenses HHEP	Amount
Saleable Design Energy of HHEP	677.16 MU
Project Cost (Up-valued cost as on 01.04.1996 + Capitalization up to 31.03.2020 - Decapitalization)	384.56Cr
Return on Equity (@ 25.3628%)	29.26
Interest on Loan	3.40
Depreciation (@ 5.28%)	20.30
O & M expenses (Escalated @ 4.77%)	64.04
Interest on Working Capital (@ 11.25%)	4.47
Total ARR	121.89
Average Tariff (p/u)	180.003

238. The Commission after considering the same approves the average tariff of **180.003** p/u for HHEP for billing to CSPDCL for FY 2021-22 as against 200.920 p/u approved during FY 2020-21.

Annual Revenue Requirement and Tariff for Machhkund H.E. (Jt.) Scheme

239. OHPC in the ARR application has stated that Machhkund HE Project (a joint project schemes between Andhra Pradesh and Odisha Government) is almost 60 years old and it has been proposed to go for R&M of all the six units in phases and up-gradation wherever possible taking into account of the existing water conductor system. As per the original Inter-State Agreement, 1945 signed between the two States, Government of Andhra Pradesh (GoAP) and Government of Odisha have share of 70% and 30% share respectively from Machhkund Hydro Electric Project (MHEP) and as per the inter-state supplementary agreement signed between both the Governments in the year

- 1978, Government of Odisha has an option of to draw additional 20% power at a cost of Rs. 0.08 per KWh.
240. A new inter-state agreement was signed between Govt. of Odisha / OHPC and Govt. of Andhra Pradesh / APGENCO on 23rd October 2020. As per the provisions of this agreement for acquiring additional 20% share of the Joint Scheme, Govt. of Odisha / OHPC shall make payment of Rs.27.42 Crores to Govt. of AP/APGENCO considering 20% of the present depreciated cost of the project and share the expenditure on account of RM & U works for all the generating units along with auxiliaries and switchyard system in the ratio of 50:50.
241. As per the terms of the new Agreement, it is agreed at Clause No. 7 that; *“The Original Agreement dated 14.01.1945 with modifications shall continue to be applicable together with this agreement upon its execution. The agreement dated 15.12.1978 shall stand superseded and become unenforceable.”* Accordingly, the billing by APGENCO to OHPC @ 8 paise/unit for the energy drawal by Odisha beyond 30% upto 50% shall be discontinued along with the computation of share of annual audited O&M expenditure of MHEP between the two States basing on the maximum demand in MW during the year.
242. Now as per the agreement dated 23rd October 2020, after payment of Rs.27.42 crores, Govt of Odisha / OHPC shall have 50% legitimate share of MHEP Joint Scheme and shall draw 50% of shareable power on real time basis and make payment of 50% share of the cost of O&M charges as may be required / actually incurred for the project every year. OHPC shall raise monthly energy bills to GRIDCO for the Odisha share of energy available from MHEP including the power drawn through the distribution network connected to MHEP.
243. OHPC in its present tariff application for FY 2021-22, has proposed MHEP tariff at Rs.2.515 per KWh for monthly energy billing to GRIDCO towards the Odisha share of 50% shareable energy including the local colony supply fed from Machhkund Power House from the date of payment of Rs.27.42 Crores as per the new Agreement. OHPC has computed the tariff taking into account 50% of the Operation & Maintenance charges to APGENCO and payment of Rs.27.42 Crores along with accrued interest subject to truing up with GRIDCO at the yearend for exact recovery of cost.

244. OHPC has stated that the interest component towards the above investment of Rs.24.42 Crores by OHPC shall also be recovered through up-front loading in absence of any present tariff mechanism for recovery of the investments, as MHEP has completed its life and also fully depreciated. This is in accordance to the present mechanism of up-front loading of all capital as well as revenue expenditure of MHEP made by APGENCO in the annual O & M bills and sharing the same between the two States.
245. The projected tariff calculation by OHPC for MHEP for the FY 2021-22 is given in the table below:

Table - 56

Projected Tariff of Machhkund (JT.) HEP for 2021-22	
	2021-22
Present Installed Capacity of MHEP (Jt.) Scheme (MW)	120
(50%) Odisha Share as per New Agreement dated 23.10.2020 (MW)	60
Design Energy of MHEP for Generation (MU)	525
Normative Auxiliary Energy Consumption (AUX) (%)	1%
Normative Auxiliary Energy Consumption (AUX) (MU)	5.25
Saleable Design Energy for sharing between Andhra Pradesh & Odisha (MU)	519.75
(50%) Saleable Design Energy Share of Odisha (MU)	259.875
Drawal of Toal Share of Odisha Energy by GRIDCO (MU)	259.875
O&M Escalation factor @ 5.72 % for two years over the O&M Bill of MHEP for FY 2019-20.	1.1177
	(Rs. in Crs.)
Total Audited Cost of O&M Bill of MHEP (Jt.) for the FY 2019-20	64.48768
50% O&M Expenditure share (Orissa share of Actual O&M Expenditure for 2019-20)	32.2438
(1) Payment of 20% share of Present Depreciated Project Cost of MHEP (Jt.) by OHPC	27.4200
(2) O&M Expenditure for FY 2021-22 applying the escalation factor	36.0380
(3) The provisional interest on the above investment of Rs 27.42 Crores @ Bank rate of SBI i.e. 10.75%.	1.60
(4) The provisional interest liability on advance payment towards 15% of annual O&M Expenditure of Rs 5.50 Crores.	0.30
Total Expected Expenditure during the FY 2021-22	65.358
Tariff (Rs/Kwh)	2.5150
OHPC shall raise monthly energy bills to GRIDCO at the tariff Rs 2.5150/kWh during the FY 2021-22 to make payment of O&M cost to APGENCO and recover the own expenditure of Rs 27.42 Crore along with interest accrued thereof as per the new Agreement.	
Reimbursements of Statutory Dues/Duty/Cess: (Rs in Crores)	
(1) Actual ED @ 55 paise/kWh on AUX at the present level of 3% AUX on Odisha share of Design Energy of 262.50 MU:	Rs. 0.433125
(2) Water Cess @ 1.5 paise / kWh on Odisha share of Design Energy of 262.50 MU:	Rs. 0.39375
(3) Total Reimbursement by OHPC from GRIDCO:	Rs. 0.826875

246. The Commission scrutinized the above proposal of OHPC and observed that as per the new agreement between the States Odisha has to pay Rs.27.42 Crore to APGENCO to avail 50% share from Machhkund HEP, a joint scheme between AP and Odisha. It is observed that OHPC has projected the tariff of MHEP for the FY 2021-22 including this amount along with the interest thereon. The Commission thinks it prudent not to include this onetime payment amount of Rs.27.42 Crore for computation of tariff of MHEP for the FY 2021-22. However, the Commission allows this amount of Rs.27.42 Crore to be reimbursed by OHPC from GRIDCO during FY 2021-22. Further, OHPC has considered energy drawl of 259.875 MU towards 50% Odisha share (after deducting 1% auxiliary consumption from 50% of the design energy of 525 MU). The Commission observed that in most of the years in past, the generation of Machhkund is more than its design energy. Therefore, the Commission considers 262.50 MU as Odisha drawl (i.e. 50% of design energy) for computation of tariff of MHEP for the FY 2021-22. Accordingly, the Commission computed the tariff of MHEP as given in table below:

Table-57

Computation of Tariff of Machhkund (Jt.) HEP for 2021-22	
	2021-22
Present Installed Capacity of MHEP (Jt.) Scheme (MW)	120
(50%) Odisha Share as per New Agreement dated 23.10.2020 (MW)	60
Expected Energy for Sharing between AP and Odisha (MU)	525.00
Expected Energy Drawal towards 50% Odisha share (MU)	262.50
O&M Escalation factor @ 5.72 % for two years over the O&M Bill of FY 2019-20	1.1177
	(Rs. in Cr.)
Total Audited O&M Bill of MHEP (Jt.) for the FY 2019-20	64.48768
50% O&M Expenditure (Orissa share of Actual O&M Expenditure for 2019-20)	32.2438
Projected O&M Expenditure for FY 2021-22 applying the escalation factor	36.0380
Projected Expenditure during the FY 2021-22 towards 50% Odisha share	36.038
Tariff (Paisa/Kwh)	137.29

247. In view of the above, the Commission approved the provisional tariff of 137.29 Paisa/KWh for Machhkund power at which OHPC shall raise monthly bills on GRIDCO subject to year-end adjustment as per previous practice.

ARR and Approval of Tariff

248. To sum up, the Commission hereby approves the ARR and generation tariff of OHPC for FY 2021-22 as follows:

Table – 58
Summary of ARR Approved for OHPC for 2021-22

	Year	RHEP, Rengali	UKHEP, Baraniput	BHEP, Balimela	HHEP, Burla	CHEP, Chiplima	OHPC Old Stations	UIHEP, Mukhiguda	OHPC Total
ARR (Rs Cr)	Approved FY 2020-21	67.23	66.30	77.24	87.60	36.23	334.59	178.98	513.57
	Proposed FY 2021-22	70.40	70.34	80.50	90.61	37.96	349.81	186.04	535.85
	Approved FY 2021-22	66.58	66.65	75.99	85.52	35.91	330.65	171.04	501.68
Saleable Design Energy (in MU)	Approved FY 2020-21	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24
	Proposed FY 2021-22	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24
	Approved FY 2021-22	519.75	823.68	1171.17	677.16	485.10	3676.86	1942.38	5619.24
Capacity Charges (Rs in Cr.)	Approved FY 2020-21	33.61	33.15	38.62	43.80	18.12	167.30	89.49	256.78
	Proposed FY 2021-22	35.20	35.17	40.25	45.31	18.98	174.91	93.02	267.92
	Approved FY 2021-22	33.29	33.32	38.00	42.76	17.95	165.32	85.52	250.84
Average Tariff (P/U)	Approved FY 2020-21	129.34	80.49	65.95	129.36	74.69	91.00	92.14	91.39
	Proposed FY 2021-22	135.45	85.40	68.73	133.81	78.24	95.14	95.18	95.36
	Approved FY 2021-22	128.10	80.91	64.89	126.29	74.02	89.93	88.06	89.28
Energy Charge Rate(P/U)	Approved FY 2020-21	64.67	40.24	32.98	64.68	37.35	45.49	46.07	45.70
	Proposed FY 2021-22	67.72	42.70	34.37	66.91	39.12	47.57	47.89	47.68
	Approved FY 2021-22	64.05	40.46	32.44	63.15	37.01	44.96	44.03	50.03

249. The unit cost of energy from Machhkund is approved at 137.29 p/u for 2021-22.
250. The tariff now approved shall be effective from **04.04.2021** and shall be in force until further orders.
251. The ARR has been approved in this order pertains to FY 2021-22 i.e. from 01.04.2021 to 31.03.2022. However, this order has been made applicable w.e.f. 04.04.2021 instead of 01.04.2021 on account of delay in obtaining clearance from Election Commission since Election Code of Conduct for Pipili Assembly Constituency By-Election is in force. The delay of three days in notification may affect the ARR of both OHPC and GRIDCO for the FY 2021-22. However, the Commission observe that since the monthly energy bills of OHPC power stations are being raised by OHPC to GRIDCO on the 1st day of the next month, the monthly energy bills of April, 2021 are likely to be raised by OHPC on the 1st day of May,

2021. Therefore, to avoid the above discrepancy, the Commission directs OHPC to raise the monthly energy bills of its power stations for the entire month of April, 2021 i.e. from 01.04.2021 as per the new capacity charge and energy charge approved in this order, since the ARR has been approved for the whole FY 2021-22.
252. The application of OHPC in Case No. 70/2020 for approval of its Annual Revenue Requirement and fixation of generation tariff of different stations for the FY 2021-22 is accordingly disposed of.

Sd/-
(G. MOHAPATRA)
MEMBER

Sd/-
(S. K. PARHI)
MEMBER

Sd/-
(U. N. BEHERA)
CHAIRPERSON