PROPOSALS OF ARR AND TARIFF OF OHPC LTD. FOR THE FY 2023-24

Presentation on 13.02.2023

## POWER STATIONS OF OHPC

Unit Details	Total Installed Capacity of the Station
50MWx5	250MW
49.5MWx2; 32MWx2; 43.65MWx2;37.5MWx1	287.80MW
24MWx3	72MW
80MWx4	320MW
150MWx4	600MW
60MWx6; 75MWx2	510MW
31 Units of different Capacity mentioned above	2039.8MW
50% of (17MWx3; 23MWx3)	60MW
	50MWx549.5MWx2; 32MWx2; (43.65MWx2;37.5MWx1)24MWx380MWx4150MWx460MWx6; 75MWx231 Units of different Capacity mentioned above

## **Estimated Generation for FY 2022-23**

The actual generation of different Power Stations under OHPC from 01.04.2022 up to 19.01.2023 and anticipated generation from 20.01.2023 to 31.03.2023 prepared on the basis of the availability of water, irrigation requirement and peak load requirement in co-ordination with DoE, DoWR, GRIDCO and SLDC is furnished below.

Sl. No	Name of the power stations	Design Energy of Power Station (MU)	Actual generation from 01.04.22 up to 19.01.2023 (MU)	Anticipated generation from 20.01.2023 to 31.03.23 based on DoWR & DoE Schedule (MU)	Total Estimated generation for the FY 2022-23 based on DoWR & DoE Schedule (MU)
1.	RHEP	525.00	685.4228	133.44	818.863
2.	UKHEP	832.00	353.156	76.80	429.956
3.	BHEP	1183.00	910.4076	187.20	1097.608
4.	HHEP	684.00	861.002	59.64	920.642
5.	CHEP	490.00	298.518	42.60	341.118
6.	UIHEP	1962.00	1110.347	306.72	1417.067
Tota		5676.00	4218.8535	806.40	5025.254
	s the total ge gn Energy of		for the FY 2022-23 shall	II TAIL SHORT BY 650.746	<b>WIU from the approved</b>

## PROJECT COST FOR PROPOSED TARIFF OF OHPC FOR FY 2023-24 in Crs)

Name of the power stations	Historic Cost as on 01.04.9 6	Approved New additions up to 31.03.21	Additional Capitalization proposed for FY 2023-24 (Aud. Acc. 2021-22, CWIP 2022-23 & 2023-24)	Less PSDF Grant for FY 2021-22	Total addition proposed in Tariff calculatio n for FY23-24	Asset Reductio n during FY2011- 12 to 2021-22	Project Cost considered for Tariff calculation based on Historic Cost
1	2	3	4	5	6=3+4-5	7	8=2+6-7
RHEP	91.09	63.300	0.760	0.000	64.06	0.089	155.06
UKHEP	108.31	27.830	4.701	0.609	31.92	0.494	139.74
BHEP	115.42	226.460	122.224	1.169	347.515	7.214	455.72
HHEP	72.75	283.880	169.926	0.425	453.381	14.261	511.87
СНЕР	92.23	119.790	39.124	0.011	158.903	6.928	244.20
Sub Total	479.80	721.264	336.735	2.214	1055.785	28.986	1506.59
UIHEP	1194.79 (approved project cost)	56.630	77.808	1.161	133.277	4.912	1323.16
Total	1674.59	777.90	414.543	3.375	1189.062	33.898	2829.75

#### PROVISIONS FOR CONSIDERING ESTIMATED CAPITAL ADDITION (CWIP) AS ADDITIONAL CAPITALISATION IN THE OERC GENERATION TARIFF REGULATIONS 2020

 Clause 6(2) of OERC (Terms & Condition for Determination of Generation Tariff) Regulations 2020 provides as follows:

"Provided that in case of an existing project, the application shall be based on admitted capital cost including any additional capitalization already admitted up to 31.03.2020 and <u>estimated additional capital expenditure for the respective years of the</u> <u>tariff period 2020-21 to 2023-24</u>."

 Clause 7(6) of OERC (Terms & Condition for Determination of Generation Tariff) Regulations 2020 provides as follows:

"Provided that the OHPC and OPGC (Unit - I & II) shall make an application as per the prescribed Format with necessary information and explanations, for determination of tariff based on capital expenditure incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure incurred duly certified by the auditors or projected for <u>projected to be incurred during the period for</u> <u>which application for determination of tariff is filed of the generating station</u>:"

### **DETAILS OF PROPOSED CWIP IN THE TARIFF PROPOSAL OF OHPC FOR FY2023-24**

SI. No.	Name of the work	Tentative year of completion	Amount considered for Tariff (in Crs.)	Remarks
1.	Capitalization of Unit-1 R&M works of BHEP, Balimela.	Already CoD on April 2022	60.573	AlreadyCommercialOperation on 15.04.2022
2.	Balance payment towards R&M works of Unit-5 & 6 of HHEP, Burla	Already         CoD           (Unit-5 on 09.01.22         &           &         Unit-6 on           02.11.21)	37.00	Rs131.551Crs considered in the Audited Account 2021-22 & balance Rs37.00 Crs as CWIP
3.	Capital maintenance of Unit-2 & Unit- 4 of UIHEP	FY2022-23	45.259	Rs32.307Crs Capital Spares procured for this work is already in the Audited Account of 2021-22
4.	Capital maintenance of Unit-1 of CHEP, Chiplima	FY2023-24	35.220	
5.	Construction of 12 Nos. of D-Type Quarter in CHEP	FY2023-24	3.59	
6.	Construction of New Officers' Club at BHEP, Balimela	FY2022-23	0.43	
7	Construction of 220/33 KV Sub-Station with Station Transformer of 7.5 MVA and along with extension of existing 220 KV Bay of UKHEP Bay	FY2022-23	4.30	

#### **TARIFF COMPUTATION OF OHPC FOR FY 2023-24**

#### • <u>Return on Equity (ROE)</u>:

OHPC has proposed Rs 103.09 Crs as RoE. The RoE @ 15.5% is considered for new addition of Rs1055.78Crs old power stations of OHPC & @ 16% for UIHEP on new capital addition of Rs1323.16Crs after 01.04.1996 totaling to Rs2378.94 Crs. Income tax of core business amounting to Rs21.89Crs paid for FY 2021-22 to be reimbursed from GRIDCO.

#### • Interest on Loan:

OHPC has proposed to approve the interest on loan for Rs30.56Cr. The Interest on different Loans have been calculated based on the norms of Hon'ble OERC for the Normative Loans.

• <u>Depreciation</u>:

.

OHPC has proposed to approve Rs 90.45Crs towards Depreciation for the FY 2023-24. Depreciation @ 2.57% on historic cost and new capital addition or Loan Repayment whichever is higher is considered as Depreciation.

#### • Operation & Maintenance (O&M) Expenses:

OHPC has proposed to approve Rs 338.83Crs towards O&M Expenses for the FY 2023-24 for the different Power Stations of OHPC. The O&M expenses for the FY 2023-24 have been computed escalating the average of actual O&M expense of FY2020-21 & FY2021-22 @ 5.72% twice. OHPC has deducted Rs 11.07Cr from O&M Expenses of UIHEP towards the Receivable from DoWR for FY 2021-22.

#### Interest on Working Capital:

OHPC has proposed before the Hon'ble Commission to approve Rs 15.012Crs towards Interest on Working Capital for the FY 2023-24 for the different Power Stations of OHPC. Interest on working capital is calculated @ 10.00% as per the OERC (Terms & Conditions for Determination of Generation Tariff) Regulations, 2020.

#### OBSERVATION OF OERC ON REVIEW OF TARIFF ORDER OF OHPC FOR FY2022-23 REGARDING DEPRECIATION

• Para-9: "However, we cannot wink at the fact that the principal loan repayment is an essential aspect of consideration which is to be recovered through the depreciation in generation tariff. Therefore, the Commission in their past tariff orders of the OHPC had allowed Advance against depreciation to facilitate the loan repayment by the OHPC in respect of its power stations. It is the fact that the depreciation cannot be allowed beyond 90% of the capital cost. The OHPC has stated that the project cost of its power stations has been increased due to additional capitalisation on account of R&M and capital maintenance works and it has not recovered 90% of the project cost of its power stations till date. Therefore, in order to have a clear picture of project cost, depreciation & loan repayment for the past years and to address the difficulties of the OHPC as stated, we direct the OHPC to submit the station-wise and year-wise details of the project cost approved by the Commission and depreciation (including Advance Against Depreciation) allowed in tariff from the FY 1997-98 onwards along with the station-wise and year-wise loan repayment for the said period. For the earlier years, when the generation tariff of the OHPC power stations was not determined for individual station, the above data/information may be apportioned stationwise based on the project cost of individual power station as approved by the Commission. The OHPC shall furnish these information/data along with its ARR and Tariff application for the FY 2023-24 so that the Commission can take a pragmatic view on the claim of the OHPC in its present application, while determining the tariff of its power stations for the FY 2023-24."

#### OBSERVATION OF OERC ON REVIEW OF TARIFF ORDER OF OHPC FOR FY2022-23 REGARDING DEPRECIATION ......Contd.

• After the compilation of data a comparative statement of Power Station wise Total approved Project Cost; Total Approved Depreciation & Total Depreciation recovered through sale of power to GRIDCO is shown in the Table below.

Power Stations	Total approved Project Cost as 31.03.22 (in Crs)	90% of total approved Project Cost as 31.03.22 (in Crs)	Total approved Depreciation as 31.03.22 (in Crs)	Total Depreciation recovered from GRIDCO as on 31.03.22 (in Crs)	% of Depreciation recovered as on 31.03.22 (in %)
RHEP	151.34	136.02	91.93	91.011	60.14
UKHEP	135.46	121.91	98.68	74.954	55.33
внер	339.89	305.90	251.26	230.041	67.68
ННЕР	338.66	304.79	210.67	162.432	47.96
СНЕР	143.97	129.57	103.63	74.162	51.51
UIHEP	1250.78	1125.70	697.85	662.007	52.93
Total	2360.1	2123.89	1454.02	1294.607	54.85

N.B-None of the power stations of OHPC has so far recovered the full debt component i.e. 70% of the project cost. Moreover, the balance portion of the depreciation (i.e. 70% to 90%) remain unrecovered till date. As per OERC (Terms & Condition for Determination of Generation Tariff) Regulations 2020, OHPC is eligible for depreciation (a) 5.28% of project cost. Therefore Hon'ble OERC may consider to allow depreciation (a) 2.57% of project cost or loan repayment, whichever is higher, which had been allowed till FY-2020-21 in order to reduce the burden on the consumers of the state.

#### OBSERVATION OF OERC ON REVIEW OF TARIFF ORDER OF OHPC FOR FY2022-23 REGARDING DEPRECIATION ......Contd.

- From the above table it is clear that HHEP, CHEP & UKHEP have recovered depreciation around 50% of the Project Cost.
- In case of UIHEP, the recovery of Project Cost (out of Rs1250.78Crs) is only 52.93% even after elapse of 22 years of operation. OHPC is raising the issue of under recovery of the Project Cost of UIHEP in its Tariff Application from time to time. However, it has never been considered by Hon'ble OERC (refer Table No.16 of ARR application-2023-24). OHPC once again pray before Hon'ble OERC to reschedule the loan repayment of UIHEP so that 90% of the project cost can be recovered within its useful life.
- Depreciation of different power stations of OHPC for the FY2023-24 has been computed based on the earlier principle of Hon'ble OERC in approving depreciation up to FY2020-21 i.e. depreciation @ 2.57% of the approved Project Cost or actual loan repayment, whichever is higher. This is also in line with the PPA of UIHEP.
- As depreciation is a deferred liability, the unrecovered depreciation of Rs10.97Crs of UIHEP & Rs0.32Crs of RHEP & Rs0.44Crs of HHEP for the FY2021-22.& FY2022-23 is adjusted in the opening balance of FY2023-24.

#### <u>Comparitive study of Depreciation @5.28% as per OERC Generation Tariff</u> <u>Regulation 2020 & Depreciation @2.57% or Loan Repayment whichever is</u> higher for FY 2023-24

Power Stations	Total Project Cost proposed for FY-2023-24	Depreciation @2.57% on Project Cost or Loan Repayment whichever is higher (in Crs)	Depreciation @5.28% on Gross Project Cost as per OERC Generation Tariff Regn. (in Crs)
RHEP	155.06	3.99	7.25
UKHEP	139.74	3.59	7.33
ВНЕР	455.72	11.72	23.93
ННЕР	511.87	20.79	25.38
СНЕР	244.20	7.61	12.18
UIHEP	1323.16	42.75	66.11
Total	2829.75	90.45	142.18

N.B.- As depicted from the above table, in case OHPC claimed depreciation @ 5.28% as per the OERC generation Regulation,2020 instead of @ 2.57% or loan repayment whichever is higher ,the tariff could have been substantially increased resulting in huge burden on the consumers of the state.

## **Proposed Tariff of OHPC for FY 2023-24**

							(Rs	. in Crs.)
Components	RHEP	UKHEP	BHEP	HHEP	CHEP	Sub Total	UIHEP	Total FY2023-24
Saleable Design Energy (MU) considering AUX @1%	519.75	823.68	1171.17	660.52	485.10	3660.22	1942.38	5602.60
Return on Equity	2.979	1.484	16.159	21.082	7.389	49.094	53.993	103.09
Interest on Loan	0.335	0.508	7.958	11.006	6.251	26.058	4.499	30.56
Depreciation	3.990	3.590	11.720	20.790	7.610	47.700	42.745	90.45
O & M expenses	61.327	55.668	60.214	58.967	25.485	261.662	77.166	338.83
Interest on Working Capital	2.303	2.078	2.618	2.785	1.184	10.968	4.044	15.012
Total Cost	70.934	63.329	98.670	114.631	47.919	395.482	182.447	577.929
Less Non-Tariff Income	0.923	0.515	0.652	4.095	2.493	8.678	2.554	11.232
Adjustment of Non-Tariff Income of FY2021-22	0.607	0.777	1.239	0.699	0.175	3.497	1.457	4.954
Less sale of power to CSPDCL				3.524		3.524		3.524
Total ARR for FY2023-24	70.618	63.591	99.257	107.711	45.601	386.777	181.350	568.127
Average Tariff (P/U) for 2023-24 (Proposed)	135.87	77.20	84.75	163.07	94.00	105.67	93.36	101.40

## **Proposed Capacity Charges & Energy Charges of OHPC for FY 2023-24**

Name of Power Station	Annual Fixed Cost (ARR) (Rs. In Crs.)	Annual Energy Charges (AEC) (Rs. In Crs.)	Annual Capacity Charges (ACC) (Rs. In Crs.)	Saleable design energy (MU)	Energy Charge Rate (ECR) (in P/U)
RHEP	70.618	35.309	35.309	519.75	67.934
UKHEP	63.591	31.795	31.795	823.68	38.601
BHEP	99.257	49.628	49.628	1171.17	42.375
ННЕР	107.711	53.856	53.856	677.16	81.535
CHEP	45.601	22.801	22.801	485.10	47.002
UIHEP	181.350	90.675	90.675	1942.38	46.682
Total	568.127	284.064	284.064	5619.24	

## Proposed Tariff for the FY 2023-24 Vrs Approved Tariff for FY2022-23 of OHPC Power Stations Rs in Crs

Components of Tariff	Approved for FY 2022-23	Proposed for FY 2023-24	Absolute Increase or decrease	Reasons for Increase or decrease
Project Cost	2428.02	2829.75	401.73	Capitalization of R&M of Unit-1 & 2 of BHEP; RM&U of Unit-5&6 of HHEP, Burla; Capital Maintenance of Unit-2&4 of UIHEP ; Capital Maintenance of Unit-1 of CHEP & others
Return on Equity	83.852	103.09	19.238	Effect of increase of Project Cost
Interest on Ioan	8.438	30.56	22.122	Effect of increase of Project Cost
Depre.	62.400	90.45	28.05	Effect of increase of Project Cost
O&M	337.924	338.83	0.906	Average O&M expense for FY2019-20 & FY2020-21 has increased by Rs1.65Crs then FY2020-21 & FY2021-22
loWC	14.140	15.012	0.872	Combined impact of above four components also MCLR as on 01.04.2021 has decreased.
Total Cost	506.755	577.929	71.174	As furnished above.
Less Non Tariff Income	2.402	11.232	8.830	Non- Tariff Income is considered as per clause-41, 26(1) of OERC Regulation 2020.
Less sale CSPDCL	3.04	3.524	0.484	Effect of increase of Project Cost
Total ARR	501.31	568.127	66.817	As mentioned above
Average Tariff (P/U)	89.48	101.40	11.92	As furnished above. 14

## **Miscellaneous reimbursement claim of OHPC from GRIDCO:**

(Rs. in Cr.)

Component of Costs	RHEP	UKHEP	BHEP	HHEP	CHEP	UIHEP	Total
(a) License fee for use of water for generation of electricity for FY 2023-24.	0.893	1.414	2.011	1.163	0.833	3.335	9.649
(b) ED on Auxiliary Energy Consumption for FY2023-24.	0.289	0.458	0.651	0.376	0.270	1.079	3.122
(c) SLDC charges for FY 2023- 24.							1.554
(d) Application fees and publication expenses for FY2023-24							0.270
(e) ERPC charges for FY2023- 24							0.160
(f) Income Tax as per Audited Account of FY 2021-22							21.89
Total							36.645

## Tariff for CSPDCL for FY 2023-24 on drawl of power from HHEP, Burla

Details in respect of HHEP	Amount (Rs in Crs)
Salable Design Energy of HHEP	677.16 MU
Project Cost (Up-valued cost as on 01.04.1996 + Capitalization up to 31.03.2022 –Decapitalization upto 31.03.2022)	569.45Crs
Return on Equity (@ 25.1680%)	43.00 Crs
Interest on Loan	13.51Crs
Depreciation (@ 5.28%)	<b>30.07</b> Crs
O & M expenses (Escalated @ 4.77%)	58.83 Crs
Interest on Working Capital (@ 10.5%)	3.35 Crs
Total ARR	148.75 Crs
Average Tariff (p/u)	219.674

•OHPC prays before the Hon'ble Commission to approve an average Tariff of 219.674 paise/ unit considering CERC norms & Revalued Cost for billing to CSPDCL for FY 2023-24.

## **Deductions made in Tariff as per different provisions of OERC Tariff Regulations 2020**

(Rs. in Cr.)

Particulars	Provisions in Regn.	Amount (in Crs)	Remarks
(a) Decapitalization of Assets (The accumulated depreciation of asset removed during R&M are removed)	Clause No- 12(5)	9.04	Deducted from
(b) Deduction of PSDF Grant from Project Cost		3.375	Project Cost
(c) Sharing of deductible Non-Tariff Income	Clause No-41 & 26(1)	11.232	Deducted from ARR
<i>(d) Amount to be received from DoWR towards Dam Maintenance Sharing of UIHEP for FY 2021-22</i>		11.07	Deducted from approved O&M of UIHEP
(e)Deduction of Sale of Power to CSPDCL		3.524	Deducted from ARR
Total deduction		38.241	

## **PERFORMANCE OF OHPC IN THE RECENT YEARS**

OHPC has proven track record of having outstanding performance resulting in the overall benefit across the entire power sectors thereby balancing the tariff and continuously benefiting to the ultimate consumers of the state. The brief highlights of the major performance of OHPC during the past several years are as under:-

- OHPC maintaining its weighted Plant Availability factor in the range of 75% to 78%, which is almost at par with the National Standard.
- OHPC generating stations provide stability to Grid by quick ramp up, ramp down facility, absorbing & generating of reactive power, providing black start facilities etc. For these services, OHPC is not paid any incentives although all hydro generating station in the central sector are suitably compensated for the same through Ancillary Service Regulation of CERC.
- OHPC supports to meet the peak hour load requirement of State grid in real time basis as when required by SLDC.
- OHPC generation even crosses the 6000MU (against DE of 5676 MU) during the years having better hydrology condition.
- After Renovation, Modernization & Uprating of Unit-5 & Unit-6 of HHEP, Burla the Generation of Energy from this station is expected to reach 920.642MU by the end of this Financial Year against approved Design Energy of 684MU.
- Due to timely need based Capital Maintenance, the reliability of machines has been improved. Also due to timely need based Renovation, Modernization & Uprating, the useful life and reliability of machines have been improved. For this the generating tariff of OHPC has been maintained continuously at its lowest thereby, providing the cheapest power (i.e. around 70 to 90paise per Unit) to the State of Odisha. It is also one of the cheapest in the country.

ACTUAL GENERATION OF POWER STATIONS OF OHPC FOR LAST 6 YEARS												
Power Station	Design Energy Approved (in MU)	Actual Generation (in MU)										
		2017-18	2018-19	2019-20	2020-21	2021-22	2022-23 ( Projected)	Gen.(in MU)				
HHEP	684.00	614.07	380.00	529.12	627.73	714.26	920.64	630.97				
CHEP	490.00	219.11	158.38	234.00	328.44	268.42	341.12	258.24				
BHEP	1183.00	1475.07	1679.01	1510.40	1624.69	1026.65	1097.61	1402.24				
RHEP	525.00	762.54	745.97	667.57	1005.97	866.36	818.86	811.21				
UKHEP	832.00	621.31	924.09	828.95	788.58	450.90	429.96	673.96				
UIHEP	1962.00	1740.82	2144.20	2234.19	1755.00	1155.19	1417.07	1741.08				
Total	5676.00	5432.92	6031.65	6004.23	6130.41	4481.78	5025.25	5517.71				

## Actual PAFM of OHPC power stations for last 6 years (FY 2017-18 to FY2022-23 (upto January 2023)

Name of Power Station	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23(Up to January 23)	Average
RHEP	72.02	80.85	77.02	80.89	68.40	69.25	74.74
UKHEP	65.06	73.19	72.23	68.84	85.88	94.73	76.65
BHEP	81.96	87.75	73.58	60.32	70.11	85.03	76.46
HHEP	69.01	34.40	41.28	40.82	69.00	88.94	57.24
СНЕР	58.31	54.68	64.98	85.45	99.24	94.04	76.12
UIHEP	94.65	86.42	89.12	91.49	87.90	94.78	90.73
OHPC(Wt. Avg)	79.83	75.09	73.69	71.67	78.52	83.50	77.05

## **CONSTRAINTS OF OHPC TO ACHIEVE DESIRED LEVEL OF PERFORMANCE**

Some of the generating stations are not able to achieve the approved Annual Design Energy allowed by the Hon'ble Commission leading to non-recovery of approved Energy Charges due to the following constraints beyond the control of OHPC.

- Generation of hydro-electric power in most of the power stations is prioritized after meeting the requirement of flood control, irrigation & consumptive use.
- Decrease in live storage capacity of the Reservoir due to siltation.
- Industrial water consumption from the reservoir.
- Restriction of the generation in HHEP below 595ft RL.
- Some of the power stations are not allowed to operate upto Minimum Draw Down Level (MDDL) at the end of water year.
- Approved design energy of CHEP, Chiplima at 490 MU is not achievable.
- Continuous hydrology failures have been observed for UKHEP.
- Loss of water due to running of multiple generating units in different power stations of OHPC under partial load instead of optimizing the generation in single unit.
- Short drawl of Odisha share from MHEP due to evacuation constraint.

## **PRAYER**

- OHPC pray before the Hon'ble Commission to kindly approve the following in the ARR & Tariff Order of OHPC Power Stations for the FY 2023-24:
- i) The ARR amounting to Rs 568.127Crs. of OHPC Power Stations at an average tariff @ 101.40 Paise/Unit.
- ii) The ACC, AEC & ECR of different Power Stations of OHPC as shown in the Table-23.
- iii) The miscellaneous reimbursement of Rs 36.645Crore by OHPC from GRIDCO.
- iv) The tariff for energy billing to CSPDCL @ 2.19674 Rs / kWh considering Up-valued cost of HHEP and the norms of CERC (Terms & Conditions of Tariff) Regulations, 2019.
- v) The tariff of MHEP (Joint Scheme) @ 1.16972 Rs/unit with provision of Rs 30.3983 Crores in the ARR of OHPC & GRIDCO to enable OHPC to make payment of O&M cost to APGENCO as per the new Agreement.
- vi) The average available Installed Capacity as 1708 MW for payment of SLDC charges.
- vii) Approval of Table No-16 towards Schedule of Payment for recovery of 90% of Project Cost along with interest in respect of UIHEP.
- Viii) To approve useful life of Unit-5&6 HHEP after RM&U works and Unit-1 &2 of BHEP after R&M works for 35years as per the recommendation of OEM.

# THANK YOU