

**ODISHA ELECTRICITY REGULATORY COMMISSION
BUDYUT NIYAMAK BHAWAN
PLOT NO.-4, CHUNOKOLI, SAILASHREE VIHAR
BHUBANESWAR - 751021**

Case No. 88/2020

M/s. Baitarani Power Project Pvt. Ltd. Petitioner
Vrs.
GRIDCO Ltd. & others Respondents

**ORDER
13.01.2023**

On perusal of the order dated 06.01.2023 passed in Case No.88 of 2020, certain typographical errors came into the notice of the Commission.

2. On examination of the record, it was found that some typographical errors occurred due to clerical inadvertence. At this point, be it stated here that the clerical errors to be rectified hereinafter will not cause any prejudice to either of the parties.
3. The Commission, invoking power under Section 152 of the Code of Civil Procedure, 1908, does insert the following rectifications in the Order dated 06.01.2023 in Case No.88 of 2020:
 - a) Paragraph 11:
In line 20, “101 MUs” is substituted with “100 MUs”.

In line 20, “99.99 MUs” is substituted with “99.00 MUs”.
 - b) Paragraph 12:
In Table at Sl. No. 13, “(for first 12 years)” is substituted with “(for first 13 years)”.
 - c) Paragraph 13:
In line 3, “24.08.2020” is substituted with “29.08.2020”.
 - d) Paragraph 14:
In line 5, “24.08.2020” is substituted with “29.08.2020”.

A rectified order is prepared after insertion of the correct figures. The rectified Order be uploaded on website. Copy of the rectified Order be communicated to the parties forthwith.

**Sd/-
Member (RM)**

**Sd/-
Officiating Chairperson**

1. The Petitioner, M/s. Baitarani Power Project Pvt. Ltd. (hereinafter referred to as M/s. BPPPL in short), has constructed a Small Hydro Electric Project (SHEP) of 24 MW (3X8 MW) capacity on river Baitarani under 2003 policy of Government of Odisha for SHEP. The

project was cleared by the then State Technical Committee (STC) in its 56th sitting dt. 18.11.2013 with a project cost of Rs.239.19 cr. Techno Economic Clearance (TEC) was also issued on 26.02.2014 without any further enhancement in the project cost. The project was commissioned in August, 2020 during the third control period. GRIDCO had signed PPA with the developer in 2014 which was subsequently revised and was approved by the Commission in its Order dated 05.07.2016 in Case No. 06/2016.

2. The Commission in their order in Case No.17/2019 in para 23 dt. 21.08.2020 had observed that *“The Commission has only determined the generic tariff of the SHEPs for specific control period. But the petitioner is at liberty to approach the Commission for project specific tariff if they desire so.”* Accordingly, the Petitioner had filed the application before OERC in Case No 88 of 2020 for determination of project specific tariff on the basis of enhanced project cost of Rs 416.59 Cr. against project cost of Rs.239.19 cr.already approved by the STC.
3. In that proceeding, OERC had appointed a Technical Consultant (TC) for verification of the Project Cost in respect of 24 MW Lower Baitarani SHEP and it had recommended a Project Cost of Rs. 360.45 Crore. Accordingly, OERC vide Order dated 15.01.2022 in Case No. 88/2020 had approved a Project cost of Rs.314.80 Crore. Basing on the report of Technical Consultant and other relevant information, the Commission had determined a Project Specific Tariff @ Rs. 5.99/kWh considering project Cost of 314.80 Crore and an Annual Generation of 84.36 MU (minus Auxiliary Consumption of 1%) at a CUF of 40.33% for 35 years. However,since the STC had recommended an upper cap limit of Rs. 5.71/kWh in their 2nd STC meeting held on 13.08.2021, the Commission approved a Project Specific Tariff for BPPPL’s 24 MW SHEP@ Rs. 5.71/kWh w.e.f 01.02.2022.
4. The direction of Commission vide its Order dated 15.01.2022 in Case No. 88 of 2020 is reproduced below:

The State Technical Committee in their 2nd meeting held on 13.08.2021 had suggested the Commission not to allow project specific tariff and if at all it is absolutely essential to determine project specific tariff, the generic tariff derived by CERC i.e. Rs.5.71/ Unit may be considered as the upper limit and maximum allowable limit after duly taking into consideration the views of GRIDCO. Accordingly, the Commission after taking a note of suggestions of STC approves the tariff of Rs 5.71/ kWh for 24 MW Baitarani SHEP. It is upto GRIDCO to decide whether to procure power from the project for 35 years or for 40

years. Amendments to PPA may be made accordingly by both the parties if necessary. The project specific tariff thus approved shall be effective from 01.02.2022 for energy to be sold to GRIDCO.

5. While matter stood thus, both BPPPL and GRIDCO filed two separate appeals (Appeal No. 73& 392 of 2022) before Hon'ble APTEL challenging OERC Order dated 15.01.2022. Hon'ble APTEL heard the matter clubbing the above two Appeals. As both the parties had reservations against OERC Order, Hon'ble APTEL, vide Order dated 17.10.2022 in above Appeals, remitted the matter to OERC for a fresh adjudication. While remitting back the matter to OERC, Hon'ble APTEL has directed as follows:

"5. We note here that during the course of exercise for tariff determination, the Commission had statedly appointed a consultant whose report was before the Commission at the time of the impugned Order being passed. It is the grievance of the generator that some of the aspects on which the consultant had made recommendations having either been glossed over or totally ignored without any proper justification. Though the learned counsel for the State Commission has his own answer to these contentions, we reserve any comment on this aspect at this stage. We would only say that while revisiting the question of tariff, the Commission will consider such report, assisted by the learned counsel for both sides, and take appropriate view thereupon, and if there is any recommendation not to be accepted, the Commission will give proper reasons for dissociation from such views.

6. For the above reasons, the impugned order is set aside and the matter is remitted to the Commission for fresh adjudication. The provisional tariff as is being put in position in terms of above shall be subject to adjustment after the Commission has rendered its final decision afresh."

The Commission in terms of above direction of Hon'ble APTEL, conducted fresh hearing in this matter after giving notice to all the relevant parties.

6. During the above proceeding, the Petitioner, M/s BPPPL submitted as follows:
- i. This Commission gave effect to the applicability of the project specific tariff only from 01/02/2022, a date which was not discussed in any of the hearings or the proceedings before this Commission. The prayer of the Petitioner was to determine project specific tariff determination from the COD i.e., 29/08/2020 by taking into account the details and justification given by the Petitioner. Tariff determination on a cost-plus basis would always be effective from the COD of any generating station.
 - ii. It is the duty of this Commission while determining project specific capital cost and tariff to frame and decide the issue of time overrun which occurs in the execution of most projects. In the present case as against an estimated time period of 36 months,

the Petitioner took 51 months to complete the project. The additional time taken of 15 months was for reasons beyond the control of the Petitioner such as Geological surprises, Land slide - in downstream of surge shaft, Cyclone Fani, Delay in sanction of additional loan, Land slide - in upstream of surge shaft, Covid-19, and Delay in giving clearance by Government Department/Agency. This Commission ought to consider the impact of Covid-19 and Cyclone Fani which had delayed all project execution in the State of Odisha. Basing on the advice of MNRE, the State of Odisha vide its letter 28/05/2020 has also advised all implementing agencies to give appropriate adjustment for time taken for project execution.

- iii. Without prejudice to the submission that the IDC for the entire period of 51 months is to be capitalized, it is submitted even the IDC computed by this Commission for 36 months at Rs 33.44 crores whereas the same should be Rs 36.45 crores. The Petitioner had also pointed out certain errors made by the TC in the computation of depreciation in its report.
- iv. Cost of Civil Works – The Petitioner pointed out that the TC only provided the rates but no rate analysis. The Petitioner pointed out the year wise escalated rates for “random rubble masonry” as per Schedule of Rates (SSR 2017) and Labour Rates in 2017, 2018 and 2019 of Government of Odisha. The Petitioner had also pointed out that the cement rates over the years have escalated and not remained constant as made out in the report.
- v. Project Management Expenses – TC had incorrectly applied benchmark value of 8% as per AHEC, and considered the same only on Civil Works and Transmission Works.
- vi. It is observed that the TC has proceeded to calculate the IDC based on the Hard Cost of ₹255.78 crores. In case the same is calculated on the project cost (including IDC), the same would work out to Rs 36.45 crores. This difference of Rs 3.01 crores would increase the updated DPR cost to Rs 292.23 crores. The TC also did not appreciate that the Petitioner was entitled to receive the IDC for the entire period of 51 months and not for 44 months alone. Assuming but not admitting that the IDC should be given for 44 months alone, the TC has made an erroneous computation by restricting the IDC to the hard cost instead of taking the capital cost which includes taxes and

duties. Further, the TC has accepted in its report that the delay was not on the part of the Appellant but due to force majeure events.

- vii. However, the Commission accepted the recommendation of TC with certain modification of recommended Capital Cost. The Commission accepted the Capital Cost as Rs 314.80 Cr instead of Rs 360.45 Cr as recommended by the Technical Consultant for tariff determination.
- viii. Similarly, with regard to Project Management Expenses, the Commission in the impugned Order departed from the recommended cost by the Technical Consultant without giving sufficient reasons. Further, there is no basis for the Commission to reduce the taxes and duties to Rs.31.07 crores instead of Rs.36.39 crores recommended by the TC.
- ix. The Commission's decision to accept or not to accept the recommendation of the TC is not being questioned by the Petitioner but if the Commission is not accepting the recommendation, it at least has to pass a reasoned order and not be influenced by the objections of GRIDCO or the STC.
- x. Even if the grounds of the Petitioner on 51 months on time overrun to be condoned are not accepted and 44 months is to be permitted for time overrun based on the principle decided by the Hon'ble Tribunal in the decision dated 27/04/2011 in Appeal No. 72 of 2010, the IDC should have been decided on Rs.64.65 crores instead of being decided on Rs.57.27 crores. The Petitioner has established a dedicated transmission line upto the interconnection point of OPTCL. The capital cost towards the transmission line has also been considered by the Commission to the extent of Rs.19.99 crores. If this cost is factored in, the tariff automatically gets determined at Rs 6 per unit which is also the finding of the Commission. However, the Commission has capped it at Rs 5.71 per unit merely because of the views of GRIDCO and STC. As a result of the artificial ceiling of Rs 5.71 per unit applied by this Commission, the Petitioner is recovering the RoE at only 5.1% as against 17.56% (grossed up) and 14% (as per the Generic Tariff Order dated 16/02/2019 in Case No. 46 of 2018). The tariff of Rs 5.71 per unit therefore is violative of the principles of Section 61 (c) and (d) of the Act.
- xi. In its cross appeal, GRIDCO has relied on the DPR approved in the 56th meeting of the STC dated 18/11/2013 and the revised TEC dated 26/02/2014 which were

conducted much before the Project commissioning date of 24/08/2020. The submission of GRIDCO that the Petitioner ought to supply 99.99 MUs of energy at a levelised maximum tariff of Rs. 4.31 per unit is wrong and denied. If it is so, how could GRIDCO have paid the Petitioner at Rs. 5.07 per unit. It is also crucial to note that tariff can only be determined by this Commission and not by the parties concerned or the STC or any other department of the state.

- xii. The relief of force majeure provided in the PPA is inter-parte namely that neither party would be held liable for not performing the terms of the agreement in case of force majeure. This is a contractual term and can be raised by either party against the other for not performing the conditions of the PPA. However, it is not that the decision on time overrun which is to be taken by the Commission in exercise of its plenary power to determine tariff can be circumscribed by the above provision of the PPA. The CUF determined in the generic tariff Order dt.16.02.2019 following the regulations of the Commission, works out to 30%. Therefore, ideally, the Petitioner is entitled to a CUF of 30% even as per the prevailing regulatory regime. However, the Petitioner has been extremely fair and has never claimed the CUF of 30%. In its original tariff petition, the Petitioner had claimed a CUF of 42.18% based on the hydrology data for the period 2005 to 2015. In fact, the Petitioner had indicated that if CUF is taken as 30%, the tariff would work out of Rs. 10.17 per unit as against the tariff of Rs. 7.26 per unit if the CUF is taken as 42.18%. Jadavpur University having studied the project in particular and the CUF being a project specific parameter, its Report ought to be accepted in total. The subsequent report of IIT Bhubaneswar which is being relied on by GRIDCO is not correct and has been taken only for the purpose of challenging the determination of CUF at 40.33%. The plant availability has been assumed by IIT Bhubaneswar is 100% which is technically impossible. While the IIT Bhubaneswar Report is academic and based on theory, the Jadavpur University Report was conducted on the plant of the Petitioner and the performance tests were the actual results of the operating plant. In conclusion, since the parties are in the realm of project specific tariff determination including the CUF, the only fair way to proceed is to consider the actual data pertaining to the plant of the Petitioner rather than a theoretical analysis as has been done by IIT Bhubaneswar.

7. The Respondent M/s GRIDCO submitted as follows:

- i. BPPPL has claimed a shockingly high Total Project Cost of Rs. 421.59 Crores (Including Adjustments) for the 24 MW SHEP, which comes around Rs. 17.57 Crores/MW which is around 249% of the OERC recommended Normative Capital Cost. Considering the expenses holistically, GRIDCO has accepted a Project Cost of Rs.295.84 Crores (including Adjustments), which comes around Rs. 12.33 Crores/MW and is around 174% of OERC recommended Normative Capital Cost.
- ii. Regarding Civil Cost, GRIDCO has submitted that the quantities are escalated due to alleged Geographical Surprises and the developer requesting to accept the escalations under Force Majeure Conditions. However, the developer never provided any intimation to GRIDCO /Govt. of Odisha as mandated by Clause 5.8 and Clause 12.3 of the Implementation Agreement (IA) and Clause 12 of the PPA dated 18.12.2015. The Scheduled Date of Completion (SCOD) as per Clause 9 of PPA is 36 months i.e. December 2018. The effect of Covid-19 and Fani Cyclone would not have on the Project Construction, had the developer completed the project before SCOD. Department of Energy, Govt. of Odisha had accorded time extension for completion of the Project with pre-condition of non-escalation of Project Cost. Accepting the said conditions, BPPPL had continued Project Works. The developer had never submitted any objection on this. GRIDCO has accepted a Civil Cost of Rs. 129.85 Cr after a detailed verification of the financial documents submitted by M/s BPPPL. As the developer has never intimated about the Force Majeure events, it has faced during Construction, at this point of time there is no scope to examine such events and subsequent escalation in cost. In view of the above GRIDCO prays to approve the Civil Cost as accepted by GRIDCO i.e. 129.85 Cr.
- iii. Regarding Project Management Expenses, BPPPL has claimed an inflated sum of Rs. 38.38 Crore which is 13 times of the approved Project Management Cost of Rs. 3 Crore. Amount claimed by BPPPL is without any documentary evidence or authentic details. Recently M/s Avnatika Power Projects Pvt. Ltd. has filed the Petition for Project specific tariff Determination of its 18 MW Saptadhara SHEP. Under Project Management cost, it has claimed only 3.15 Crore, which is situated in Koraput District with more difficult geographical conditions and Socio-Political conditions. The Project Management Cost may be approved as Rs. 3 Crore.

- iv. Regarding IDC, GRIDCO accepts 36 months from date of signing of PPA as time period for completion of Project as per Clause 9 of PPA. Further as per Clause 9 of the PPA, the delay in project construction, the IDC shall not be Capitalized and to be borne by the developer. Interest during Construction in DPR was computed considering 30 months time from signing of PPA for construction of project. The developer should not be incentivized for the delay in construction and IDC may be kept as Rs. 24 Crore as calculated by GRIDCO.
- v. Taxes and Duties should be limited to actual Project Cost up to the SCOD since extension of time was granted without any escalation in cost.
- vi. In the Techno-Economic Clearance (TEC) by the State Technical Committee the Annual Gross Energy from the Project for 75% dependable year as estimated by Baitarani has been taken as 101 MU (Saleable Energy of 99.99 MU) for arriving at the Tariff Structure for Sale of Power. This works out to CUF of 47.55%. GRIDCO had referred the issue of Hydrological Assessment and Energy Study of Lower Baitarani SHEP to IIT, Bhubaneswar. After detailed hydrological study and analysis and referring to the Data considered by the Technical Consultant, in their Report dated 23.05.2022, IIT has come to the conclusion that on the basis of Data from 1972-73 to 2014-15, the Available Annual Energy during the first two decades is below 100 MU whereas during the latter two decades it was above 100 MU while the long term average of 43 years is 101 MU.
- vii. BPPPL has in fact generated 221.31 MU of Power during 26 months of its operations from September 2020 to October 2022 considering complete months, at a CUF of 48.57%. Similarly, the project has generated 112.10 MU of Power during complete FY 2021-22, which is at a CUF of 53.32%. Hence, in view of the IIT Report establishing average generation of 101 MU per annum on the basis of Hydrological data for 43 years and actual generation being above 99.99 MU (47.55% CUF) per annum, the claim of fall in generation by BPPPL leading to lesser CUF is completely baseless. However M/s BPPPL is claiming for a CUF of 40.33% as per the Report of the TC. OERC has accepted a CUF of 40.33%, i.e. 84.79 MU per annum and with exclusion of the Auxiliary consumption of 1%, the annual energy comes out to be even less. The decrease in annual energy output of more than 15 MU has impacted the tariff extensively. In view of the above, the Commission may kindly consider to

retain the energy output of the plant as approved in the TEC, the Annual Gross Energy output to be 101 MU and after consideration of 1% Auxiliary Consumption net saleable energy of 99.99 MU.

8. In view of the above submissions of the Parties, we summarize the issues to be decided as follows:

- i. Project Cost to be accepted by the Commission for Tariff Determination.
- ii. CUF for Tariff determination.
- iii. Effective date of applicability of project specific tariff.

9. Now, we shall deal with project Cost to be accepted for tariff determination. There are several components of Project Cost on which the petitioners have raised objections. We are giving our findings as follows:

a) Cost of Land and Site Development:

We find that since the DPR stage, cost of land acquisition has been increased substantially for private land which resulted in increased cost of land. As BPPPL, GRIDCO and the TC have agreed to this increase in cost, we approve the cost of Rs 5.01 Cr. under this head.

b) Civil Works:

The STC had recommended verification of geological surprises by experts. The Commission had engaged an independent technical consultant for the very purpose of evaluating the cost of civil works. From the report of TC, the Commission observes that there have been certain geological surprises which resulted in design changes there from during the course of execution of the project. Accordingly, the Commission, considering the views of the TC, is inclined to approve the cost as suggested by TC, i.e. Rs 143.00 Cr. under this head.

c) Electro Mechanical Equipment:

Considering negligible increase of Rs 8 lakhs from the original cost approved by STC in TEC together with the fact that BPPPL, GRIDCO and the TC have agreed to such increase in cost, the Commission approves the cost of Rs 41.48 Cr. under this head.

d) Hydro Mechanical Equipment:

The Commission observes that the increase of Rs 2.84 Cr. from the STC approved cost is on account of provision for Surge Shaft gates which was not envisaged at DPR Stage

taking into account the upsurge as mentioned by TC. Since BPPPL, GRIDCO and the TC have agreed to increase in this cost, the Commission approves the cost of Rs 40.64 Cr. under this head.

e) Engineering & Consultancy:

Since there is no change in Cost under this head as compared to originally STC approved cost and the same has also been concurred by BPPPL, GRIDCO and the TC, the Commission approves the cost of Rs 2.50 Cr. under this head.

f) Project Management:

Project Management Cost originally approved by the STC in TEC was Rs 3.00 Cr. as compared to Rs 38.38 Cr. proposed by the petitioner. It can be observed that there is a thirteen-fold increase in Project Management cost in less than 2 years of delay as outlined in the 2nd STC MoM dated 17.08.2021 as well as by GRIDCO. Both STC and GRIDCO strictly did not agree to any increase in the Project Management Cost. The Commission also believes that such a huge increase in Project Management cost is unjustified and inconceivable. Approval of STC is required for any increase in cost under this head since the same has been strictly rejected by STC in its minutes of the meeting. It has also been observed that there has been no documentary evidence in respect of the claim of petitioner and the justification provided by the TC for deviating from the value approved in the TEC which was also referred to in the PPA dt. 18.12.2015 (Vol III). The Commission, therefore, considering the actual cost approved in the TEC, approves the cost of Rs 3.00 Cr. under this head.

g) Transmission Lines for Evacuation:

The Commission observes that marginal increase in cost under this head is on account of increase in actual length of transmission line to 34 km against 32 km provided at DPR stage as pointed out by the TC. Since BPPPL, GRIDCO and the TC have agreed to this cost, the Commission approves the cost of 19.99 Cr. under this head.

h) Taxes & Duties:

As per analysis, cost of taxes and duties paid to Government by the Petitioner during the previously approved construction period amounts to Rs 31.07 Cr including the change in new tax regime. Further, the impact of this increase in tax in comparison to that as suggested by GRIDCO is due to the increase in cost of Civil works. Moreover, due to non-consideration of Project Management cost as suggested by TC, the taxes accordingly

vary from the suggestions of TC. The Commission therefore approves the cost of Rs 31.07 Cr. under this head.

i) Interest during Construction (IDC):

The IDC period allowed in DPR was 30 months contrary to that of 36 months which is allowed in the Clause 9 of PPA. The TC has considered 44 months for calculation of IDC and has mentioned that this increase has occurred on account of increased construction period of 8 months and increased cost of construction materials, labour wages, etc. It may be noted that as per the letter dated 05.08.2022 to EIC-cum-PCEI, necessary time extensions were allowed to the developer by Department of Energy, Government of Odisha without any escalation in the project cost. Covid-19 was at peak during this period of time. It is observed that clause 9.0 of the PPA dated 18.12.2015 mentions that in case of delayed commissioning beyond SCOD of 36 months except for force majeure conditions, the IDC shall not be capitalized and shall be borne by the developer. The petitioner did not raise the issue of Geological surprises or Covid-19 while getting such time extension and therefore the Government of Odisha had accorded time extension with precondition specifically mentioned that there should not be any increase in project cost. Moreover, any force majeure event has to be intimated to GRIDCO/ Government of Odisha as per Clause 12 of the PPA and 5.3 & 12.3 of the Implementation Agreement which has not been followed by the Petitioner. Further, as per the 2nd STC MoM dated 17.08.2021, the STC mentioned that Cyclone FANI and Covid-19 have little impact on the Commissioning of the project. The time extension has been allowed by the Government after the occurrence of such events. Therefore, considering the above, the Commission is of the view that a period of 36 months is to be considered for calculation of IDC. For construction period of 36 months (as per the approved DPR), we find that the appropriate IDC to be allowed through Tariff should be Rs 33.44 Cr with reference to the Hard Cost of Rs 255.78 Cr which excludes taxes. The Commission accordingly recognizes and approves the cost of 33.44 Cr under this head which is similar to the cost arrived by the TC in its report for the scenario of 36 months.

j) Adjustments in Project Cost:

The Commission recognizes the adjustment of Rs 5.33 Cr. to the total project cost as suggested by TC on account of infirm Power Sale, Recovery on Fixed Assets and MNRE subsidy. The same shall not be considered while calculating the total project cost.

10. Accordingly, the Commission approves a total project cost of Rs 314.80 Cr. as under:

Sl. No	Description	Original Project Cost approved by STC	Completion Cost Claimed by BPPPL	Project Cost approved by OERC
1	Cost of Land and Site Development	3.10	5.01	5.01
2	Civil Works	109.46	154.55	143.00
3	Electro Mechanical Equipment	41.40	41.48	41.48
4	Hydro Mechanical Equipment	37.80	40.64	40.64
5	Engineering & Consultancy	2.50	2.50	2.50
6	Project Management	3.00	38.38	3.00
7	Others –Transmission Lines for Evacuation	19.00	19.99	19.99
8	Taxes & Duties	10.64	36.65	31.07
9	Total Cost	226.90	339.20	286.69
10	Interest during Construction (IDC)	12.29	82.39	33.44
11	Total Project Cost	239.19	421.59	320.13
12	Adjustment in Project Cost	-5.80	-5.00	-5.33
13	Total Project Cost (after adjustments)	233.39	416.59	314.80

11. Now we shall discuss about CUF to be accepted for tariff determination. From the pleading of the parties, the Commission observes that the Techno Economic Clearance (TEC) which is referred to in the revised PPA states that *“The total annual gross energy from the project at 75% dependable year, as estimated by the developer will be taken as 101 MU (saleable energy of 99.99 MU) for arriving the tariff structure for sale of power.”* This results in a CUF of about 47.55%. It has also been observed that the Actual CUF for FY 2021-22 comes out to be about 53.32% (with actual energy of 112.10 MUs procured) whereas the actual CUF of the project since date of commissioning till October 2022 is about 48.57% (with actual energy of 221.31 MUs procured). Moreover, the report of IIT, Bhubaneswar considering the actual data of 1972-73 till 2014-15 from CWC states that *“... the available annual energy during first two decades is below 100 MU whereas during the latter two decades there are above 100 MU with a long term average of 43 years is 101 MU.”* The expected generation as mentioned by IIT in their report and actual generation for complete FY 2021-22 are more than what had been determined by the TEC of STC. Therefore, it would be prudent to accept the recommendation of TEC which had prompted GRIDCO to sign PPA with the Petitioner

BPPPL. The procurer GRIDCO has given its commitment to procure the power on the basis of those clearances. Moreover, the actual generation data corroborates with the average generation data provided by IIT Bhubaneswar i.e. 101 MU. Therefore, in line with the provisions of TEC as well as considering the facts of actual generation, the Commission considers 100 MUs as the total annual gross generation with saleable energy of 99.00 MUs from the project for 75% dependable year. Accordingly, the CUF considered for calculation of Tariff comes to 47.55%.

12. Apart from the above modified parameters of project cost and CUF, other input technical and financial parameters for tariff determination of SHP are to be accepted as per the Order of the Commission in Case No. 46/2018 of OERC (Tariff of Renewable Energy Sources including Co-generation for the third control period 2018-19 to 2020-21) which are applicable irrespective of projects. The overall Parameters considered for calculation of Tariff is provided in the table below:

Parameters and Assumptions for Tariff Calculation for 35 years

No	Technical Parameters	Value	Unit
1	Capacity of the Power Project	1	MW
2	Capacity Utilization Factor	47.55%	%
3	Annual gross energy Generation	41.65	Lakh kWhs
4	Auxiliary consumption	1.00	%
5	Net energy generation	41.24	Lakhs
6	Life of Plant and Machinery / Project Life	35	years
No	Financial Parameters	Value	Unit
1	Project Cost of 1 MW SHP plant	1312	Rs Lacs/MW
2	Non depreciable cost	10.00%	% of Capital Cost
3	Depreciable Amount	1180.50	lacs
4	Debt Fraction	70.00%	%
5	Debt	918.17	lacs
6	Equity	393.50	lacs
7	TOTAL	1311.67	lacs
8	Interest Rate on Term Loan	9.97%	%
9	Repayment Period	13	years
10	No of installments for Interest on Term Loan	13	years
11	Moratorium Period	0	years
12	Term loan period for principal payment	13	years
13	Depreciation (Straight Line Method, Company Law) (for first 13 years)	5.28%	%
14	Discount Rate	9.15%	%

15	O&M + Insurance Cost	22.2	lakhs /MW
16	O&M + Insurance Cost Escalation	5.72%	%
17	Return on Equity	17.56%	%
18	Annuity Factor (35 Years)	10	
19	Interest on working capital	10.97%	%
	Levellized Tariff (for 35 years)		Rs 5.03/ kWh

13. The next issue is to determine from which date the project specific tariff shall be applicable. In this context, we agree with the contention of the petitioner M/s BPPPL that it should be applicable from COD of the project, i.e. from 29.08.2020 for energy to be sold to GRIDCO.

14. In view of the above and after taking a note of the facts and suggestions provided by the TC as well as the stakeholders and also considering the various provisions of PPA, IA and TEC, the Commission approves the tariff of Rs 5.03/ kWh for 24 MW Baitarani SHEP (which is well within the STC recommended tariff upper cap of Rs 5.71/ kWh) for a period of 35 years with effect from CoD, i.e. 29.08.2020.

15. The case is accordingly disposed of.

Sd/-
(S.K Ray Mohapatra)
Member

Sd/-
(G. Mohapatra)
Officiating Chairperson