ODISHA POWER GENERATION CORPORATION LIMITED

BHUBANESWAR

PETITION FOR APPROVAL OF CAPITAL COST AND TARIFF DETERMINATION FOR UNITS 3 & 4 (2x660 MW) FROM COD OF UNIT 3 (03.07.2019) UPTO FY 2023-24

November, 2021

BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION, BHUBANESHWAR

CASE No. ____ of 2021

IN THE MATTER OF	Petition for Approval of Capital Cost and Tariff determination for Units 3 & 4 (2x660 MW) from COD of Unit 3 (03.07.2019) upto FY 2023-24
AND	
IN THE MATTER OF THE APPLICANT	Odisha Power Generation Corporation Ltd. (OPGC Ltd.), Zone-A, 7th Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar-751023, Odisha, India (Petitioner)
IN THE MATTER OF THE RESPONDENT	GRIDCO Ltd., Janpath, Bhubaneshwar

ODISHA POWER GENERATION CORPORATION LIMITED ("The Petitioner") RESPECTFULLY SUBMITS AS FOLLOWS:

Odisha Power Generation Corporation Limited (hereinafter referred as "OPGC" or "the Petitioner") is a company incorporated under the Companies Act, 1956 and having its registered office at Zone-A, 7th floor, Fortune Towers, Chandrasekharpur, Bhubaneswar, Odisha-751023.

OPGC, a generating company as defined in the Electricity Act, 2003, has an existing coal based thermal power station comprising of 2 Units of 210 MW capacity (Units 1 & 2), situated at IB Thermal Power Station Complex, Banharpalli, Jharsuguda District. OPGC has installed 2 Units of 660 MW capacity (Units 3 & 4) as base load power plant, at the same site as that of the existing plant.

OPGC and GRIDCO Limited ("GRIDCO") had entered into a Long-Term Power Purchase Agreement (PPA) dated January 4, 2011 for supply of 50% of the Installed Capacity from

Units 3 & 4 to GRIDCO as per the allocation specified in the PPA. Hon'ble OERC vide its Order dated April 4, 2012 in Case No. 113 of 2011 unqualifiedly approved the long-term PPA between OPGC and GRIDCO.

OPGC had filed a Petition (Case No. 3/2019) before the Hon'ble OERC for approval of provisional tariff for Units 3&4. The Hon'ble OERC disposed of the Case No. 3/2019 vide its Order dated August 16, 2019 wherein the Hon'ble OERC had approved the provisional single part tariff as Rs. 2.75 per unit. Vide the same Order, the Hon'ble OERC directed OPGC to file fresh Petition for determination of final tariff after notification of new tariff regulations for the period 2019-24.

OPGC had filed the Review Petition (Case No. 54/2019) for review of the Hon'ble OERC's Order dated August 16, 2019. Hon'ble OERC disposed of the said Petition vide its Order August 21, 2020 wherein the Hon'ble OERC ruled as under:

"15. In view of the above order, the cause of action for review no longer exists. The Commission has already modified the provisional tariff from Rs. 2.75/Unit to Rs. 3.09/Unit for FY 2020-21 based on the submission of GRIDCO and the submission from various quarters. Accordingly, GRIDCO has paid provisionally for the power purchased from Unit-3 & 4 of OPGC @ Rs. 2.75/unit for FY 2019-20 and @ Rs. 3.09/Unit for FY 2020-21. Since the tariff is provisional the claim of the petitioner to pay them arrear on installment basis does not hold good because the new tariff @Rs.3.09 paise/ unit is also provisional. Once the final tariff is determined by the Commission, GRIDCO shall settle the past and future bills as per the tariff so fixed by the Commission.

....

18. Therefore, there is no need to review the order of the Commission. Once the Generation tariff Regulation is notified, OPGC may file the tariff petition for determination of the final Tariff for its Unit-3 & 4."

OPGC and GRIDCO have entered into a Supplementary PPA on January 24, 2019 in compliance with the Government Notifications dated December 20, 2018. GRIDCO had filed a Petition (Case No. 67/2019) before Hon'ble OERC for approval of Supplementary PPA and the Hon'ble Commission issued the Order in Case No. 67/2019 dated June 22, 2021. Hon'ble

OERC in the said Order ruled that the tariff for supply of power from Units 3&4 to GRIDCO shall be as per the norms and parameters of OERC Generation Tariff Regulations notified from time to time.

Hon’ble OERC had notified the Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2014 (“OERC Tariff Regulations, 2014”) for the Control Period upto March 31, 2019. Further, vide the Notification dated February 4, 2020, the Hon’ble OERC had extended the period of OERC Tariff Regulations, 2014 for a period of one year i.e., upto March 31, 2020. The said Notification also specifies that the parameters fixed for FY 2018-19 shall be applicable for FY 2019-20.

The Hon’ble OERC has issued the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 (“OERC Tariff Regulations, 2020”), applicable for the Tariff Period from April 1, 2020 to March 31, 2024, notified vide the Gazette Notification dated August 26, 2020. In accordance with Regulation 7(1) of the OERC Tariff Regulations, 2020, the Tariff Petition has to be filed for the entire Tariff Period from April 1, 2020 to March 31, 2024.

The proviso to Regulation 1(4) of the OERC Tariff Regulations, 2020 specifies as under:
“... Provided that, where the Commission has at any time prior to the notification of these Regulations, approved a Power Purchase Agreement (PPA) or arrangement between a generating company and a Beneficiary, or has adopted the tariff contained therein for supply of electricity from an existing project then the tariff for supply of electricity by the generating company to the Distribution Licensee shall be in accordance with such PPA or arrangement for such period as may be so approved or adopted by the Commission to the extent of existing Installed Capacity as contained in the PPA.”

Hon’ble OERC vide its Order dated April 4, 2012 in Case No. 113 of 2011 approved the long-term PPA and ruled as under:
“14. In view of the above, we approve the PPA 2 between GRIDCO and OPGC considering Govt. of Odisha notifications and keeping in view the technological advantages and the interest of the state.”

Clause 1 of Schedule 4 of the PPA provides as under:

"1. Tariff basis

Tariff under this agreement shall be based on tariff norms and parameters of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 ("Tariff Regulations"). Accordingly, the Tariff norms and parameters stated hereunder have been included in this schedule based on the tariff norms and parameters outlined in the Tariff Regulations.

As and when any amendment to the Tariff norms and parameters are made in the Tariff Regulations, the said norms and parameters in this Schedule shall be applied to reflect the said amendments from time to time."

Whereas, the Hon'ble Commission vide its Order dated June 22, 2021 in Case No. 67/2019 ruled as under:

"29. .... Therefore, the Commission is of the view that GRIDCO may procure power from OPGC expansion Units-3 & 4 as decided by the State Government. However, the Commission observed that as per PPA -2 the tariff norms and parameters for this project shall be as per the guidelines of CERC Tariff Regulations. The same is reiterated in the supplementary agreement to the PPA-2. Since 100% power shall be procured by GRIDCO from this expansion project of OPGC, the tariff should be as per the norms and parameters of OERC Generation Tariff Regulations notified by the Commission from time to time."

Aggrieved by the above stated ruling of the Hon'ble Commission, OPGC has preferred a Writ Petition before the Hon'ble High Court of Orissa. The same has been numbered as **WP (C) No. 34663/2021**. It is submitted that the instant Petition is being filed without prejudice to OPGC's rights under law and contentions taken in W.P. (C) No. **34663/2021** before the Hon'ble High Court.

Unit 3 and Unit 4 have achieved COD on July 3, 2019 and August 21, 2019 respectively. However, time was required to finalise the capitalised works as on COD and remaining capital works to be completed during the cut-off period. The accounts were to be finalised and duly audited. In the intervening period, due to the restrictions imposed by the Central as well as State Governments due to COVID-19 pandemic, the collation of vast information required for filing of the present Petition was hindered.

In accordance with the Hon'ble OERC's Orders, the PPA provision reproduced above and the CERC Tariff Regulations, 2019, OPGC is filing the present Petition for determination of capital cost and final tariff for Units 3&4 from COD of Unit 3 upto FY 2023-24.

Prayers to the Hon'ble OERC

OPGC respectfully prays that the Hon'ble OERC may:

i. Admit the instant Petition;
ii. Grant an expeditious hearing in the matter;
iii. Approve the Capital Cost including additional capitalisation from COD of Unit 3 upto FY 2023-24, as claimed in the Petition;
iv. Approve the tariff of OPGC-II (Unit-3&4) from COD of Unit 3 upto FY 2023-24 as claimed in the Petition;
v. Approve the recovery of other charges on actual basis as incurred during the year;
vi. Determine the tariff of OPGC-II (Unit-3&4) in accordance with the Schedule 4 of the PPA comprising CERC Tariff Regulations, 2019;
vii. Approve the billing of Capacity Charges and Energy Charges in accordance with the provisions of the CERC Tariff Regulations, 2019;
viii. Approve the recovery/adjustment of differential amount between the final tariff approved and the provisional tariff billed for the period starting from COD of Unit 3 till the issuance of the Order in this Petition, immediately after the Order is issued in this Petition.
ix. Condone any inadvertent omissions, errors, shortcomings and permit OPGC to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date; and
x. Pass such other and further Orders as deemed fit and proper in the facts and circumstances of the case.

Petitioner

Bhubaneshwar

November 10, 2021

TABLE OF CONTENTS

LIST OF TABLES

1 Introduction

1.1 Odisha Power Generation Corporation Limited (herein after referred as "OPGC" or "the Petitioner") is a company incorporated under the Companies Act, 1956 and having its registered office at Zone-A, 7th floor, Fortune Towers, Chandrasekharpur, Bhubaneswar, Odisha-751023.

1.2 OPGC, a generating company as defined in the Electricity Act, 2003, has a coal based thermal power station comprising of 2 Units of 210 MW capacity (Units 1&2), situated at IB Thermal Power Station Complex, Banharpalli, Jharsuguda District.

1.3 OPGC, GRIDCO and GoO signed a Tripartite Agreement dated October 18, 1998 ("Tripartite Agreement") providing certain further amendments to existing PPA for Unit 1&2 and other provisions including those concerning the establishment of Units 3&4 of IB Thermal Power Station by OPGC.

1.4 Subsequently, certain disputes arose between the parties on issues arising from the terms of the PPA, Tripartite Agreement and other agreements between the Parties. In order to resolve these disputes, the parties entered into discussion and GoO constituted a Task Force vide Resolution No. 3895 dated May 7, 2007 for resolving disputes regarding tariff and other related matters. GoO based on the recommendations of Task Force, issued Notification No. 7216 dated June 21, 2008 ("2008 Notification") and Notification No. 10061/E dated October 12, 2009 for resolving all such disputes on terms and conditions contained therein in regard to Unit 1&2 and also with regard to setting up of Unit 3 & 4 of Capacity 2 x 660 MW (Supercritical Technology), as an overall settlement of all disputes and in the larger interest of the energy security for the State. In view of the above, OPGC has proceeded to install 2 Units of 660 MW capacity each (Units 3&4) as base load power plant, at the same site as that of the existing plant.

1.5 Further, the 2008 Notification mandated that 50% of the installed capacity for Units 3 & 4 will be contracted to GRIDCO, based on regulated tariff. Accordingly, OPGC and GRIDCO Limited ("GRIDCO") had entered into a Long-Term Power Purchase Agreement (PPA) dated January 4, 2011 for supply of 50% of the Installed Capacity from Units 3&4 to GRIDCO as per the terms set out in the PPA. Hon’ble OERC vide its Order dated April 4, 2012 in Case No. 113 of 2011 unqualifiedly approved the long-term PPA and ruled as under:

> *“14. In view of the above, we approve the PPA 2 between GRIDCO and OPGC considering Govt. of Odisha notifications and keeping in view the technological advantages and the interest of the state.”*

1.6 Subsequently, vide its Notification No. 10485/OPGC- 25/2018 dated December 20, 2018 Government of Odisha has approved the arrangement for executing Supplementary Power Purchase Agreement to the existing PPA and on the same terms, for additional 25% of installed capacity of Units 3&4 from COD upto March 31, 2023 and 100% of installed capacity of Units 3&4 from April 1, 2023 onwards, for a period of 25 years thereafter. Therefore, the contracted capacity from COD of Unit 3 upto March 31, 2023 shall be 75% of the installed capacity and 100% thereafter.

1.7 Further, in compliance with the Government Notifications dated 20th December 2018, OPGC and GRIDCO have entered into a Supplementary PPA dated 24th January 2019, on the same terms as the PPA dated 4th January 2011, except amendments with relation to revised contracted capacity and captive coal mine, as specifically outlined in the annexure to the Supplementary PPA. GRIDCO has filed a Petition (Case No. 67/2019) before Hon’ble OERC for approval of Supplementary PPA and the Hon’ble Commission has issued the Order dated June 22 ‘2021 in Case No. 67/2019 and has ruled as under:

“29. .... Therefore, the Commission is of the view that GRIDCO may procure power from OPGC expansion Units-3 & 4 as decided by the State Government. However, the Commission observed that as per PPA -2 the tariff norms and parameters for this project shall be as per the guidelines of CERC Tariff Regulations. The same is reiterated in the supplementary agreement to the PPA-2. Since 100% power shall be procured by GRIDCO from this expansion project of OPGC, the tariff should be as per the norms and parameters of OERC Generation Tariff Regulations notified by the Commission from time to time.

30. The Commission further observed that GRIDCO has stated that as per Clause-1 (c) of the supplementary PPA dated 24.11.2019, payment liability of any POC charges and losses associated with the usage of CTU network with respect to the additional power beyond 50% of the station capacity if scheduled from Unit-4 will be mutually settled between GRIDCO and OPGC at later stage. The Commission is of the view that both the parties should finalise the matter at the earliest and incorporate the same in the proposed amendment to the PPA-2.

31. In view of the above the Commission accord in principle approval to the supplementary PPA dated 24.01.2019 and directs GRIDCO and OPGC to amend the PPA-2 accordingly incorporating the observations of the Commission in the present order and earlier order dated 04.04.2012 passed in Case No. 113/2011 and submit the same before this Commission for perusal."

1.8 Unit 3 and Unit 4 have achieved COD on July 3, 2019 and August 21, 2019 respectively. Accordingly, OPGC is filing the present Petition for determination of capital cost and final tariff for Units 3&4 from COD of Unit 3 upto FY 2023-24.

1.9 OPGC filed petition before OERC for approval of capital cost and determination of provisional tariff from anticipated COD of Unit 4 upto March 31, 2019 on January 19, 2019, which was registered as Case No.03/2019. The petition was filed for the capacity contracted to GRIDCO i.e., 50% as per PPA dated January 04, 2011, duly approved by OERC vide order dated April 04, 2012 and additional 25% as per Govt. of Odisha notification dated December 20, 2018 (Total 75% or 990 MW gross).. OERC disposed of the case vide order dated August 16, 2019, directing that power be supplied to GRIDCO at provisional single part tariff of Rs.2.75/kWh. Further, the order directed OPGC to file final tariff application based on the new tariff regulations for the Control Period from April 1, 2019. The direction of Hon'ble Commission vide order dated 16 August 2019, is reproduced below for reference.

"8. The Commission observed that OPGC has filed the present petition for determination of tariff of its expansion project (Unit 3&4) based on the tariff norms of OERC Tariff Regulations, 2014 which was valid till 31.03.2019. The COD of Unit-3 has been declared by OPGC w.e.f. 03.07.2019, but it is yet to be officially intimated to GRIDCO who is the only buyer at present. The Commission is now in the process of formulating new Generation Tariff Regulations, which will be effective w.e.f. 1st April,

2019. Final tariff for this expansion project of OPGC shall be determined only after notification of the new Generation Tariff Regulations. Further, the capital cost projected by OPGC has to be audited by OPGC and verified by the Commission through an independent agency. It is expected that the COD of both the units will be declared during the current financial year following the due process. As per the existing PPA approved by the Commission, GRIDCO has to purchase 50% of the power from these generating units. GRIDCO is agreeable to pay M/s. OPGC Rs.2.75 per unit of power procured by them provisionally till final tariff is approved by the Commission. Therefore, we approve the Rs.2.75 per unit as provisional tariff to be paid to OPGC for power procured by GRIDCO from Unit-3 & 4 of the generating station after COD subject to existing PPA. This tariff shall apply for only 50% of the power generated by the Units – 3 and 4 of the petitioner's power plant for which PPA has been approved by the Commission. After the Generation Tariff Regulation of OERC is notified by the Commission for the control period starting from 2019-20, OPGC shall file fresh petition for determination of final tariff for the control period as per the said Regulation. The provisional transaction between GRIDCO and OPGC shall be settled on the basis of final tariff approved by the Commission. Since, OPGC shall file fresh petition for determination of tariff as per new Regulation the present petition has lost its relevance and therefore there is no need to keep the present case pending before the Commission. The final tariff shall be determined strictly as per approved PPA of the Commission."

1.10 Aggrieved by the order, OPGC filed a Review Petition dated September 07, 2019 for redetermination of tariff as per the petition. The petition was registered as Case No.54/2019.

1.11 During the pendency of Case. No.54/2019, GRIDCO filed ARR for the FY 2020-21, wherein it proposed provisional tariff of Rs.3.09/kWh, for power to be purchased from OPGC Units 3 & 4. OERC while disposing the ARR of GRIDCO for FY 2020-21 in Case No. 71/2019, approved procurement of power from Units 3 & 4 at revised provisional single part tariff of Rs.3.09/kWh, which was effective from 1st May 2020. Subsequently, OERC dismissed Case No.54/2019 vide order dated August 21, 2020, with the observation that the review had no merit and that the matter had already been dealt with in the ARR of GRIDCO for FY 2020-21. Order of the Hon'ble Commission dated August 21, 2020 in Case No.54/2019 reproduced below for perusal. Further, OERC has allowed the approved provisional single part tariff of Rs.3.09/kWh for power to be procured by GRIDCO from Units 3 & 4 of OPGC, for FY 2021-22, vide GRIDCO ARR order dated March 26, 2021, in Case No. 72/2020.

"14. Subsequently, the Commission in its order dated 22.04.2020 in Case No. 71 (ARR of GRIDCO for FY 2020-21) at Para 245 have observed as follows:

"245. XXXXX The tariff for this expansion project of OPGC has not yet been determined by the appropriate Commission, though this Commission vide its order dated 16.08.2019 have fixed a provisional tariff @ 275Paise/kWh in respect of this expansion project for procurement of 50% contracted capacity by GRIDCO as per the PPA dated 04.01.2011. Considering the submission of GRIDCO, the Commission observed that the tariff for this expansion of project (Units-III & IV) of OPGC would be more than the provisional tariff of 275 P/U fixed by the Commission in its order dated 16.08.2019. Therefore, the Commission considers the proposal of GRIDCO and approves a provisional tariff of 309 P/U for procurement of power from Units-III & IV expansion projects of OPGC for the purpose of computation of ARR of GRIDCO for the FY 2020-21. GRIDCO shall pay the same to OPGC till tariff is fixed for this expansion project. XXXX

15. In view of the above order, the cause of action for review no longer exists. The Commission has already modified the provisional tariff from Rs.2.75/Unit to Rs. 3.09/Unit for FY 2020-21 based on the submission of GRIDCO and the submission from various quarters. Accordingly, GRIDCO has paid provisionally for the power purchased from Unit-3 & 4 of OPGC @ Rs.2.75/unit for FY 2019-20 and @ Rs.3.09/Unit for FY 2020-21. Since the tariff is provisional the claim of the petitioner to pay them arrear on installment basis does not hold good because the new tariff @Rs.3.09 paise/ unit is also provisional. Once the final tariff is determined by the Commission, GRIDCO shall settle the past and future bills as per the tariff so fixed by the Commission."

1.12 Vide the Notification dated February 4, 2020, the Hon'ble OERC had extended the period of OERC Tariff Regulations, 2014 for a period of one year i.e., upto March 31, 2020. The said Notification also specifies that the parameters fixed for FY 2018-19 shall be applicable for FY 2019-20 also.

1.13 The Hon'ble OERC has issued the OERC Tariff Regulations, 2020, applicable for the Tariff Period from April 1, 2020 to March 31, 2024, notified vide the Gazette Notification dated August 26, 2020. In accordance with Regulation 7(1) of the OERC

Tariff Regulations, 2020, the Tariff Petition has to be filed for the entire Tariff Period from April 1, 2020 to March 31, 2024.

1.14 The proviso to Regulation 1(4) of the OERC Tariff Regulations, 2020 specifies as under:

"... Provided that, where the Commission has at any time prior to the notification of these Regulations, approved a Power Purchase Agreement (PPA) or arrangement between a generating company and a Beneficiary, or has adopted the tariff contained therein for supply of electricity from an existing project then the tariff for supply of electricity by the generating company to the Distribution Licensee shall be in accordance with such PPA or arrangement for such period as may be so approved or adopted by the Commission to the extent of existing Installed Capacity as contained in the PPA."

1.15 Clause 1 of Schedule 4 of the PPA provides as under:

"1. Tariff basis

Tariff under this agreement shall be based on tariff norms and parameters of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 ("Tariff Regulations"). Accordingly, the Tariff norms and parameters stated hereunder have been included in this schedule based on the tariff norms and parameters outlined in the Tariff Regulations.

As and when any amendment to the Tariff norms and parameters are made in the Tariff Regulations, the said norms and parameters in this Schedule shall be applied to reflect the said amendments from time to time."

1.16 Whereas, the Hon'ble Commission vide its Order dated June 22, 2021 in Case No. 67/2019 ruled as under:

"29. .... Therefore, the Commission is of the view that GRIDCO may procure power from OPGC expansion Units-3 & 4 as decided by the State Government. However, the Commission observed that as per PPA -2 the tariff norms and parameters for this project shall be as per the guidelines of CERC Tariff Regulations. The same is reiterated in the supplementary agreement to the PPA-2. Since 100% power shall be

procured by GRIDCO from this expansion project of OPGC, the tariff should be as per the norms and parameters of OERC Generation Tariff Regulations notified by the Commission from time to time."

1.17 Aggrieved by the above stated ruling of the Hon'ble Commission, OPGC has preferred a Writ Petition before the Hon'ble High Court of Orissa. The same has been numbered as **WP (C) No. 34663/2021**. It is submitted that the instant Petition is being filed without prejudice to OPGC's rights under law and contentions taken in **WP (C) No. 34663/2021** before the Hon'ble High Court.

1.18 With the above backdrop, OPGC is now filing this petition for approval of capital cost for Units 3 & 4, including additional capitalisation and determination of tariff from COD of Unit -3, i.e., July 3, 2019 to March 31, 2024.

1.19 The Petition is structured in the following manner:

- Section 1 (This Section): Introduction
- Section 2: Approach for Filing Petition
- Section 3: Capital Cost of Unit 3 & 4
- Section 4: Generation Tariff for FY 2019-20 to FY 2023-24
- Section 5: Prayers

2 Approach for Filing Petition

2.1 Hon'ble OERC vide its Order dated April 4, 2012 in Case No. 113 of 2011 approved the long-term PPA dated January 4, 2011 for allocation of contracted capacity and sale of power from Units 3 & 4 (2x660 MW) of Ib Thermal Power Station between OPGC and GRIDCO for a term of 25 years. The copy of PPA dated January 4, 2011 is enclosed at **Annexure 1**.

2.2 The statutory and PPA provisions under which the instant Petition is being filed are as under:

2.3 Article 1.1 of the PPA defines Tariff as under:

*"**"Tariff"** means the tariff as computed in accordance with Schedule 4"*

2.4 Clause 1 of Schedule 4 of the PPA provides as under:

*"**1. Tariff basis***

*Tariff under this agreement shall be based on tariff norms and parameters of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 ("**Tariff Regulations**"). Accordingly, the Tariff norms and parameters stated hereunder have been included in this schedule based on the tariff norms and parameters outlined in the Tariff Regulations.*

As and when any amendment to the Tariff norms and parameters are made in the Tariff Regulations, the said norms and parameters in this Schedule shall be applied to reflect the said amendments from time to time.

While the tariff provisions given herein are considered for the Power Station as a whole, while computing tariff for sale to GRIDCO, the provisions shall be considered in proportion to the 50% Contracted Capacity for GRIDCO."

2.5 Subsequently, vide its Notification No. 10485/OPGC- 25/2018 dated December 20, 2018 Government of Odisha has approved the arrangement for executing

Supplementary Power Purchase Agreement to the existing PPA for additional 25% of installed capacity of Units 3&4 from COD upto March 31, 2023 and 100% of installed capacity of Units 3&4 from April 1, 2023 onwards for a period of 25 years thereafter. Therefore, the contracted capacity from COD of Unit 3 upto March 31, 2023 shall be 75% of the installed capacity and 100% thereafter. The relevant extract of the GoO Notification is reproduced below:

> *"4. After careful consideration, Government have been pleased to approve the arrangement worked out in the "Shareholders' meeting of OPGC" to contract the PPA for the entire capacity of Unit-3&4 between OPGC and GRIDCO in the following manner:*
>
> *(i) OPGC and GRIDCO shall execute a supplementary Agreement <u>to the existing PPA on same terms as the executed PPA for 50% (660 MW), for another 25% (330 MW) of OPGC expansion capacity, to be effective from COD of Units 3&4, till 31st March, 2023</u>. <u>The Supplementary Agreement shall also include enhancement of the PPA from 75% to 100% from 1st April, 2023 for a period of 25 years thereafter.</u>*
>
> *(ii) Supplementary Agreement shall provide for amendment of the existing PPA for 50% of OPGC-II expansion capacity (660 MW) to be co-terminus with the arrangement as proposed in (i) above and to incorporation changes with respect to coal sourcing from OCPL.*
>
> *……*
>
> *(vii) OPGC, GRIDCO, OPTCL and Department of Energy, Government of Odisha will take necessary approval from OERC for above arrangements."*

2.6 The copy of above stated Notification is enclosed at **Annexure 2**. OPGC and GRIDCO have entered into a Supplementary PPA in compliance with the Government Notifications dated December 20, 2018. GRIDCO has filed a Petition (Case No. 67/2019) before Hon'ble OERC for approval of Supplementary PPA and the Hon'ble Commission has issued the Order in Case No. 67/2019 dated June 22, 2021. The copy of Supplementary PPA is enclosed at **Annexure 3**.

2.7 Hon'ble OERC in its Order in Case No. 67/2019 dated June 22, 2021, has ruled as under:

"29. .... Therefore, the Commission is of the view that GRIDCO may procure power from OPGC expansion Units-3 & 4 as decided by the State Government. However, the Commission observed that as per PPA -2 the tariff norms and parameters for this project shall be as per the guidelines of CERC Tariff Regulations. The same is reiterated in the supplementary agreement to the PPA-2. Since 100% power shall be procured by GRIDCO from this expansion project of OPGC, the tariff should be as per the norms and parameters of OERC Generation Tariff Regulations notified by the Commission from time to time.

30. The Commission further observed that GRIDCO has stated that as per Clause-1 (c) of the supplementary PPA dated 24.11.2019, payment liability of any POC charges and losses associated with the usage of CTU network with respect to the additional power beyond 50% of the station capacity if scheduled from Unit-4 will be mutually settled between GRIDCO and OPGC at later stage. The Commission is of the view that both the parties should finalise the matter at the earliest and incorporate the same in the proposed amendment to the PPA-2.

31. In view of the above the Commission accord in principle approval to the supplementary PPA dated 24.01.2019 and directs GRIDCO and OPGC to amend the PPA-2 accordingly incorporating the observations of the Commission in the present order and earlier order dated 04.04.2012 passed in Case No. 113/2011 and submit the same before this Commission for perusal."

2.8 Hon'ble OERC has notified the Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Generation Tariff) Regulations, 2014 ("OERC Tariff Regulations, 2014") for the Control Period upto March 31, 2019. Further, vide the Notification dated February 4, 2020, the Hon'ble OERC had extended the period of OERC Generation Tariff Regulations, 2014 for a period of one year i.e., upto March 31, 2020. The said Notification also specifies that the parameters fixed for FY 2018-19 shall be applicable for FY 2019-20 also.

2.9 Regulations 1.5 and 1.6 of the OERC Tariff Regulations, 2014 specifies as under:

"1.5 These provisions shall be applicable to all existing and future Generating Stations supplying power to GRIDCO (The State designated entity to procure power for DISCOMs)/distribution licensees of the State under long term

agreement except generating stations which are subject to the jurisdiction of the Central Commission and also such renewable energy generating stations located in the State whose tariff is decided by the Commission under relevant Regulations and orders.

1.6 Subject to the provisions of the Act, Rules and Policies, any new generating station which comes up in future and proposes to supply electricity to a distribution licensee of the State shall be subjected to the norms prescribed under these Regulations by the Commission, unless it proposes to supply electricity through bidding in accordance with the guidelines issued by the Central Government as per provisions of Section 63 of the Act."

2.10 Regulation 2.2 of the OERC Tariff Regulations, 2014 specifies as under:

"2.2 Tariff in respect of the generating station may be determined for the whole of the generating station or a unit or units of the generating station:

Provided that tariff shall be determined unit wise till the time tariff cannot be determined for the whole of the generating station or for units as per the condition mentioned in proviso below :

……………

Provided that where only a part of the generation capacity of a generating station is tied up for supplying power to the beneficiaries through long term power purchase agreement and the balance of the generation capacity have not been tied up for supplying power to the beneficiaries, the tariff of the generating station shall be determined with reference to the capital cost of the entire project, but the tariff so determined shall be applicable corresponding to the capacity contracted for supply to the beneficiaries."

2.11 The Hon'ble OERC has issued the OERC (Terms and Conditions for Determination of Generation Tariff) Regulations, 2020 ("OERC Tariff Regulations, 2020"), for the tariff Period from April 1, 2020 up to March 31, 2024.

2.12 Regulation 1(4) and Regulation 2(1) of the OERC Tariff Regulations, 2020 specifies as under:

"Regulation 1(4)

These Regulations shall come into force on the date of publication in the Official Gazette, and unless reviewed earlier or extended by the Commission shall remain in force till 31.03.2024:

Provided that, where the Commission has, at any time prior to the notification of these Regulations, approved a Power Purchase Agreement (PPA) or arrangement between a generating company and a Beneficiary, or has adopted the tariff contained therein for supply of electricity from an existing project then the tariff for supply of electricity by the generating company to the Distribution Licensee shall be in accordance with such PPA or arrangement for such period as may be so approved or adopted by the Commission, to the extent of existing Installed Capacity as contained in the PPA.

Regulation 2(1)

These Regulations shall be applicable to all existing and future Generating Stations supplying power to GRIDCO (The State designated entity to procure power for DISCOMs) / distribution licensees of the State under long term agreement except generating stations which are subject to the jurisdiction of the Central Commission and also such renewable energy generating stations located in the State whose tariff is decided by the Commission under relevant Regulations and orders."

2.13 Regulation 5(2) of the OERC Tariff Regulations, 2020 specifies as under:

"Tariff in respect of a generating station may be determined for the whole of the generating station or a unit or units of the generating station:

Provided that tariff shall be determined unit wise till the time tariff cannot be determined for the whole of the generating station or for units as per the condition mentioned in proviso below;

Provided that tariff shall be determined for units after the cut-off date of the last unit of the generating station or after the capital cost of the last unit of the generating station is finalized, whichever is earlier;

Provided that tariff shall be determined for the whole of the generating station after the cut-off date of the last unit in the generating plant or after the capital cost of the last unit in the generating plant is finalized, whichever is earlier;

....

Provided that where only a part of the generation capacity of a generating station is tied up for supplying power to the beneficiaries through long term power purchase agreement and the balance part of the generation capacity have not been tied up for supplying power to the beneficiaries, the units for such part capacity shall be clearly identified and in such cases, the tariff shall be determined for such identified capacity. Where the unit(s)corresponding to such part capacity cannot be identified, the tariff of the generating station shall be determined with reference to the capital cost of the entire project, but the tariff so determined shall be applicable corresponding to the capacity contracted for supply to the beneficiaries."

2.14 In light of the above stated provisions of the PPA, OERC Tariff Regulations, 2014 and OERC Tariff Regulations, 2020 the tariff for supply of power from Units 3&4 of OPGC under the approved PPA with GRIDCO is to be determined by the Commission in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2019 ("CERC Tariff Regulations, 2019") .

2.15 Hence, in accordance with the provisions of CERC Tariff Regulations, 2019, this Petition for approval of tariff is being filed as per the norms and principles stipulated in CERC Tariff Regulations, 2019 for the period from FY 2019-20 to FY 2023-24.

3 Capital Cost of Units 3&4

Background of the project

3.1 The Government of Odisha (GoO), vide its letter dated April 17, 2013 had accorded the approval for setting up of Units 3&4 of IB TPS of OPGC at the estimated cost of Rs. 11547.00 Crore (including the cost of Captive Coal Mine). Out of the total estimated cost of Rs. 11547.00 Crore, the estimated cost of the power project is Rs. 10165.00 Crore. The copy of DPR and the Approval by the Government of Odisha are enclosed at **Annexures 4&5**. Further, OPGC's Board vide the Minutes of 214th Meeting held on November 29, 2019 has approved the revised project cost of Rs. 11150.00 Crore. The copy of the extract of the Minutes of 214th Meeting of Board of Directors of OPGC held on November 29, 2019 is enclosed at **Annexure 6**.

3.2 Units 3&4 are installed adjacent to existing Units 1&2 of IB TPS at Banharpalli. The site is located in Jharsuguda District of Odisha on the bank of Hirakud reservoir and about 20 km south of Belpahar Railway Station and 40 km southwest of Jharsuguda town. The coal required for Units 3&4 shall be met from the Manoharpur and Dipside of Manoharpur coal blocks allocated to M/s Odisha Coal and Power Limited (OCPL) (a JV of OPGC and OHPC) and transported by means of Merry-Go-Round system owned and operated by OPGC. Till the achievement of rated production capacity of the allocated coal mines, the coal requirement shall be met through the bridge linkage and flexible coal utilisation from MCL.

3.3 The chronology of events for the project are as follows:

Table 3-1: Chronology of key events for the project

S. No.	Particulars	Date
1	Allocation of Manoharpur and Dipside of Manoharpur coal blocks to OPGC	August 3, 2007
2	Environmental Clearance from Ministry of Environment & Forests	February 4, 2010
3	Clearance from Airports Authority of India	March 15, 2010
4	Consent to Establish by Odisha State Pollution Control Board	August 28, 2010
5	Date of Financial Closure	November 23, 2012
6	Investment Approval by GoO	April 17, 2013
7	Award of BTG package	April 27, 2013

S. No.	Particulars	Date
8	Award of BoP package	July 11, 2013
9	Agreement with water resource department for water allocation	August 26, 2013
10	Zero Date (Notice to Proceed)	March 26, 2014
11	Cancellation of allotment of Manoharpur and Dipside of Manoharpur coal blocks to OPGC by Supreme Court	September 24, 2014
12	Allotment Agreement for Allocation of Manoharpur and Dipside of Manoharpur coal blocks to M/s OCPL for end use of power generation at expansion Units of OPGC	August 31, 2015
13	Grid Connectivity: CTU STU	December 4, 2017/ November 3, 2018
14	COD	
	Unit 3	July 3, 2019
	Unit 4	August 21, 2019

Capital Cost

3.4 Regulation 19(2) of the CERC Tariff Regulations, 2019 specifies as under:

"The Capital Cost of a new project shall include the following:

(a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;

(b) Interest during construction and financing charges, on the loans

(i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan ; or

(ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed:

(c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;

(d) Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;

(e) Capitalised initial spares subject to the ceiling rates in accordance with these regulations;

(f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;

(g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;

(h) Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;

(i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;

(j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;

(k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;

(l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewerage treatment plant;

(m) Expenditure on account of fulfilment of any conditions for obtaining environmental clearance for the project;

(n) Expenditure on account of change in law and force majeure events; and

(o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve, and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.”

3.5 Regulation 20(1) of the CERC Tariff Regulations, 2019 specifies as under:

“In case of the thermal generating station and the transmission system, prudence check of capital cost shall include scrutiny of the capital expenditure, in the light of capital cost of similar projects based on past historical data, wherever available, reasonableness of financing plan, interest during construction, incidental expenditure during construction, use of efficient technology, cost over-run and time over-run,

procurement of equipment and materials through competitive bidding and such other matters as may be considered appropriate by the Commission:

Provided that, while carrying out the prudence check, the Commission shall also examine whether the generating company or transmission licensee, as the case may be, has been careful in its judgments and decisions in execution of the project.”

3.6 The instant Petition is for approval of audited Capital Cost incurred for Units 3&4 as on COD of respective Units and the proposed additional capitalisation upto FY 2023-24. The details of major heads in capital cost are detailed hereunder:

Land

3.7 Units 3 & 4 have been set up on the land adjacent to the operational Units 1&2, which was acquired at the time of setting up of Units 1&2. However, additional land was required for MGR and ash pond which has been procured on lease basis from Odisha Industrial Infrastructure Development Corporation (IDCO).

3.8 The cost of land as estimated in the DPR was Rs. 149 Crore. As against the same, the actual expenditure incurred upto COD of Unit 4 (i.e, COD of the Station-II) is Rs. 155.55 Crore. Further, the projected expenditure after COD is Rs. 44.31 Crore. The cost of land claimed by OPGC is as under:

Table 3-2: Cost of land (Rs. Crore)

Particulars	**DPR cost**	**Actual expenditure upto COD of Unit 4**	**Projected expenditure beyond COD**	**Total**
	(i)	**(ii)**	**(iii)**	**(iv)=(ii)+(iii)**
Land cost	**149.00**	155.55	44.31	**199.86**

3.9 The reasons for increase in cost of land from DPR cost are as under:

The DPR estimates were prepared in the year 2010 considering the then prevailing rates of the Government of Odisha. The initial estimates were as per Govt. declared prices and did not contemplate the final negotiated land ex-gratia rates to be paid for private land, additional parcels of land needed to be acquired, compensation required for demolition of existing structures and burials etc.

Boiler Turbine Generator (BTG)

3.10 The BTG work was awarded to M/s Bharat Heavy Electricals Limited (BHEL) pursuant to International Competitive Bidding (ICB). Accordingly, the contracts for Supply and Services for BTG was executed on April 27, 2013 at the award cost of Rs. 4051.00 Crore. The scope of Supply Contract included the supply of equipment including mandatory spares. The scope of Services Contract included the inland transportation of equipment from supply point to delivery point and erection & commissioning of the main plant. Notice to Proceed (NTP) was issued to M/s BHEL on March 26, 2014. The contracts awarded to M/s BHEL provides for changes in the scope of work by issue of Change Orders, in the events necessitating the same with corresponding contract price adjustment. OPGC has exercised due diligence while admitting such Change Orders.

3.11 In addition to the contracts awarded to M/s BHEL, miscellaneous contracts were awarded on firm price basis for procurement of material and these works were not included in the scope of BTG contract awarded to M/s BHEL.

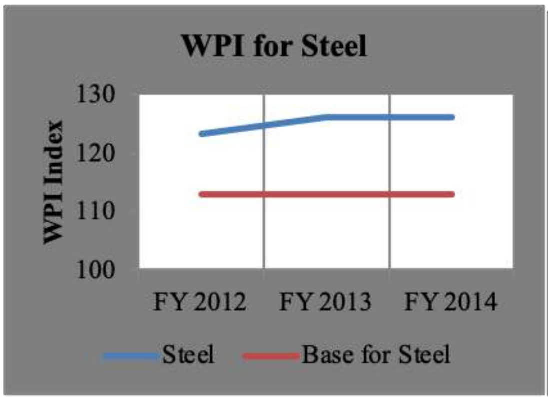
3.12 The cost of BTG claimed by OPGC is as under:

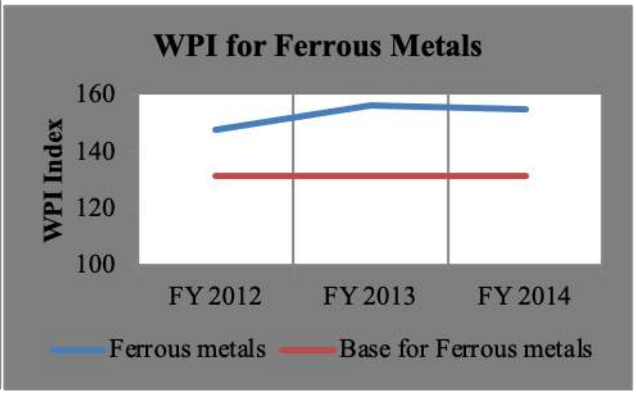
Table 3-3: BTG cost (Rs. Crore)

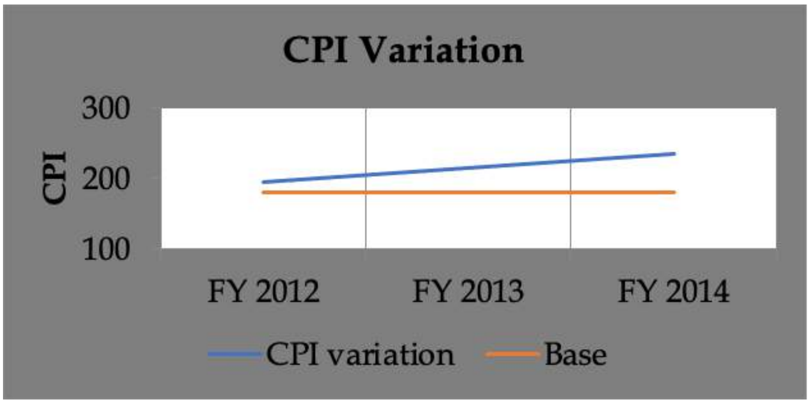
Particulars	DPR cost	Ordering cost	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
	(i)	(ii)	(iii)	(iv)	(v)=(iii)+(iv)
BTG	**3892.00**	**4051.00**	4020.09	327.47	**4347.56**

3.13 The reasons for increase in cost of BTG package from DPR cost are as under:

i. The DPR estimates were prepared in the year 2010 considering the then prevailing rates. Whereas the contracts were awarded to M/s BHEL in the year 2013 pursuant to International Competitive Bidding. It is pertinent to mention that the WPI and CPI movement during the period from 2010 to 2014 was on increasing trend as shown below:







ii. Therefore, the increase in cost of BTG package from DPR estimates to the awarded cost is justified considering the increasing trend of raw materials and labour cost during the period from 2010 to 2014.

iii. The contracts awarded to M/s BHEL provides for changes in the scope of work by issue of Change Orders, in the events necessitating the same with corresponding contract price adjustment. OPGC has exercised due diligence while admitting such Change Orders.

iv. In view of the above justification, the increase in BTG cost is totally justified in light of the market conditions and the contract provisions.

Balance of Plant (BoP)

3.14 The BoP work was awarded to M/s BGR Energy Systems Limited (BGRESL) pursuant to International Competitive Bidding (ICB). Accordingly, the contracts for Supply and Services for BoP package was executed on July 11, 2013 at the award cost of Rs.

1573.07 Crore. The scope of Supply Contract included the supply of equipment including mandatory spares. The scope of Services Contract included the erection and commissioning of Balance of Plant. NTP was issued to M/s BGRSEL on March 26, 2014 after fulfilment of conditions precedent by the Contractor. The time gap between award of contract and issue of NTP is on account of the following:

i. As per the Contract, specified conditions precedent were to be fulfilled for issuance of NTP and submission of Performance Security was one of them.
ii. Major discrepancies were observed on NTP pre-requisites to be fulfilled by BOP contractor and number of discussions were held to get the required deliverables.
iii. After repeated pursuance with BOP Contractor, the issues were resolved which ultimately delayed issuance of NTP.

3.15 The contracts placed on M/s BGRSEL are on firm price basis. However, the contracts provide for changes in the scope of work, by issue of Change Orders, in the events necessitating the same with corresponding contract price adjustment. OPGC has exercised due diligence while admitting such Change Orders.

3.16 In addition to contracts placed on M/s BGRSEL, miscellaneous contracts were awarded on firm price basis and these works were not included in the scope of BoP contract awarded to M/s BGRSEL.

3.17 Further, OPGC has placed the contract for Ash Water Recycling System (AWRS) package on M/s Driplex Water Engineering Pvt. Ltd. pursuant to Domestic Competitive Bidding (DCB) at firm price of Rs. 107.35 Crore on October 23, 2017. The scope of work of this contract included the Design, engineering, manufacturing, procurement of equipment and materials, inspection and testing, insurance, packing and dispatch and delivery of the equipment to Site, unloading, storage, civil and structural works, erection, testing & commissioning of (i) Ash Water Recycling System, (ii) Ash Water Pipeline, (iii) Cooling Tower Blow down RO System, and (iv) Transmission System for Ash Water Recycling system. These works were not included in the scope of work of the contracts placed on M/s BGRSEL and awarded separately.

3.18 The cost of BoP claimed by OPGC is as under:

Table 3-4: BoP cost (Rs. Crore)

Particulars	DPR cost	Ordering cost	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
	(i)	(ii)	(iii)	(iv)	(v)=(iii)+(iv)
BoP	**2877.00**	**1680.42**	1602.39	266.64	**1869.03**

3.19 The total cost of BoP is on lower side in comparison to the DPR estimates primarily on account of the lower prices discovered in ICB. This is on account of the severe competition in the competitive bidding undertaken for EPC contracts of BoP packages.

Merry-Go-Round (MGR)

3.20 M/s RITES Ltd. has been appointed as the Owner's Engineer for tendering and execution of MGR works at the award price of Rs. 43.87 Crore. The Lumpsum, Turnkey, Engineering Procurement and Construction contract for MGR was placed on M/s Larsen & Toubro Limited (L&T) at the firm price of Rs. 1026.00 Crore pursuant to International Competitive Bidding (ICB). The contract placed on M/s L&T is on firm price basis. However, the contracts provide for changes in the scope of work, by issues of Change Orders, in the events necessitating the same with corresponding contract price adjustment. OPGC has exercised due diligence while admitting such Change Orders.

3.21 OPGC had engaged RITES in the year 2008 for carrying out location survey work along with preparation of DPR for setting up MGR system for coal transportation. RITES submitted their report in the year 2012 with detailed recommendation. RITES assumed a daily requirement of 24000 tons of coal for OPGC II. Based on the estimated 6 hour turnaround time for each rake, RITES had proposed to run 2 rakes, each of 62 BOBR wagons and one brake van hauled by 2 nos. WDG3A 3100 HP diesel locomotives in multi configuration. Each rake was assumed to carry about 4000 tons and be able to make 4 rounds in a day effectively hauling 16000 tons. Accordingly, RITES recommended the following rolling stock based on two rakes:

- 5 nos. WDG3A locomotive: 2 for each rake in multi operation and 1 as spare.
- 134 BOBR Wagons: 62 wagons for each rake and 10 as spare.

- 3 Brake Van: 1 for each rake and 1 as spare

With this configuration, OPGC would have had maximum capacity of 32,000 tons.

3.22 Thereafter, based on the awarded contracts for Main Plant equipment in the year 2013, the coal requirement was estimated to be about 22,000 tons per day. Further, it has come to notice that Indian Railways had not been inducting WDG3A since 2010-11 and in place WDG4 was being inducted. Since 2010-11, WDG3A locomotive was being manufactured by DLW only for non-railway customers. After reviewing the same with RITES and OPGC's visit to Indian Railways maintenance sheds and manufacturing works, the rolling stock procurement plan was revised as under:

- 3 nos. WDG4D (4500 HP, Dual Cabin) locomotive: 1 for each rake and 1 as spare.
- 110 BOBR Wagons: 101 wagons for two rakes in operation and 9 as spare.
- 3 Brake Van: 1 for each rake and 1 as spare.

Diesel Locomotive Works (DLW), Indian Railways, Ministry of Railways is the only manufacturer of WDG4D 4500 HP Diesel Electric Locomotives.

3.23 The contracts for procurement of 3 nos. locomotives was placed on M/s DLW at firm price of Rs. 60.46 Crore on nomination basis. The lumpsum contract for supply of 110 nos. of wagons, 3 nos. Brake Vans and Spares was placed on M/s Titagarh Wagons Limited at the firm price of Rs. 45.57 Crore on Competitive Bidding basis.

3.24 The MGR route had interferences with PGCIL's and OPTCL's transmission lines at few locations and for the required diversion, PGCIL and OPTCL were awarded relevant contracts on deposit basis. The contract for diversion of the power transmission line of PGCIL intercepting with the MGR was placed on M/s PGCIL on deposit basis at the price of Rs. 39.74 Crore in first phase and Rs. 15.78 Crore in second phase. Also, OPGC had to incur an expenditure of Rs. 1.37 Crore for diversion of OPTCL transmission line intercepting the MGR. In addition, miscellaneous contracts amounting to Rs. 1.14 Crore were placed for execution of MGR works.

3.25 The cost of MGR claimed by OPGC is as under:

Table 3-5: MGR cost (Rs. Crore)

Particulars	DPR cost	Ordering cost including Change Orders	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
	(i)	(ii)	(iii)	(iv)	(v)=(iii)+(iv)
MGR	**670.00**	**1233.93**	1069.93	455.32	**1525.25**

3.26 The original cost estimates in the DPR appears to be on much lower side in comparison to the award cost mainly on account of the time difference between the DPR estimates (2010) and the actual award of contracts (2014 & 2015). RITES had subsequently submitted a revised estimate of Rs. 956.23 Crore, which was approved by the Committee of Directors of OPGC in February 2014. The revised estimate excludes rolling stock. Hence, as compared to the revised estimate, the price discovered through bidding is higher by Rs. 260.55 Crore. All the contracts, except the contract placed for procurement of locomotives on M/s DLW and shifting of PGCIL/OPTCL transmission towers interfering with the MGR corridor, are awarded through open competitive bidding.

3.27 In view of the above justification, the increase in MGR cost is justified in light of the market conditions and the contract provisions.

Township & Colony

3.28 The construction of residential facilities for the employees of Units 3&4 is being done through multiple contracts awarded through open competitive bidding.

3.29 The cost of township & colony claimed by OPGC is as under:

Table 3-6: Township & colony cost (Rs. Crore)

Particulars	DPR cost	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
	(i)	(ii)	(iii)	(iv)=(ii)+(iii)
Township & Colony	**200.00**	127.34	37.02	**164.36**

3.30 The total cost of township & colony is lower than the DPR estimates.

Ash pond

3.31 The contract for ash pond construction for Units 3&4 was placed on M/s Shree Balaji Engicon Private Limited at the firm price of Rs. 199.75 Crore pursuant to Domestic Competitive Bidding (DCB). In addition to the same, miscellaneous contracts are placed for construction activities related to ash pond.

3.32 It is pertinent to mention here that, the project had been conceptualised to have one Ash pond for initial period for disposal of ash from the project and subsequently, the ash would be transported to the captive coal mines for backfilling. However, the above arrangement is subject to approval of the competent authorities. In case, this does not happen, then OPGC may go for additional Ash pond for disposal of ash generated from the power project. In either case, OPGC shall be claiming the additional capitalisation on account of the same as and when it happens.

3.33 The cost of ash pond claimed by OPGC is as under:

Table 3-7: Ash pond cost (Rs. Crore)

Particulars	DPR cost	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
	(i)	(ii)	(iii)	(iv)=(ii)+(iii)
Ash pond	**289.00**	69.05	513.23	**582.28**

3.34 The reasons for increase in cost of ash pond is the claims of M/s Shree Balaji Engicon Private Limited under the heads of prolongation, royalty etc. M/s Shree Balaji Engicon Private Limited has initiated the arbitration process for settlement of various claims. The total disputed claims of M/s Shree Balaji Engicon Private Limited till June 19, 2021 are to the tune of Rs. 490.68 Crore. OPGC is in the process of resolving the same with mutual settlement.

Pre-commissioning expenses

3.35 The pre-commissioning expenses comprises of (i) Site Supervision, (ii) Construction Insurance, (iii) tools and plant and (iii) Start-up expenses.

3.36 The pre-commissioning expenses claimed by OPGC is under:

Table 3-8: Pre-commissioning expenses (Rs. Crore)

Particulars	DPR cost	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
	(i)	(ii)	(iii)	(iv)=(ii)+(iii)
Pre-commissioning expenses	**475.00**	670.50	0.00	**670.50**

3.37 The main reason for increase in pre-commissioning expenses is due to the inflation increase due to time gap between the DPR estimates the actual project execution.

Overheads

3.38 The cost of overheads claimed by OPGC is as under:

Table 3-9: Overheads cost (Rs. Crore)

Particulars	DPR cost	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
	(i)	(ii)	(iii)	(iv)=(ii)+(iii)
Overheads	**391.00**	146.11	213.00	**359.11**

3.39 The overheads cost is lower than the DPR estimates.

Hard Cost

3.40 Based on the above, the Hard Cost for Units 3&4 is as shown in the Table below:

Table 3-10: Hard cost as on COD of Unit 4 (Rs. Crore)

S. No.	Particulars	DPR cost	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
		(i)	(ii)	(iii)	(iv)=(ii)+(iii)
1	Land	149.00	155.55	44.31	**199.86**
2	BTG	3892.00	4020.09	327.47	**4347.56**
3	BoP	2877.00	1602.39	266.64	**1869.03**
4	MGR	670.00	1069.93	455.32	**1525.25**
5	Township & Colony	200.00	127.34	37.02	**164.36**
6	Ash pond	289.00	69.05	513.23	**582.28**

S. No.	Particulars	DPR cost	Actual expenditure upto COD of Unit 4	Projected expenditure beyond COD	Total expenditure
		(i)	**(ii)**	**(iii)**	**(iv)=(ii)+(iii)**
7	Pre-commissioning expenses	475.00	670.50	0.00	**670.50**
8	Overheads	391.00	146.11	213.00	**359.11**
	Hard Cost	**8943.00**	**7860.97**	**1857.00**	**9717.97**

3.41 The actual expenses towards hard cost as on COD of Units 3 & 4 is lower than the total estimates as per the DPR. However, the contracts are yet to be closed and the additional capitalisation is expected to be incurred after COD leading to higher projected expenses as mentioned in the table above. The proposed additional capitalisation has been detailed in the following paragraphs.

Reasonableness of Hard Cost

3.42 The benchmark Hard Cost determined by the Central Electricity Regulatory Commission (CERC) in its Order dated June 4, 2012 for TPS (2x660 MW) with coal as fuel at the December, 2011 price level was Rs. 5.01 crore/MW. This includes Steam Generator/Boiler Island, Turbine Generator Island, associated Auxiliaries, Transformers, Switchgear, cables, cable facilities, Grounding & Lighting Packages, Control & Instrumentation, Initial Spares for BTG, BoP including cooling tower, water system, coal handling Plant, ash handling Plant, fuel oil unloading & storage, Mechanical Miscellaneous Package, switchyard, chimney, and emergency DG Set. It does not include merry-go-round and Railway siding, unloading equipment at jetty, and rolling stock, locomotive, and Transmission Line till the tie point. In more recent CERC Orders on approval of Capital Cost of coal-based TPS (for instance CERC's Order dated January 8, 2020 in Petition No. 199/GT/2017), the effect of inflation, on the benchmark Hard Cost determined in its Order dated 4 June, 2012, upto the actual COD of Kudgi Super Thermal Power Station Stage-I (3x800 MW) has been considered for analysis of the reasonableness of the actual Hard Cost as on the COD.

3.43 The benchmark Hard Cost for TPS as per CERC's Order dated June 4, 2012 is dynamic and based on market trends and indices, and is subject to adjustment considering inflation. The indicative benchmark norms for Hard Cost with the December, 2011 index as the base need to be escalated considering the movement of WPI during the intervening period to arrive at the Hard Cost as on COD. As per the data of the Ministry of Commerce and Industry, GoI, the WPI for March, 2021 was 129.3 as against 104.7 in April, 2012, i.e., an increase of 23.50%. Accordingly, the indicative benchmark Hard Cost works out to Rs. 6.19 crore/MW (5.01 + 23.50% inflation). The Hard Cost for Units 3&4 is well within the benchmark Hard Cost as shown below:

Table 3-11: Comparison of Hard Cost with CERC benchmark

Particulars	Units	Actual expenditure upto COD	Total expenditure
Hard Cost	Rs. Crore	7860.97	9717.97
Less:			
MGR	Rs. Crore	1069.93	1525.25
Overheads	Rs. Crore	146.11	359.11
Hard Cost for comparison purposes	Rs. Crore	6644.92	7833.60
Cost per MW	**Rs. Crore/MW**	**5.03**	**5.93**
CERC Benchmark Hard Cost as on December 2011	Rs. Crore/MW	5.01	5.01
CERC Benchmark Hard Cost escalated with point to point WPI Inflation till March 2021*	**Rs. Crore/MW**	**6.19**	**6.19**

**Considered till March 2021 as of now; to be considered upto cut-off date i.e., August 2022*

Commissioning Schedule

3.44 OPGC encountered several hindrances in project execution, since beginning, on account of the events external to OPGC. Despite such external factors affecting the progress of works, OPGC could mitigate the adverse effects to a large extent through proactive measures and continuous follow up with the Govt. departments, stakeholders and contractors for expediting the works.

3.45 **Cancellation of coal block allocation by Supreme Court:** Ministry of Coal, Government of India vide letter dated August 3, 2007 conveyed its in-principle consent to the allocation of Manoharpur and Dipside of Manoharpur coal blocks for meeting the coal requirement of expansion Units of OPGC under the Government Company dispensation route, in pursuance of the provisions of the Revised Policy on Coal Mining

. Copy of the consent to allocation is attached as **Annexure-7**. Armed with certainty of coal availability with firm allocation of coal block, OPGC initiated the process of setting up of expansion project. Subsequently, OPGC had made substantial progress on land acquisition, forest clearance, environment clearance, R&R etc, for coal mine, MGR and ash pond, committing substantial amounts of money towards these processes. In parallel, advancement was made in EPC contracting process for the power plant and clearance was issued for starting construction from March 2014.

3.46 Hon'ble Supreme Court of India, vide its Judgment dated August 25, 2014 read with its order dated September 24, 2014 in Writ Petition (Criminal) No. 120 of 2012 (Manohar Lal Sharma vs. Principal Secretary & Ors.) had cancelled allotment of 204 coal blocks. Vide its same order dated September 24, 2014 Hon'ble Supreme Court of India cancelled the allocation of some coal blocks in the State of Odisha. The allocation of Manoharpur and Dipside of Manoharpur coal blocks to OPGC, also stood cancelled by the said order of the Hon'ble Supreme Court of India. The Orders of the Hon'ble Supreme Court are attached as **Annexure-8 (colly).**

3.47 Subsequent to the Hon'ble Supreme Court of India's above Judgment, the Coal Mines (Special Provisions) Ordinance, 2014 read with Coal Mines (Special Provisions) Second Ordinance, 2014 were promulgated by the Central Government. The Coal Mines (Special Provisions) Rules, 2014 were framed for auction and allotment of all coal blocks which were subject to cancellation pursuant to the Hon'ble Supreme Court of India Judgment. Manoharpur and Dipside of Manoharpur coal blocks were allotted to M/s OCPL vide the Allotment Agreement dated August 31, 2015 for the specific end use of OPGC Expansion Project. Copy of the Allotment Order is attached as **Annexure-9.** The cancellation of previous allocation of the coal blocks rendered uncertainty on the fuel supply for the project. As a result, for one year, all project activities including construction of the power plant, land acquisition for MGR and ash pond, award of construction contracts for ash pond and MGR, commitment of resources for the entire project etc., took a back seat and primary focus remained on ensuring a source of fuel supply for the expansion Units under construction. The cumulative impact has led to the overall delay in the project.

3.48 **Delay in transmission system for start-up power:** The Hon'ble OERC approved the PPA on April 04, 2012 in Case No. 113 of 2011. While approving the PPA, the Hon'ble Commission observed the affidavit filed by GRIDCO that '*GRIDCO shall be responsible for evacuation of its allocated capacity from the power station bus as per its own arrangement with CTU/STU.*' The Commission further directed to consider the connectivity issue as per the State Transmission Plan being heard in Case No. 71 of 2011, which shall be applicable mutatis mutandis for evacuation of power from the power station.

3.49 Subsequently, in compliance with the direction of the Hon'ble OERC, a meeting was convened between GRIDCO, OPTCL and OPGC for discussion on the connectivity issue on September 24, 2012, wherein it was decided that State share of power shall be evacuated at 400 KV Lapanga Sub-station through the 400 KV transmission line between OPGC and Lapanga. In the said meeting the tentative Target Schedule of Commission of both units were mentioned as December 2016 and June 2017.

3.50 Subsequently, OPGC vide its letter dated February 19, 2014 addressed to GRIDCO and letter dated April 11, 2014 addressed to OPTCL informed the tentative schedule of back charging of switch yard for pre-commissioning activity and Schedule for drawal of commissioning Power as Q2 and Q4 of 2016 respectively. Also, OPGC requested for monthly meeting for progress review and better coordination.

3.51 Accordingly, back feed power was to be provided by OPGC to the EPC contractor by March, 2016 through OPTCL transmission system. There were regular follow-ups and correspondence with OPTCL for expediting the completion of the Transmission Line for timely execution of the Power station. In spite of the best efforts by OPGC, construction of 400 kV OPGC-Lapanga Line by M/s Odisha Power Transmission Corporation Limited (OPTCL) got delayed. This was beyond OPGC's control. Once it became apparent that the OPTCL Line would be severely delayed, it was decided to draw the pre-commissioning power through OPGC- Jharsuguda 400 kV D/C Line connecting the CTU network, which was meant for evacuation of inter-state power transfer, as second option to avoid further delay in project activity. It would be pertinent to mention here that OPGC had availed CTU's approval for connectivity as well as LTOA to evacuate power to the target regions from August 2017 and it was not intended to avail the pre-commissioning start up power through this ISTS Line. The 1st back feed power was made available in December, 2017 through OPGC-Jharsuguda 400 kV D/C Line (part of the ISTS) for Unit 4, resulting in delay of 21 months. After charging of the OPGC-Jharsuguda 400 kV D/C Line, OPGC 400 KV switchyard was charged, for which OPGC had already got the Clearance from CEA in September 2017. Copy of the LTA approval and CEA clearance for Switchyard charging are attached as **Annexure- 10.**

3.52 Thereafter, it took about one months' time for relay setting and bay commissioning and the start-up power was made available for commissioning on January, 2018. After commissioning power was made available, subsequent works like charging of power transformers, commissioning of Raw Water System, Pre-Treatment Plant, CW System, ID & FD fan lube oil flushing, Air Pre-Heater commissioning etc. were completed in the year 2018. The startup power available through the OPGC-Jharsuguda 400 kV Line could be used only for commissioning works of Unit 4 which was connected to the CTU through split bus arrangement at OPGC switchyard. However, OPGC could use this power to take up commissioning of some of the common systems. For commissioning of systems directly associated with Unit 3 which is connected to OPGC-Lapanga Line (part of OPTCL's network), back charging power was required through OPTCL transmission line. OPTCL's OPGC-Lapanga Line was commissioned and charged on November 3, 2018. Unit 3 commissioning activities could commence only after OPTCL's OPGC-Lapanga Line was charged on November 3, 2018, with a delay of 992 days and OPGC could obtain the LT power approval from WESCO . This delay in availability of OPTCL connectivity and start up power led to delay of the Project CoD.

3.53 **Delay in land acquisition for ash pond:** Land acquisition for ash pond was delayed due to public resistance. Application for acquisition of land was filed with IDCO in June 2009. After completion of the various processes under Land Acquisition Act 1894, award for release of payment was issued on June 20, 2013, i.e., after about 4 years. However, due to local resistance and demand for higher compensation, there was a 1131-days' delay in making payments (after conceding to higher land rates) and hand over of right to start work by IDCO was provided on July 25, 2016. Thereafter, it took another 273 days to obtain physical possession of the land under police support, i.e., on April 24, 2017, before work could be started on the ground.

3.54 Hence, NTP was issued subsequently on May 9, 2017 to M/s Sri Balaji Engicon Pvt. Ltd. (SBEPL), for completion of Phase-I & Phase-II ponds by May 9, 2018 and May 9, 2019 respectively against BOP NTP date of March 26, 2014. As a measure to mitigate the risk of delay in construction of Ash Pond with the Scheduled/ planned CoD of the Power Station, it was decided to use OPGC-I Pond C on temporary basis till Phase-I pond were ready for ash evacuation.

3.55 There were delays in construction of ash pond due to frequent work stoppages by local villagers (from Tilia and Sansaratikra). Police supports were taken during construction to finish work in disputed areas. There was also slowdown in progress due to complaint lodged by local villagers in National Green Tribunal (NGT). Phase-I Pond was completed on July 24, 2020 and Phase-II Pond was completed on January 22, 2021 against the plan to complete by May 09, 2018 and May 09, 2019 respectively. The delays in start of work and duration delay in completion of work are beyond the scope of OPGC. All these delays in completion are attributable to external factors.

3.56 Some of the communication seeking support from the district administration and Government machinery for expediting smooth work progress of Ash pond works are attached as **Annexure-11 (Colly).**

3.57 **Delay in land acquisition for MGR:** Land acquisition for MGR was delayed due to public resistance at separate locations / villages. Major delays were incurred in villages Chhualiberna, Junanimunda and Ghumudasan, where at an average about 700 days delay in each case was experienced on account of taking over physical possession of land and work stoppages during construction. The initial 9.5 km of the MGR corridor from the power plant to MCL mines was required for transportation of commissioning coal and bridge linkage coal for power plant initial years of operation. A patch of 13.63 Ha of land initially considered as belonging to MCL, was identified as forest land in late 2016, for which almost 1 year was taken to receive Stage – I forest clearance, i.e., on July 6, 2017, after which construction work could be commenced on that stretch. Some parts of the MGR line passes through MCL area and as per MoU executed by OPGC with MCL, the land was to be handed over under right of way, for construction of MGR by OPGC. Significant delay was experienced despite intervention of the State Government at the highest level.

3.58 NTP was issued to M/s L&T in 2015 against the NTP issued for BOP on March 26, 2014. Issuance of NTP to M/s L&T was delayed due to land acquisition delays as described above. There were also many interferences in the ROW of MGR i.e., OPTCL & PGCIL HT lines, MCL area mining structures and Public Properties. The final stretch of land in MCL IB Valley area (1.67 km) was handed over only in January 4, 2021. The delays in start of work and duration delay in completion of work are beyond the scope of OPGC. All these delays in completion are attributable to external factors.

3.59 Against the plan of completing the MGR on December 25, 2018, MGR (0-47Km) work was completed in July 31, 2021 and the MGR system was commissioned on August 30, 2021. As a measure to mitigate the risk of delay in operation of MGR, for supply of bridge linkage coal from MCL mines till full completion of total MGR (0-47Kms) system, MGR (0-9.5Kms) from Plant to Charla Loading Station were commissioned for getting coal from MCL as Plan B. This was made ready in December 2018 with initial support from OPGC-I MGR system before the first synchronisation of the unit of the station.

3.60 Some of the communication seeking support from the district administration and Government machinery for expediting smooth work progress of MGR works are attached as **Annexure-12(Colly).**

3.61 **Abrupt disturbances causing halting of work at site:** Various political parties and trade unions had called for strike during the project execution stage at different times. In spite of best efforts and remedial measures works at site were hampered for more than 7 days. In addition to the strike called for by the political parties/ trade unions, the BTG work by BHEL had been hampered intermittently since 2018 till CoD of the plant at different times due to strikes / agitations by some vendors/ sub-vendors of BHEL and

BHEL had been asked to take remedial / preventive action for such loss of man days in accordance with the terms of the contracts.

3.62 Various political parties, trade unions and trucker's association had called for strike during the project execution stage at different times, which could be resolved only through intervention of the concerned Government departments / Local administration. In spite of best efforts and remedial measures, works at site were hampered for more than 22 days. In addition to the strike called for by the political parties/ trade unions/trucker's association, the BOP work by BGRE had been hampered intermittently since 2017 till CoD of the plant at different times due to strikes/ agitations by some vendors/sub-vendors of BGRE and BGRE had been asked to take remedial/preventive action for such loss of man days in accordance with the terms of the contracts. Further, the Hud-Hud cyclone during October, 2014 and unprecedented rainfall during November-December 2015 at Chennai hindered the material supply from the works of the BoP contractor and consequently the work at site was halted.

3.63 **Unprecedented rainfall causing flood situation in Chennai during November/ December 2015**: Tamil Nadu in general and Chennai in particular faced unprecedented rains in the year 2015 breaking the record of last 100 years. The heavy rains had put life out of gear since mid-November 2015. All educational institutions were closed and life in low lying areas was badly affected. BGRE offices and Factory nearby Chennai were not able to operate on November 16, 2015 on account of continuous rains. On December 1st and 2nd, Chennai received rainfall in excess of 500 mm. This caused flooding in Chennai affecting whole of Chennai and in certain parts water level was as high as 15 feet and was catastrophic. There was overflow of water from all nearby lakes, to the extent Chennai Airport and Railway station came to a standstill. For almost a week, there was no electricity, water, communication system etc., and no offices/factories functioned in and around Chennai. BGRE office and Factories at Chennai could not function for 7 days and streamlining of operations took another fortnight. There was a total loss of more than three weeks on account of these rains. The above situation was unprecedented arising out of factors beyond OPGC's control.

3.64 **Enactment of GST:** Goods and Service Tax (GST) was rolled out on July 1, 2017.

Major Contracts such as BTG with M/s BHEL, BoP with M/s BGRSEL, MGR with M/s L&T etc. and minor contracts with different suppliers / service providers were awarded before date of roll out of the GST Act, 2016. As per Section 171 of GST Act, it is mandatory to pass on the benefit due to reduction in rate of tax or from input tax credit to the consumer by way of commensurate reduction in prices. To comply with the above provisions, all the service providers / suppliers of the project were asked to pass on the input tax credit / benefit of reduction in rate of tax. At the same time, most of the major Contractors referring to change in law clause in the contract asked for additional amount as a result of impact due to GST. In spite of timely action taken by both OPGC and the Contractors to conclude impact of GST on contract value, it took few months to resolve, although provisionally, on quite a substantial number of points of disagreements. This caused delay in Material Supply as well as Material Transportation. Supply of material was held up due to revision in all billing breakup (BBU) due to price impact after implementation of GST and there were regular and continuous communication between both the supplier (BHEL/BGRE) and OPGC since start of implementation of GST. Further, implementation of E-waybill as per GST Law and subsequent clarifications/ notifications by Government of India and Government of Odisha for inter-state transportation and intra-state transportation in April and June 2018 respectively on curing difficulties, impacted the transportation of materials during the intervening period.

3.65 It may be pertinent to mention here that since notification of GST it took significant time to streamline its implementation, leading to continuous and regular discussions and meetings with the vendors for issue of change order in terms of the change-in-law conditions of the respective contract. During initial period of delay in submission of information by contractors, around 5% of retention was made from the amount payable which was released subsequently and amendment to the contracts made sequentially through change orders. Since this involved several rounds of discussions with the contractors on various related issues, this consumed considerable time causing delays in the targeted project completion period.

3.66 All the above-mentioned reasons for delay are beyond the control of OPGC as they were due to an act of outside agencies/ abrupt phenomena on which OPGC had no control.

3.67 **Delays in U3 Project Completion:** The Table below gives details of the delays of project milestones till 72 hour run completion i.e. Commercial Operation Date (COD) with reasons for delay. There is total delay of 665 days in declaration of unit commercial operation, as compared to the plan.

Unit 3 Project Key Milestone Status				
Milestone Description	**As Planned Finish Date**	**As Build Finish Date**	**Finish Delay**	**Reason / Remarks**
OPTCL 400kV Line Charging	15-Feb-16	03-Nov-18	992	Delay in commissioning of OPTCL Lapanga Substation and completion of the OPTCL 400kV lines from IB Thermal to Lapanga.
PGCIL Line Readiness for Back Charging	31-Jul-17	24-Nov-17	116	Delay in completion of the 400kV lines by PGCIL from Sundergarh substation to IB Thermal. Connection agreement, 1st line charging
Switch Yard Back Charging	15-Mar-16	28-Nov-17	623	Knock on effect of non-availability of 400kV OPTCL line. The Switchyard was back charged from PGCIL 400kV line, as OPTCL line was getting delayed further. Recovery of 369 days due to back feed power availability from PGCIL with respect to OPTCL back feed power.
Start Up Power from PGCIL		26-Dec-17	148	Drawl of start up power done after ERLDC approval on start up power
RAT Charging	14-May-16	13-Jan-18	609	Delay in RAT charging due to the knock on effect of delayed back charging of switch yard. Rather there is recovery of 14 days in completion of charging activity
Boiler Hydro Test (Drainable)	11-Sep-16	26-Dec-17	471	Knock on effect of delayed Boiler Erection Start. Duration delay due to stop work orders issued by DF&B, because of fatality and various unsafe incidents in boiler erection. Work stoppages due to multiple work front interfaces with BGRE.
BFP Ready for Testing & Commissioning	10-Mar-17	15-Feb-17	-23	Boiler Feed Pump was made available 23 days earlier than planned.

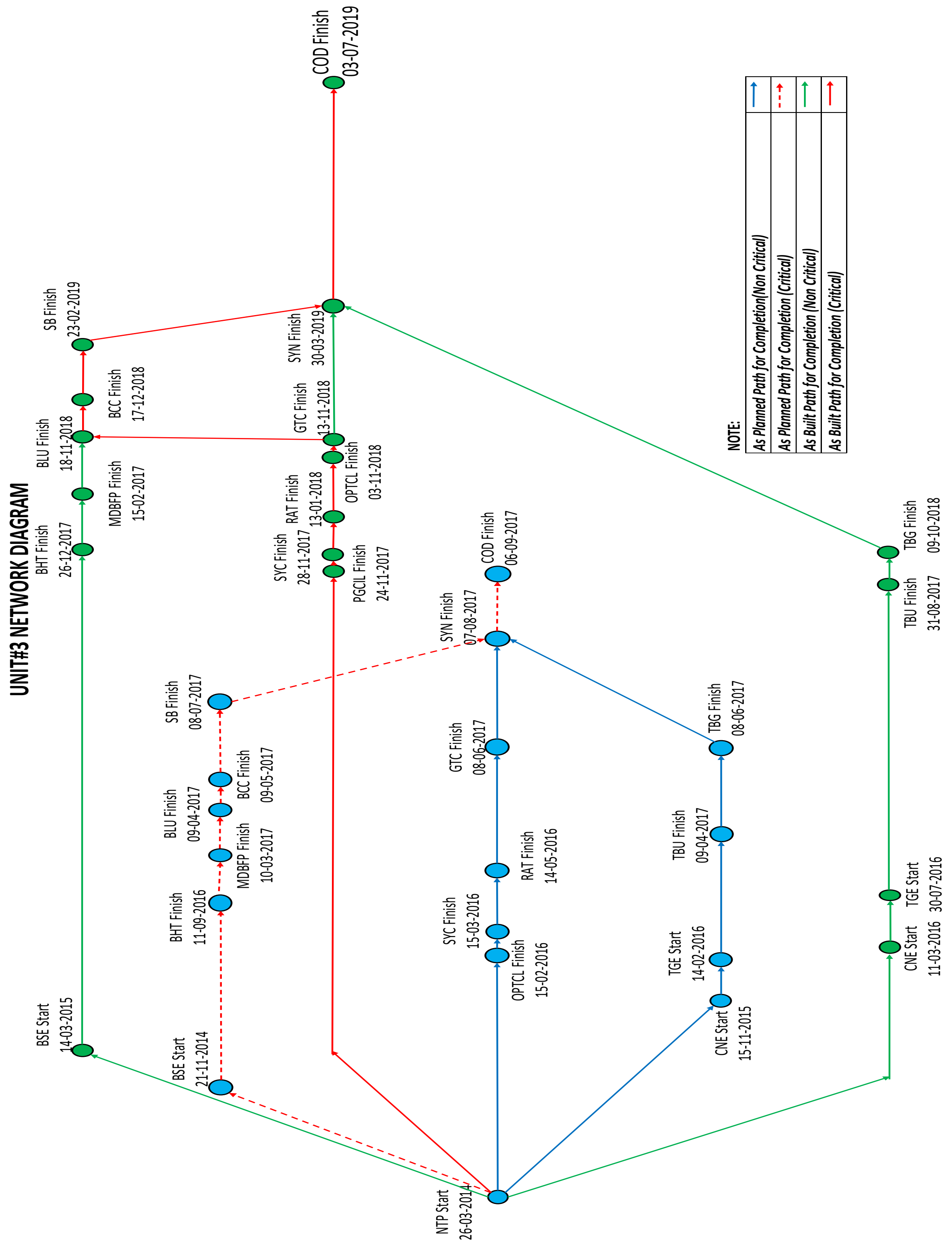
Unit 3 Project Key Milestone Status				
Milestone Description	**As Planned Finish Date**	**As Build Finish Date**	**Finish Delay**	**Reason / Remarks**
Boiler Light Up	09-Apr-17	18-Nov-18	588	Knock on effect of delay in trial run of Motor Drive Boiler Feed Pump due to delayed availability of start up power by GT back charging through back feed power from OPTCL Line. There is 404 days recovery considering 992 days delay in getting start up power from OPTCL
TG Box Up	09-Apr-17	31-Aug-17	144	Knock on effect of late start in TG erection as well as slow progress of BHEL.
Boiler Chemical Cleaning	09-May-17	17-Dec-18	587	Knock on effect of late Boiler Light Up due to late availability of start up power from OPTCL. Rather there is recovery of 01 days in completion of activity
TG Barring Gear	08-Jun-17	09-Oct-18	488	Knock on effect of late commissioning due to delayed availability of start up power. There is recovery of 504 days due to Plan B start-up power for LT Board commissioning with approval from WESCO
Generator Transformer Back Charging	08-Jun-17	13-Nov-18	523	Knock on effect of delay availability of OPTCL start up power by GT back charging. There is 469 days recovery considering 992 days delay in getting start up power from OPTCL
Steam Blowing Completion	08-Jul-17	23-Feb-19	595	Knock on effect of late Boiler Light Up due to delayed availability of start up power from OPTCL. There was activity duration delay of 08 days.
Synchronisation	07-Aug-17	30-Mar-19	600	Knock on effect of late Boiler Light Up due to delayed availability of start up power from OPTCL. There was activity duration delay of 05 days.
72 Hr Run Test	06-Sep-17	01-Jul-19	663	Knock on effect of late Boiler Light Up due to delayed availability of start up power from OPTCL. 63 days of BHEL delay due to unit stabilisation issues.

Unit 3 Project Key Milestone Status				
Milestone Description	**As Planned Finish Date**	**As Build Finish Date**	**Finish Delay**	**Reason / Remarks**
COD	06-Sep-17	03-Jul-19	665	Total 665 days delay with respect to plan. 588 days delay due to knock on effect of late Boiler Light Up because of delayed availability of start up power from OPTCL. 77 days of BHEL delay due to unit stabilisation issues.

3.68 After handing over of complete civil foundations by BGRE to BHEL for start of Boiler erection, BHEL erected boiler structure, pressure parts and auxiliary equipment for Boiler Light Up. The Boiler Light Up (BLU) was delayed by 588 days with respect to plan. The major reason for delay was inability to get start up power to run major HT drives before light up. The MDBFP (Motor Driven Boiler Feed Pump) could not be run for boiler flushing activities prior to light up, due to delay in getting sufficient start-up power from Grid. Even though RAT (Reserve Auxiliary Transformer) was charged on January 13, 2020 for start-up power (after the back charging of OPGC-Jharsuguda 400 kV D/C Line (ISTS) and start up power approval from ERLDC on December 26, 2017, which was supposed to be done through OPTCL back feed power). The MDBFP could not be run as there were capacity constraints of start-up power through RAT. The capacity constraint was due to concurrent commissioning of both the units through RAT as OPTCL back feed power was still not available. Further, start-up power obtained from OPGC-Jharsuguda 400 kV D/C Line was meant only for Unit-4 start up activities, hence Plan-B was developed for start-up power for Switchyard pre-commissioning, DM Plant and LT Board commissioning activities, with LT power approval from WESCO. Hence the major drives commissioning of Unit-3 which required HT power could not be commissioned even though the systems were ready. OPTCL's OPGC-Lapanga Line was charged on November 3, 2018, with a delay of 992 days. Generator Transformer (GT) was back charged on November 13, 2018, which facilitated running of major drives, including the critical activity of MDBFP running. Hence, the delays in Boiler Light Up on account of delay in readiness of various system by EPC (BHEL & BGRE) had not affected the delay in COD as the start-up power (OPTCL scope) was not available at the time for GT back charging. In any case, delay solely due to the contractor shall being dealt as per the terms of the contract.

3.69 There were minor delays of 14 days in successor activities of Boiler Light Up i.e. Boiler Chemical Cleaning, Steam Blowing and Synchronisation. There was 63 days of delay from Synchronisation through unit Full Loading, 72 Hr Test Run and COD (Date of Commercial Operation) due to Boiler tube failures and unit stabilisation issues. The total delays of 77 days from Boiler Light Up to COD can be attributed to BHEL. Hence, the 588 days (588 days due to OPTCL delay) out of total delays of 665 days can be attributed to external factors.

3.70 Also, the above explanations can be corroborated with the enclosed network diagram. The major driving paths leading to the declaration of COD from the issue of NTP has been shown in the diagram. As can be seen from the diagram, the as-planned critical path runs from NTP to COD through Boiler Structural Erection Start--> Boiler Hydro Test Finish--> MDBFP Ready for Trial Run--> Boiler Light Up --> Boiler Chemical Cleaning -->Steam Blowing -->Synchronisation --> 72Hr Test Run --> COD. The as-built critical path run through PGCIL Line Charging --> Switch Yard Back Charging--> RAT Charging -->OPTCL Line Charging -->Generator Transformer Back Charging --> Boiler Light Up -->Boiler Chemical Cleaning -->Steam Blowing -->Synchronisation --> 72Hr Test Run --> COD.



NTP–Notice to Proceed; BSE-Boiler Structure Erection; BHT-Boiler Hydro Test; BLU-Boiler Light Up; BCC-Boiler Chemical Cleaning; SB-Steam Blowing; RAT-RAT Charging; PGCIL-PGCIL Charging; OPTCL-OPTCL Charging; SYC-Switch Yard Charging; GTC-GT Back Charging; CNE-Condenser Erection; TGE-TG Erection; TBU-TG Boxup; TBG-TG Barring Gear; SYN-Synchronisation; FLL-Full Load; COD-72 Hour Run

3.71 **Delays in Unit-4 Project Completion:** The Table below gives details of the delays of project milestones till 72 hour run completion i.e. Commercial Operation Date (COD) with reasons for delay. There is total delay of 584 days in declaration of unit commercial operation, as compared to the plan.

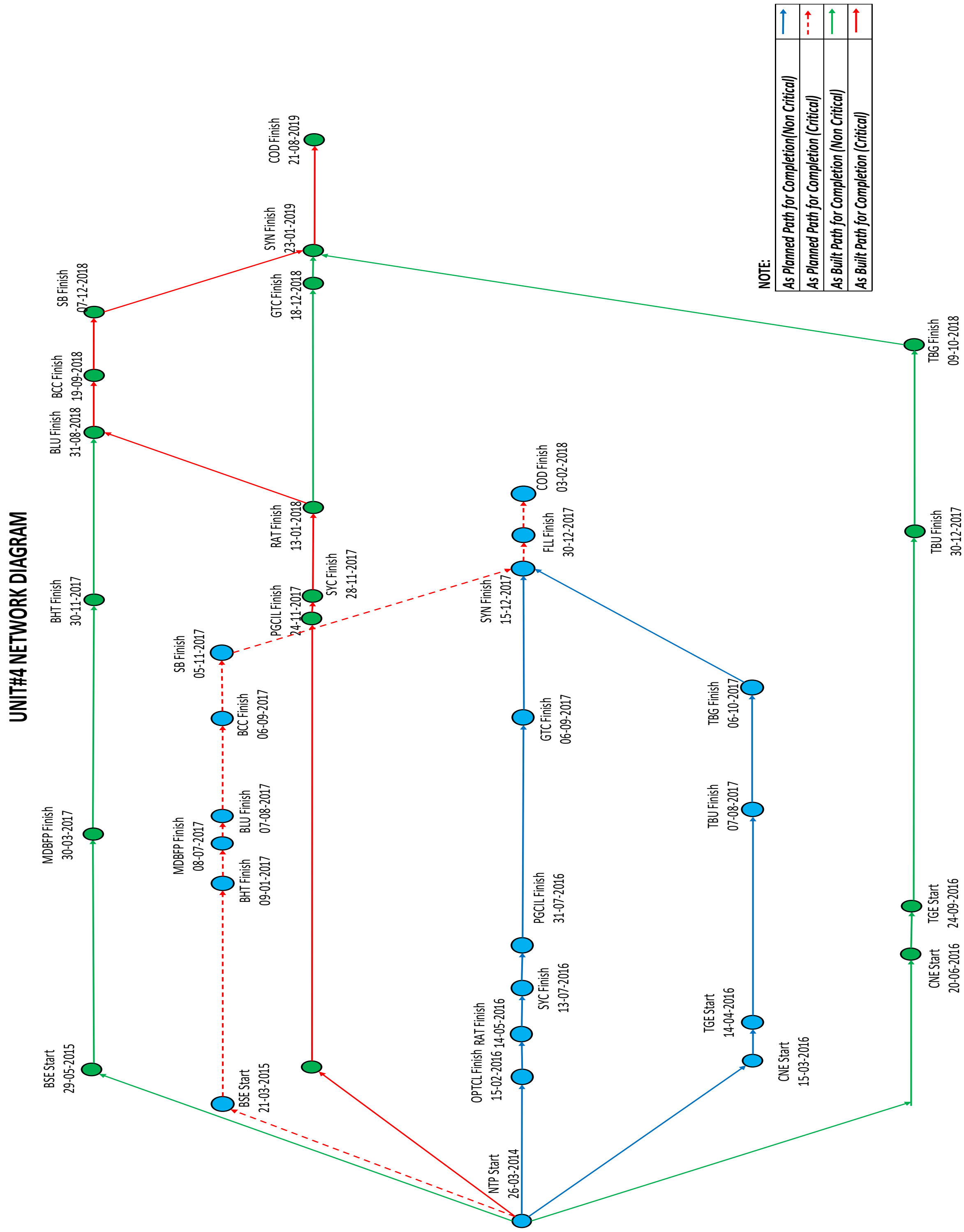
Unit 4 Project Milestone Status				
Milestone Description	**As Planned Finish Date**	**As Build Finish Date**	**Finish Delay**	**Reason / Remarks**
OPTCL 400kV Line Charging	15-Feb-16	03-Nov-18	992	Delay in commissioning of OPTCL Lapanga Substation and completion of the OPTCL 400kV lines from IB Thermal to Lapanga.
PGCIL Line Readiness for Back Charging	31-Jul-17	26-Dec-17	148	Delay in completion of the 400kV lines by PGCIL from Sundergarh substation to IB Thermal. Connection agreement then 1st line charging
Switch Yard Back Charging	13-Jul-16	28-Nov-17	503	Knock on effect of non availability of 400 kV OPTCL line, as Switchyard was back supposed to be back charged from OPTCL line. Recovery of 489 days due to PGCIL line charging prior to actual OPTCL line charging
Start Up Power from PGCIL		26-Dec-17		Drawl of start up power done after ERLDC approval on start up power
RAT Charging	14-May-16	13-Jan-18	609	Delay in RAT charging due to the knock on effect of delayed back charging of switch yard and after the ERLRC approval for start-up power. Rather there is recovery of 383 days in completion of charging activity with respect to plan from OPTCL line.
Boiler Hydro Test (Drainable)	09-Jan-17	30-Nov-17	325	Knock on effect of delayed Boiler Erection Start. Duration delay due to stop work orders issued by DF&B, because of fatality and various unsafe incidents in boiler erection. Work stoppages due to multiple work front interfaces with BGRE.
BFP Ready for Testing & Commissioning	08-Jul-17	30-Mar-17	-100	Boiler Feed Pump was made available 100 days earlier than planned.
Boiler Light Up Completion	07-Aug-17	31-Aug-18	389	Knock on effect of delay in trial run of Motor Drive Boiler Feed Pump due to delayed availability of sufficient start up power from PGCIL. There is 220 days recovery considering 450 days planned duration from RAT charging to Boiler

Unit 4 Project Milestone Status				
Milestone Description	**As Planned Finish Date**	**As Build Finish Date**	**Finish Delay**	**Reason / Remarks**
				Light Up. However the entire delay of 389 will be attributed to OPTCL as the planned provider of start up power for both the units was delayed by 992 days
TG Box Up	07-Aug-17	30-Dec-17	145	Knock on effect of late start in TG erection as well as slow progress of BHEL. Rather there is recovery of 18 days considering delayed start in TG erection.
Boiler Chemical Cleaning	06-Sep-17	19-Sep-18	378	Knock on effect of late Boiler Light Up due to late availability of start up power from PGCIL. However there is recovery of 11 days considering delay Boiler Light Up due to start up power issue.
TG Barring Gear	06-Oct-17	09-Oct-18	368	Knock on effect of late commissioning due to delayed availability of start up power. There is recovery of 113 days due to Plan B start-up power for LT Board commissioning with approval from WESCO
Steam Blowing Completion	05-Nov-17	07-Dec-18	397	Knock on effect of late Boiler Light Up due to delayed availability of start up power from PGCIL
Generator Transformer Back Charging	06-Oct-17	08-Jan-19	459	Knock on effect of delay availability of PGCIL start up power for GT back charging. There is 22 days recovery considering 481 days delay in getting start up power from PGCIL
Synchronisation	15-Dec-17	23-Jan-19	404	Knock on effect of late Boiler Light Up due to delayed availability of start up power from OPTCL
72 Hr Run Test	14-Jan-18	17-Aug-19	580	Knock on effect of late Boiler Light Up due to delayed availability of start up power from OPTCL
COD	14-Jan-18	21-Aug-19	584	389 days delay due to knock on effect of late Boiler Light Up because of delayed availability of start up power from OPTCL. 180 days of BHEL delay due to LP Turbine rotor replacement and unit stabilisation issues.

3.72 After handing over of complete civil foundations by BGRE to BHEL for start of Boiler erection, BHEL erected boiler structure, pressure parts and auxiliary equipment for Boiler Light Up. In absence of OPTCL connectivity, the OPGC-Jharsuguda 400 kV D/C Line (ISTS) was charged on November 24, 2017 and start-up was used after power approval from ERLDC. The back feed power from PGCIL line was delayed by 148 days with respect to plan, whereas original plan was to use only OPTCL line for start-up power and OPGC-Jharsuguda 400 kV D/C Line was meant for power evacuation from Unit-4. Boiler Light Up was late by 389 days with a recovery of 220 days with respect RAT charging date. Plan- B was also developed for start-up power for Switchyard pre-commissioning, DM Plant and LT Board commissioning activities with LT power approval from WESCO, as there was delay in getting back feed power. Hence, the delays in Boiler Light Up on account of delay in readiness of various system by EPC contractor (BHEL & BGRE) had not affected the delay in COD as the start-up power (OPTCL scope) was not available at the time for RAT charging. In any case, delay solely due to the contractor are being dealt as per the terms of the contract.

3.73 There were minor delays of 15 days in successor activities of Boiler Light Up i.e. Boiler Chemical Cleaning, Steam Blowing and Synchronisation. There was 180 days of delay from Synchronisation through unit Full Loading, 72Hr Test Run and COD (Date of Commercial Operation) due to LP Turbine Rotor Last Stage Blade failure and the time taken to source a new rotor for complete replacement and restoration. As the blade failure and the complete replacement was an unforeseen circumstance, the delay of 180 days can be attributed to external factors. Hence the 569 days out of total delays of 584 days can be attributed to external factors.

3.74 The above explanations are corroborated with the network diagram shown below. The major driving paths leading to the declaration of COD from the issue of NTP has been shown in the diagram. As can be seen from the diagram, the as-planned critical path runs from NTP to COD through Boiler Structural Erection Start--> Boiler Hydro Test Finish--> MDBFP Ready for Trial Run--> Boiler Light Up --> Boiler Chemical Cleaning -->Steam Blowing -->Synchronisation --> 72Hr Test Run --> COD. The as-built critical path run through PGCIL Line Charging --> Switch Yard Back Charging--> RAT Charging --> Boiler Light Up --> Boiler Chemical Cleaning -->Steam Blowing -->Synchronisation --> 72Hr Test Run --> COD.



NTP–Notice to Proceed; BSE-Boiler Structure Erection; BHT-Boiler Hydro Test; BLU-Boiler Light Up; BCC-Boiler Chemical Cleaning; SB-Steam Blowing; RAT-RAT Charging; PGCIL-PGCIL Charging; OPTCL-OPTCL Charging; SYC-Switch Yard Charging; GTC-GT Back Charging; CNE-Condenser Erection; TGE-TG Erection; TBU-TG Boxup; TBG-TG Barring Gear; SYN-Synchronisation; FLL-Full Load; COD-72 Hour Run

Interest During Construction (IDC) & Financing Charges (FC)

3.75 The Debt Equity ratio planned for the project is 75:25. Equity support has been sourced from the Shareholders' contribution and internal accruals.

3.76 OPGC has availed the long-term loans from Power Finance Corporation Ltd. (PFC) and Rural Electrification Corporation Ltd. (REC) for debt financing of Units 3 & 4. Although the loan agreements were executed much earlier, the actual loan drawal commenced from FY 2013-14 only.

3.77 The terms and conditions of the long-term loans availed from PFC and REC are as under:

Table 3-12: Terms and conditions of long-term loans

Particulars	Loan 1	Loan 2
Name of the Bank	Power Finance Corporation Ltd	Rural Electrification Corporation Ltd.
Currency	INR	INR
Sanctioned Loan amount	Rs. 4181.25 Crore	Rs. 4181.25 Crore
Loan drawal upto COD of Station	Rs. 3648.79 Crore	Rs. 3619.58 Crore
Moratorium Period	6 months from COD	6 months from COD
Repayment effective from	15.07.2020	30.09.2020
Repayment Frequency	Quarterly	Quarterly
Repayment Instalment	Unequal quarterly Instalments as per amortisation Schedule	Equal quarterly instalments
Repayment period	60 Quarters	60 Quarters
Interest Rate (Fixed/Floating)	Floating	Floating
Terms of Interest Rate, if Floating	3 year reset	3 year reset

3.78 The IDC & FC as estimated in the DPR was Rs. 1223.00 Crore. As against the same, the actual expenditure incurred up to COD of Unit 4 is Rs. 1789.72 Crore.

Table 3-13: IDC & FC (Rs. Crore)

Particulars	DPR Cost	Actual expenditure upto COD of Unit 4
IDC & FC	1223.00	1789.72

3.79 The reason for variation in IDC incurred till COD with respect to IDC estimated in DPR is mainly on account of variation in interest rates from that considered in the DPR estimates. In the DPR, the uniform interest rate of 10.50% was considered whereas in actual the interest rates during the initial years of loan drawal was close to 12%. Subsequently, the interest rates came down and the actual rate of interest incurred during FY 2019-20 was 10.61%. The details of actual loan amounts drawn and the interest expenses incurred during the period of construction are furnished in Form-14.

3.80 The other reason for variation in IDC is due to delay in project mainly due to uncontrollable factors as mentioned above. In this regard it is important to note that Hon'ble APTEL in its Judgment dated April 27, 2011 in Appeal No. 172 of 2010 has stated that any increase in Project Cost due to delay on account of uncontrollable factors is to be allowed as pass through in the Project Cost. The operative excerpt of the Judgment is provided as under:

"The Central Commission has also not laid down any benchmark norms for prudence check, but its Regulations only indicate the area of prudence check including cost overrun and time overrun. The State Commission has not examined the reasons for delay in commissioning of the project and attributed the entire time overrun related cost with respect to the contractual schedule agreed with BHEL to the Appellant. In our view, this is not prudence check. In the absence of specific regulations, we will now find answer to the question raised by us relating prudence check of time overrun related costs.

7.4. The delay in execution of a generating project could occur due to following reasons:

i) due to factors entirely attributable to the generating company, e.g., imprudence in selecting the contractors/suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay in providing inputs like making land available to the contractors, delay in payments to contractors/suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper co-ordination between the various contractors, etc.

ii) due to factors beyond the control of the generating company e.g. delay caused due to force majeure like natural calamity or any other reasons which clearly establish, beyond any doubt, that there has been no imprudence on the part of the generating company in executing the project.

iii) situation not covered by (i) & (ii) above.

In our opinion in the first case the entire cost due to time over run has to be borne by the generating company. However, the Liquidated Damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company. In the second case the generating company could be given benefit of the additional cost incurred due to time over-run. However, the consumers should get full benefit of the LDs recovered from the contractors/suppliers of the generating company and the insurance proceeds, if any, to reduce the capital cost. In the third case the additional cost due to time overrun including the LDs and insurance proceeds could be shared between the generating company and the consumer. It would also be prudent to consider the delay with respect to some benchmarks rather than depending on the provisions of the contract between the generating company and its contractors/suppliers. If the time schedule is taken as per the terms of the contract, this may result in imprudent time schedule not in accordance with good industry practices.

7.5. in our opinion, the above principles will be in consonance with the provisions of Section 61(d) of the Act, safeguarding the consumers ' interest and at the same time, ensuring recovery of cost of electricity in a reasonable manner."

3.81 Considering the variations in actual interest rates vis-à-vis interest rates considered in DPR and reasons for delay as mainly uncontrollable factors, OPGC requests the Hon'ble Commission to approve the total IDC incurred till COD of the project.

Inclusion of assets pertaining to Units 1 & 2

3.82 Clause 2(e) of Schedule 4 of the approved PPA for Units 3&4 provides as under:

> *"Inclusion of Rupees Seventy Five Crore (Rs. 750,000,000) incurred during construction of Unit-1 and Unit-2 of OPGC and in terms with Clause No. 9 of the Tripartite Agreement; ..."*

3.83 Clause 9 of the Tripartite Agreement provides as under:

> *"If the PPA for the units 3 & 4 is entered into with GRIDCO, an amount equal to Rs. 75 crores, being the additional project cost of units 1 & 2 over Rs. 1060 crores included in the PPA for these units, shall be added to the project cost of units 3 & 4."*

3.84 In accordance with the above, OPGC has considered the cost of Rs. 75 Crore, being the additional project cost of Units 1&2 over Rs. 1060 Crore, in the Capital Cost of Units 3&4. This expenditure of Rs. 75 Crore was part of the total capital expenditure incurred towards creation of common civil infrastructure at the time of setting up of Units 1&2. It is pertinent to mention that this capital expenditure of Rs. 75 Crore was not allowed for recovery through the tariff for Units 1&2 and was asked to claim as a part of capital cost of Unit 3 & 4.

Capital Cost

3.85 Based on the above, the Capital Cost for Units 3&4 is as shown in the Table below:

Table 3-14: Capital Cost of Units 3&4 (Rs. Crore)

S. No.	Particulars	DPR Cost	Actual expenditure upto COD of Unit 4
1	Hard Cost	8943.00	7860.97
2	IDC & FC	1223.00	1789.72
3	Total	10165.00	9650.69
4	Inclusion of cost pertaining to Units 1 & 2 as per Clause 2(e) of Schedule 4 of the PPA		75.00
5	**Total project cost**	**10165.00**	**9725.69**

3.86 OPGC requests the Hon'ble Commission to approve the actual capital expenditure as on

COD of Unit 4 as claimed above. The audited annual accounts as on COD of Unit 3 and Unit 4 are enclosed at **Annexure- 13**.

Means of finance

3.87 The Debt-Equity ratio as on CODs of Units 3 and 4 are 75.33%:24.67% and 75.32%:24.68% respectively.

3.88 The amount of transferred assets from Units 1&2 is considered to be funded by 100% Equity for the reasons as discussed below:

- The total capital expenditure incurred for Units 1&2 was Rs. 1135 Crore. Out of the same, the capital expenditure recovered through tariff for Units 1&2 was Rs. 1060 Crore. Therefore, the balance expenditure of Rs. 75 Crore pertaining to common facilities is recoverable through tariff for Units 3 & 4. Accordingly, the funding of capital expenditure of Rs. 75 Crore pertaining to the common facilities is considered as 100% equity.

3.89 Regulation 18(1) of CERC Tariff Regulations, 2019 stipulates as under

"For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff..."

3.90 As the total equity upto COD of Unit 4 is less than 30%, the actual debt and equity has been considered for determination of tariff.

Gross Fixed Assets (GFA) for tariff

3.91 The GFA as on CODs of Units 3&4, for tariff purposes, has been considered as per the audited accounts.

Table 3-15: GFA for tariff (Rs. Crore)

Particulars	As on COD of Unit 3	As on COD of Unit 4

Particulars	As on COD of Unit 3	As on COD of Unit 4
GFA as per audited accounts	3336.23	8521.20
Assets transferred from Units 1&2	75.00	75.00
Total	**3411.23**	**8596.20**

Additional capitalisation

3.92 Regulation 3(14) of the CERC Tariff Regulations, 2019 defines the Cut-off date as under:

*"'**Cut-off Date**' means the last day of the calendar month after thirty six months from the date of commercial operation of the project"*

3.93 OPGC has proposed additional capitalisation for FY 2019-20 to FY 2023-24 which has been discussed below.

3.94 Regulation 24 of the CERC Tariff Regulations, 2019 specifies as under:

*"**24. Additional Capitalisation within the original scope and upto the cut-off date***

(1) The additional capital expenditure in respect of a new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(a) Undischarged liabilities recognized to be payable at a future date;

(b) Works deferred for execution;

(c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these Regulations;

(d) Liabilities to meet award of arbitration or for compliance of the directives or order of any statutory authority or order or decree of any court of law;

(e) Change in law or compliance of any existing law; and

(f) Force Majeure events:

...

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.

(2) The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.

3.95 Regulation 25 of the CERC Tariff Regulations, 2019 specifies as under:

*"**25. Additional Capitalisation within the original scope and after the cut-off date:***

(1) The additional capital expenditure incurred or projected to be incurred, in respect of an existing project or a new project on the following counts within the original scope of work after the cut-off date may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;

(b) Change in law or compliance of any existing law;

(c) Deferred works relating to ash pond or ash handling system in the original scope of work;

(d) Liability for works executed prior to the cut-off date;

(e) Force Majeure events;

(f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

(g) Raising of ash dyke as a part of ash disposal system.

(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

(c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and

(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.

3.96 Regulation 26 of the CERC Tariff Regulations, 2019 specifies as under:

*"**26. Additional Capitalisation beyond the original scope***

(1) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;

(b) Change in law or compliance of any existing law;

(c) Force Majeure events;

(d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Governmental Instrumentality or statutory authorities responsible for national or internal security;

(e) Deferred works relating to ash pond or ash handling system in additional to the original scope of work, on case to case basis;

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

(f) Usage of water from sewage treatment plant in thermal generating station.

(2) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalisation shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalised."

3.97 OPGC has projected the additional capitalisation for FY 2019-20 to FY 2023-24 considering August 2022 as cut-off date in accordance with CERC Tariff Regulations, 2019 and additional capitalisation beyond cut-off date in accordance with the above provisions of CERC Tariff Regulations. In addition, the outstanding works in progress as on COD of Unit 4 (i.e., total expenditure minus GFA) is projected to be capitalised in FY 2021-22.

Table 3-16: Projected additional capitalisation (Rs. Crore)

Year	Additional capitalisation
FY 2019-20	0.00
FY 2020-21	20.66
FY 2021-22	2910.24
FY 2022-23	44.15
FY 2023-24	11.44
Total	**2986.49**

3.98 The item wise details of additional capitalisation along with justification have been enclosed at **Annexure 14**. OPGC humbly submits that the actual additional capitalisation shall be submitted at the time of true-up for the respective year(s).

3.99 In addition to the above projected additional capitalisation, OPGC is also undertaking emission control system for complying with the revised emission norms of Ministry of Environment, Forests & Climate Change (MoEF&CC). OPGC had filed a Petition (Case No. 18/2020) for in principle approval of capital cost for installation of Flue Gas Desulphurisation (FGD) system and Flue Gas Conditioning (FGC) system for Units 3&4. Hon'ble OERC vide its Order dated September 24, 2020 disposed of the said Petition and ruled as under:

"21. In view of the above and considering the proposal made by OPGC to comply with the changed law, the Commission herby accords in principle approval as below.

Sl. No.	*Particulars*	*Proposed Capex Estimate Rs. Cr.*	*Proposed Capex Estimate Rs. Cr./MW*	*Commission's approval Rs. Cr.*
1	*Wet Lime Stone Based FGD System*	*648.36*	*0.49*	*648.36*
2	*FGC*	*25.20*	*0.02*	*25.20*
3	*Total FGD EPC Base Cost excluding GST*	*673.56*	*0.51*	*673.56*

22. The Commission also allows the claim towards IDC, Taxes and duties at actual after commissioning of FGD system, which may be allowed after prudence check. As *regards to the opportunity cost, the same is not considered at this stage as the petitioner can complete the process during periodic shut down. The Petitioner would consult the beneficiaries before availing such shut down. Since the O&M cost and other applicable costs are consequential, the same shall be considered in due course after prudence check at the Commission level on an application by the Petitioner."*

3.100 In accordance with the Regulation 29(4) of the CERC Tariff Regulations, 2019, a separate Petition shall be filed for determination of supplementary tariff (capacity charges or energy charge or both) based on the actual capital expenditure duly certified by the Auditor, for installation of emission control system.

3.101 The means of finance of additional capitalisation has been considered in the Debt-Equity ratio of 75%:25% which is the planned Debt-Equity ratio of the project as a whole.

4 Generation Tariff

Tariff Regulations

4.1 As discussed in Section 2, the generation tariff for supply of power from Units 3&4 for the period from FY 2019-20 to FY 2023-24 is to be determined in accordance with the CERC Tariff Regulations, 2019 as detailed in the following paragraphs.

4.2 Regulation 14(1) of the CERC Tariff Regulations, 2019 specifies as under:

"The tariff for supply of electricity from a thermal generating station shall comprise two parts namely, capacity charge (for recovery of annual fixed cost consisting of the components as specified in Regulation 15 of these regulations) and energy charge (for recovery of primary and secondary fuel cost and cost of limestone and any other reagent, where applicable as specified in Regulation 16 of these regulations)."

4.3 As discussed in Chapter 3, the asset class wise GFA as on CODs of Units 3&4 and the assets transferred from Units 1&2, for tariff purposes, has been considered as per the audited accounts.

Table 4-1: Asset class wise GFA for tariff (Rs. Crore)

Particulars	As on COD of Unit 3	As on COD of Unit 4
Land & Land Rights	0.24	0.24
Building & Civil Works of Power Plants	165.93*	582.80*
Hydraulic Works	0.00	0.00
Other Civil Works	39.05	44.94
Plant & Machinery	3156.14	7905.68
Lines & Cable Net work	14.36	20.94
Vehicles	6.88	6.88
Furniture & Fixtures	11.43	12.59
Office Equipment	16.28	17.69
Software	0.92	4.43
Total	**3411.23**	**8596.20**

**including assets amounting to Rs. 75 Crore transferred from Units 1&2*

4.4 The means of finance of the GFA as on COD as per the audited accounts has been considered based on the actual means of finance as on COD of respective Units. Further, the means of finance of the assets transferred from Units 1&2 have been considered as 100% equity.

4.5 The GFA and means of finance considered for FY 2019-20 is as given hereunder:

Table 4-2: GFA and means of finance for FY 2019-20

Particulars	Units	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020
GFA as on COD as per the audited accounts	Rs. Crore	3336.23	8521.20
Debt	%	75.33%	75.32%
Equity	%	24.67%	24.68%
Debt	Rs. Crore	2513.30	6418.13
Equity	Rs. Crore	822.93	2103.07
Assets transferred from Units 1&2	Rs. Crore	75	75
Debt	%	0%	0%
Equity	%	100%	100%
Debt	Rs. Crore	0.00	0.00
Equity	Rs. Crore	75.00	75.00
Total debt	Rs. Crore	2513.30	6418.13
Total equity	Rs. Crore	897.93	2178.07
Additional capitalisation	Rs. Crore	-	0.00
Debt	%	-	75.00%
Equity	%	-	25.00%
Debt	Rs. Crore	-	0.00
Equity	Rs. Crore	-	0.00

4.6 The year wise additional capitalisation for FY 2020-21 to FY 2023-24 and corresponding means of finance for FY 2020-21 to FY 2023-24 is as under:

Table 4-3: Year wise additional capitalisation and corresponding means of finance for FY 2020-21 to FY 2023-24

Particulars	Units	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Additional capitalisation	Rs. Crore	20.66	2910.24	44.15	11.44
Debt	%	75.00%	75.00%	75.00%	75.00%
Equity	%	25.00%	25.00%	25.00%	25.00%

Particulars	Units	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Debt	Rs. Crore	15.49	2182.68	33.11	8.58
Equity	Rs. Crore	5.16	727.56	11.04	2.86

4.7 The Annual Fixed Cost (AFC) of a generating station shall consist of the following components:

i. Return on Equity

ii. Interest on loan capital

iii. Depreciation

iv. Operation and maintenance expenses

v. Interest on working capital

4.8 The components of AFC are discussed in the following paragraphs.

Return on Equity (RoE)

4.9 Regulations 30(2) and 31 of the CERC Tariff Regulations, 2019 specifies the base rate of RoE of 15.5% to be grossed up with the effective tax rate. For the purpose of tariff, the RoE has been computed considering the Equity base and the base rate of 15.5% grossed up with MAT Rate of 17.47% as under:

Table 4-4: RoE for FY 2019-20 to FY 2023-24 (Rs. Crore)

Particulars	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
Opening Equity	897.93	2178.07	-	2178.07	2183.24	2910.80	2921.84
Addition during the year	0.00	0.00	-	5.16	727.56	11.04	2.86
Closing Equity	897.93	2178.07	-	2183.24	2910.80	2921.84	2924.70
Average Equity	897.93	2178.07	-	2180.66	2547.02	2916.32	2923.27
Return on Equity	18.78%	18.78%	-	18.78%	18.78%	18.78%	18.78%
Return on Equity	**22.64**	**251.05**	**273.69**	**409.56**	**478.37**	**547.73**	**549.03**

Interest on loan

4.10 The loan amount as on COD of Unit 3 has been considered as the opening loan balance. The normative repayment has been considered as equivalent to the depreciation in accordance with the provisions of CERC Tariff Regulations, 2019. The outstanding loan as on COD of Unit 4 has been worked out by considering the outstanding normative loan, pertaining to Unit 3, as on COD of Unit 4 and the loan amount corresponding to the Capital Cost of Unit 4. The closing normative loan for FY 2019-20 has been considered as the opening normative loan for FY 2020-21 and so on. The debt portion of the projected additional capitalisation has been considered as the loan addition for the corresponding year. The actual rate of interest of 10.61% (for FY 2019-20) has been considered as the interest rate for FY 2019-20. The actual rate of interest of 10.72% (for FY 2020-21) has been considered as the interest rate for the period from FY 2020-21 to FY 2023-24. The interest on loan has been calculated on the normative average loan for the respective period by applying the rate of interest. The interest on loan has been calculated on the normative average loan for the respective period by applying the rate of interest. The interest on loan claimed is as shown in the Table below:

Table 4-5: Interest on Loan for FY 2019-20 to FY 2023-24 (Rs. Crore)

Particulars	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
Gross loan - Opening	2513.30	6418.13		6418.13	6433.62	8616.30	8649.41
Cumulative repayments	0.00	23.72		295.16	738.00	1258.22	1856.43
Net loan - Opening	2513.30	6394.40		6122.97	5695.62	7358.08	6792.98
Receipts during the year	0.00	0.00		15.49	2182.68	33.11	8.58
Repayment during the year	23.72	271.44		442.84	520.22	598.21	599.68
Net loan - Closing	2489.58	6122.97		5695.62	7358.08	6792.98	6201.88
Average Net Loan	2501.44	6258.68		5909.29	6526.85	7075.53	6497.43
Rate of Interest on Loan	10.61%	10.61%		10.72%	10.72%	10.72%	10.72%
Interest on loan	**35.63**	**407.47**	**443.10**	633.48	699.68	758.50	696.52

Depreciation

4.11 CERC Tariff Regulations, 2019 specify the rates of depreciation of each asset class. Depreciation has been computed considering the asset class wise GFA and the rates of depreciation specified in the CERC Tariff Regulations, 2019. Accordingly, the depreciation claimed is as under:

Table 4-6: Depreciation for FY 2019-20 to FY 2023-24 (Rs. Crore)

Particulars	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
Land & Land Rights	0.00	0.00	-	0.00	0.00	0.00	0.00
Building & Civil Works of	0.74	11.95	-	19.47	19.47	19.47	19.47

Particulars	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
Power Plants							
Hydraulic Works	0.00	0.00	-	0.00	0.00	0.00	0.00
Other Civil Works	0.18	0.92	-	1.50	1.50	1.50	1.50
Plant & Machinery	22.37	256.17	-	417.97	495.34	573.34	574.80
Lines & Cable Net work	0.10	0.68	-	1.11	1.11	1.11	1.11
Vehicles	0.09	0.40	-	0.65	0.65	0.65	0.65
Furniture & Fixtures	0.10	0.49	-	0.80	0.80	0.80	0.80
Office Equipment	0.14	0.69	-	1.12	1.12	1.12	1.12
Software	0.01	0.14	-	0.23	0.23	0.23	0.23
Total	**23.72**	**271.44**	**295.16**	**442.84**	**520.22**	**598.21**	**599.68**

Operation and Maintenance (O&M) expenses

4.12 Regulation 35(1) of the CERC Tariff Regulations, 2019 specify the normative O&M expenses for the Unit size of 600 MW series. Accordingly, the normative O&M expenses have been computed considering the norm specified in the CERC Tariff Regulations, 2019.

4.13 The O&M expenses claimed for FY 2019-20 is as shown in the Table below:

Table 4-7: O&M expenses for FY 2019-20 to FY 2023-24

Particulars	Units	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
		From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
Unit size	MW	660	660	-	660	660	660	660
No of Units	No.	1	2	-	2	2	2	2
Normative O&M expenses	Rs. Lakh/MW	20.26	20.26	-	20.97	21.71	22.47	23.26
O&M expenses	**Rs. Crore**	**17.95**	**164.12**	**182.07**	**276.80**	**286.57**	**296.60**	**307.03**

4.14 In accordance with Regulation 35(6) of the CERC Tariff Regulations, 2019, in addition to the normative O&M expenses as above, water charges and security expenses shall be allowed separately. Accordingly, the water charges and security expenses are as under:

Table 4-8: Water charges and security expenses for FY 2019-20 to FY 2023-24 (Rs. Crore)

Particulars	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
Water charges	3.55	16.17	19.73	28.59	30.54	32.58	34.62

Particulars	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
Security expenses	0.38	1.82	2.20	3.34	3.95	4.66	5.50

Interest on Working Capital (IoWC)

4.15 Regulation 34(a) of the CERC Tariff Regulations, 2019 specify the normative working capital requirements corresponding to normative annual plant availability factor for coal based thermal generating station as follows:

i. Cost of coal towards stock for 10 days for pit-head generating.
ii. Cost of coal towards payment for 30 days.
iii. Cost of main secondary fuel oil for two months.
iv. Maintenance spares @ 20% of O&M expenses including water charges and security expenses.
v. Receivables equivalent to 45 days of capacity charges and energy charge
vi. O&M expenses, including water charges and security expenses, for one month.

4.16 Further, Regulation 34(3) read with Regulation 3(7) specifies the rate of interest on working capital as SBI Base Rate plus 350 basis points as on April 1, 2019 or 1st April of the year in which the generating station or a Unit thereof is declared under commercial operation, whichever is later.

4.17 The normative working capital requirements have been computed in accordance with the provisions of the CERC Tariff Regulations, 2019 treating the generating station as pit-head generating station. Further, in addition to normative O&M expenses, the water charges and security expenses have also been considered in computing the normative working capital requirements.

4.18 The rate of interest on working capital has been considered as 12.05% considering the SBI one-year MCLR of 8.55% as on April 1, 2019 +350 basis points in accordance with the CERC Tariff Regulations, 2019. The IoWC claimed is as follows:

Table 4-9: IoWC for FY 2019-20 to FY 2023-24 (Rs. Crore)

Particulars	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
Coal Cost	64.35	136.00		136.00	136.00	136.00	136.00
Oil Cost	1.35	2.71		2.71	2.71	2.71	2.71
O & M expenses	32.60	59.35		61.75	64.21	66.77	69.43
Maintenance Spares	173.32	388.04		383.81	411.98	439.44	432.98
Receivables	13.58	24.73		25.73	26.76	27.82	28.93
Working capital Loan Requirement	**285.21**	**610.82**		**471.28**	**502.95**	**534.03**	**531.34**
Rate of Interest	12.05%	12.05%		12.05%	12.05%	12.05%	12.05%
Interest on Working Capital	**4.61**	**45.17**	**49.78**	**56.79**	**60.61**	**64.35**	**64.03**

Annual Fixed Cost (AFC)

4.19 Based on the above, the AFC claimed is as shown in the Table below:

Table 4-10: AFC for FY 2019-20 to FY 2023-24 (Rs. Crore)

Particulars	FY 2019-20			FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020	Total				
O & M Expenses	17.95	164.12	182.07	276.80	286.57	296.60	307.03
Water charges	3.55	16.17	19.73	28.59	30.54	32.58	34.62
Security expenses	0.38	1.82	2.20	3.34	3.95	4.66	5.50
Depreciation	23.72	271.44	295.16	442.84	520.22	598.21	599.68
Interest on Term Loans	35.63	407.47	443.10	633.48	699.68	758.50	696.52
Interest on Working Capital	4.61	45.17	49.78	56.79	60.61	64.35	64.03
Return on Equity	22.64	251.05	273.69	409.56	478.37	547.73	549.03
AFC	**108.48**	**1157.25**	**1265.73**	**1851.39**	**2079.94**	**2302.64**	**2256.42**

4.20 OPGC requests the Hon'ble Commission to approve the claimed AFC for FY 2019-20 to FY 2023-24.

Norms of Operation

4.21 CERC Tariff Regulations, 2019 specify the following norms of operation for a thermal generating station:

i. Availability

ii. Plant Load Factor (PLF)

iii. Gross Station Heat Rate (GSHR)
iv. Secondary fuel oil consumption (SFOC)
v. Auxiliary Energy Consumption (AEC)
vi. Transit and handling loss

Availability

4.22 Regulation 49(A) of the CERC Tariff Regulations, 2019 specify the Normative Annual Plant Availability Factor of 85% for recovery of full AFC. The same has been considered as the Availability for FY 2019-20 to FY 2023-24.

Plant Load Factor (PLF)

4.23 Regulation 49(B) of the CERC Tariff Regulations, 2019 specify the Normative Annual Plant Load Factor of 85% for incentive purposes. The PLF for FY 2019-20 to FY 2023-24 has been considered as 85%.

Gross Station Heat Rate (GSHR)

4.24 Regulation 49(C)(b) specifies the methodology for determination of normative GSHR for new thermal generating stations achieving COD after April 1, 2009. The normative GSHR has been determined in accordance with the same considering the guaranteed technical parameters, as shown in the Table below:

Table 4-11: Determination of normative GSHR

Particulars	Units	Value
Pressure Rating	kg/cm^2	247
SHT/RHT	0^C	565/593
Type of Boiler Feed Pump		Turbine Driven
Guaranteed Design Unit Heat Rate	kcal/kWh	2078.00
Maximum Design Unit Heat Rate as per CERC Tariff Regulations, 2019	kcal/kWh	2151.00
Allowable Design Heat Rate	kcal/kWh	2078.00
Allowable Gross Station Heat Rate (1.05xDesign Heat Rate)	kcal/kWh	2181.90

4.25 Accordingly, the GSHR has been claimed as 2181.90 kcal/kWh.

Secondary fuel oil consumption (SFOC)

4.26 Regulation 49(D) of the CERC Tariff Regulations, 2019 specify the normative SFOC of 0.5 ml/kWh. Accordingly, the normative SFOC has been considered as 0.5 ml/kWh.

Auxiliary Energy Consumption (AEC)

4.27 Regulation 49(E) of the CERC Tariff Regulations, 2019 specify the normative AEC as 5.75% for Unit size of 500 MW and above with steam driven BFP. In addition, the AEC of 0.5% is allowed for generating stations with IDCT. In accordance with the same, the normative AEC has been considered as 6.25%.

Transit and handling loss

4.28 Regulation 39 of the CERC Tariff Regulations, 2019 specify the normative transit and handling loss of coal as 0.2% for pit-head generating stations. In accordance with the same, the normative transit and handling loss has been considered as 0.2%.

4.29 Based on the above, the norms of operation considered for FY 2019-20 to FY 2023-24 are as under:

Table 4-12: Norms of operation for FY 2019-20

Norm	Value
Availability	85%
Plant Load Factor (PLF)	85%
Gross Station Heat Rate (GSHR)	2181.90 kcal/kWh
Secondary Fuel Oil Consumption (SFOC)	0.5 ml/kWh
Auxiliary Energy Consumption (AEC)	6.25%
Transit and handling loss	0.2%

Fuel mix

4.30 The coal requirement for Units 3&4 is to be met from the allotted coal blocks of Manoharpur and Dipside of Manoharpur to M/s OCPL. The allotment agreement for the same is enclosed at **Annexure 15**. The allotted coal blocks had not achieved the rated production in FY 2019-20. Moreover, the full MGR system for coal transportation was not operational in FY 2019-20. Therefore, OPGC had procured coal through Bridge Linkage and Flexible utilisation routes for FY 2019-20 using the completed part of the MGR, connecting to nearest MCL mine.

4.31 In accordance with Regulation 43(b) of the CERC Tariff Regulations, 2019, OPGC has considered the landed fuel cost (taking into account normative transit and handling losses) and actual “as received” GCV less 85 kcal/kg on account of variation during storage at generating station, for the preceding three months of the COD of Unit 3 and Unit 4 for estimating the normative working capital requirements as under:

Table 4-13: Fuel prices and GCV for FY 2019-20

Particulars	Units	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 onwards
GCV of secondary fuel oil			
HFO	kcal/L	10000	10000
LDO	kcal/L	10600	10600
Price of secondary fuel oil			
HFO	Rs./kL	41401	41406
LDO	Rs./kL	48609	45078
GCV of coal	kcal/kg	3258	3086
Price of coal	Rs./MT	1785.02	1786.68

Energy Charge Rate

4.32 Based on the norms of operation and fuel prices and GCV as discussed above, the Base Energy Charge Rate for determination of working capital requirement, is as under:

Table 4-14: Energy Charge Rate

Particulars	Unit	From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 onwards
Auxiliary Consumption	%	6.25%	6.25%
Gross Station Heat Rate	kCal/kWh	2181.90	2181.90
GCV of secondary fuel oil			
HFO	kcal/L	10000	10000
LDO	kcal/L	10600	10600
Price of secondary fuel oil			
HFO	Rs./kL	41401	41406
LDO	Rs./kL	48609	45078
GCV of coal	kcal/kg	3258	3086
Price of coal	Rs./MT	1785.02	1786.68
Secondary fuel oil consumption			
HFO	ml/kWh	0.40	0.40
LDO	ml/kWh	0.10	0.10
Specific coal consumption	kg/kWh	0.65	0.73
Base Energy Charge Rate (for estimation of working capital requirement)	Paise/kWh	**129.74**	**136.93**

4.33 OPGC requests the Hon'ble Commission to approve the base value of Energy Charge Rate for estimation of Working Capital Requirement as claimed in this Petition. OPGC requests the Hon'ble Commission to allow the billing of Energy Charges considering the actual fuel prices and GCV in accordance with Regulations 43 and 44 of the CERC Tariff Regulations, 2019.

Generation tariff

4.34 Based on the above, the generation tariff claimed for FY 2019-20 to FY 2023-24 is as shown in the Table below:

Table 4-15: Generation Tariff claimed for FY 2019-20 to FY 2023-24

Particulars	Units	FY 2019-20		FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
		From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020				
Annual Fixed Cost	Rs. Crore	108.48	1157.25	1851.39	2079.94	2302.64	2256.42
Energy Charge Rate (Base value)	Paise/kWh	129.74	136.93	136.93	136.93	136.93	136.93

4.35 OPGC requests the Hon'ble Commission to approve the generation tariff for FY 2019-20 to FY 2023-24 as claimed in the Petition so as to enable OPGC for billing of the energy supplied under the approved PPA for Units 3&4.

Tariff for sale to GRIDCO

4.36 As per the approved PPA and subsequent GoO Notification dated December 20, 2018, 75% of the installed capacity of Units 3 & 4 is contracted with GRIDCO from COD of the Station upto March 31, 2023. In accordance with Regulation 42 of the CERC Tariff Regulations, 2019, 75% of the AFC corresponding to total Capital Cost shall be applicable for sale to GRIDCO under the approved PPA. The tariff for sale of power to GRIDCO under the approved PPA is as shown in Table below:

Table 4-16: Generation Tariff for sale to GRIDCO for FY 2019-20 to FY 2023-24

Particulars	Units	FY 2019-20		FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
		From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020				
Contracted capacity	MW	495	990	990	990	990	1320

Particulars	Units	FY 2019-20		FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
		From COD of Unit 3 to COD of Unit 4	From COD of Unit 4 to March 31, 2020				
with GRIDCO							
Annual Fixed Cost	Rs. Crore	81.36	867.93	1388.55	1559.95	1726.98	2256.42
Energy Charge Rate (Base value)	Rs./kWh	129.74	136.93	136.93	136.93	136.93	136.93

Reimbursement of Other charges

4.37 Regulation 56 of the CERC Tariff Regulations, 2019 specifies as under:

*"**56. Recovery of Statutory Charges:** The generating company shall recover the statutory charges imposed by the State and Central Government such as electricity duty, water cess by considering normative parameters specified in these regulations. In case of the electricity duty is applied on the auxiliary energy consumption, such amount of electricity duty shall apply on normative auxiliary energy consumption of the generating station (excluding colony consumption) and apportioned to each of the beneficiaries in proportion to their schedule dispatch during the month."*

4.38 Clause 7(b) of Schedule 4 of the approved PPA specifies as under:

"Other taxes / duties / levies / cess

Statutory taxes, levies, duties, royalty, cess or any other kind of imposition(s) imposed/ charged by any Government (central / state) and / or any other local bodies / authorities on generation of electricity including auxiliary consumption or any other type of consumption including water, environment protection, sale or on supply of power / electricity and/ or in respect of any of its installations associated with the Power Station payable by OPGC to the authorities concerned shall be computed as per the provisions of the prevailing Tariff norms of the Tariff Regulations and shall be borne and additionally paid by GRIDCO on a proportionate basis with other beneficiary(ies) in a proportionate manner. Provided however that any charge in respect of the energy sent outside the State of Orissa out of capacity not allocated to GRIDCO, shall not be charged to GRIDCO in any manner."

4.39 In accordance with the provisions of the approved PPA and CERC Regulations, the other charges have been claimed, as detailed below.

Electricity Duty

4.40 Electricity Duty is payable on the auxiliary consumption of the generating station at the prevailing rates, which is currently Rs. 0.55/kWh. Accordingly, the total estimated electricity duty based on the auxiliary consumption @ 6.25% of the gross generation is as under:

Table 4-17: Electricity Duty (Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Electricity Duty	23.00	33.79	33.79	33.79	33.88

System Operation Charges (SOC) & Market Operation Charges (MOC) for SLDC

4.41 OPGC has claimed the total SOC and MOC charges based on the Tariff Orders for SLDC.

Table 4-18: SOC and MOC (Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
SLDC Charges (SOC & MOC)	0.45	0.93	1.06	1.06	1.06

Energy Compensation Charge payable to OHPC

4.42 OPGC is required to pay the energy compensation charge to OHPC as per the bills raised by OHPC for the same. The energy compensation charge claimed by OPGC is as under:

Table 4-19: Energy Compensation Charge (Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Energy Compensation Charge	-	-	9.39*	-	-

**As per the bill for the month of April 2021*

Recovery of Tariff Petition Fee and Publication Expenses

4.43 Regulation 70 of the CERC Tariff Regulations, 2019 specify that the generating company is entitled to recover the fees and expenses incurred on publication of notices in application for approval of tariff. Accordingly, OPGC requests the Hon'ble Commission to approve the reimbursement of Petition Fee and estimated publication expenses for the instant Petition.

4.44 The total estimated other charges is shown in the Table below:

Table 4-20: Total estimated other charges for FY 2019-20 to FY 2023-24 (Rs. Crore)

Particulars	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Electricity Duty	23.00	33.79	33.79	33.79	33.88
Energy Compensation Charge payable to OHPC	-		9.39	-	-
SOC and MOC of SLDC	0.45	0.93	1.06	1.06	1.06
ARR & Tariff Petition fee and publication expenses	-	-	0.40	-	-
Total	**23.45**	**34.71**	**44.64**	**34.85**	**34.94**

4.45 OPGC further requests the Hon'ble Commission to direct GRIDCO Ltd. to reimburse the other charges on actual basis incurred during the year in accordance with the provisions of the Regulations and approved PPA.

Billing of differential amount

4.46 Hon'ble OERC vide its Order dated August 16, 2019 in Case No. 3/2019 had approved the provisional tariff Rs. 2.75 per unit. Further, in concluding the review petition filed by OPGC against the provisional tariff, registered as Case No.54/2019, the Hon'ble OERC has held that the provisional tariff has been enhanced to Rs.3.09/unit in the ARR of GRIDCO for FY 2020-21 and 2021-22. OPGC requests the Hon'ble OERC to allow billing of differential amount between final tariff approved by the Commission in this petition and the provisional tariff billed till the issuance of the Order in this Petition immediately after the order on approval of final tariff is issued by the Commission.

5. Prayers

OPGC respectfully prays that the Hon'ble OERC may:

i. Admit the instant Petition;

ii. Grant an expeditious hearing in the matter;

iii. Approve the Capital Cost including additional capitalisation from COD of Unit 3 upto FY 2023-24, as claimed in the Petition;

iv. Approve the tariff of OPGC-II (Unit-3&4) from COD of Unit 3 upto FY 2023-24 as claimed in the Petition;

v. Approve the recovery of other charges on actual basis as incurred during the year;

vi. Determine the tariff of OPGC-II (Unit-3&4) in accordance with the Schedule 4 of the PPA comprising CERC Tariff Regulations, 2019;

vii. Approve the billing of Capacity Charges and Energy Charges in accordance with the provisions of the CERC Tariff Regulations, 2019;

viii. Approve the recovery/adjustment of differential amount between the final tariff approved and the provisional tariff billed for the period starting from COD of Unit 3 till the issuance of the Order in this Petition immediately after the Order is issued in this Petition.

ix. Condone any inadvertent omissions, errors, shortcomings and permit OPGC to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date; and

x. Pass such other and further Orders as deemed fit and proper in the facts and circumstances of the case.

Petitioner

Bhubaneshwar

November 10, 2021