

**ODISHA ELECTRICITY REGULATORY COMMISSION**  
**BIDYUT NIYAMAK BHAWAN**  
**PLOT NO.-4, CHUNUKOLI, SHAILASHREE VIHAR**  
**BHUBANESWAR - 751 021**  
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**Present: Shri G. Mohapatra, Officiating Chairperson**  
**Shri S. K. Ray Mohapatra, Member**

**Case No. 38/2022**

**M/s. GRIDCO Ltd.**

**..... Petitioner**

**Vrs.**

**M/s. NTPC Ltd.&Others**

**..... Respondents**

In the matter of: Application under Section 86(1)(b) of the Electricity Act, 2003 read with Section 11(1)(e) & 21(4)(b) of the OER Act, 1995 seeking for approval towards Purchase of power from 1000MW Talcher Super Thermal Power Station(TSTPS), Stage-1 for a period of 10years beyond the expiry of the plant life, i.e.30.06.2022 in accordance with MoP, GoI Notification dated 22.03.2021.

For Petitioner : Shri P.K. Das, CGM(PP) and Ms. Madhusmita Mishra, DGM, GRIDCO Ltd.

For Respondents : Shri Girish Chandra Mohapatra M/s. NTPC Ltd. and Iva Sharma, Advocate; Ms. Sonali Patnaik, ALO I/c., DoE, GoO; Shri V. Wagle, TPSODL; Shri Punit Munjal (Head Regulatory Affairs), TPCODL; Shri K.C. Nanda, GM (RA&Strategy), TPWODL; Ms. Malancha Ghose, DGM(RA), TPNODL; Shri G.C. Mohapatra & Shri Sukanta Kumar Panda, GM (RT&C), OPTCL and Shri R.P. Mahapatra are present.

**ORDER**

**Date of hearing: 22.11.2022**

**Date of Order:30.12.2022**

The Petitioner M/s. GRIDCO Ltd. has filed the present Petition under section 86(1)(b) of the Electricity Act, 2003 read with Section 11(1)(e) and 21(4)(b) of Orissa Electricity Reform Act, 1995 seeking approval for purchase of power from 1,000 MW Talcher Super Thermal Power Station (TSTPS), Stage -I for a period of 10 years beyond the expiry of the plant life, i.e. 30.06.2022, in accordance with Ministry of Power (MoP), Govt. of India Notification dated 22.03.2021.

2. GRIDCO had signed Bulk Power Supply Agreement (BPSA) with NTPC on 25.05.1993 for purchase of power from 1000 MW, TSTPS, Stage-I which had come into force with effect from 01.01.1993. The TSTPS, Stage - I comprises of two Units (i.e., Unit-1 and Unit-2) each of 500 MW having declared Commercial Operation Date (CoD) on 01.01.1997 and 01.07.1997 respectively. GRIDCO has a share allocation of approximately

323 MW (@ 32.34%) in TSTPS, Stage-I, including the solar equivalent bundled thermal power of approx. 5.44 MW.M/s. GRIDCO Ltd. is procuring power since CoD which have already been approved in the ARR and BSP Orders of GRIDCO from time to time by this Commission. As per Regulation 3(73) of Tariff Regulations, 2019, the useful life of Coal/Lignite based thermal generating station is 25 years provided that, the extension of life of the projects beyond the completion of their useful life shall be decided by the Commission on case to case basis. As per the said Regulation, useful life of TSTPS, Stage - I expired on 30.06.2022 after 25 years of operation from the date of commercial operation (COD) dated 01.07.1997.

3. M/s. GRIDCO Ltd. has prayed for approval for continuation of purchase of GRIDCO's share of 32.34% power from 1,000 MW (2 x 500 MW) Talcher Super Thermal Power Station (TSTPS), Stage - I for a period of 10 years beyond the expiry of the plant life, i.e. 30.06.2022 with the same terms and conditions of the Bulk Power Supply Agreement (BPSA) with NTPC on 25.05.1993.

4. The Petitioner M/s. GRIDCO Ltd. has further submitted the following:

- a) NTPC, vide its CERC Tariff Petition No. 362/GT/2020 dated 30.01.2020 for the period 2019-24 has claimed Special Allowance to extend life beyond 25 years of TSTPS, Stage-I. GRIDCO, in its reply to the said Petition, has submitted that NTPC can meet the requirement of Expenses including Renovation and Modernization beyond the useful life of the Generating Station from Special Allowance. However, hearing in the said petition is yet to be notified by CERC.
- b) In the 202<sup>nd</sup> meeting of the Board of Directors of GRIDCO Ltd. held on dated 26.05.2022, it was approved to avail power from TSTPS, Stage - I for a period of 10 years beyond the expiry of plant life i.e., 30.06.2022 on the following grounds:
  - i. TSTPS, Stage-I is a Pit Head generating station. Hence, cost of coal on account of reduced transportation cost is less & Energy Charge Rate (ECR) is also low.
  - ii. As the country is experiencing coal crisis, NTPC has been allowed to blend about 10% of its coal requirement with imported coal. As a consequence, ECR of thermal power plants may increase. However, being a pit head plant TSTPS, Stage-I may not require blending with imported coal, thus avoiding increase in ECR.
  - iii. As per the Present Tariff Application and FGD proposal filed by NTPC before CERC for TSTPS, Stage-I, the purchase cost arrived beyond its useful life are: a) Fixed Cost of 95.00 Paisa/kWh (for FY 2022-23), b) Variable Cost of 187.00

Paisa/kWh, c) FGD Cost of 17.00 Paisa/kWh. Therefore, the total Cost (Excluding CTU Charge and Loss) is 299 Paisa/kWh.

- iv. After including PoC Transmission Charges and Losses of approx. 60 Paisa/kWh, landed cost of power comes to approximately 360 Paisa/kWh.
- v. The State has witnessed an unexpected rise in power demand in the post pandemic scenario. The DISCOM consumption has increased from 2477.09 MU in April 2021 to 2856.65 MU in April 2022, 2277.66 MU in May 2021 to 2919.35 MU in May 2022 and 2263.35 MU in June 2021 to 2288.32 MU in June 2022. Thus a growth of 15.32%, 28.17% and 27.61% has been observed respectively. Another factor for such power crisis was unavailability of coal. However, TSTPS-I being a pithead station was least affected by such coal crisis.
- vi. As a consequence of such power crisis, rates discovered in Power Exchanges were exorbitantly high and in some days power was not available in Exchanges due to which CERC had to reduce price from Rs 20/kWh to a capping rate of Rs 12/kWh.
- c) Drawl of power from TSTPS-I has always been approved by OERC in the ARR Order basing upon Merit Order Dispatch principle for Odisha. In ARR Order of GRIDCO for FY 2022-23, drawl has been considered upto June'22 as the plant attains 25 years of operation on 30.06.2022. However, the Commission has directed that in case GRIDCO renew/extend the existing PPA, then Commission will consider the State share of fixed cost of TSTPS-I from date of renewal/extension of PPA and it shall be factored in true up or passed through in ARR of GRIDCO in future year.
- d) From the Peak Load Generation Balance Report (LGBR) projected by GRIDCO for the period 2022-30 it can be seen that, a peak power deficit to the tune of 600 -1000 MW and 400-700 MW can be observed respectively for the FY 2022-23 to 2026-27 and 2027-28 to 2029-30. The peak deficit will be enhanced by another 255 MW approximately each year if procurement from TSTPS, Stage-I will not be considered.
- e) As per the said LGBR upto FY 2029-30, it is observed that GRIDCO is already having Peak shortfall and this will continue, even if procurement from TSTPS, Stage-I beyond expiry of plant life is considered. Therefore, unless there is adequate Capacity to sustain this peak shortfall, in case of sudden breakdown of large supercritical units of 600 MW and above, reliable and uninterrupted 24X7 power supply strategy of the State Government would be seriously jeopardized.

- f) In view of phasing out of NTPC- CGS stations, uncertainty in supply of power by IPPs like JITPL and Vedanta and frequent outage of large size thermal units, it is apparent that GRIDCO shall be in dire need of thermal power in order to provide base load support during evening peak hours.
- g) So far as Unit-2 of Barh Super Thermal Power Station (BSTPS), Stage-I and Unit-1 of North Karanpura Super Thermal Power Station (NKSTPS) are concerned, they are yet to be commissioned and it may take a long time for stable operation in a sustainable manner. Thus, such units may not be relied on for continuous power supply.
- h) In FY2021-22, around 700MVA additional power has been released in favour of DISCOMs to be availed by consumers. As the market rates are quite high and due to coal scarcity, many industries having CGPs in Odisha have expressed willingness to further enhance their CDs which may increase demand by further 200-300MW.
- i) The average per unit power procurement cost of Day Ahead Market (DAM) for the last three months i.e., Mar'22, Aprl'22 and May'22 are of Rs. 8.23, Rs. 10.07 and Rs. 6.76 respectively. Considering this trend, procurement of power from Power Market is not economical and reliable. In this scenario, GRIDCO may continue harnessing power from TSTPS-I and thereby not burdening consumers of the State.
- j) Establishment of green field thermal power plants requires minimum gestation period of 52 months from date of investment approval by the Board of the generating company to be ready for commissioning and commercial operation. Hence, long term PPAs are generally agreed upon for capacity building, to cater future long term demands and to smoothen long term variations.
- k) TSTPS, Stage – I has been materialised with huge investments and also since GRIDCO has been paying the Fixed Cost for TSTPS, Stage – I for a long period, it may be prudent to avail power from the said generating stations when the plant is fully depreciated.
- l) In the present scenario, thermal power is the only available compensating power against the increasing addition of solar power to meet our RPO as other sources of storage energy are still not viable and not expected in near future.
- m) In line with provisions for redundancy in Transmission and Distribution System {(N-1) (N-2) criteria}, redundancy in generation Capacity is under active consideration at central level to avoid any Loss of Load Probability (LOLP).

- n) To cater the demand of the consumers of the State with committed power, instead of relying upon highly volatile market, GRIDCO has always been projecting the State demand in its ARR to be Capacity based instead of Energy based.
- o) There is no stipulation of exit clause in the BPSA executed on 01.01.1993 between GRIDCO and NTPC. However, as per Ministry of Power, Govt. of India Notification No. 23/23/2020 – R&R [254623] Dtd. 22.03.2021 on the subject “Enabling the DISCOMS to either continue or exit from the PPA after completion of the term of the PPA i.e. beyond 25 years or a period specified in the PPA and allow flexibility to the Generators to sell power in any mode after State / DISCOMs exit from PPA”, beneficiaries are extended with the choices either to continue or discontinue with the power available beyond the life of a generating station. The relevant Clauses of the above Notification are enumerated below:

*Clause 2 (I): “The first right to avail power from the Central Generating Stations developed under Section 62 of the Electricity Act (eligible CGSs), even beyond the term of PPA i.e on completion of 25 years from the date of commissioning of the plant or a period specified in the PPA will continue to be with the States/DISCOMs with whom the PPA was signed.”*

*Clause 2 (II): “II. Willing State/ DISCOMs may relinquish their share from eligible CGSs after expiry of the term of the PPA i.e on completion of 25 years from the date of commissioning of the plant or a period specified in the PPA. The request for relinquishment of such power from CGS may be submitted only after the approval of the State Commission who would ensure the adequacy of power tied up with the DISCOMs to meet the demand of electricity for all the consumers under such DISCOMs.”*

5. The Respondent Shri R. P. Mahapatra has submitted the following:
  - a) The Commission has determined the Net energy requirement of GRIDCO for the FY 2022-23 as 30474.23 MU, which can be met from the Generating Stations under merit order, with drawal of only 541.01 MU from TSTPS-1. Hence, drawal of full power from TSTPS-1 will result in surplus power of 1617 MU to be traded by GRIDCO.
  - b) As submitted by GRIDCO in para 10(e), it will receive its share from Unit-II of BSTPS Stage-1 and Unit-1 of NKSTPS. GRIDCO must submit share of the State and schedule commissioning date of these Units.
  - c) TSTPS Stage-I has already completed 25 years of operation which is normal life unless R&M works are taken up to extend life. GRIDCO did not mention about any such works executed during 25 years. Confirmation from NTPC regarding condition of power plant to operate for additional 10 years based on report of Technical Consultant has not been submitted and reply of GRIDCO does not

answer this query. In case R&M works are to be executed for life extension by 10 years, it will require additional investment. The tariff for power supply to GRIDCO will therefore increase. The revised tariff based on additional capital cost due to R&M works has to be computed and submitted by NTPC/ GRIDCO. Therefore, a new PPA is to be executed by GRIDCO initially for 5 years subject to operation without any R&M works. Additional extension can be made only after finalization of tariff based on additional capital investment due to R&M works and considering Merit Order Despatch.

- d) There is no reply to the submission that the Commission in ARR and BSP Order for FY 2022-23 has determined that 7036.65 MU of surplus power is available with GRIDCO for trading. The Commission has allowed drawl of 541.01 MU from TSTPS-I considering drawl for 3 months only. The surplus for trading will be 8659.68 MU, if power is drawn from TSTPS Stage-I for the whole year.
- e) The submission of the petitioner regarding actual consumption of April to June, 2022 against average monthly consumption based on OERC approval is meaningless. There is normally wide variation in monthly consumption and the consumption during April to June is always high on account of summer and increased industrial activity.
- f) GRIDCO may state whether the 2<sup>nd</sup> Unit of Barh Stage-I has been commissioned during October, 2022. GRIDCO may also indicate the generation tariff of 2<sup>nd</sup> Unit of Barh Stage-I and 1<sup>st</sup> Unit of North Karanpura STPS have been approved by CERC. If not the projected tariff by NTPC may be given. It is expected that this data is essential before approval of the PPA, because the tariff should be acceptable in Merit Order. GRIDCO should have this information before signing PPA with generating company.
- g) While execution of R&M scheme is not required in accordance with CERC Tariff Regulations, 2019, these Regulations provide that “XXXXXX the applicable operation norms shall not be relaxed but the Special Allowance shall be included in the annual fixed cost.” Therefore, there will be increase in the fixed cost. However, GRIDCO has submitted that ECS will be installed with a life period of 10 years. Therefore, additional fixed cost will be required which will add to the fixed cost of tariff.
- h) GRIDCO is submitting inflated figures towards peak demand which has not been allowed by the Commission in the ARR and BSP of GRIDCO in different years.

- i) The submission in remarks regarding deficit of 1000 MW at 2300 hours of 13.06.2022 cannot be considered as a normal operation, as it is basically due to “forced outage of multiple generating units.”
  - j) GRIDCO has continuously violated Orders of the Commission relating to RPO. This cannot be an excused to source thermal power. The Commission may impose heavy penalty on GRIDCO for willful violation of the Orders relating to RPO.
  - k) GRIDCO should submit breakdown data relating to newly commissioned super critical thermal power stations. The general observation regarding the non-stable operation of such units in initial period cannot be accepted.
  - l) Submission of NPTC before CERC has not calculated fixed cost/ kWh. However, ECR has been calculated as Rs.3.866/kWh. It is not known whether fixed cost of installation and operation of ECS has been included. From data given by GRIDCO, fixed cost works out to 96.38 paise/ kWh. Therefore, total tariff shall be Rs.4.830/kWh, which is much higher than allowable tariff under Merit Order.
  - m) Blending of imported coal should not be permitted beyond 31.10.2022. It is surprising that TSTPS Stage-I has been excluded from list of thermal stations notified by MoP for replacement with RE by FY 2025-26. It is essential that the Commission seek clarification from MoP, GoI, in this regard and reasons for such exclusion if it is true.
  - n) The extension of the PPA may not be approved in view of the conditions of the plant and the anticipated higher tariff beyond Merit Order due to additional cost on account of Special Allowance and the fixed cost for installation of ECS.
  - o) In case the Commission approves the PPA, a condition may be included that in case no power is drawn from TSTPS Stage-I, any fixed cost if payable, shall be borne by GRIDCO and not included in ARR to prevent unnecessary burden on consumers.
6. In response to submissions of Sri R P Mahapatra, GRIDCO has submitted the following:
- a) Considering normal service life of 25 years upto 30.06.2022, OERC in ARR Order of GRIDCO for FY 2022-23 considered drawl of power for three months (upto June’22). However, Commission at Para 317 of said Order has directed that, in case GRIDCO renew/extend the existing PPA, then Commission will consider the State share of fixed cost of TSTPS-I from the date of renewal/extension of PPA and the same shall be factored in trueing up or passed through in ARR of GRIDCO in future year.

- b) The contention that ‘drawl of full power from TSTPS-I will result in surplus of 1617 MU’ is without any basis. OERC in ARR of GRIDCO for FY 2022-23 has approved energy requirement of 30374.23 MU which comes to monthly average of 2540 MU of energy drawl. However, from the monthly pool cost of GRIDCO, it can be seen that the average scheduled drawl of GRIDCO (including that from TSTPS-I) from Apr’22 to Jun’22 is 2970 MU monthly. This indicates there is a rise of demand in the State and drawl of power from TSTPS-I is necessary to mitigate its requirement.
- c) The share of GRIDCO from Barh, Stage - I and North Karanpura STPS are 21.11% and 20% of installed capacity which is 418 MW and 396 MW respectively. As per quarterly CEA Reports for the Period April 22 to June 22, the 2<sup>nd</sup> unit of Barh, Stage - I is scheduled to be commissioned during Oct’22 and that of 1<sup>st</sup> unit of North Karanpura STPS expected during Dec’22. GRIDCO’s share of power (139 MW) from one unit of Barh, Stage - I has been de-allocated by MoP, GoI and re-allocated to Gujarat for a period of 5 years vide Order dated 29.06.2022.
- d) The submission of GRIDCO on “long time taken by newly operational super critical thermal units for stable operation” means stability problems are faced normally by a newly operational thermal generating station after CoD.
- e) The Respondent has not taken note of the provision, Special Allowance under Regulation 28(1) of CERC Tariff Regulations, 2019 which stipulates as under:
- “28.Special Allowance for Coal-based/Lignite fired Thermal Generating Station  
In case of coal-based/lignite fired thermal generating stations, the generating company, instead of availing renovation and modernization (R&M) may opt to avail a ‘special allowance’ in accordance with the norms specified in this Regulation, as compensation for meeting the requirement of expenses including renovation and modernization beyond the useful life of the generating station or a unit thereof and insuch an event, upward revision of the capital cost shall not be allowed and the applicable operational norms shall not be relaxed but the Special Allowance shall be included in the annual fixed cost.”*
- Accordingly NTPC in its Tariff Application for the period 2019-24, has claimed ‘Special Allowance’ of Rs.1171.23 Lakh for FY 2021-22, Rs. 8315.75 Lakh for FY 2022-23 and Rs. 9500 lakh for FY 2023-24.Since NTPC is claiming Special Allowance, it has to meet the requirement of Expenses including Renovation and Modernization beyond useful life of Generating Station i.e., from 01.07.2022 from the Special Allowance. In other words, it has to meet Additional Capital Expenditure on account of R&M from Special Allowance itself instead of going for R&M. Moreover, in view of the above Regulation, upward revision of Capital Cost andRoE is not allowable to NTPC for which fixed costof the plant will be reduced.

- f) Clause No. 10 of Regulation 33 CERC Tariff Regulations, 2019 incorporated through First amendment dated 25.08.2020 at Para 14 stipulates as under:

*“33. Depreciation. (10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of –xxxxxxxx*

*c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life.”*

Hon'ble CERC Vide Order dated 31.10.2021 has approved additional expenditure on installation of various Emission Control Systems(ECS) of TSTPS, Stage – I. From the reading of above para it is construed that, depreciation of ECS of TSTPS, Stage - I will be computed annually from date of commissioning of ECS over 10 years with salvage value of 10%. Accordingly, useful life may be allowed to extend by 10 years excluding period of Commissioning of ECS.

- g) The contention for execution of fresh PPA for a period of 5 years, subject to operation without R&M works is a self-centric Regulation and the Respondent has failed to produce any Regulation/Rule stipulating for the same.
- h) According to Clause 2 (I) of the Notification No. 23/23/2020 – R&R [254623] Dtd. 22.03.2021 of MoP, GoI, the first right to avail power from Central Generating Stations beyond the term of completion of 25 years from the date of commissioning of the plant or a period specified in the PPA lies with the States/DISCOMs with whom the PPA was signed. Accordingly, GRIDCO has opted to avail power from the said generating station keeping in view of capital cost already been recovered resulting in reduced fixed cost and rising power demand of the State. Neither the aforesaid Notification nor Tariff Regulations, 2019 has provision to execute fresh PPA in case a State/DISCOM availing power from a Central Generating Station.
- i) GRIDCO requested the Commission to allow extension of useful life of TSTPS, Stage - I keeping in view the factors, i.e., it is required to supply power to meet electricity demand of the State, taking into account peak requirement including exigency conditions; no upward revision of capital cost is applicable as NTPC is availing Special Allowance, thereby reducing the capital cost and fixed cost thereof; the Tariff will be lower as there is reduction in fixed cost and return on equity, etc.; no R&M of the plant is required separately as NTPC can meet the same from Special Allowance; and the people of Odisha are availing socio-economic benefits.

7. In response to query raised by the Commission, GRIDCO has submitted the following:

**a) Projected Peak demand vis-a-vis Resource availability:**

As per the latest Peak Load Generation Balance Report (LGBR) projected by GRIDCO for FY 2022-23 to 2029-30, peak power deficit to the tune of 336-1676 MW can be seen during FYs 2022-30. The peak deficit will be enhanced by another 247 MW approximately each year if procurement from TSTPS, Stage-I is not considered. However, considering projected demand as per 19th EPS report, peak power deficit in the State will vary from 788 MW to 1270 MW during FYs 2022-27. Although peak deficit of 680 MW was projected in FY 2022-23, a deficit of around 1000 MW was faced at 23:00 Hrs of 13.06.2022 due to low hydro reservoir levels, coal shortage, forced outage of multiple generating units, unprecedented market scenario etc. 10% contingency has been taken in accordance with directives of OERC made in the ARR & BSP Order of GRIDCO. Generation from NLC, Talabira and TTPS expansion project has been taken into account considering their tentative CoD in 2027-28.

GRIDCO has prepared the above LGBR by duly considering RPO short fall, upcoming generation capacity those have been approved by the Commission such as North Karanpura STPS and TTPS Expansion project. The upcoming units of Barh STPS, Stage – I (Unit 2 & 3) has also been considered, as MoP, GoI has not de-allocated the same. Power procurement from newly operational super critical thermal units, such as Barh STPS (Unit 2 & Unit 3), North Karanpura STPS, Stage– I, TTPS Expansion project, and NLC, Talabira, which are yet to be commissioned, may take time for stable operation in a sustainable manner. Thus, it may not be prudent to rely on such units for continuous power supply for the initial years. In absence of adequate Capacity to sustained peak shortfall which will be more aggravated during breakdown of supercritical units of 500 MW and above, reliable and uninterrupted power supply strategy of State Government would be seriously jeopardized. In view of the above scenario, procurement of power from TSTPS, Stage–I is necessary for next 10 years.

**b) Proposed Tariff with Special Allowance:**

NTPC in its Tariff Application for 2019-24 has projected total Fixed Cost of Rs. 92385.22 Lakh for FY 2021-22, 66708.15 Lakh for FY 2022-23 and Rs. 65879.82 Lakh for FY 2023-24 out of which Special Allowance constitutes Rs. 1171.23 Lakh, Rs. 8315.75 Lakh and Rs. 9500 lakh respectively and this has been included in the annual fixed charge of TSTPS-I. As the generating station is claiming special allowance, in

view of Regulation 28(1) of Tariff Regulations, 2019, upward revision of Capital Cost of TSTPS-I is not allowable. Hence, there will be no increase in RoE and ultimately no impact on tariff of the generating station. However, if R&M would have been opted, the capital cost would have increased thereby enhancing Tariff due to RoE.

**c) Blending with imported coal:**

As the country was experiencing coal crisis, MoP, GoI by exercising its power under Section 107 of Electricity Act, 2003, vide letter dt.18.05.2022 issued directions to CERC to relax its norms towards blending of coal with alternative sources of fuel supply including imported coal. CERC vide its Order dated 26.07.2022 relaxed the provisions of Regulation 43(3) of Tariff Regulation, 2019 and allowed thermal generating stations to blend about 20% of its coal requirement with alternative sources of fuel supply including imported coal and this will cease to continue after 31.10.2022. Hence, the intent of CERC for relaxing the norms may be on requirement basis which will be null and void after 31.10.2022. However, GRIDCO vide its letter dated 01.10.2022 has taken up the issue with NTPC requesting not to blend imported coal in pithead stations including TSTPS-I, as sufficient coal is available in stockyard.

**d) Flexible operation with Technical minimum:**

MoP, GoI vide Notification dated 12.04.2022 has issued a scheme for Flexibility in Generation which stipulates for replacement of thermal/hydro power with Renewable and storage power so as to promote energy transition and enable the beneficiary DISCOM to meet their RPO. As per clause 9.3 of the above scheme, many a times when replacement of thermal/hydro power will not be feasible on account of technical minimum schedule or forced/planned shutdown of a generating station, the generating station will be allowed to sell such RE power to third parties/power exchanges and no clearance is required from beneficiaries of the station. However, right to schedule power from Generating stations first rest with PPA holders and in case they don't schedule power, the station shall have right to sell un-scheduled RE power in market. In addition to the above, MoP, GoI vide Notification dated 26.05.2022 formed a trajectory for replacement of thermal energy with renewable energy by FY 2025-26 and formed a list of thermal and private sector generating stations there-of. However, except Farakka STPS no other generating stations in which GRIDCO is a beneficiary are included in the list. Therefore, TSTPS, Stage – I has been excluded from the above scheme for Flexibility in Generation up 2025-26.

8. The Respondent TPSODL has submitted the following:

- a) From the data submitted by NTPC to CERC, the plant availability has been consistently around 85% for past many years thereby allowing beneficiaries to derive maximum benefit from plant.
- b) Based on tariff filings for FY 2019-24 of NTPC with CERC, Heat Rate of 2390 Kcal/ kWh and Auxiliary Consumption of 7.05% is applicable for determination of tariff i.e. a Net Heat Rate of 2571 Kcal/ kWh needs to be considered. This appears competitive.
- c) Considering the Central Transmission costs (charges and losses) of about Rs.0.60 per Kwh, the tariff to GRIDCO would work out to Rs.3.60 per kWh. Fixed Charges can be further optimized for plants that have completed life of 25 years. As per CERC Tariff Regulations 2019-24, there exists a special provision in clause 17 which provide a room for further reduction. The above tariff would work out to be lower than the tariff arising out of a new Thermal Power Plants. Based on the tariff filings for OPGC 3, 4 in Case No.96 of 2021, we note that the tariff from OPGC 3 and 4 excluding FGD costs is about Rs 3.86 per kWh. Considering a FGD cost of Rs 0.17 per kWh, the tariff from OPGC 3 and 4 would work out to Rs 4.03 per kWh. Further, it is unlikely that power from Case 1 bidding would be available for a tariff lesser than Rs 3.00 per kWh, a tariff projected from TSTPS-I.
- d) Tariff discovered for RE has been on lower side at about Rs 2.60 per kWh. Further, considering National Transmission Loss of about 3.5% and exemption of CTU charges for RE projects commissioned, the landed tariff works out to be Rs 2.70 per kWh. However, solar or Wind projects may not be helpful in meeting peak requirement of Odisha which occurs at night. Further, GRIDCO was offered a rate of Rs 3 per kWh for purchase of Hybrid Power which effectively works out to Rs 3.11 per kWh for thermal power.
- e) At present for proper comparison of the utility of Thermal Power Plant, it will be appropriate to compare the tariff of such thermal power plant with Battery Energy Storage System (BESS). However, the tariff from such BESS is much higher than the cost of energy from the Thermal Power Plant. In a recently concluded tender, based on discovered tariff, the rate of energy from such BESS is Rs 8.91 per kWh.
- f) The power plant is located in the State of Odisha and contributes to the economy of the State. Hence, continuing the PPA will help in maintaining the same in the years to come. Moreover, power plant has been working with good availability.

This is a great advantage over new plants which would have teething trouble prior to stabilizing.

9. The Respondent TPNODL has submitted the following:

- a) It is pertinent to mention here that GRIDCO has recently entered into several PPAs with various Thermal Power Generators which are 86 MW from FSTPS Stage-III, 39 MW from KhSTPS, Stage-II, 660 MW from TTPS, Stage-III, 396 MW from Karnapura Super Thermal Power Station. Apart from the above PPAs, 800 MW from NLCIL is also under approval process from the Commission. Out of the above, 86 MW from FSTPS Stage-III, 39 MW from KhSTPS, Stage-II are already available and power from other sources will come up gradually by FY 2027-28. Cumulatively, all above approved PPAs comprises of 1981 MW addition of thermal power to meet the future electricity demand of the State.
- b) Ministry of Power, Govt. of India has notified the RPO from FY 2022-23 upto FY 2029-30 vide order dated 22.07.2022. The notification clearly indicates that we have to move towards increasing share of renewable energy. Therefore, in the above backdrop, procurement of power from TSTPS, Stage-I for a period of 10 years, beyond the useful life of the plant may be decided by the Commission.
- c) As per the Regulation 17 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 which is reproduced verbatim:

*“Special Provisions for Tariff for Thermal Generating Station which have completed 25 years of Operation from Date of Commercial Operation:*

*(1) In respect of a thermal generating station that has completed 25 years of operation from the date of commercial option, the generating company and the beneficiary may agree on an arrangement, including provisions for target availability and incentive, where in addition to the energy charge, capacity charges determined under these regulations shall also be recovered based on scheduled generation.”*

In line with above provision, Commission may direct petitioner to negotiate with NTPC towards the tariff for the quantum of scheduled power to be purchased beyond the useful life of TSTPS Stage-I.

10. The submission of Respondent TPWODL is as follows:

- a) As per the petitioner the available alternative of existing thermal power source is Green Field Thermal Power Plants which requires minimum 52 months gestation period from date of investment approval by board of generating company for commercial operation and hence it is suggested to go for renewal of the PPA for another 10 years.

- b) GRIDCO has also emphasized the advantage of TSTPS, Stage-I as it is a pit head thermal power plant, so the fuel will be readily available, additionally transportation cost of coal will be less which results in less ECR as well.
  - c) GRIDCO was well aware regarding expiry of the project period, may be due to some other reason has not exercised this option prior to cessation of expiry period. However, in absence of the above source, availability of present capacity and modality to compensate from alternative source has not been placed. No doubt, GRIDCO has justified the reason why it is required to be extended. As per our analysis, apart from the sources approved by the Commission in BST order for FY 2022-23, there are sizeable number of new sources which have been approved in recent past.
11. The Respondent TPCODLhas submitted the following:
- We note that the tariff would work out to be lower than the tariff arising out of a new Thermal Power Plant. Based on the tariff filings of GRIDCO Ltd., if we compare the plant wise Fixed Cost and Variable Cost of Central Thermal Plants the per unit cost of TSTPS-1 is one of the lowest. While GRIDCO has sought for extension of PPA for 10 years it is submitted that the Commission may direct GRIDCO and NTPC to ensure that the FGD cost recovery through depreciation is considered over 25 years in the tariff determination, with the fixed cost of the same being recovered for Odisha only to the extent of 10 years utilization of the FGD against its useful life of 25 years. Further, it is unlikely that power from Case 1 bidding would be available for a tariff lesser than Rs3.00 per Kwh, a tariff projected from TSTPS-1.
12. Heard the Petitioner & Respondents through virtual mode and considered their written submissions& arguments. The Commission observed that:
- a) Two Units (Unit 1 & 2) each of 500 MW of Talcher Super Thermal Power Station (TSTPS), Stage-I of NTPC has completed their useful life of 25 years on 30.06.2022. GRIDCO Ltd. has filed this instant application seeking approval for continuation of purchase of GRIDCO's share of about 323 MW (32.34%) of power from 1000 MW TSTPS, Stage-I for a period of 10 years beyond the expiry of the plant life, in accordance with Ministry of Power (MoP), Government of India Notification dated 22.03.2021.
  - b) In the 202<sup>nd</sup> meeting of the Board of Directors of GRIDCO Ltd. held on 26.05.2022, it was approved to avail power from TSTPS, Stage-I for a period of 10 years beyond the expiry of plant life.

- c) In the Bulk Supply Tariff Order of FY 2022-23, the Commission has approved power procurement from TSTPS, Stage-I at a tariff of 287.82 P/U for first three months upto June 2022 considering merit order despatch. The Commission has also directed that if GRIDCO renews or extends the existing PPA, the fixed cost of the plant shall be considered and the same shall be factored in the truing up of GRIDCO's account or passed through in the ARR of GRIDCO in future year.
- d) State has witnessed unexpected rise in power demand in post pandemic scenario and the consumption of DISCOMs during April, May & June 2022 has increased by about 15% to 28% over the year 2021. As per the LGBR upto FY 2029-30, GRIDCO has projected peak deficit of 600 – 1000 MW for the period from 2022-27 and 400-700 MW for the period from 2027-30 and peak shortfall would continue even if share of 323 MW from TSTPS, Stage-I is considered.
- e) GRIDCO has been paying fixed cost of TSTPS Stage-I therefore availing power from such a fully depreciated plant would be cheaper.
- f) GRIDCO has entered into several PPAs with various Thermal Power Generators for procurement of power of 1981 MW (FSTPS Stage-III: 86 MW, KhSTPS Stage-II: 39 MW, TTPS Stage-III: 660 MW, NKSTPS: 396 MW, NLCIL: 800 MW) out of which 125 MW is already avail from FSTPS & KhSTPS.

13. The Commission has also observed the following facts in connection with procurement of power from TSTPS Stage-I:

- (a) Being a pit head thermal power plant, fuel (coal) would be readily available and likely to be least affected by unavailability of coal (i.e. during coal crisis), the transportation cost of coal will also be less resulting in low variable cost of generation & Energy Charge Rate (ECR).
- (b) Uncertainty in availability of power from IPPS, aggravation of peak shortfall due to forced outage of large size unit (say 800 MW/660 MW unit), uncertainty & delay over commissioning of Barh STPS (BSTPS) Stage-I and unit one of North Karanpura STPS (NKSTPS), non-availability of RE power during night time (Peak hours), low hydro reservoir level, etc. are some of the challenges.
- (c) The industries having CGPs in Odisha have expressed their willingness to enhance their Contract Demands (CDs).
- (d) There is no need of additional power evacuation system as the existing system of old plant can be used.

- (e) The commissioning time of a green field thermal power plants requires minimum gestation period of 52 month.
- (f) Recent experience of power shortage in the country due to Pan India coal crisis and volatile power market resulting in exorbitantly high cost discovered in power exchange have become matter of concern.
- (g) Performance, reliability and the availability of the power from the plant has been satisfactory in past years and there will be socio-economic benefits to people of State if the power plant is commissioned.
- (h) No upward revision of capital cost & RoE and no separate R&M of the plant are required as NTPC is availing special allowance for execution of the plant resulting in lower tariff.
- (i) As per the Present Tariff Application including FGD proposal filed by NTPC before CERC for TSTPS, Stage-I, the total cost (Excluding CTU Charge and Loss) is 299 Paisa/kWh. [Fixed Cost: 95.00 Paisa/kWh (for FY 2022-23), Variable Cost: 187.00 Paisa/kWh, FGD Cost: 17.00 Paisa/kWh] and 360 p/kwh (including ISTS transmission charges & losses). This is considered to be one among the few thermal power plant with very low fixed and variable cost.
- (j) All four DISCOMs (TPNODL, TPSODL, TPCODL & TPWODL) have conveyed their consent for procurement of such power.
- (k) In view of the above observations, considering the need of thermal power in energy mix; contingency provision to meet unforeseen scenario and above benefits, the Commission hereby provides in-principle approval for continuation of purchase of GRIDCO's share of about 323 MW (32.34%) of power from 1,000 MW (2 x 500 MW) Talcher Super Thermal Power Station (TSTPS), Stage - I for a period of 10 years beyond the expiry of the plant life, i.e. 30.06.2022 with the same terms and conditions of the Bulk Power Supply Agreement (BPSA) with NTPC signed on 25.05.1993 to meet uninterrupted power supply strategy of State Government.

14. In the overall interest of the consumer of the State, the Commission also issues following direction to GRIDCO:

- (a) to pursue with NTPC to take up the special allowance matter with CERC for approval;
- (b) to request NTPC to avoid use of blending of imported coal as the said Power Station is a pit-head station; and

(c) to plan the future power procurement upto FY 2029-30 judiciously considering the projected power demand, RPO requirement, Electric Power Survey (EPS)-2020 report of CEA and approved PPAs so far.

(d) GRIDCO should accordingly, propose PPA in future for prior approval of the Commission.

15. The case is accordingly disposed of.

Sd/-

**(S. K. Ray Mohapatra)**  
**Member**

Sd/-

**(G. Mohapatra)**  
**Officiating Chairperson**