



Registrar

# National Electric Power Regulatory Authority

## Islamic Republic of Pakistan

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No. NEPRA/ADG(Tariff)/TRF-589/NPGCL-2022/132-36

January 05, 2026

Subject: Decision of the Authority in the matter of Second Petition for Modification of Reference Tariff of Combined Cycle Power Plant Nandipur Gujranwala Northern Power Generation Company Limited- (GENCO-III)

Dear Sir,

Please find enclosed herewith the subject Decision of the Authority (total 21 pages) regarding Second Petition for Modification of Reference Tariff of Combined Cycle Power Plant Nandipur Gujranwala Northern Power Generation Company Limited (GENCO-III) in Case No. NEPRA/ TRF-589/NPGCL-2022.

2. The Decision is being intimated to the Federal Government for the purpose of notification in the official Gazette pursuant to Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 within 30 Calendar days from the intimation of this Decision. In the event the Federal Government fails to notify the subject tariff Decision within the time period specified in Section 31(7), then the Authority shall notify the same in the official Gazette pursuant to Section 31(7) of NEPRA Act.

Enclosure: As above

  
(Wasim Anwar Bhinder)

Secretary,  
Ministry of Energy (Power Division),  
'A' Block, Pak Secretariat,  
Islamabad.

Copy to:

1. Secretary, Ministry of Finance, 'Q' Block, Pak Secretariat, Islamabad
2. Mr. Shehriyar Abbasi, Deputy Secretary, Cabinet Division, Cabinet Secretariat, Islamabad
3. Chief Executive Officer, Central Power Purchasing Agency Guarantee Limited (CPPA-G), Shaheen Plaza, 73-West, Fazl-e-Haq Road, Islamabad
4. Chief Executive Officer, Northern Power Generation Co. Ltd (NPGCL), Thermal Power station Mahmood Kot Road, Muzaffar Garh.

**DECISION OF THE AUTHORITY IN THE MATTER OF SECOND PETITION  
FOR MODIFICATION OF REFERENCE TARIFF OF COMBINED CYCLE  
POWER PLANT NANDIPUR GUJRANWALA NORTHERN POWER  
GENERATION COMPANY LIMITED – (GENCO-III)**

**1. BACKGROUND**

- 1.1. Consequent upon the restructuring of power wing of Pakistan Water and Power Development Authority, hereinafter referred to as the "WAPDA", its thermal power generation facilities were unbundled and reorganized into four (4) independent generation companies, (GENCOs). Northern Power Generation Company Limited, hereinafter referred to as "NPGCL" or the "Company", was registered under the Companies Ordinance 1984 on 15<sup>th</sup> October 1998 as a public limited company. NPGCL commenced its commercial operation on March 01, 1999. The company was established to take over the properties, rights, assets, obligation and liabilities of Power Stations: Thermal Power Station Muzaffargarh, Natural Gas Power Station Multan: Gas Turbine Power Station Faisalabad and Steam Power Station Faisalabad.
- 1.2. NPGCL was granted a Generation License No. GL/03/2002 on 1st July 2002 by National Electric Power Regulatory Authority hereinafter referred to as "NEPRA" or "Authority", initially for a term of 25 years. Subsequently, the Generation License was amended from time to time through various modification issued by the Authority.
- 1.3. NEPRA, vide Modification-I dated April 18, 2014, retired/excluded the three units of NGPS Multan i.e. Unit No. 1, 3 & 4 (each of 65.00 MW) from the Generation License of NPGCL. NEPRA vide Modification-II dated October 31, 2014 to the generation license included Combined Cycle Power Plant, Nandipur and re-fixed the term of generation license up to the year 2044 with the addition of Nandipur CCPP Block 425/525 MW.
- 1.4. Subsequently, vide Modification-III dated May 2, 2018, Units 1-2 of SPS Faisalabad and Units 1-4 of GTPS Faisalabad were retired. Vide Modification-IV dated April 13, 2020, auxiliary consumption of TPS Muzaffargarh and GTPS Faisalabad was modified.
- 1.5. Thereafter, vide Modification-V dated January 25, 2023, Unit 5-9 of GTPS Faisalabad were retired and Nandipur Power Plant was excluded from the generation license of NPGCL. The Authority vide its separate decision dated January 25, 2023 issued a separate generation license for Nandipur Power Plant.

- 1.6. The tariff in respect of CCPP Nandipur was determined by the Authority on 14.04.2015 for a period of 30 years. Subsequently, the Review Motion in the matter was decided on 27.01.2016 and the decision on the reconsideration request filed by GOP was issued on 02.09.2016. The power plant achieved its commercial operations (COD) on 23-07-2015 initially on RFO fuel. Thereafter, the plant was converted to gas and has been operating on RLNG since 06-10-2017. Performance tests on RLNG/gas were conducted on 08.04.2019, whereby a net dependable capacity of 500.49 MW and net thermal efficiency of 49.053% were established on gas/RLNG.
- 1.7. NPGCL filed a petition for modification/revision of the reference tariff of combined cycle power plant Nandipur, Gujranwala on 16th October 2020. Decision in the matter was issued on 11th April 2022.

## 2. FILING OF 2<sup>nd</sup> MODIFICATION PETITION

- 2.1. NPGCL vide letter dated 15<sup>th</sup> August 2022 filed Petition for Modification/Revision of reference tariff of combined cycle power plant Nandipur, Gujranwala in pursuant to Section 17(3) of NEPRA Standards and Procedure Rules 1998. Salient features of the petition are as under:

- i. The Petitioner requested to allow actual cost of Rs. 1969.8 million for design, supply, installation, testing & commissioning of the gas conversion work by the contractor AGJV against already determined amount of Rs. 501 million.
- ii. The Petitioner requested to allow consideration price of gas booster station of Rs. 1242.05 million which was disallowed by the Authority previously.
- iii. The Petitioner sought modification in reference Capacity charges of RFO and Gas/RLNG operation on account of above requested cost.
- iv. The Petitioner requested to allow the following HSD Tariff on combined cycle as an alternate fuel:

Components	Requested Tariff	
	1-15 Year	16-30 Year
Capacity Purchase Price (Rs/kW/hr)	2.3757	1.0854
Fuel Cost Component (Rs/kWh)	12.8153	12.8153
Variable O&M (Rs/kWh)	0.4391	0.4391
Total	15.6301	14.3398

- v. FCC on HSD is calculated on the bases of 45% efficiency, heat rate of BTU 7,582/kW/hr, LHV/HHV factor of 1.05, calorific value of BTU 36,019/ltr and fuel price of Rs. 57.98/Liter including transportation charges of Rs. 0.39/liter.
- vi. The Petitioner requested the determination of reference fuel cost component of Rs. 10.7848 /kW/hr on simple cycle operation of CCPP Nandipur on Gas/RLNG only.
- vii. The Petitioner has also requested for applicable indexation/adjustments.

2.2. The Authority admitted the subject Petition on 15th September 2022. = A Notice of Admission was published in the newspaper on 5th October 2022 inviting comments from the stakeholders. Individual notices were also sent to various stakeholder on 7th October 2022.

2.3. NPGCL vide its letter dated 13th October 2022 submitted an addendum to the subject petition, wherein it requested the Authority to modify the reference tariff of CCPP Nandipur by allowing PKR 832.271 million on account of power dispersal cost duly verified by NTDC. In support of its request, NPGCL relied upon the provision contained in Section 6.1(b) of the Power policy 2002 and sought inclusion of the cost of the associated transmission in its tariff.

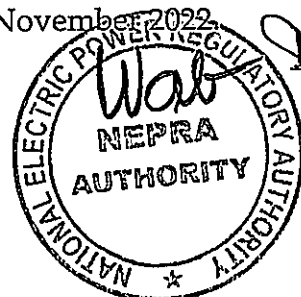
2.4. It is pertinent to mention that the subject matter is being processed in accordance with the decision of the Authority dated 11th April 2022 and pursuant to the directions to NTDC vide letter dated 19th October 2022, to comply with the Authority's decision and reimburse the power dispersal cost of Rs. 697.10 million, as specified therein. Subsequently, an explanation has been issued to NTDC and the matter is presently under consideration in accordance with the applicable provisions of NEPRA Act.

2.5. Thereafter, NPGCL vide letter dated 21-11-2024 submitted Addendum-II to the subject tariff modification petition, wherein it requested the Authority to make modification in the assumptions regarding corporate income tax and minimum turnover tax of the Tariff determined through Para 102(k) dated 14.04.2015 and para 72(k) dated 27.01.2016.

2.6. In response to the notice of admission, no comments were received from stakeholders.

### 3. HEARINGS

3.1. The hearing in the subject matter was scheduled and held on 16th November 2022. Notice of the hearing was made published on 4th November 2022 and individual notices were also sent to various stakeholders on 7th November 2022.



3.2. The following issues were framed for the hearing:

- i. Whether to allow actual cost of Rs. 1969.8 million for design, supply, installation, testing & commissioning of the gas conversion work by the contractor AGJV against already determined amount of Rs. 501 million?
- ii. Whether to allow consideration price of gas booster station of Rs. 1242.05 million which was disallowed by the Authority previously?
- iii. Whether to allow HSD Tariff on combined cycle as an alternate fuel?
- iv. Whether the request for simple cycle operation of CCPP Nandipur on Gas/RLNG is justified and reasonable?
- v. Any other relevant issue arising during the proceedings.

3.3. The hearing was held as per schedule and was attended by representatives of the Petitioner and CPPA-G.

3.4. While the matter was at an advance stage, NPGCL vide its letter dated 25<sup>th</sup> August 2023 requested for re-hearing as it has not had an opportunity to be heard before majority of the present members of Authority, who are likely to decide the matter. The Authority considered the request of NPGCL and decided to re-hear the matter.

3.5. Accordingly, rehearing was scheduled on 2<sup>nd</sup> November 2023. Notice of rehearing was published on 14<sup>th</sup> October 2023 individual notices were also sent to stakeholders on 17<sup>th</sup> October 2023. Following issue was also added for the rehearing:

Whether the HSD Tariff should be on 'take or pay' basis or 'take & pay' basis?

3.6. Rehearing was held as per schedule which was participated by the representatives from CPPA-G and the Petitioner.

#### **4. CONSIDERATION OF VIEWS OF THE STAKEHOLDERS, ANALYSIS AND DECISION ON IMPORTANT ISSUES**

4.1. The issue wise discussion, analysis, findings and decisions are provided in the succeeding paragraphs.

Whether to allow actual cost of Rs. 1969.8 million for design, supply, installation, testing & commissioning of the gas conversion work by the contractor AGJV against already determined amount of Rs. 501 million?

4.2. According to the Petitioner, pursuant to the approval of the revised PC-I in July 2013 by ECNEC, the Petitioner carried out gas conversion works and developed gas

supply infrastructure. In this regard, the Petitioner submitted that the said works were executed through awarding the following four independent work orders:

- i. Work Order dated 31.01.2015: For converting Gas Turbines from dual fuel (HSFO & HSD) to dual fuel (Gas & HSD), the OEM (GE USA) will install the necessary equipment and Gas fuel modules/skids,
- ii. Work Order dated 29.12.2015: SNGPL will Lay 24" dia and 88 KM, gas pipe line from Qilla Sattar to Nandipur Power Plant and hookup with SNGPL network at Tatlayali and 100 MMCFD capacity 1 Nos gas metering station at Nandipur Power plant,
- iii. Contract dated 13.02.2017: AGJV will design, supply, installation, testing & commissioning of the works for connection of SNGPL's (Gas supplier) metering station including compressing facility to the OEM (GE USA) supplied skids for the conversion of PG 913 1E Gas Turbines to Gas fuel at Nandipur.
- iv. Supply Order dated 10.02.2017: Supply of Gas Booster possessed by CPGCL Guddu to CCPP Nandipur of NPGCL.

4.3. According to the Petitioner, the cost associated with the GE scope of work was remained unchanged whereas contract costs relating to the laying gas pipeline & gas metering station by SNGPL and developing gas pipeline infrastructure along with the installation of gas booster compressing facility connecting to individual GT module/skids, varied from the initially estimated costs. The Petitioner further submitted that the actual contract costs of these works were mutually adjusted in order to ensure supply of gas to the power plant at the requisite gas pressure, which according to the Petitioner, was not being adequately ensured through SNGPL's regular gas supply system.

4.4. The Petitioner further submitted that, in its earlier petition dated 20-05-2014, it has requested approval of conversion cost of US\$ 25 million. In addition to that, gas pipeline and related infrastructure costs amounting to Rs. 3,970 million were also requested on the basis of SNGPL quotation. In the absence of a firm commitment of gas, NEPRA vide its decision dated 14-4-2015 did not allow the subject costs, however, decided to consider it later in case of firm commitment of gas. Thereafter, in the motion for leave for review of the aforesaid decision, the Petitioner, after obtaining firm commitment of gas, revised its claims and requested conversion costs of \$ 20.29 million against the earlier request of \$ 25 million and gas pipeline and infrastructure cost of Rs. 4,750 million against earlier request of Rs. 3,970 million.

- 4.5. According to the Petitioner, the Authority approved conversion costs amounting to \$20.29 million, comprising (GE scope \$ 15.42 million and Dongfang scope \$ 4.87 million). However, the gas pipeline and related infrastructure cost were not approved at that stage on the basis that the same fell within the scope and function of gas utility company. Subsequently, , the Authority vide its decision dated 2-9-2016 decided to allow prudent costs relating to gas infrastructure at the time of COD on the basis of documentary evidence of actual cost duly verified by SNGPL. The Authority vide its decision dated 11-4-2022 approved actual gas pipeline and infrastructure cost of Rs. 2,808 million duly verified by SNGPL. According to the Petitioner, major reduction in cost is for purchase of equipment/material, which has been off-set against increase in gas connection cost incurred through works carried out by AGJV and Gas Booster supplied by CPGCL.
- 4.6. According to the Petitioner, the Authority approved actual cost of GE scope of work of (\$ 15.42 million). The Petitioner further submitted that the remaining work scope (Dongfang) was subsequently enlarged and, following a competitive bidding process, the contract was awarded to AGJV for Rs. 1,782 million. The revised scope of work was completed for Rs. 1,969.8 million including PST of Rs. 187 million. However, the Authority maintained its earlier decision and disallowed the cost in excess of Rs. 501.61 million (\$ 4.87 million). The breakup of contracted cost of Rs. 1782 million of AGJV work is provided hereunder:

Particulars	Rs. Mlns
Cost of equipment & material	1,087
Cost of Services	494
Dismantling & erection of gas booster – Material	61
Dismantling & erection of gas booster – Services	140
<b>Total</b>	<b>1,782</b>

- 4.7. The Petitioner in its petition and during the 1<sup>st</sup> hearing submitted that the increase in gas conversion cost is due to enlarged scope of work which was not included in the DECL's initial quote. DECL in its financial bid opened on 14-10-2016 quoted US\$ 15.311 for the revised/enhanced scope of work. The Petitioner vide its letter dated 30-11-2022 submitted the revised scope of work which is provided hereunder:

Initial Scope of Work	Revised Scope of work
i. The initial financial quote of Dongfeng Electric Company (DEC) vide letter dated 17.09.2014 amounting to USD	i. The piping/pipeline from SNGPL metering station to inlet compression facility and from compression facility discharge to fuel gas

<p>4.870 million was for smaller and limited scope.</p> <p>ii. This quote did not include dismantling of Gas Booster Compressors already erected at Guddu Power station and transportation, retrofitting, erection, installation and commissioning at CCPP Nandipur.</p> <p>iii. In order to maintain a required gas pressure of 380-400psig for GT inlet, which SNGPL was not ensuring, NPGCL on the recommendation of the Consultant (NESPAK) decided to install a gas booster station, which was acquired from CPGCL (readily available) at consideration price of Rs 1,242.05 million.</p> <p>iv. The DEC when, together with AGJV, participated in competitive bidding on 14.10.2016, provided financial bid for the enhanced scope of work, amounting to USD 15.311 million as compared to AGJV's financial bid of Rs 1,782 million excluding PST.</p> <p>v. Initial scope of work include "starting from m terminal point for SNGPL i.e., gas station outside the power plant boundary wall and extends up to the off-base fuel gas module of the gas turbine, the Electromechanical works, inclusive of all instrumentation, control and other related system/equipment necessary for safe operation of the system."</p>	<p>conditioning skids of each GT along with supply installation of all valves, fittings, instruments, control system etc.</p> <p>ii. A compression facility by-pass line, with double block and bleed arrangement.</p> <p>iii. Installation of new compression facility by dismantling existing three (3) 16SGTD/WH64 Superior Compressors along with associated equipment, utilities, systems and control system, associated inlet separator, Instrument air package including two (2) instrument air compressors with hold up vessels, drier etc. and compressor station control system with all installed control panels, HMI, instrumentation/power cables, junction boxes etc. at Guddu Power Plant and installing at Nandipur Power Plant. The compression facility is inclusive of the followings:</p> <p>a) Dedicated vent and blow down system and hydrocarbon liquid storage and loading facility.</p> <p>b) Firefighting system with hydrants and sprinklers.</p> <p>c) Dedicated MCC and control room to monitor the Compression facility.</p> <p>iv. Retrofitting/re-configuration of the Guddu Compressors prior to install/use at Nandipur from Compressor's OEM i.e. GE (Oil &amp; Gas), USA to meet the performance requirements of Nandipur Power Plant.</p> <p>v. Performance testing of CCPP Nandipur on Gas Fuel using compressor facility after completion of SNGPL works, AGJV works and GE works at GTs.</p> <p>vi. Being advantageous bid, contract was awarded to AGJV.</p>
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4.8. The Petitioner in support of its request provided copies of initial financial quote dated 17.09.2014 of DEC, DEC's competitive financial bid dated 14.10.2016 and the NESPAK's bid evaluation report of November 2016. The Petitioner requested the



Authority to allow AGJV's contracted cost of Rs 1,782 million plus PST of Rs 187.8 million for Engineering, Procurement, Construction and Commissioning of Gas Conversion Works/Services contracted with M/S AGJV vide agreement dated 13.02.2017.

- 4.9. During the rehearing, the petitioner further submitted that the costs claimed were within the overall cost parameters approved under the revised PC-1. The disclosure provided in the revised PC-1 of July 2013 is reproduced hereunder:

**7.4.4 Main Plant and Equipment Including the Fuel Gas Equipment:**

An amount of Rs. 31,304.48 million in FEC has been provided for main equipment of 425-525 MW Combined Cycle Power Plant, worked out on the basis of Engineering Procurement & Construction (EPC) contract signed with M/S Dongfang Electric Corporation, China on January 28, 2008.

The Main Plant & Equipment for 425-525 MW Combined Cycle Power Plant comprises three Gas Turbines & one steam unit including unit transformers, substation equipment, gas fuel conversion equipment and control equipment etc.

Sr. No.	Description	Amount
1.	Cost of Main Plant Equipment of 425 MW CCPP (on Furnace Oil Fuel).	Rs. 31,014.33 Million
2.	Cost of additional equipment for conversion of the above plant to Gas Fuel (capacity of the above plant will be enhanced from 425 MW to 525 MW).	Rs. 2,592 Million
Total Cost of Main plant & equipment including conversion to gas fuel:		Rs. 33,606.33 Million

- 4.10. As against approved PC-1 cost of Rs. 2,592 million, the Petitioner requested Rs. 2,090 million (\$ 20.29 million) in the motion for leave for review in 2015 for gas conversion work which was approved and was subject to adjustment as per actual only if it is less than the cap amount. As against the above, the Authority vide its decision dated 11-4-2022 approved Rs. 2,146.34 million comprising GE scope of work of Rs. 1644.73 million (initial Rs. 2,108.64 million, the difference is due to exchange rate variation) and remaining conversion work of Rs. 501.61 million.

4.11. NPGCL in its written response to the framed issues following the rehearing vide letter dated 10th November 2023, submitted following in the matter:

Total Cost of the project approved as per Revised PC-I	Rs 57,380 million
Total actual cost incurred (including the project cost disallowed by NEPRA)	Rs 63,023 million
Cost escalation	10%
As per Planning Commission Guidelines, the requirement to Revise PC-I cost on Escalation of	15%

- From the above table, it is clarified that price escalation is 10% of the project cost approved in revised PC-I whereas as per Planning Commission guidelines, revision of PC-I cost is required only when estimated actual cost exceeds 15% of the total approved PC-I cost therefore, NPGCL did not go for approval of revised PC-I.
- However, preparation of PC-IV which is required to be prepared and submitted to the Planning Commission after completion of the Project is in progress, in parallel to the preparation of the Tariff True-up Application on achieving COD.
- In view of the above, it is submitted that NPGCL has prudently incurred an actual cost of Rs 1,782 million (excluding PST) for the design, supply, installation, testing & commissioning of the gas conversion works by the Contractor AGJV against the already determined amount of Rs 501 million, which is legitimate cost and may be allowed as requested.

4.12. The Authority has examined the submissions of the Petitioner, including those relating to the revised/enhanced scope of work, the bidding process undertaken for the award of contract, participation of DECL in the bidding process with a revised price for the enhanced scope, and the disclosures made in the revised PC-I and considers that these submissions merit reconsideration of the earlier decision. Another very important factor is the substantial savings made in the fuel cost component by conversion from HSFO fuel to RLNG/Gas due to higher efficiency and lower input cost. Keeping all these factors in view, the Authority has decided to revisit its earlier decision and decided to approve actual gas conversion cost as per actual bid for AGJV scope of work.

4.13. The cost of JV scope of work comprises contract price of Rs. 1,782 million and Punjab Sales Tax (PST) of Rs. 187.86 million. Since the sales tax is adjustable nature, the same has not been considered as part of capital cost. In case the sales tax is non-adjustable, the Petitioner may claim the same from power purchaser as pass-

through. The Petitioner has settled LDs of Rs. 13.365 million against Rs. 33.083 million initially imposed on the contractor. Accordingly, the net contract price of Rs. 1,768.635 million (Rs. 1,782 million minus Rs. 13.365 million LDs) has been allowed the approved balance capped amount of Rs. 501.61 million. Out of the contract price of Rs. 1,782 million, 10% retention money was payable which would be verified at the time of COD tariff adjustment stage.

**Whether to allow consideration price of gas booster station of Rs. 1242.05 million which was disallowed by the Authority previously?**

4.14. The Authority vide its decision dated 11-4-2022 did not allow the cost of gas booster compressor transferred from CPGCL Guddu to Nandipur plant for a consideration price of Rs. 1242.05 million. CPGCL acquired the subject compressor free of cost from Engro Fertilizer in lieu of gas quota to be used by Engro. The Authority has directed to initiate inquiry in the matter against CPGCL which is in process and the separate report shall be submitted by M&E Department for consideration of the Authority.

4.15. NPGCL during the rehearing submitted that they are withdrawing the request for approval of cost of gas booster compressor and requested for appropriate direction to CPGCL for adjustment of the cost as per decision of the Authority dated 11-4-2022. However, NPGCL vide letter dated 10-11-2023 submitted following:

- NPGCL submitted that in order to maintain the required level of efficiency and loading, NPGCL installed a gas booster station, the equipment of which was acquired from CPGCL at a consideration price of Rs 1,242.05 million.
- To ensure required gas pressure in similar technology power plants, like Balloki, Havali Bahder & Guddu, gas booster stations have also been installed and the Authority has allowed the cost of the same in their respective Tariff.
- The Authority has disallowed a legitimate Gas Booster consideration price of Rs 1,242.1 million owing to the lapse that occurred on the part of CPGCL for not disclosing the facts to the Authority at the time of the determination of the Tariff of 747 MW Guddu power plant.
- NPGCL has intimated the decision of the Authority to CPGCL requesting them to refund/withdraw its cost claim of Rs 1,242.1 million for the supply of the gas booster station.

4.16. Keeping in view the foregoing submissions, the Authority has decided to maintain its earlier decision in the matter with a direction to both NPGCL and CPGCL to

cancel the debit/credit note issued in respect of gas booster station or suitable accounting treatment to that effect so as to ensure that no cost in respect thereof is passed on or reflected in the tariff contrary to the Authority's determinations.

**Whether to allow HSD Tariff on combined cycle as an alternate fuel?**

- 4.17. According to the Petitioner, the power plant has been converted from dual-fuel (HSFO & HSD) to dual-fuel (GAS & HSD), but NEPRA has determined Fuel Cost Components (FCC) for operation of power plant on RFO and Gas only whereas determined Fuel Cost Component on operation of power plant on HSD is not available, which has been requested through this tariff modification/revision petition. The Petitioner proposed reference Fuel Cost Component of Rs 12.8153/kWh on HSD operation which is based on 45% efficiency, heat rate of 7,582 BTU/kWh, LHV/HHV factor of 1.05, calorific value of BTU 36,019/Ltr and fuel price of Rs 57.98/Liter including transportation charges.
- 4.18. The Petitioner vide letter dated 30-11-2022 further submitted that NPGCL in its tariff petition has requested to allow FCC based upon the net capacity and net efficiency for Combined Cycle operation of GTs on Liquid Fuel (HSD), which is similar to those of Combined Cycle operation of GTs on Liquid Fuel (HSFO) at CCPP Nandipur. Functional/operational tests of the GTs on HSD operation have recently been processed which had remained suspended upon conversion of Nandipur GTs on Gas Fuel (RLNG). According to the Petitioner, apparently HSD is clean fuel than the HSFO, but factually the HSFO at the inlet of GT is as clean as HSD. Before entering into the GTs, HSFO passes through the process of de-emulsification using de-emulsifier Turbo-Tech EP-343 and thereafter, Vanadium Inhibitor KI-200 is added into it. The performance tests conducted on COD of the power plant on HSFO/HSD validates the above contention. Therefore, for determining FCC on HSD, Net Capacity and Net Efficiency may be considered as equivalent, on both the fuels i.e., HSFO and HSD. The Petitioner requested net capacity of 411.351 MW and net efficiency of 45%.
- 4.19. NPGCL in its post rehearing submissions regarding the instant issue submitted that CCPP Nandipur was initially designed & supplied with RFO as primary fuel and HSD as start-up/alternate fuel. The Plant was converted to Gas/RLNG as primary and HSD as alternate fuel in Oct 2017. The same has been issued by the Authority in NPGCL's modified Generation License dated 25.01.2023 wherein HSD has been mentioned as an alternate fuel of CCPP Nandipur. On the precedents already approved by NEPRA for other Gas/HSD plants like Orient Power Company Ltd, Saif Power, Sapphire Electrical Co, QATPL Bhikki, and NPPMC Balloki, NPGCL is

requesting to allow HSD tariff for CCPP Nandipur being alternate fuel in line with the generation License.

- 4.20. The Petitioner further submitted that in its initial petition of 20.05.2014, NPGCL requested the Authority to determine the HSD tariff from COD, but the Authority skipped to determine the same. HSD is an alternate fuel for the plant since the commissioning of its GTs which is evident from the operation of the Plant on HSD during contractual testing of the plant. The EPC contractor conducted a 5-day initial operation test of GT-3 starting from 31st May to 5th June 2014 on HSD fuel alone. NPGCL in support of its claim submitted a copy of the log sheet prepared by the EPC contractor as evidence that HSD is an alternate fuel of CCPP Nandipur in addition to being used as start-up fuel.
- 4.21. According to NPGCL, on the analogy of other Gas/HSD operated power plants, in this tariff modification petition, Authority is again requested to determine and allow HSD Tariff of Rs 15.6301/ kWh (year 1- 15) and Rs 14.3398/kWh (year 16-30) effective from COD date of 23.07.2015.
- 4.22. Further, the Petitioner vide its letter dated 13-1-2023 also submitted plant degradation report and partial loading curves/tables prepared by EPC contractor and requested to allow FCC on HSD operation with compensation of plant degradation and partial loading adjustment. The Petitioner further requested to allow cost of working capital for maintaining HSD fuel stock for 3 days on full load of power plant.
- 4.23. CPPA-G vide its letter dated 13-11-2023 submitted that initially, HSD fuel was allowed only for Start-up purposes vide Generation License granted by Authority dated 31-10-2014, which was later modified by the Authority vide Generation License dated 25-01-2023, wherein HSD has been considered as an alternate fuel. Therefore, CPPAG is of the view that HSD tariff may be allowed on combined cycle mode.
- 4.24. The submissions of the Petitioner have been examined. The Authority vide its decision dated 25<sup>th</sup> January 2023 issued a separate generation license to Nandipur Power Plant with gas/RLNG as primary fuel and HSD as alternate fuel. On the basis of technical perusal of the submitted information, the Authority has decided to approve minimum net LHV efficiency of 45% which shall be subject to performance test by an independent engineer to be witnessed by CPPA-G in line with other plants. The fuel cost component shall be revised downward, in case the actual efficiency is established higher than 45%. No adjustment in fuel cost component shall be made, in case efficiency is established lower than 45%. For acceptance of the

test, the approval of power purchaser shall be mandatory. The Authority also decided that in line with the decision in other similar power plants, the matters of part load and degradation need to be dealt under the respective PPA. Accordingly, on the basis of net LHV thermal efficiency of 45%, HHV HSD price of Rs. 280/liter, LHV-HHV factor of 1.05, the reference fuel cost component on HSD operation works out Rs. 61.8912/kWh and the same is being approved. The reference FCC shall be subject to adjustment for actual variation in HSD prices. Dispatch shall be in accordance with the economic merit order.

- 4.25. In case of 4 gas/HSD power projects of approximately 209 MW each, 7 days HSD inventory at 100% load on gas operations and 15 days HSD inventory at 100% load on HSD operations was approved and in case of 4 RLNG/HSD power projects of approximately 1200 MW each, 7 days HSD inventory at 60% load was allowed in the cost of working capital component of tariff. The request of the Petitioner to allow 3 days HSD inventory at 100% load is within the already approved limit, therefore, the same is being approved. The cost of HSD inventory shall be included in the cost of working capital at the time of COD tariff adjustment on the basis of actual cost. The cost of working capital shall be subject to adjustment for variation in KIBOR, HSD price, actual inventory, actual receivable amount, and actual SBLC cost.

#### O&M Expenses on HSD Operation

- 4.26. The Petitioner submitted that based upon the price schedule and operating parameters contained in contract agreement dated 06.02.2017 signed with the Operator, fixed and variable O&M charge in local and foreign currencies on operation of power plant on HSD has been proposed in the table below:

Description	Rate
Fixed O&M – Foreign (Rs./kW/h)	0.1503
Fixed O&M – Local (Rs./kW/h)	0.1469
<b>Sub-Total</b>	<b>0.2972</b>
Variable O&M – Foreign (Rs./kWh)	0.4340
Variable O&M – Local (Rs./kWh)	0.0051
<b>G. Total</b>	<b>0.7363</b>

- 4.27. The Petitioner also provided details of calculation of the above tariff components in Schedule 10 of the Petition. Fixed O&M components have been calculated on the basis of annual local and foreign cost of Rs. 529.13 million and Rs. 541.50 million respectively and assumed net capacity of 411.351 MW. Variable O&M components have been calculated on the basis of foreign cost of Rs. 7,890.83 million, local cost

of Rs. 174 million and 34,028.28 GWh for 10 years O&M period. Reference indexation values shall be the same as for gas/RLNG operation.

- 4.28. The Petitioner vide its letter dated 3-2-2023 requested its O&M contractor to submit financial proposal for operation and maintenance of its plant on HSD. O&M operator vide its letter dated 8-2-23, agreed to submit the financial proposal for operation and maintenance of the plant on HSD fuel as soon as possible.
- 4.29. The requested O&M cost is in line with the cost approved for the 4 gas/HSD power plants, therefore, the same is being approved which shall be subject to downward revision only at the time of COD on the basis of amended O&M agreement for operation of plant on HSD.

**Whether the HSD Tariff should be on 'take or pay' basis or 'take & pay' basis?**

- 4.30. During the 1<sup>st</sup> hearing, CPPA-G proposed that capacity payments on HSD operation may be made on "Take & Pay" basis. The Petitioner with reference to the CPPA-G comments submitted that this hybrid mechanism of capacity payments is against the spirit of already signed Power Purchase Agreement (PPA) between NPGCL and CPPA-G on 20.09.2015. As defined in Article 1 of the already signed PPA, the "Capacity Payments" means the amount payable pursuant to Section 7.1 in respect of any Month or part-Month for Available Capacity. The "Available Capacity" has meaning as ascribed in Section 7.1(b). The "Capacity Price" means the amount denominated in Rupees per kilowatt per month of Available Capacity, as provided in Schedule 6. The Schedule 6 contains the Reference Tariff determined by NEPRA for each power Complex from time to time. The Petitioner also provided related extracts of the PPA for ready reference. The aforesaid provisions of the already signed PPA shows that on making the power plant available on primary or secondary fuel, NPGCL is entitled to receive determined annual Capacity Purchase Price payments in full to meet with fixed and committed expenses.
- 4.31. According to the Petitioner, as determined by the Authority, availability of the fuel for operations of the power Plant is the responsibility of NPGCL. In case, NPGCL fails to dispatch the power plant due to non-availability of fuels, it is obligated to pay Liquidated Damages (LD) to CPPA-G. NPGCL has made Gas Supply Agreement (GSA) with SNGPL and SNGPL makes off-shore RLNG purchases on the instruction of the Ministry of Energy (Power Division), Government of Pakistan. Keeping in view the stocks of RLNG, the NPCC operates the RLNG based power plants based upon Economic Dispatch Order and to fulfil other conditions stipulated in the PPA's of the related power plants. Hence, NPGCL is not capable to make Gas/ RLNG fuel available all the time at its own for operation of CCPP

Nandipur. NPGCL however may manage mandatory HSD fuel stock to meet with the dispatch requests of NPCC made on needs basis.

4.32. According to the Petitioner, the proposed "Take & Pay" mechanism on HSD operations is not in place in any PPA of Gas/ RLNG/HSD fuel run power plants. In case it is applied on CCPP Nandipur, there will be Severe liquidity cash flow problems and NPGCL will not be able to make committed monthly/quarterly payments to the outsourced plant Operator i.e., (HEPSEC), salaries of security personnel & plant management employees as well as servicing of the long-term loans. In view of the above, Authority is requested to maintain already agreed mechanism of payments of CPP on making the power plant available as provided in the PPA. The proposal of the CPPA-G to convert CPP payments into hybrid "Take & Pay" on HSD operations is very harmful to the viability of the CCPP Nandipur.

4.33. During the rehearing, the Petitioner reiterated its request to allow take or pay tariff on HSD operation in line with industry norm. CPPA-G in its comments during the hearing proposed yet another variation of tariff with a combination of take or pay for fixed components including debt servicing with the exception of ROE component which is proposed to be on take and pay basis. CPPA-G was asked to provide written comments in the matter which were submitted vide letter dated 13<sup>th</sup> November 2023 wherein CPPA-G submitted that capacity payment on HSD fuel on "Take or Pay" basis, may be considered to meet NPGCL's requirements in respect of fixed expenditure at par with other thermal IPPs.

4.34. NPGCL vide its letter dated 10-11-2023 reiterated following under this issue:

- Proposed HSD tariff on "Take or Pay" basis is in line with provisions contained under Section 7.1 and Schedule-6 of the already signed PPA dated 20.09.2015 (Annex-2). The above clauses of the PPA stipulate that on making the power plant available on primary or alternate fuel, NPGCL is entitled to receive determined annual Capacity Purchase Price payments in full to meet its fixed and committed expenses.
- Further, there is no such precedence of the proposed "Take & Pay" mechanism on HSD Tariff in any PPA of Gas/ RLNG/HSD fuel run power plants (IPPs). On "Take & pay" basis HSD Tariff, NPGCL will not be able to make committed monthly/quarterly payments to the outsourced plant Operator i.e., (HEPSEC), salaries of security personnel & plant management employees as well as servicing of the long-term loans and CCPP Nandipur will not remain financially viable project.



- NPGCL therefore requested the Authority to please approve the HSD Tariff effective from the COD date of 23.07.2015 on a "Take or Pay" basis at the requested EPP and CPP component of the Tariff as per precedent already set by the Authority for similar natured plants including Orient Power Company Ltd, Saif Power, Sapphire Electrical Co, O.ATPL Bhikki, and NPPMC Balloki.

4.35. The submissions of the Petitioner and comments of CPPA-G have been reviewed. it would be pertinent to mention that the Authority vide its decision dated 30<sup>th</sup> July 2025 has already modified and approved revised tariff and indexation mechanism for some of the components for the subject project which inter alia also include hybrid take and pay arrangement for payment of ROE component for gas/RLNG operation on the basis of Net Electrical Output exceeding 35% of the total contract capacity in terms of kWh. Up to 35%, the existing mechanism shall prevail. The rest of the tariff components shall remain unchanged except for indexation/adjustment mechanism. In line with the gas/RLNG tariff and revised tariffs of similar IPPs, the Authority has decided to approve HSD Tariff on combined cycle on hybrid take and pay basis. Summary of the approved HSD tariff is provided hereunder:

Description	Tariff
<b>Energy Charge (Rs./kWh):</b>	
Fuel Cost Component	61.8912
Variable O&M (foreign)	0.4340
Variable O&M (Local)	0.0051
<b>Total EPP</b>	<b>62.3303</b>
<b>Capacity Charge (Rs./kW/hour):</b>	
Fixed O&M (Local)	0.1469
Fixed O&M (Foreign)	0.1503
Cost of working capital	0.0444
Insurance	0.1219
Debt servicing (1-15 years only)	1.1643
Return on Equity	1.2120
<b>Total CPP 1-15 years</b>	<b>2.8397</b>
<b>Total CPP 16-30 years</b>	<b>1.6754</b>

4.36. The capacity charge component of the tariff have been worked out on the basis of reference net capacity of 411.351 MW which shall be subject to performance test and in case actual net capacity established higher than the reference net capacity,

downward adjustment shall be made in the tariff components. No adjustment shall be made vice versa.

**Whether the request for simple cycle operation of CCPP Nandipur on Gas/RLNG is justified and reasonable?**

- 4.37. The petitioner requested for determination of Reference fuel cost component on simple cycle operation of CCPP Nandipur on Gas/RLNG on the analogy of determination of tariff for PTPL, Jhang and QTPL, Bhikki. The Petitioner requested reference fuel cost component on simple cycle operation of Rs. 10.7848/kWh. The requested fuel cost component is based on HHV gas price of Rs. 956.97/MMBTU, LHV-HHV factor of 1.1076 and heat rate (HR) of 10,175 BTUs/kWh.
- 4.38. In support of the above request, the Petitioner vide letter dated 30-11-2022 submitted executive summaries of the performance test reports of the GTs. According to the Petitioner, based on the performance reports, the HR of the GTs works out 10,736 kj/kWh (10,175 BTUs/kWh).
- 4.39. The Petitioner vide its letter dated 13-1-2023 submitted the standard OEM document depicting the performance bench mark i.e. capacity and HR against new gas turbine(9E) operating on gas fuel (RLNG) in simple cycle mode and requested to allow HR of 10,520 kj/kWh equivalent to efficiency of 34.22% for GT capacity of 128.5 MW. The Petitioner also submitted plant degradation report and partial loading curves/tables prepared by EPC contractor in support of its request.
- 4.40. CPPA-G vide its letter dated 13-11-2023 submitted that NPCC issues despatch instructions to power plants keeping in view the system demands and requirements as well as considering the economic viability of the plant under the merit order, therefore it is justified to allow simple cycle operations of CCPP Nandipur on as/RLNG.
- 4.41. The submissions of the Petitioner have been examined. The Authority has provided tariff on simple cycle operations in the case of 747 MW Guddu project and large RLNG projects of approximately 1200MW each. The simple cycle dispatch shall be in accordance with the economic merit order only and will result in savings when compared with the marginal cost of next power plant in the merit order. On the basis of technical perusal of the submitted information, the Authority has decided to accept/approve the net LHV efficiency of 34.22% on simple cycle operation. The requested HHV gas price of Rs. 956.97/MMBTU is not in line with the reference LHV gas price of Rs. 956.97/MMBTU for combined cycle operation, therefore, in order to be consistent, the same has been considered as LHV. Accordingly, on the

basis of HR of 9,971.04 BTUs/kWh (10,520 kJ/kWh) and reference LHV RLNG/gas price of Rs. 956.97/MMBTU, the reference fuel cost component on simple cycle operation works out Rs. 9.5420/kWh and the same is being approved. The approved reference fuel cost component on simple cycle shall be subject to adjustment for actual variation in notified RLNG/gas price adjusted for LHV-HHV factor of 1.1076 in line with combined cycle fuel cost component. The dispatch shall be in accordance with the economic merit order.

- 4.42. On the basis of HHV RLNG price for October 2025 of Rs. 3,218.8861/MMBTU (US\$ 11.4381/MMBTU @ Rs. 281.4179/\$) and LHV-HHV factor of 1.1076, the simple cycle FCC works out Rs. 35.5491/kWh.

#### **Reimbursement of Corporate Income Tax/Minimum Tax**

- 4.43. NPGCL vide letter dated 21-11-2024 submitted Addendum-II to the subject tariff modification petition and requested the Authority to make modification in the assumptions of the Tariff determined through Para 102(k) dated 14.04.2015 and para 72(k) dated 27.01.2016 which at present states as under;

*"No corporate income tax and no minimum turnover tax have been assumed"*

- 4.44. NPGCL requested to modify the aforesaid assumption as under;

*"No corporate income tax and no minimum turnover tax have been assumed. In case NPGCL is obligated to pay any tax, the exact amount paid shall be reimbursed as per existing practice."*

- 4.45. NPGCL prayed that aforesaid request/modification may be approved effective from COD date of 23-07-2015 of CCPP Nandipur.

- 4.46. The submissions of the Petitioner have been examined. The above request of the Petitioner is in line with the reimbursement mechanism provided in the NPGCL old block, other GENCOs and IPPs, therefore, the same is being allowed as under:

*"No corporate income tax and no minimum turnover tax have been assumed. In case NPGCL is obligated to pay any tax, the exact amount paid shall be reimbursed."*

#### **5. Order**

- 5.1. Pursuant to Section 31 (7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with Rule 16-(11) of NEPRA Tariff

Standards and Procedure Rules, 1998, the National Electric Power Regulatory Authority (hereinafter "the Authority") has modified the previous decision(s) in respect of Nandipur Power plant of NPGCL to the extent of followings:

i. Approval of HSD tariff:

Description	Tariff	Indexation/Adjustment
<b>Energy Purchase Price (Rs./kWh):</b>		
Fuel Cost Component	61.8912	HSD Price
Variable O&M (foreign)	0.4340	Rs./US\$ and US CPI
Variable O&M (Local)	0.0051	NCPI or 5% whichever is lower
<b>Total EPP</b>	<b>62.3303</b>	
<b>Capacity Purchase Price (Rs./kW/hour):</b>		
Fixed O&M (Local)	0.1469	NCPI or 5% whichever is lower
Fixed O&M (Foreign)	0.1503	Rs./US\$ and US CPI
Cost of working capital	0.0444	KIBOR, HSD Price, actual inventory, actual receivable, actual SBLC cost
Insurance	0.1219	Actual subject to maximum of 0.9% of EPC cost
Debt servicing (1-15 years only)	1.1643	KIBOR
Return on Equity	1.2120	Nil
<b>Total CPP 1-15 years</b>	<b>2.8397</b>	
<b>Total CPP 16-30 years</b>	<b>1.6754</b>	

- ii. The net heat rate and net capacity on HSD shall be subject to performance tests and only downward revisions in the reference tariff components shall be allowed.
- iii. The cost of 3 days HSD inventory at 100% load shall be included in the cost of working capital at the time of COD tariff adjustment on the basis of actual cost.
- iv. The above components shall also be subject to tariff true up at the time of COD tariff adjustment in accordance with all applicable orders of the Authority in line with RLNG/gas tariff components.
- v. The reference HSD fuel cost component shall be subject to adjustment for actual variation in HHV HSD price. The reference HHV HSD price is Rs. 280/liter.

- vi. Approval of reference simple cycle fuel cost component of Rs. 9.5420/kwh on RLNG/gas operation which shall be subject to adjustment for actual variation in notified RLNG/gas price adjusted for LHV-HHV in line with combined cycle fuel cost component. The reference LHV RLNG/gas price is Rs. 956.97/MMBTU.
- vii. Hybrid Take & Pay arrangement for payment of ROE component on the basis of Net Electrical Output exceeding 35% of the total contract capacity in terms of kWh. Up to 35%, the existing mechanism shall prevail.
- viii. O&M components shall be indexed as per the indexation mechanism provided in the decision dated 30th July 2025 and the reference indexation values shall be the same as for gas/RLNG operation.
- ix. Approved O&M components shall be subject to downward revision only at the time of COD on the basis of amended O&M agreement for operation of plant on HSD.
- x. The capacity payments shall be linked to the hourly availability of the power plant and fuel supply shall be the responsibility of the power producer. Capacity charges shall be paid in line with the mechanism applicable for 2002 Power Policy IPPs. The burden of non-availability of the fuel shall not be passed on to the consumers and no capacity payments shall be made in case of non-availability of fuel.
- xi. The approved cost of AGJV scope of work of Rs. 1,768.635 million shall be included in the project cost and relevant tariff components at the time of COD tariff adjustment. Punjab Sales Tax (PST) on AGJV scope of work, being of adjustable nature, has not been considered as part of capital cost. In case the sales tax is non-adjustable, the Petitioner may claim the same from power purchaser as pass-through. Out of the contract price of Rs. 1,782 million, 10% retention money was payable which would be verified at the time of COD tariff adjustment stage.
- xii. No corporate income tax and no minimum turnover tax have been assumed. In case NPGCL is obligated to pay any tax, the exact amount paid shall be reimbursed. The mechanism shall be applicable from COD.
- xiii. The plant dispatch on all fuels shall be in accordance with the economic merit order.

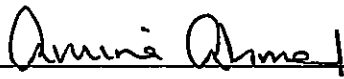
- xiv. HSD tariff and simple cycle gas/RLNG fuel cost components shall be effective from the date of notification of the instant decision.

6. NOTIFICATION

- 6.1. The above tariff is intimated to the Federal Government for notification in the official gazette in accordance with Section 31(7) of the Regulation of Generation, Transmission and Distribution of Electric Power Act 1997.

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AUTHORITY



Amina Ahmed  
Member



Engr. Maqsood Anwar Khan  
Member



Waseem Mukhtar  
Chairman

