

**BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION**  
**NEW DELHI**

**PETITION NO.....**

**IN THE MATTER OF** : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for approval of tariff of Kawas Gas Power Station **(656.20 MW)** for the period from **01.04.2024 to 31.03.2029**.

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## **Summary of Issues: Kawas Gas Power Station (Kawas GPS) (656.20 MW)**

*(In compliance with CERC notice dated 07.06.2024)*

The major highlights of the Kawas GPS (656.20 MW) petition for determination of tariff for period 01.04.2024 to 31.03.2029 are as follows: -

The present petition is being filed under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for revision of tariff of Kawas GPS (656.20 MW) for the period from 01.04.2024 to 31.03.2029 on projection basis for period 01.4.2024 to 31.03.2029.

The instant station is located at Surat, Gujarat and the station achieved COD on 01.11.1993

The power generated from instant station is being supplied as per MoP allocation and respective PPAs to customers including GUVNL (Gujarat), MSEDCL (Maharashtra), EDG (Electricity Deptt. of Goa), DNHDDPDCL (UT of DNHDD).

The tariff for instant station for the period from 01.04.2019 to 31.3.2024 was determined by the Hon'ble Commission vide order dated 04.06.2022 in Petition No. 488/GT/2020. The capital cost allowed for tariff determination included the projected additional capital expenditure admitted by the Hon'ble Commission after prudence check. The petitioner vide affidavit dated 19.11.2024 had filed a separate true up petition for the period 01.04.2019 to 31.03.2024 for revision of tariff in line with the applicable provisions of Tariff Regulations 2019.

The tariff of Kawas GPS for the tariff period 2024-29 based on projected expenditure for 2024-29 is annexed with the petition as per provisions of Regulation 9 of CERC Tariff Regulations 2024.

The projected Additional Capital Expenditure claimed on cash basis for the FY 2024-25, 2025-26, 2026-27, 2027-28, 2028-29 are Rs 3.33 Cr, Rs 31.26 Cr, Rs 13.60 Cr, Rs. 0.60 Cr & Rs 0.60 Cr. respectively amounting to total of Rs 49.39 Crores during the 2024-29 period. The same has been depicted year wise in Form 9A of the Appendix-I along with applicable regulations and justification for the claims. It is humbly requested to approve the projected Additional Capital expenditure during the period of 2024-29.

The Hon'ble Commission may please allow the claims of water charges and security expenses for the instant station as per projections, as claimed by the Petitioner in Form 3A of Appendix-I.

It is further mentioned that the Kawas GPS is a central government owned thermal power station which is of national importance. Safety and security of these nationally important infrastructure projects against any threat perception is a prime concern. The main security of these central government owned thermal power station is provided by the Central Industrial Security Force (CISF). CISF is a statutory body set up under an Act of the Parliament of India and a central armed police force in India under the Ministry of Home Affairs (MHA) whose primary mission is to provide security to large institutions like Kawas GPS. Deployment of the CISF is done as per the security threat perception, survey and as per the guidelines of MHA. In addition to the CISF, certain security is provided by other local and national agencies for critically less sensitive locations as per the plant specific needs. In view of this Hon'ble Commission may

please allow the claims of security expenses as per projections as submitted in Form 3A.

The petitioner pleads that the Hon'ble Commission may please allow the claims of Capital spares for the instant station at the time of true-up. The same has not been claimed in Form-3A in the instant petition.

It is submitted that the useful life of the Station is getting over in the 2024-29 period in the FY 24-25 and accordingly Hon'ble Commission may be pleased to allow recovery of Unrecovered Depreciation up to 31.03.2014 of Rs 1.12 Cr in terms of Hon'ble Appellate Tribunal Judgement dated 13.06.2007.

In the light of above submission and as per the Petition being filed by the Petitioner for revision of tariff of Kawas GPS (656.20 MW), The Hon'ble Commission may please approve tariff for the tariff period 2024-29 as per provision of Regulation 9 of Tariff Regulations 2024.

Petition No : .....

**TARIFF FILING FORMS (THERMAL)**

**FOR DETERMINATION OF TARIFF**

**FOR**

**Kawas Gas Power Station**

**PETITION FOR DETERMINATION OF TARIFF FOR THE PERIOD  
01.04.2024 TO 31.03.2029**

**PART-I**

**APPENDIX-I**

**BEFORE THE HON'BLE CENTRAL ELECTRICITY REGULATORY COMMISSION**  
**NEW DELHI**

**PETITION NO.....**

**IN THE MATTER OF** : Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for approval of tariff of Kawas Gas Power Station **(656.20 MW)** for the period from **01.04.2024 to 31.03.2029**.

**AND**  
**IN THE MATTER OF**

Petitioner: : NTPC Ltd.  
NTPC Bhawan  
Core-7, Scope Complex  
7, Institutional Area, Lodhi Road  
New Delhi-110 003.

Respondents:

1. Maharashtra State Electricity Distribution Co Ltd. (MSEDCL)  
Prakashgad, Bandra (East), Mumbai 400 051
2. Gujarat Urja Vikas Nigam Ltd. (GUVNL)  
Vidyut Bhavan, Racecourse  
Vadodara – 390 007
3. Electricity Department  
Government of Goa (EDG)  
Vidyut Bhawan, Panaji, Goa
4. Dadra And Nagar Haveli and Daman and Diu Power  
Distribution Corporation Limited (DNHDDPDCL).  
1<sup>st</sup> & 2<sup>nd</sup> Floor, Vidyut Bhavan, Silvassa-396230, DNH, India

The Petitioner humbly states that:

- 1) The Petitioner herein NTPC Ltd. (hereinafter referred to as '**Petitioner**' or '**NTPC**'), is a company incorporated under provisions of the Company Act, 1956 and a Government Company as defined under Section 2(45) of the Companies Act, 2013. Further, NTPC is a 'Generating Company' as defined under Section 2(28) of the Electricity Act, 2003.
- 2) In terms of Section 79(1)(a) of Electricity Act, 2003, the Hon'ble Commission has been vested with the functions to regulate the tariff of NTPC, being a Generating Company owned and controlled by the Central Government. The regulation of the tariff of NTPC is as provided under Section 79(1)(a) read with Section 61, 62 and 64 of the Electricity Act, 2003 and the Regulations notified by the Hon'ble Commission in exercise of powers under Section 178 read with Section 61 of the Electricity Act, 2003.
- 3) The Petitioner is having power stations/ projects at different regions and places in the country. Kawas Gas Power Station (656.20 MW) (hereinafter referred to as "Kawas GPS") is one such station located in the State of Gujarat. The power generated from Kawas GPS is being supplied to the respondents herein above.
- 4) The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2024 (hereinafter 'Tariff Regulations 2024') which came into force from 01.04.2024, specifying the terms & conditions and methodology of tariff determination for the period 01.04.2024 to 31.03.2029.
- 5) Regulation 9(2) of Tariff Regulations 2024 provides as follows:  
*"(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 31.03.2024, based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.03.2024 (either based on actual or projected additional capital expenditure) and*

*estimated additional capital expenditure for the respective years of the tariff period 2024-29 along with the true up petition for the period 2019-24 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2019."*

In terms of above, the Petitioner is filing the present petition for determination of tariff for Kawas GPS for the period from 01.04.2024 to 31.03.2029 as per the Tariff Regulations 2024.

- 6) The tariff of the Kawas GPS for the tariff period 1.4.2019 to 31.3.2024 was determined by the Hon'ble Commission vide its order dated 04.06.2022 in Petition No. 488/GT/2020 in accordance with the CERC (Terms & Conditions of Tariff) Regulations 2019. The petitioner vide affidavit dated 19.11.2024 had filed a separate true up petition for the period 01.04.2019 to 31.03.2024 for revision of tariff in line with the applicable provisions of Tariff Regulations 2019.
- 7) It is submitted that Hon'ble Commission vide order dated 04.06.2022 in Petition no 488/GT/2020 has allowed a capital cost of Rs 1932.54 Cr. as on 31.03.2024 based on the admitted projected capital expenditure for the 2019-24 period. However, the actual closing capital cost as on 31.03.2024 has been worked out in the foresaid true-up petition as Rs. 1921.31 Cr based on the actual expenditure after truing up exercise for the period 2019-24. Accordingly, the opening capital cost as on 01.04.2024 has been considered as Rs 1921.31 Cr in the instant petition. The Hon'ble Commission may be pleased to accordingly adopt this adjustment in the admitted capital cost as on 31.3.2024 and determine the tariff in the present petition for the period 2024-29.
- 8) The capital cost claimed in the instant petition is based on the opening capital cost as on 01.04.2024 considered as above and projected estimated capital expenditures claimed for the period 2024-29 under Regulation 19 and Regulation 24, 25 and 26 of the Tariff Regulations, 2024.
- 9) It is submitted that Gas power station is crucial for providing necessary support to the grid with the ever-increasing renewable energy (RE) penetration. The Govt. Of India has set



a target of achieving 500 GW of renewable energy by 2030. With this scale of renewable energy addition into the grid in coming years, balancing power and quick ramping up/down support becomes critical for grid stability. Gas-based plants could play a vital role in balancing the grid due to their faster ramp-up rate and quick start time. Gas-based projects also have other benefits, as they produce clean energy (less CO<sub>2</sub> emission) and utilise less resources in terms of land and water. Renewable source of energy like Solar and wind are highly variable and intermittent in nature. Gas-based plant can provide a vital role in helping the grid stability and thus combination of gas-based generation with RE can cushion and flatten the variability upto a large scale.

Peak demand season further necessitates the availability of gas-based generation which the country has witnessed in last 3-4 years. Gas power stations are scheduled by grid controller as and when required. Due to high cost of natural gas and costly import, the PLF of gas stations are very low due to poor scheduling by the beneficiaries. Gas power plant capacity has stagnated in the country due to very low demand and high energy cost and most of the stations have already completed their useful life. Therefore, preservation of the existing gas-based plant become even more necessary through proper maintenance and upkeep.

It is further submitted that scheme of flexible generation as being proposed and implemented by the CEA, gas station's role become more crucial. Flexible generation and further proposed reduction in technical minimum of coal stations, the role of gas power station becomes vital for grid security. Kawas gas power station shall complete its extended life in 2024-25 and to maintain this vital assets of national importance, additional capital expenditure is necessary. The petitioner proposes to undertake replacement/upgradation of some critical items like battery bank, HP/LP bypass control/compressors/air washers etc. These assets were installed during the COD of the station and have already outlived their useful life and therefore needs replacement or upgradation with better components to enhance the life of the plant and efficiency. Due to very old age of the components, spare parts and support from OEM is not available which necessitates their replacement. The petitioner has given the details and justification with necessary

documentary support in the appendix-I. The Hon'ble Commission is requested to allow the same.

**10) Unrecovered Depreciation till 31.03.2014**

- i) The Hon'ble Appellate Tribunal vide Judgement dated 13.06.2007 on the issue of "Admissibility of depreciation upto 90% of the value of the assets" had allowed the unpaid portion of the depreciation (because of under recovery of fixed charges due to availability lower than NAPAF) after the plant has lived its designated useful life.
- ii) With regard to the above, the Hon'ble Commission vide Order dated 24.03.2017 in Petition No 341/GT/2014 for the instant Station noted the following:

*"74. The petitioner also submitted that in terms of the Tribunal's judgment dated 13.6.2007 on the issue of "Admissibility of depreciation upto 90% of the value of the assets", was considered and the Tribunal has observed as under:*

*"In a regulatory cost plus regime all costs have to be reimbursed. Depreciation amount up to 90% being a cost has to be allowed over the life of the plant. If due to underperformance in a particular year the appellant is not able to recover full depreciation allowed in that year and if this denial is forever, it will tantamount to a penalty. In a contract between the appellant and the beneficiaries, only levy of liquidated damages can be permitted. It will, therefore, be enough deterrent for the appellant if the depreciation is not allowed during the year of underperformance. However, the same cannot be denied forever and, therefore, it will be only fair to allow the unpaid portion of the depreciation after the plant has lived its designated useful life. In this view of the matter the CERC needs to examine this aspect as per the aforesaid observations."*

*75. Accordingly, the details in respect of this generating station as furnished by the petitioner is as under:*

*(Rs in lakh)*

Year	Target Availability (%)	Annual Availability (%)	% of Fixed charge/ depreciation recovered* (%)	Annual Fixed Charges	Dep. Included in AFC	Disincentive	Dep. Unrecovered due to disincentive

1993-94	62.79	60.94	98	14650	5613	293	112
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\* As per the Govt of India notification dated 30.4.1994 and order dated 4.7.2013 in petition no. 78/2001.

*We have examined the matter. Since R&M of the generating station has been undertaken by the petitioner, and the generating station has extended its useful life by 10 years, the unrecovered depreciation shall be reconsidered by the generating station in terms of the judgment of the Tribunal once the plant has lived its designated useful life."*

- iii) It is submitted that since the useful life of the Station is getting over in the 2024-29 period in the FY 24-25, the Petitioner in the instant Petition has claimed an amount of Rs 112 lakh, as part of AFC in the year FY 24-25, against the aforementioned Unrecovered Depreciation up to 31.03.2014, as per the Hon'ble Commission's direction. The Hon'ble Commission may be pleased to allow the same.

- 11) The Petitioner further respectfully submits that as per Regulation 36(1)(6) of the Tariff Regulations 2024, the water charges, security expenses and capital spares consumed for Gas generating stations are to be allowed separately. The details in respect of water charges such as type of cooling water system, water consumption, rate of water charges as applicable for 2023-24 have been furnished below. Water charges claimed is based on projection basis year on year and same may be allowed in tariff based on the same for the 2024-29. In accordance with provision of the Regulations, the petitioner shall be furnishing the details of actual for the relevant year at the time of truing up and the same shall be subject to retrospective adjustment.

Description	Remarks
Type of Plant	Gas based thermal power station
Type of cooling water system	Closed Circuit Cooling System
Rate of Water charges	39.32/4.89 Rs/CuM
Total Water Charges	229.26 lacs

- 12) Similarly, the Petitioner is claiming the security expenses based on the estimated expenses for the period 2024-29, the same shall be subject to retrospective adjustment

based on actuals at the time of truing up. In respect of capital spares consumption, it is submitted that the same shall be claimed at the time of true-up in terms of the proviso to the Regulation 36(1)(6) based on actual consumption of spares during the period 2024-29.

- 13)** The Petitioner humbly submits that the pay/wage revision for the employees of the Petitioner will be due w.e.f. 01.01.2027. Further, the wage/pay revision of CISF and Kendriya Vidyalaya employees will also be due for revision during the tariff period 2024-29. Regulation-36(1)(8) of CERC (Terms & Conditions of Tariff) Regulations-2024 provides as below:

*"In the case of a generating company owned by the Central or State Government, the impact on account of implementation of wage or pay revision shall be allowed at the time of truing up of tariff."*

In accordance with the above said regulation, the Petitioner shall approach the Hon'ble Commission for allowing the impact of Pay/wage revision of employees of the Petitioner i.e. NTPC Limited, CISF and Kendriya Vidyalaya (wherever applicable) as additional O&M at the time of truing-up of tariff for the control period 2024-29. The Hon'ble Commission may be pleased to consider the impact of wage/pay revision as an additional impact on O&M and allow the same as additional O&M over and above the normative O&M.

- 14)** It is submitted that the Petitioner has already paid the requisite filing fee vide Transaction ID 37c568eba62158b7b321 on 24.04.2024 for the year 2024-25 and the details of the same have been duly furnished to the Hon'ble Commission vide email dtd. 29.04.2024. For the subsequent years, it shall be paid as per the provisions of the CERC (Payment of Fees) Regulations, 2012 as amended. Further Regulation 94 (1) of Tariff Regulations 2024 provides that the application fee and publication expenses may be allowed to be recovered directly from the beneficiaries at the discretion of the Hon'ble Commission. Accordingly, it is prayed that Hon'ble Commission may be pleased to allow recover filing fee and publication fee directly from the beneficiaries.

- 15) The petitioner has accordingly calculated the tariff for 2024-29 period based on the above and the same is enclosed as **Appendix-I** to this petition.
- 16) It is submitted that the Petitioner has uploaded the copy of the Petition at CERC site (Saudamini), the access of which is available to all the Respondents mentioned herein above and therefore the petition stands served to all the respondents. Further the Petitioner has posted the Petition on the company website i.e. [www.ntpc.co.in](http://www.ntpc.co.in).
- 17) In accordance with the 'Conduct of Business Regulations 2023' of the Hon'ble Commission, the Petitioner shall, within 7 days after filing the tariff petition, publish a notice about such filing in at least two daily leading digital newspapers one in English language and another in any of the Indian languages, having wide circulation in each of the States and Union Territories where the beneficiaries are situated, as per Form 14 appended to these regulations. Subsequently, the Petitioner shall submit the proof of publications as soft copies of the publications under an affidavit through the e-filing portal of the Hon'ble Commission within one week from the date of publication. Further, the Petitioner shall also submit the detail of expenses incurred for publication of the notice along with the prayer for recovery of Publication Expenses as per Regulation-94 of CERC Tariff Regulations 2024.
- 18) It is submitted that the petitioner is filing this tariff petition subject to the outcome of its various appeals/ petitions pending before different courts. Besides, the petitions filed by NTPC for determination of capital base as on 31.03.2024 through true-up exercise are pending before the Hon'ble Commission and would take some time. The Petitioner, therefore, reserves its right to amend the tariff petition as per the outcome in such appeals/ petitions, if required.

### **Prayers**

In the light of the above submissions, the Petitioner, therefore, prays that the Hon'ble Commission may be pleased to:

- i) Approve tariff of Kawas GPS (656.20 MW) for the tariff period 01.04.2024 to 31.03.2029.
- ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries.

- iii) Allow the recovery of pay/wage revision as additional O&M over and above the normative O&M as and when wage revision is implemented.
- iv) Pass any other order as it may deem fit in the circumstances mentioned above.

**Petitioner**

Noida

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**BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION**  
**NEW DELHI**

**PETITION NO.....**

**IN THE MATTER OF**



Petitioner:

: Petition Under Section 62 and 79 (1) (a) of the Electricity Act, 2003 read with Chapter-III of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 2023 and Chapter-3, Regulation-9 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 for approval of tariff of **Kawas GPS (656.20 MW)** for the period from 01.04.2024 to 31.03.2029.

: NTPC Ltd.  
NTPC Bhawan  
Core-7, Scope Complex  
7, Institutional Area, Lodhi Road  
New Delhi-110 003

Respondents:

1. Maharashtra State Electricity Distribution Co Ltd. (MSEDCL)  
Prakashgad, Bandra (East), Mumbai 400 051

**and others**

**AFFIDAVIT**

I, Sameer Kumar Aggarwal, Son of Late Shri B K Aggarwal, aged about 51 years, working as Additional General Manager (Commercial) in the office of NTPC Limited, having its registered office at NTPC Bhawan, Scope Complex, Core-7, Lodhi Road, New Delhi-110003 do hereby solemnly affirm, and state as follows:

1. That the deponent is the Additional General Manager (Commercial) of the Petitioner NTPC Ltd. and is well conversant with the facts and the circumstances of the case and therefore competent to swear this affidavit.

2. That the accompanying Petition under Section 62 and 79 (1) (a) of the Electricity Act, 2003, has been filed by my authorized representative under my



*Sk Aggarwal*

instruction and the contents of the same are true and correct to the best of my knowledge and belief.

3. That the contents of Para No 1 to 18 as mentioned in the Petition are true and correct based on my personal knowledge, belief and records maintained in the office.
4. That the annexures annexed to the Petition are correct and true copies of the respective originals.
5. That the Deponent has not filed any other Petition or Appeal before any other forum or court of law with respect to the subject matter of the dispute.

*Sk Aggarwal*

समीर अग्रवाल / SAMEER AGGARWAL  
(Deponent)  
अपर महाप्रबंधक (वाणिज्यिक)  
Addl. General Manager (Commercial)  
एन टी पी सी लिमिटेड / NTPC LIMITED  
EOC, A-8A, Sector-24, Noida-201 301 (U.P.)

**Verification:**

Verified at Noida on this 27th day of November 2024, that the contents of my above noted affidavit are true and correct to my knowledge and no part of it is false and nothing material has been concealed therefrom.

*Sk Aggarwal*

(Deponent)

समीर अग्रवाल / SAMEER AGGARWAL  
अपर महाप्रबंधक (वाणिज्यिक)  
Addl. General Manager (Commercial)  
एन टी पी सी लिमिटेड / NTPC LIMITED  
EOC, A-8A, Sector-24, Noida-201 301 (U.P.)



ATTESTED

*Yogendra Singh*  
YOGENDRA SINGH  
NOTARY NOIDA  
B NAGAR (U.P.) INDIA

27 NOV 2024



**Checklist of Main Tariff Forms and other information for tariff filing for Thermal Stations**

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM-1	Summary of Tariff	✓
FORM-1 (I)	Statement showing claimed capital cost	✓
FORM-1 (II)	Statement showing Return on Equity	✓
FORM-2	Plant Characteristics	✓
FORM-3	Normative parameters considered for tariff computations	✓
FORM-3A**	Statement showing O&M Expenses	✓
FORM-3B**	Statement of Special Allowance	NA
FORM-4	Details of Foreign loans	NA
FORM-4A	Details of Foreign Equity	NA
FORM-5	Abstract of Admitted Capital Cost for the existing Projects	✓
FORM-5A**	Abstract of Claimed Capital Cost for the existing Projects	✓
FORM-6	Financial Package upto COD	NA
FORM-7	Details of Project Specific Loans	NA
FORM-8	Details of Allocation of corporate loans to various projects	✓
FORM-9A**	Summary of Statement of Additional Capitalisation claimed during the period	✓
FORM-9 ##	Statement of Additional Capitalisation after COD	✓
FORM-10	Financing of Additional Capitalisation	✓
FORM-11	Calculation of Depreciation on original project cost	NA
FORM-12	Statement of Depreciation	✓
FORM-12A**	Statement of Unrecovered Depreciation	✓
FORM-13	Calculation of Weighted Average Rate of Interest on Actual Loans	✓
FORM-14	Draw Down Schedule for Calculation of IDC & Financing Charges	NA
FORM-15	Details / information to be submitted in respect of Fuel for computation of Energy Charges : Non APM Gas	✓
FORM-15A1	Details / information to be submitted in respect of Fuel for computation of Energy Charges : Gas	✓
FORM-15A2	Details / information to be submitted in respect of Fuel for computation of Energy Charges : LNG	✓
FORM-15A3	Details / information to be submitted in respect of Fuel for computation of Energy Charges : Naphtha	✓
FORM-15B	Computation of Energy Charges	✓
FORM-16	Details of Limestone for Computation of Energy Charge Rate	NA
FORM-17	Details of Capital Spares	##
FORM-18	Non-Tariff Income	##
FORM-19	Details of Water Charges	##
FORM-20	Details of Statutory Charges	##

## Shall be provided at the time of true up

PART-I

**List of Supporting Forms / documents for tariff filing for Thermal Stations**

Form No.	Title of Tariff Filing Forms (Thermal)	Tick
FORM-A	Abstract of Capital Cost Estimates	NA
FORM-B	Break-up of Capital Cost for Coal/Lignite based projects	NA
FORM-C	Break-up of Capital Cost for Gas/Liquid fuel based Projects	NA
FORM-D	Break-up of Construction/Supply/Service packages	NA
FORM-E	Details of variables , parameters , optional package etc. for New Project	NA
FORM-F	Details of cost over run	NA
FORM-G	Details of time over run	NA
FORM-H	Statement of Additional Capitalisation during end of the useful life	NA
FORM-I	Details of Assets De-capitalised during the period	##
FORM-J	Reconciliation of Capitalisation claimed vis-à-vis books of accounts	##
FORM-K	Statement showing details of items/assets/works claimed under Exclusions	##
FORM-L	Statement of Capital cost	✓
FORM-M	Statement of Capital Works in Progress	✓
FORM-N	Calculation of Interest on Normative Loan	✓
FORM-O	Calculation of Interest on Working Capital	✓
FORM-P	Incidental Expenditure up to SCOD and up to Actual COD	NA
FORM-Q	Expenditure under different packages up to SCOD and up to Actual COD	NA
FORM-R	Actual cash expenditure	NA
FORM-S	Statement of Liability flow	✓
FORM-T	Summary of issues involved in the petition	✓

\*\* Additional Forms

Shall be provided at the time of true up

<b>List of supporting documents for tariff filing for Thermal Stations</b>		
S. No.	Information / Document	Tick
1	Certificate of incorporation, Certificate for Commencement of Business, Memorandum of Association, & Articles of Association ( For New Station setup by a company making tariff application for the first time to CERC)	NA
2	A. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures on COD of the Station for the new station & for the relevant years.	NA
	B. Station wise and Corporate audited Balance Sheet and Profit & Loss Accounts with all the Schedules & annexures for the existing station for relevant years.	✓
3	Copies of relevant loan Agreements	NA
4	Copies of the approval of Competent Authority for the Capital Cost and Financial package.	NA
5	Copies of the Equity participation agreements and necessary approval for the foreign equity.	NA
6	Copies of the BPSA/PPA with the beneficiaries, if any	NA
7	Detailed note giving reasons of cost and time over run, if applicable. List of supporting documents to be submitted: a. Detailed Project Report b. CPM Analysis c. PERT Chart and Bar Chart d. Justification for cost and time Overrun	NA
8	Generating Company shall submit copy of Cost Audit Report along with cost accounting records, cost details, statements, schedules etc. for the Generating Unit wise /stage wise/Station wise/ and subsequently consolidated at Company level as submitted to the Govt. of India for first two years i.e. 2019-20 and 2020-21 at the time of mid-term true-up in 2021-22 and for balance period of tariff period 2019-24 at the time of final true-up in 2024-25. In case of initial tariff filing the latest available Cost Audit Report should be furnished.	NA
9	Any other relevant information, (Please specify)	NA
10	Reconciliation with Balance sheet of any actual additional capitalization and amongst stages of a generating station	NA
11	BBMB is maintaining the records as per the relevant applicable Acts. Formats specified herein may not be suitable to the available information with BBMB. BBMB may modify the formats suitably as per available information to them for submission of required information for tariff purpose.	NA

**Summary of Tariff**

Name of the Petitioner:		NTPC Limited						
Name of the Generating Station:		Kawas Gas Power Station						
Place (Region/District/State):		Western Region/Surat/ Gujarat						
Amount in Rs. Lakhs								
S. No.	Particulars	Unit	Existing 2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8	9
1.1	Depreciation	Rs Lakh	7,184.50	1,927.06	1,556.64	2,018.79	639.00	54.00
1.2	Interest on Loan	Rs Lakh	0.00	0.00	25.29	25.28	-	-
1.3	Return on Equity	Rs Lakh	16,264.08	16,304.90	10,910.33	11,036.72	11,076.73	11,080.11
1.4	Interest on Working Capital	Rs Lakh	33,113.81	13,260.00	13,225.51	13,289.93	13,327.51	13,384.30
1.5	O&M Expenses	Rs Lakh	15,516.09	14233.70	15094.05	16003.68	16978.04	18019.64
1.6	Special Allowance (If applicable)	Rs Lakh						
1.7	Unrecovered Depreciation	Rs. Lakh		112.00				
	<b>Total</b>	<b>Rs Lakh</b>	<b>72080.48</b>	<b>45837.66</b>	<b>40811.82</b>	<b>42374.42</b>	<b>42021.28</b>	<b>42538.05</b>
2.1	Landed Fuel Cost (Gas-APM)	Rs/1000SC M				0.00		
	(%) of Fuel Quantity	(%)				0.00%		
2.2	Landed Fuel Cost (Gas-Non APM)	Rs/1000SC M				53594.47		
	(%) of Fuel Quantity	(%)				56.77%		
2.3	Landed Fuel Cost (RLNG)	Rs/1000SC M				47177.49		
	(%) of Fuel Quantity	(%)				43.18%		
2.4	Landed Fuel Cost (Naphtha)	Rs. KL				93889.33		
	(%) of Fuel Quantity	(%)				0.05%		
2.5	Energy Charge Rate (APM Gas-CC) ex-bus (Paise/kWh)	P/Kwh				0.00		
2.6	Energy Charge Rate (Gas-Non APM-CC) ex-bus (Paise/kWh)	P/Kwh				1179.54		
2.7	Energy Charge Rate (RLNG-CC) ex-bus (Paise/kWh)	P/Kwh				1030.78		
2.8	Energy Charge Rate (Naphtha-CC) ex-bus (Paise/kWh)	P/Kwh				1990.23		
2.9	Energy Charge Rate (APM Gas-OC) ex-bus (Paise/kWh)	P/Kwh				0.00		
3	Energy Charge Rate (Gas-NonAPM-OC) ex-bus (Paise/kWh)	P/Kwh				1701.30		
3.1	Energy Charge Rate (RLNG-OC) ex-bus (Paise/kWh)	P/Kwh				1486.74		
3.2	Energy Charge Rate (Naphtha-OC) ex-bus (Paise/kWh)	P/Kwh				2870.59		

(Petitioner)

Name of the Petitioner:	NTPC Limited
Name of the Generating Station:	Kawas Gas Power Station

Amount in Rs. Lakhs

**Statement showing claimed capital cost – (A+B)**

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	Opening Capital Cost	1,92,131.14	1,92,464.14	1,95,590.35	1,96,950.35	1,97,010.35
2	Add: Addition during the year/period	333.00	3,126.21	1,360.00	60.00	60.00
3	Less: De-capitalisation during the year/period	-	-	-	-	-
4	Less: Reversal during the year / period	-	-	-	-	-
5	Add: Discharges during the year / period	-	-	-	-	-
6	Closing Capital Cost	1,92,464.14	1,95,590.35	1,96,950.35	1,97,010.35	1,97,070.35
7	<b>Average Capital Cost</b>	<b>1,92,297.64</b>	<b>1,94,027.24</b>	<b>1,96,270.35</b>	<b>1,96,980.35</b>	<b>1,97,040.35</b>

**Statement showing claimed capital cost eligible for RoE at normal rate (A)**

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	Opening Capital Cost	190297.71	190630.71	193756.92	195116.92	195176.92
2	Add: Addition during the year / period	333.00	3126.21	1360.00	60.00	60.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	190630.71	193756.92	195116.92	195176.92	195236.92
7	<b>Average Capital Cost</b>	<b>190464.21</b>	<b>192193.81</b>	<b>194436.92</b>	<b>195146.92</b>	<b>195206.92</b>

**Statement showing claimed capital cost eligible for RoE at one year MCLR + 350 bps subject to ceiling of 14.00% (B)**

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
1	Opening Capital Cost	1833.43	1833.43	1833.43	1833.43	1833.43
2	Add: Addition during the year / period	0.00	0.00	0.00	0.00	0.00
3	Less: De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
4	Less: Reversal during the year / period	0.00	0.00	0.00	0.00	0.00
5	Add: Discharges during the year / period	0.00	0.00	0.00	0.00	0.00
6	Closing Capital Cost	1833.43	1833.43	1833.43	1833.43	1833.43
7	<b>Average Capital Cost</b>	<b>1833.43</b>	<b>1833.43</b>	<b>1833.43</b>	<b>1833.43</b>	<b>1833.43</b>

(Petitioner)

**Name of the Petitioner:** NTPC Limited

**Name of the Generating Station:** Kawas Gas Power Station

**Statement showing Return on Equity at Normal Rate**

**Amount in Rs. Lakhs**

S. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7
	<b>Return on Equity at Normal Rate</b>					
1	Gross Opening Equity (Normal)	86,330.20	86,430.10	87,367.96	87,775.96	87,793.96
2	Less: Adjustment in Opening Equity	-	29,240.88	29,240.88	29,240.88	29,240.88
3	Adjustment during the year	-	-	-	-	-
4	Net Opening Equity (Normal)	86,330.20	57,189.21	58,127.08	58,535.08	58,553.08
5	Add: Increase in equity due to addition during the year / period	99.90	937.86	408.00	18.00	18.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	86,430.10	58,127.08	58,535.08	58,553.08	58,571.08
11	Average Equity (Normal)	86,380.15	57,658.14	58,331.08	58,544.08	58,562.08
12	Rate of ROE (%)	18.782	18.782	18.782	18.782	18.782
13	Total ROE	<b>16,223.92</b>	<b>10,829.35</b>	<b>10,955.74</b>	<b>10,995.75</b>	<b>10,999.13</b>

**(Petitioner)**

<b>Name of the Petitioner:</b>		<b>NTPC Limited</b>				
<b>Name of the Generating Station:</b>		<b>Kawas Gas Power Station</b>				
<b>Statement showing Return on Equity at Normal Rate</b>						
<b>Amount in Rs. Lakhs</b>						
<b>S. No.</b>	<b>Particulars</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	<b>Statement showing claimed capital cost eligible for RoE at one year MCLR + 350 bps subject to ceiling of <u>14.00%</u></b>					
1	Gross Opening Equity (Normal)	550.03	550.03	550.03	550.03	550.03
2	Less: Adjustment in Opening Equity	0.00	0.00	0.00	0.00	0.00
3	Adjustment during the year	0.00	0.00	0.00	0.00	0.00
4	Net Opening Equity (Normal)	550.03	550.03	550.03	550.03	550.03
5	Add: Increase in equity due to addition during the year / period	0.00	0.00	0.00	0.00	0.00
7	Less: Decrease due to De-capitalisation during the year / period	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	0.00	0.00	0.00	0.00	0.00
10	Net closing Equity (Normal)	550.03	550.03	550.03	550.03	550.03
11	Average Equity (Normal)	550.03	550.03	550.03	550.03	550.03
	Rate of ROE (linked to SBI MCLR +350 basis point) (%)	12.15	12.15	12.15	12.15	12.15
12	Grossed up Rate of ROE with applicable tax rate (%)	14.723	14.723	14.723	14.723	14.723
13	Total ROE	<b>80.98</b>	<b>80.98</b>	<b>80.98</b>	<b>80.98</b>	<b>80.98</b>
<b>(Petitioner)</b>						

## Plant Characteristics

Name of the Petitioner	NTPC Ltd.					
Name of the Generating Station	Kawas GPS					
Unit(s)/Block(s)/Parameters	GT-1A	GT-1B	GT-2A	GT-2B	ST-1	St-2
Installed Capacity ( MW)	106	106	106	106	116.1	116.1
Schedule COD as per Investment Approval	01.06.1992	01.08.1992	01.09.1992	01.11.1992	01.11.1993	01.09.1993
Actual COD /Date of Taken Over (as applicable)						
Pit Head or Non Pit Head						
Name of the Boiler Manufacture						
Name of Turbine Generator Manufacture	GE	GE	GE	GE	GE	GE
Main Steams Pressure at Turbine inlet (kg/Cm <sup>2</sup> ) abs <sup>1</sup> .	NA					
Main Steam Temperature at Turbine inlet (°C) <sup>1</sup>						
Reheat Steam Pressure at Turbine inlet (kg/Cm <sup>2</sup> ) <sup>1</sup>						
Reheat Steam Temperature at Turbine inlet (°C) <sup>1</sup>						
Main Steam flow at Turbine inlet under MCR condition (tons /hr) <sup>2</sup>						
Main Steam flow at Turbine inlet under VWO condition (tons /hr) <sup>2</sup>						
Unit Gross electrical output under MCR /Rated condition (MW) <sup>2</sup>						
Unit Gross electrical output under VWO condition (MW) <sup>2</sup>						
Guaranteed Design Gross Turbine Cycle Heat Rate (kCal/kWh) <sup>3</sup>						
Conditions on which design turbine cycle heat rate guaranteed						
% MCR						
% Makeup Water Consumption						
Design Capacity of Make up Water System						
Design Capacity of Inlet Cooling System						
Design Cooling Water Temperature (°C)						
Back Pressure						
Steam flow at super heater outlet under BMCR condition (tons/hr)						
Steam Pressure at super heater outlet under BMCR condition) (kg/Cm <sup>2</sup> ) <sup>1</sup>						
Steam Temperature at super heater outlet under BMCR condition (°C)						
Steam Temperature at Reheater outlet at BMCR condition (°C)						
Design / Guaranteed Boiler Efficiency (%) <sup>4</sup>						
Design Fuel with and without Blending of domestic/imported coal						
Type of Cooling Tower						
Type of cooling system <sup>5</sup>	Closed circuit Cooling					
Type of Boiler Feed Pump <sup>5</sup>	Motor Driven					
Fuel Details <sup>7</sup>						
-Primary Fuel	Natural Gas					
-Secondary Fuel						
-Alternate Fuels						
Special Features/Site Specific Features <sup>8</sup>						
Special Technological Features <sup>5</sup>						
Environmental Regulation related features <sup>10</sup>						
Any other special features						

Petitioner

**Normative parameters considered for tariff computations**

<b>Name of the Petitioner:</b>		<b>NTPC Limited</b>					
<b>Name of the Generating Station:</b>		<b>Kawas Gas Power Station</b>					
							(Year Ending March)
Particulars	Unit	Existing 2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8
Base Rate of Return on Equity	%	15.50	15.50	15.50	15.50	15.50	15.50
Rate of Return on Equity on Add. Cap beyond original scope of work including add cap due to change in law, Force majeure	%		12.15	12.15	12.15	12.15	12.15
Effective Tax Rate	%	17.4720	17.4720	17.4720	17.4720	17.4720	17.4720
Target Availability	%	85.00	85.00	85.00	85.00	85.00	85.00
Peak Hours	%	85.00	85.00	85.00	85.00	85.00	85.00
Off-Peak Hours	%	85.00	85.00	85.00	85.00	85.00	85.00
B- Average Monthly Frequency Response Performance ##	0-1						
Auxiliary Energy Consumption	%	2.75	2.75	2.75	2.75	2.75	2.75
Gross Station Heat Rate	kCal/kWh	2050.00	2050.00	2050.00	2050.00	2050.00	2050.00
Specific Fuel Oil Consumption	ml/kWh						
Cost of Coal/Lignite for WC1	in Days						
Cost of Main Secondary Fuel Oil for WC1	in Months						
Fuel Cost for WC2	in days	30	15	15	15	15	15
Liquid Fuel Stock for WC2	in days	15	15	15	15	15	15
O&M Expenses	Rs lakh/MW	20.19	18.18	19.14	20.14	21.20	22.32
Maintenance Spares for WC	% of O&M	30.00	30.00	30.00	30.00	30.00	30.00
Receivables for WC	in Days	45	45	45	45	45	45
Storage capacity of Primary fuel#	MT						
SBI 1 Year MCLR plus 350 basis point§	%	12.00	11.90	11.90	11.90	11.90	11.90
Blending ratio of domestic coal/imported coal							
** Rate of Return on Add - cap beyond original scope							
§§ Additional RoE due to better ramp rate would be claimed at the time of true-up or as per guidelines to be issued							
# To be submitted at the time of true up based on RPC certification							



**Calculation of O&M Expenses**

<b>Name of the Company :</b>	<b>NTPC Limited</b>
<b>Name of the Power Station :</b>	<b>Kawas Gas Power Station</b>

**Amount in Rs. Lakhs**

S.No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	7	8
1	<b>O&amp;M expenses under Reg.36(1)(1)</b>					
1a	Normative	11929.72	12559.67	13215.87	13911.44	14646.38
2	<b>O&amp;M expenses under Reg.36(1)(6)</b>					
2a	Water Charges *	261.29	287.42	316.16	347.78	382.55
2b	Security expenses**	2042.69	2246.96	2471.65	2718.82	2990.70
2c	Capital Spares %%					
	<b>Total O&amp;M Expenses</b>	<b>14233.70</b>	<b>15094.05</b>	<b>16003.68</b>	<b>16978.04</b>	<b>18019.64</b>

\* Water charges claimed on projection basis subject to true up based on 20 % escalation from 2023-24 and 10% escalation in subsequent year in anticipation of increase in generation.

\*\* Security expenses claimed on projection basis subject to true up based on 10% escalation from 2023-24

%% Capital spares details shall be given at the time of true up

**Petitioner**

**Abstract of Admitted Capital Cost for the existing Projects**

<b>Name of the Company :</b>	<b>NTPC Limited</b>	
<b>Name of the Power Station :</b>	<b>Kawas Gas Power Station</b>	
		<b>Amount in Rs Lakh</b>
Last date of order of Commission for the project	<b>Date (DD-MM-YYYY)</b>	04-06-2022
Reference of petition no. in which the above order was passed	<b>Petition no.</b>	488/GT/2020
Following details (whether admitted and /or considered) as on the last date of the period for which tariff is approved, in the above order by the Commission:(31.03.2024)		
Capital cost	<b>(Rs. in lakh)</b>	193254.19
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		
Gross Normative Debt		105838.42
Cumulative Repayment		105838.42
Net Normative Debt		0.00
Normative Equity		87415.77
Cumulative Depreciation		171428.79
Freehold land		733.02
		<b>(Petitioner)</b>

**Abstract of Admitted Capital Cost for the existing Projects**

<b>Name of the Company :</b>	NTPC Limited	
<b>Name of the Power Station :</b>	Kawas Gas Power Station	
		<b>Amount in Rs Lakh</b>
Reference of Final True up petition	<b>Affidavit dated</b>	
Capital Cost allowed in the Main 2019-24 Tariff Petition no. 488/GT/2020 vide order dt 04.06.2022 as on 31.3.24		1,93,254.19
Adjustment as per Para (7) of this petition		-1,123.05
Following details as considered by the Petitioner as on the last date of the period for which final true-up tariff is claimed:		
Capital cost as on 01.04.2024	<b>(Rs. in lakh)</b>	1,92,131.14
Amount of un-discharged liabilities included in above (& forming part of admitted capital cost)		
Amount of un-discharged liabilities corresponding to above admitted capital cost (but not forming part of admitted capital cost being allowed on cash basis)		
Gross Normative Debt		1,05,250.91
Cumulative Repayment		1,05,250.91
Net Normative Debt		0.00
Normative Equity		86,880.23
Cumulative Depreciation		170501.63
Freehold land		733.02
		<b>(Petitioner)</b>

\*Additional form

**Year wise Statement of Additional Capitalisation after COD**

Name of the Petitioner	NTPC Limited
Name of the Generating Station	Kawas Gas Power Station
COD	01-11-1993
For Financial Year	2024-29 (Summary)

Amount in Rs Lakh

Sl. No.	Head of Work /Equipment	ACE Claimed (Projection)					Regulation under which claimed	Admitted Cost by the Commission, if any
		2024-25	2025-26	2026-27	2027-28	2028-29		
1	2	3	4	5	6	7	8	9
<b>A. For assets eligible for normal RoE</b>								
1	Battery banks supply, installation and commissioning	100.00	300.00				As per relevant regulations given in Form-9	
2	Air conditioning system	23.00	22.00					
3	HT/LT breakers	60.00	60.00	60.00	60.00	60.00		
4	Replacement of Reciprocating Air Compressors	100.00						
5	HP/LP Bypass system Upgradation		200.00	100.00				
6	GE OWS/HMI Upgradation		2000.00	1,200.00				
7	LT Feeder panel for colony switchgear		75.00					
8	Replacement of Air Washer Units (DVM)		178.57					
9	Drinking water pipe line replacement		150.00					
10	Replacement of Reciprocating Air Compressors		110.64					
11	HCL Tank		30.00					
12	Replacement of pump for collection pit for separation of storm water from effluent.	50.00						
	<b>Total (A)</b>	<b>333.00</b>	<b>3,126.21</b>	<b>1,360.00</b>	<b>60.00</b>	<b>60.00</b>		
<b>B. For assets eligible for RoE at One year MCLR+350 bps subject to ceiling of 14.00%</b>								
1								
2								
	<b>Total (B)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>		
<b>Total Add. Cap. Claimed (A+B)</b>		<b>333.00</b>	<b>3,126.21</b>	<b>1,360.00</b>	<b>60.00</b>	<b>60.00</b>		

(Petitioner)

								PART-I FORM-9
Year wise Statement of Additional Capitalisation after COD								
Name of the Petitioner			NTPC Limited					
Name of the Generating Station			Kawas Gas Power Station					
COD			01-11-1990					
For Financial Year			2024-25					
Sl. No.	Head of Work/Equipment	ACE Claimed (Projected)				Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
		Accrued basis as per ISAAP	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5=(3-4)	6	7	8	9
<b>A. For assets eligible for normal RoE</b>								
1	Battery banks supply, installation and commissioning	100.00	-	100.00	-	25(2)(c)	It is submitted that the battery banks installed at NTPC Kawas have become very old and have outlived their useful life. These systems were commissioned and put to use at the time of COD of the station and the station has completed more than 30 years of continuous operation. With the passage of time and aging, these equipment/assets have become worn out and in a bad shape.  These systems have already completed their useful life and have become old and obsolete. Problems are occurring frequently with these battery banks thereby affecting the reliability and availability which is crucial for uninterrupted plant operation. Battery banks provide crucial back up during power failures and electrical fault and thus prevents damage to critical plant equipments and provide system redundancy. Since battery banks have become old and obsolete, frequent repair and maintenance is being recorded which is affecting the plant reliability and affecting sustained operation during generation. Therefore, these battery banks needs to be replaced in phased manner for keeping Gas plant available to meet the power requirement. The Hon'ble Commission is requested to allow this expenditure. The relevant documents depicting phased replacement of battery banks are attached as <b>Annexure-A</b> .	
2	Air conditioning system	23.00	-	23.00	-	25(2)(c)	As brought out above due to aging issue these air conditioning systems have already completed their life and needs to be replaced. The air conditioning system installed at various places at NTPC Kawas are very old and have become obsolete, therefore it is becoming very difficult to arrange spare parts and service for upkeep of air conditioning system. Also, these systems have become inefficient with the passage of time and not able to maintain required ambient temperature and temperature remain on higher side thereby affecting plant operation and discomfort to people working in there. Therefore, air conditioning system has to be replaced with new system in phased manner for cooling requirement of plant and building premises. The Hon'ble CERC is requested to allow the same.	
3	HT/LT breakers	60.00	-	60.00	-	25(2)(c)	HT/LT breakers have become old and obsolete and frequent problem of jamming and breaker lock out is being faced which is affecting the system reliability. As these breakers are very old and have outlived their useful life and OEM support is not available, hence these breakers have to be replaced with new breakers for keeping the machine in healthy condition for sustained plant operation. The Hon'ble commission may please allow the same.	
4	Replacement of Reciprocating Air Compressors	100.00	-	100.00	-	25(2)(c)	Currently installed air compressors have become very old and have completed its useful life, frequent maintenance and repair is required to keep it in working condition. Since compressors are very old and commissioned at the time of COD, they have already outlived their useful life and need proper replacement for reliable plant operation, procurement of spare parts is a big challenge and efficiency has also reduced. It is proposed to replace these old and obsolete compressors with new energy efficient screw compressors which is needed for proper and uninterrupted operation of Kawas Gas plant. The Hon'ble Commission is requested to allow the same.	
5	Replacement of pumps for collection pit for separation of storm water from effluent.	60.00	-	60.00	-	25(2)(c)	It is submitted that pumps installed for collection pit (storm water are collected) have become old and due to aging problem, it needs to be replaced with new pumps. The Hon'ble commission is requested to allow the same.	
<b>Sub Total A</b>		<b>333.00</b>	<b>-</b>	<b>333.00</b>	<b>-</b>			
<b>B. For assets eligible for RoE at One year MCLR+368 Bps subject to ceiling of 14.00%</b>								
1								
<b>Sub Total B</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>			
<b>Total Add. Cap. Claimed A+B</b>		<b>333.00</b>	<b>0.00</b>	<b>333.00</b>	<b>0.00</b>			

(Petitioner)

								FART-I
								FORM-9
Year wise Statement of Additional Capitalisation after COO								
Name of the Petitioner			NTPC Limited					
Name of the Generating Station			Kawas Gas Power Station					
COO			01-11-1962					
For Financial Year			2025-26					
Sl. No.	Head of Work/Equipment	ACE Claimed (Projected)				Requisitions under which claimed	Justification	Amount in Rs. Lakh (Admitted Cost by the Commission, if any)
		Accrued basis as per IS/MIP	Un-depreciated Liability included in col. 3	Cash basis	DDC included in col. 3			
1	2	3	4	5 (3+4)	6	7	8	9
<b>A. For assets eligible for normal RoE</b>								
1	HPLP Bypass system Upgradation	200.00	-	200.00	-	25(2)(c)	HPLP bypass system, Control and instrumentation (C&I) panel old cards have become obsolete and no support is available from OEM. Obsolescence certificate from OEM is attached as <b>Annexure-B</b> . Therefore, these old cards is to be upgraded with new cards for better operational control of HPLP bypass system thus ensuring reliability of the system. The Hon'ble commission is requested to allow the same.	
2	GE OWSHM Upgradation	2000.00	-	2,000.00	-	25(2)(c)	It is submitted that old GE OWS HM is based on window 7 version, which has been declared obsolete from Microsoft (OEM) and therefore no support is available from OEM. Obsolescence certificate is attached as <b>Annexure-C</b> . Therefore, system needs to be upgraded with the latest version. The Hon'ble Commission is requested to allow the same.	
3	Battery cable supply installation and commissioning	300.00	-	300.00	-	25(2)(c)	As per justification given in form B 24-25	
4	LT Feeder panel for colony switchgear	70.00	-	70.00	-	25(2)(c)	The LT feeder panel for colony switchgear have become old and outlived its useful life. Due to aging, frequent problems are being faced like tripping and faults, therefore LT feeder panel needs to be replaced with new one. These system were commissioned at the time of COO of the plant and have already completed more than 30 years of service. These systems have already operated beyond their useful life and needs replacement. The Hon'ble commission is requested to allow the same.	
5	HT/LT breakers	60.00	-	60.00	-	25(2)(c)	As per justification given in form B 24-25	
6	Replacement of Air Washer Units (DVM)	178.57	-	178.57	-	25(2)(c)	It is submitted that air washer units have become very old and obsolete and frequent problem is being faced due to non-availability of spares and these air washer units have outlived their useful life. These air washers were commissioned at time of COO and already outlived their useful life. Because of aging issue, wear and tear with the passage of time, the air washers are not working efficiently and temperatures are maintaining on higher side. As air washer units are critical for maintaining cooler temperature of critical plant locations, these systems need to be replaced with new one for efficient and uninterrupted plant operation. The Hon'ble Commission is requested to allow the same.	
7	Replacement of Reciprocating Air Compressor	110.54	-	110.54	-	25(2)(c)	As per justification given in form B 24-25	
8	HCL tank (FRP)	30.00	-	30.00	-	25(2)(c)	It is submitted that HCL tank used for storing acid in DM plant is of metallic type and has become rusted due to very old age and it has outlived its useful life, therefore it is proposed to replace this tank with FRP (Fibre reinforced glass) tank so as to sustain continued plant operation. FRP tank has high strength and inertness to chemical and therefore suitable for storing HCL. The Hon'ble CERC is requested to allow the same.	
9	Drinking water pipe line replacement	150.00	-	150.00	-	25(2)(c)	Drinking water pipe line are very old and have become rusted. Frequent leaks and consequent repair work is being resorted to maintain pipeline for drinking water requirement. These pipelines were laid during COO of the plant and have completed their useful life. Due to aging, wear and tear and corrosion, issues are being faced by the petitioner in the form of disruption in supply of drinking water for its employees and workers. Drinking water is a basic necessity and the employer is bound by the various Govt. order regulations like Factories Act to provide safe and reliable drinking water facilities to its employees/workers working in its premises. Therefore it is proposed to replace old water pipelines with new one so as to improve drinking water quality and reliability. The Hon'ble CERC is requested to allow the same.	
10	Air conditioning system	22.00	-	22.00	-	25(2)(c)	As per justification given in form B 24-25	
<b>Sub Total A</b>		<b>3,126.21</b>	<b>-</b>	<b>3,126.21</b>	<b>-</b>			
<b>B. For assets eligible for RoE at One year NCLR-150 bps subject to ceiling of 14.00%</b>								
1								
<b>Sub Total B</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>			
<b>Total Add. Cap. Claimed A+B</b>		<b>3,126.21</b>	<b>0.00</b>	<b>3,126.21</b>	<b>0.00</b>			

(Petitioner)

## Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner				NTPC Limited				
Name of the Generating Station				Kawas Gas Power Station				
COD				01-11-1993				
For Financial Year				2026-27				
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Projected)			Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
			Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
<b>A. For assets eligible for normal RoE</b>								
1	HP/LP Bypass system Upgradation	100.00	-	100.00	-	25(2)(c)	As per justification given in form 9_25-26.	
2	GE OWS/HMI Upgradation	1200.00	-	1,200.00	-	25(2)(c)	As per justification given in form 9_25-26.	
3	HT/LT breakers	60.00	-	60.00	-	25(2)(c)	As per justification given in form 9_24-25.	
	Sub Total A	1,360.00	-	1,360.00	-			
<b>B. For assets eligible for RoE at One year MCLR+350 bps subject to ceiling of 14.00%</b>								
1								
	Sub Total B	-	-	-	-			
<b>Total Add. Cap. Claimed A+B</b>		<b>1360.00</b>	<b>0.00</b>	<b>1360.00</b>	<b>0.00</b>			

(Petitioner)

## Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner				NTPC Limited				
Name of the Generating Station				Kawas Gas Power Station				
COD				01-11-1993				
For Financial Year				2027-28				
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Projected)			Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
			Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
<b>A. For assets eligible for normal RoE</b>								
1	HT/LT breakers	60.00	-	60.00	-	25(2)(c)	As per justification given in form 9_24-25	
Sub Total A		60.00	-	60.00	-			
<b>B For assets eligible for RoE at One year MCLR+350 bps subject to ceiling of 14.00%</b>								
1								
Sub Total B		-	-	-	-			
Total Add. Cap. Claimed A+B		60.00	0.00	60.00	0.00			
								(Petitioner)



## Year wise Statement of Additional Capitalisation after COD

Name of the Petitioner				NTPC Limited				
Name of the Generating Station				Kawas Gas Power Station				
COD				01-11-1993				
For Financial Year				2028-29				
Sl. No.	Head of Work /Equipment	Accrual basis as per IGAAP	ACE Claimed (Projected)			Regulations under which claimed	Justification	Amount in Rs Lakh Admitted Cost by the Commission, if any
			Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3			
1	2	3	4	5= (3-4)	6	7	8	9
<b>A. For assets eligible for normal RoE</b>								
1	HT/LT breakers	60.00	-	60.00	-	25(2)(c)	As per justification given in form 9_24-25	
	Sub Total A	60.00	-	60.00	-			
<b>B For assets eligible for RoE at One year MCLR+350 bps subject to ceiling of 14.00%</b>								
1								
	Sub Total B	-	-	-	-			
Total Add. Cap. Claimed A+B		60.00	0.00	60.00	0.00			

(Petitioner)

<b>Name of the Petitioner</b>	<b>NTPC Limited</b>
<b>Name of the Generating Station</b>	<b>Kawas Gas Power Station</b>
<b>Date of Commercial Operation</b>	<b>01-11-1993</b>

<b>Amount in Rs Lakh</b>										
Financial Year (Starting from COD)1	Actual					Admitted				
	2024-25	2025-26	2026-27	2027-28	2028-29	2024-25	2025-26	2026-27	2027-28	2028-29
1		3	4	5	6	7	8	9	10	11

Amount capitalised in Work/ Equipment

<b>Financing Details</b>	<b>Add cap is proposed to be financed in Debt:Equity ratio of 70:30</b>
Loan-1	
Loan-2	
Loan-3 and so on	
Total Loan2	
Equity	
Internal Resources	
Others (Pl. specify)	
Total	

Note:  
 1. Year 1 refers to Financial Year of COD and Year 2, Year 3 etc. are the subsequent financial years respectively.  
 2. Loan details for meeting the additional capitalisation requirement should be given as per FORM-7 or 8 whichever is relevant.

**(Petitioner)**

**Statement of Depreciation**

Name of the Company :	NTPC Limited
Name of the Power Station :	Kawas Gas Power Station

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8
1	Opening Capital Cost	191923.66	192131.14	192464.14	195590.35	196950.35	197010.35
2	Closing Capital Cost	192131.14	192464.14	195590.35	196950.35	197010.35	197070.35
3	Average Capital Cost	192027.40	1,92,297.64	1,94,027.24	1,96,270.35	1,96,980.35	1,97,040.35
1a	Cost of IT Equipments & Software included in (1) above	185.46	205.28	205.28	205.28	205.28	205.28
2a	Cost of IT Equipments & Software included in (2) above	19.82	-	-	-	-	-
3a	Average Cost of IT Equipments & Software	102.64	102.64	102.64	102.64	102.64	102.64
4	Freehold land	733.02	733.02	733.02	733.02	733.02	733.02
5	Rate of depreciation	0.000	0.000	0.000	0.000	0.000	0.000
6	Depreciable value	1,72,184.48	1,72,428.68	1,73,985.33	1,76,004.12	1,76,643.12	1,76,697.12
7	Balance useful life at the beginning of the period	1.23	0.23	0.00	0.00	0.00	0.00
8	Remaining depreciable value	8,836.93	1,927.06	1,556.64	2,018.79	639.00	54.00
9	Depreciation (for the period)	7,184.50	1,927.06	1,556.64	2,018.79	639.00	54.00
10	Depreciation (annualised)	<b>7,184.50</b>	<b>1,927.06</b>	<b>1,556.64</b>	<b>2,018.79</b>	<b>639.00</b>	<b>54.00</b>
11	Cumulative depreciation at the end of the period	170532.04	1,72,428.68	1,73,985.33	1,76,004.12	1,76,643.12	1,76,697.12
12	Less: Cumulative depreciation adjustment on account of un-discharged liabilities deducted as on 01.04.2009	0.00	0.00	0.00	0.00	0.00	0.00
13	Add: Cumulative depreciation adjustment on account of liability Discharge	0.00	0.00	0.00	0.00	0.00	0.00
13	Less: Cumulative depreciation adjustment on account of de-capitalisation	30.42	0.00	0.00	0.00	0.00	0.00
14	Net Cumulative depreciation at the end of the period after adjustments	1,70,501.63	1,72,428.68	1,73,985.33	1,76,004.12	1,76,643.12	1,76,697.12

(Petitioner)

**SBI VIII T-1 D-13**

2015-16

Date	Rate of Int	Nos of Days		W. Avg Rate
01-12-2015	9.300	122	1135	
01-Apr-16				
		122	1135	9.300

**SBI VIII T-1 D-21**

Date	Rate of Int	Nos of Days		W. Avg Rate
21-09-2016	9.300	146	1358	
14-Feb-17	8.300	46	382	
01-Apr-17				
		192	1740	9.060

**SBI VIII T-1 D-24**

Date	Rate of Int	Nos of Days		W. Avg Rate
14-Feb-17	8.300	46	382	
01-Apr-17				
		46	382	8.300

						Form-13
						(Amount in laacs)
Sl. no.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29

<b>1</b>	<b>Bonds 34 Series</b>					
	Gross loan - Opening	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Cumulative repayments of Loans	900.00	1,500.00	1,500.00	1,500.00	1,500.00
	Net loan - Opening	600.00	-	-	-	-
	Addition	-	-	-	-	-
	Repayments of Loans during the year	600.00	-	-	-	-
	Net loan - Closing	-	-	-	-	-
	Average Net Loan	300.00	-	-	-	-
	Rate of Interest on Loan	8.5200%	0.0000%	0.0000%	0.0000%	0.0000%
	Interest on loan	25.56	-	-	-	-
<b>2</b>	<b>HDFC Bank Ltd -IV</b>					
	Gross loan - Opening	18,000.00	18,000.00	18,000.00	18,000.00	18,000.00
	Cumulative repayments of Loans	6,000.00	8,000.00	10,000.00	12,000.00	14,000.00
	Net loan - Opening	12,000.00	10,000.00	8,000.00	6,000.00	4,000.00
	Addition	-	-	-	-	-
	Repayments of Loans during the year	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	Net loan - Closing	10,000.00	8,000.00	6,000.00	4,000.00	2,000.00
	Average Net Loan	11,000.00	9,000.00	7,000.00	5,000.00	3,000.00
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on loan	874.50	715.50	558.50	397.50	238.50

<b>3</b>	<b>HDFC Bank Ltd.-VI</b>					
	Gross loan - Opening	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Cumulative repayments of Loans	-	-	166.67	333.33	500.00
	Net loan - Opening :	1,500.00	1,500.00	1,333.33	1,166.67	1,000.00
	Addition	-	-	-	-	-
	Repayments of Loans during the year	-	166.67	166.67	166.67	166.67
	Net loan - Closing	1,500.00	1,333.33	1,166.67	1,000.00	833.33
	Average Net Loan	1,500.00	1,416.67	1,250.00	1,083.33	916.67
	Rate of Interest on Loan	7.9500%	7.9500%	7.9500%	7.9500%	7.9500%
	Interest on loan	119.25	112.63	99.38	86.13	72.88
<b>4</b>	<b>SBI-VIII</b>					
	Gross loan - Opening	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00
	Cumulative repayments of Loans	2,000.00	2,666.67	3,333.33	4,000.00	4,666.67
	Net loan - Opening :	4,000.00	3,333.33	2,666.67	2,000.00	1,333.33
	Addition	-	-	-	-	-
	Repayments of Loans during the year	666.67	666.67	666.67	666.67	666.67
	Net loan - Closing	3,333.33	2,666.67	2,000.00	1,333.33	666.67
	Average Net Loan	3,666.67	3,000.00	2,333.33	1,666.67	1,000.00
	Rate of Interest on Loan	8.2000%	8.2000%	8.2000%	8.2000%	8.2000%
	Interest on loan	300.67	246.00	181.33	136.67	82.00
	<b>Total Loan</b>					
	Gross loan - Opening	27,000.00	27,000.00	27,000.00	27,000.00	27,000.00
	Cumulative repayments of Loans	8,900.00	12,166.67	15,000.00	17,833.33	20,666.67
	Net loan - Opening :	18,100.00	14,833.33	12,000.00	9,166.67	6,333.33
	Addition	-	-	-	-	-
	Repayments of Loans during the year	3,266.67	2,833.33	2,833.33	2,833.33	2,833.33
	Net loan - Closing	14,833.33	12,000.00	9,166.67	6,333.33	3,500.00
	Average Net Loan	16,466.67	13,416.67	10,583.33	7,750.00	4,916.67
	Rate of Interest on Loan	8.0161%	8.0059%	8.0051%	8.0038%	8.0008%
	Interest on loan	1,319.98	1,074.13	847.21	620.29	393.38

S. No.	Bank Loan	Interest Rate	Applicable from	Applicable upto	Number of Days	Product	Weighted Average Rate of Interest
1	State Bank of India - VII	8.2500%	01-Apr-19	14-05-2019	43.00	3.55	7.9342%
		8.1500%	14-May-19	14-08-2019	92.00	7.50	
		7.9500%	14-Aug-19	14-11-2019	92.00	7.31	
		7.7000%	14-Nov-19	14-02-2020	92.00	7.08	
		7.6500%	14-Feb-20	31-Mar-20	47.00	3.60	
					366.00	29.04	
	State Bank of India - VII	7.650%	01-Apr-20	13-May-20	43.00	3.29	6.8560%
		7.000%	14-May-20	13-Aug-20	92.00	6.44	
		6.650%	14-Aug-20	31-Mar-21	230.00	15.30	
					365.00	25.02	
State Bank of India-VII	6.65%	01-04-2021	31-03-2022	365	24.27	6.65%	
State Bank of India - VII	6.65%	01-04-2022	13-05-2022	43.00	2.86		
State Bank of India - VII	6.75%	14-05-2022	13-08-2022	92.00	6.21		
State Bank of India - VII	7.15%	14-08-2022	13-11-2022	92.00	6.58		
State Bank of India - VII	7.60%	14-11-2022	13-02-2023	92.00	6.99		
State Bank of India - VII	8.00%	14-02-2023	31-03-2023	46.00	3.68		
				365.00	26.32	7.2108%	
State Bank of India - VII	8.00%	01-Apr-23	13-May-23	43.00	3.44		
State Bank of India - VII	8.10%	14-May-23	29-Jun-23	47.00	3.81		
				90.00	7.25	8.05%	
2	HDFC Bank Limited-IV	8.450%	01-Apr-19	17-04-2019	16.00	1.35	8.0492%
		8.400%	17-Apr-19	29-07-2019	103.00	8.65	
		8.300%	29-Jul-19	29-08-2019	31.00	2.57	
		8.200%	29-Aug-19	29-09-2019	31.00	2.54	



S. No.	Bank Loan	Interest Rate	Applicable from	Applicable upto	Number of Days	Product	Weighted Average Rate of Interest
		8.100%	29-Sep-19	29-10-2019	30.00	2.43	
		8.000%	29-Oct-19	01-12-2019	33.00	2.64	
		7.650%	01-Dec-19	01-03-2020	91.00	6.96	
		7.450%	01-Mar-20	31-Mar-20	31.00	2.31	
					366.00	29.46	8.0492%
	HDFC Bank Limited-IV	7.450%	01-Apr-20	31-May-20	61.00	4.54	6.3982%
		6.300%	01-Jun-20	23-Dec-20	206.00	12.98	
		5.950%	24-Dec-20	31-Mar-21	98.00	5.83	
					365.00	23.35	
	HDFC Bank Limited-IV	5.95%	01-04-2021	31-03-2022	365	21.72	5.95%
	HDFC Bank Limited-IV	5.95%	01-04-2022	23-05-2022	53.00	3.15	
	HDFC Bank Limited-IV	6.35%	24-05-2022	23-06-2022	31.00	1.97	
	HDFC Bank Limited-IV	6.85%	24-06-2022	23-08-2022	61.00	4.18	
	HDFC Bank Limited-IV	7.35%	24-08-2022	23-10-2022	61.00	4.48	
	HDFC Bank Limited-IV	7.85%	24-10-2022	23-12-2022	61.00	4.79	
	HDFC Bank Limited-IV	8.20%	24-12-2022	31-12-2022	8.00	0.66	
	HDFC Bank Limited-IV	7.95%	01-01-2023	28-02-2023	59.00	4.69	
	HDFC Bank Limited-IV	8.01%	01-03-2023	31-03-2023	31.00	2.48	
					365.00	26.40	7.2335%
	HDFC Bank Limited-IV	8.01%	01-Apr-23	31-May-23	61.00	4.89	
	HDFC Bank Limited-IV	7.95%	01-Jun-23	31-Mar-24	305.00	24.25	
					366.00	29.13	7.96%
3	HDFC Bank Ltd. VI	8.450%	01-Apr-19	26-06-2019	86.00	7.27	8.0587%
		8.400%	26-Jun-19	29-07-2019	33.00	2.77	

S. No.	Bank Loan	Interest Rate	Applicable from	Applicable upto	Number of Days	Product	Weighted Average Rate of Interest
		8.300%	29-Jul-19	29-08-2019	31.00	2.57	
		8.200%	29-Aug-19	29-09-2019	31.00	2.54	
		8.100%	29-Sep-19	29-10-2019	30.00	2.43	
		8.000%	29-Oct-19	01-12-2019	33.00	2.64	
		7.650%	01-Dec-19	01-03-2020	91.00	6.96	
		7.450%	01-Mar-20	31-Mar-20	31.00	2.31	
					366.00	29.50	8.0587%
	HDFC Bank Ltd. VI	7.450%	01-Apr-20	31-May-20	61.00	4.54	6.3982%
		6.300%	01-Jun-20	23-Dec-20	206.00	12.98	
		5.950%	24-Dec-20	31-Mar-21	98.00	5.83	
					365.00	23.35	
	HDFC VI	5.95%	01-04-2021	31-03-2022	365	21.72	5.95%
	HDFC Bank Ltd. VI	5.95%	01-04-2022	23-05-2022	53.00	3.15	
	HDFC Bank Ltd. VI	6.35%	24-05-2022	23-06-2022	31.00	1.97	
	HDFC Bank Ltd. VI	6.85%	24-06-2022	23-08-2022	61.00	4.18	
	HDFC Bank Ltd. VI	7.35%	24-08-2022	23-10-2022	61.00	4.48	
	HDFC Bank Ltd. VI	7.85%	24-10-2022	23-12-2022	61.00	4.79	
	HDFC Bank Ltd. VI	8.20%	24-12-2022	31-12-2022	8.00	0.66	
	HDFC Bank Ltd. VI	7.95%	01-01-2023	28-02-2023	59.00	4.69	
	HDFC Bank Ltd. VI	8.01%	01-03-2023	31-03-2023	31.00	2.48	
					365.00	26.40	7.2335%
	HDFC Bank Ltd. VI	8.01%	01-Apr-23	31-May-23	61.00	4.89	
	HDFC Bank Ltd. VI	7.95%	01-Jun-23	31-Mar-24	305.00	24.25	
					366.00	29.13	7.96%

S. No.	Bank Loan	Interest Rate	Applicable from	Applicable upto	Number of Days	Product	Weighted Average Rate of Interest
4	State Bank of India - VIII	8.2500%	01-Apr-19	14-05-2019	43.00	3.55	7.9342%
		8.1500%	14-May-19	14-08-2019	92.00	7.50	
		7.9500%	14-Aug-19	14-11-2019	92.00	7.31	
		7.7000%	14-Nov-19	14-02-2020	92.00	7.08	
		7.6500%	14-Feb-20	31-Mar-20	47.00	3.60	
						366.00	
	State Bank of India - VIII	7.650%	01-Apr-20	13-May-20	43.00	3.29	6.8560%
		7.000%	14-May-20	13-Aug-20	92.00	6.44	
		6.650%	14-Aug-20	31-Mar-21	230.00	15.30	
					365.00	25.02	
	State Bank of India-VIII	6.65%	01-04-2021	31-03-2022	365	24.27	6.65%
	State Bank of India - VIII	6.65%	01-04-2022	13-05-2022	43.00	2.86	
	State Bank of India - VIII	6.75%	14-05-2022	13-08-2022	92.00	6.21	
	State Bank of India - VIII	7.15%	14-08-2022	13-11-2022	92.00	6.58	
	State Bank of India - VIII	7.60%	14-11-2022	13-02-2023	92.00	6.99	
	State Bank of India - VIII	8.00%	14-02-2023	31-03-2023	46.00	3.68	
					365.00	26.32	7.2108%
	State Bank of India - VIII	8.00%	01-Apr-23	13-May-23	43.00	3.44	
	State Bank of India - VIII	8.10%	14-May-23	13-Aug-23	92.00	7.45	
	State Bank of India - VIII	8.15%	14-Aug-23	13-Feb-24	184.00	15.00	
	State Bank of India - VIII	8.20%	14-Feb-24	31-Mar-24	47.00	3.85	
					366.00	29.74	8.13%

HDFC Bank Ltd.-IV															
FY 2014-15			FY 2015-16			FY 2016-17			FY 2017-18			FY 2018-19			
Date	Rate	Days	Date	Rate	Days	Date	Rate	Days	Date	Rate	Days	Date	Rate	Days	
<b>SBI VII- T-1-D5</b>															
State Bank of India-VII															
01-04-2014	10.2500%	365.00	01-04-2015	10.2500%	9.00	01-04-2016	9.3000%	122.00	01-04-2017	8.30%	135	01-04-2018	7.85%	135	
01-04-2015	10.2500%		10-Apr-15	10.1000%	59.00	01-08-2016	9.1000%	197.00	14-08-2017	7.90%	92	14-08-2018	7.95%	92	
			8-Jun-15	9.9500%	57.00	14-02-2017	8.3000%	46.00	14-11-2017	7.85%	138	14-11-2018	8.20%	92	
			4-Aug-15	9.7000%	62.00	01-04-2017			01-04-2018			14-02-2019	8.25%	46	
			5-Oct-15	9.3000%	179.00							01-04-2019			
10.2500%			01-04-2016	9.6213%			9.0660%			8.0290%			8.0138%		
HDFC Bank Ltd.-IV															
												29-06-2018	8.00%	18	
												17-07-2018	8.10%	92	
												17-10-2018	8.35%	92	
												17-01-2019	8.45%	74	
												01-04-2019	8.2707%		
HDFC Bank Ltd.-VI															
												11-10-2018	8.30%	76	
												26-12-2018	8.45%	96	
												01-04-2019	8.3837%		
SBI-VIII															
01-04-2014	10.15%	295.00	01-04-2015	10.1500%	9.00	01-04-2016	9.3000%	122.00	01-04-2017	8.30%	135	01-04-2018	7.85%	135	
21-01-2015	10.0000%	70.00	10-Apr-15	10.0000%	59.00	01-08-2016	9.1000%	197.00	14-08-2017	7.90%	92	14-08-2018	7.95%	92	
01-04-2015			8-Jun-15	9.8500%	57.00	14-02-2017	8.3000%	46.00	14-11-2017	7.85%	138	14-11-2018	8.20%	92	
			4-Aug-15	9.7000%	62.00	01-04-2017			01-04-2018			14-02-2019	8.25%	46	
			5-Oct-15	9.3000%	179.00							01-04-2019			
10.1212%			01-04-2016	9.5872%			9.0660%			8.0290%			8.0138%		

Original		
17-04-2018	8.00%	73
29-06-2018	8.00%	18
17-07-2018	8.10%	92
17-10-2018	8.35%	92
17-01-2019	8.45%	74
<b>01-04-2019</b>	<b>8.2140%</b>	
26-09-2018	8.30%	15
11-10-2018	8.30%	76
29-12-2018	8.45%	86
<b>01-04-2019</b>	<b>8.377%</b>	

## Statement Giving Details of Project Financed through a Combination of loan

Form 8

TRANCHE NO

BP NO 5050000521

T00001

D00004

## Unsecured Loan From HDFC Bank Ltd.-IV

Source of Loan :	HDFC Bank Ltd.-IV		
Currency :	INR		
Amount of Loan :	20,00,00,00,000		
Total Drawn amount :	12,45,00,00,000		
Date of drawl	29.06.2018		
Interest Type :	Floating		
Fixed Interest Rate :			
Base Rate, If Floating Interest	8.00%		
Margin, If Floating Interest :	NIL		
Are there any Caps/ Floor :	Y/N		
Frequency of Intt. Payment	MONTHLY		
If Above is yes, specify Caps/ Floor :			
Moratorium Period :	3 Years		
Moratorium effective from :	29.06.2018		
Repayment Period (Inc Moratorium) :	12 Years		
Repayment Frequency :	9 Yearly Instalment		
Repayment Type :	AVG		
First Repayment Date :	17.04.2021		
Base Exchange Rate :	RUPEE		
Date of Base Exchange Rate :	N.A.		
Project Code	Project Name	Amount	
	KORBA R&M	90,00,00,000	29.06.2018 T00001 D00004
	RAMAGUNDAM R&M	2,20,00,00,000	29.06.2018 T00001 D00004
	UNCHAHAHAR R&M	70,00,00,000	29.06.2018 T00001 D00004
	RIHAND R&M	90,00,00,000	29.06.2018 T00001 D00004
	KAWAS R&M	1,80,00,00,000	29.06.2018 T00001 D00004
	AURAIYA R&M	1,80,00,00,000	29.06.2018 T00001 D00004
	TSTPP R&M	90,00,00,000	29.06.2018 T00001 D00004
	GANDHAR R&M	1,85,00,00,000	29.06.2018 T00001 D00004
	NCTPP R&M	30,00,00,000	29.06.2018 T00001 D00004
	KAHALGAON R&M	30,00,00,000	29.06.2018 T00001 D00004
	ANTA R&M	80,00,00,000	29.06.2018 T00001 D00004
<b>Total Allocated Amount</b>		<b>12,45,00,00,000</b>	

**Statement Giving Details of Project Financed through a Combination of loan  
Form 8**

**TRANCHE NO**

**BP NO 5050000641**

**T00001**

**D00002**

**Unsecured Loan From HDFC Bank Ltd. VI**

Source of Loan :	HDFC Bank Ltd. VI		
Currency :	INR		
Amount of Loan :	15,00,00,00,000		
Total Drawn amount :	5,00,00,00,000		
Date of drawl	11.10.2018		
Interest Type :	Floating		
Fixed Interest Rate :			
Base Rate, If Floating Interest	8.30%		
Margin, If Floating Interest :	NIL		
Are there any Caps/ Floor:	Y/N		
Frequency of Intt. Payment	MONTHLY		
If Above is yes, specify Caps/ Floor :			
Moratorium Period :	6 Years		
Moratorium effective from :	11.10.2018		
Repayment Period (Inc Moratorium) :	15 Years		
Repayment Frequency :	9 Yearly Instalment		
Repayment Type :	AVG		
First Repayment Date :	26.09.2025		
Base Exchange Rate :	RUPEE		
Date of Base Exchange Rate :	N.A.		
<b>Project Code</b>	<b>Project Name</b>	<b>Amount</b>	
	BARH-I	55,00,00,000	11.10.2018 T00001 D00002
	TAPOVAN VISHNUGARH	10,00,00,000	11.10.2018 T00001 D00002
	BONGAIGAON	10,00,00,000	11.10.2018 T00001 D00002
	SOLAPUR	14,00,00,000	11.10.2018 T00001 D00002
	LARA-I	33,00,00,000	11.10.2018 T00001 D00002
	GADARWARA	68,00,00,000	11.10.2018 T00001 D00002
	NORTH KARANPURA	42,00,00,000	11.10.2018 T00001 D00002
	DARLIPALLI	34,00,00,000	11.10.2018 T00001 D00002
	TANDA II	31,00,00,000	11.10.2018 T00001 D00002
	RAMMAM	3,00,00,000	11.10.2018 T00001 D00002
	KHARGONE	48,00,00,000	11.10.2018 T00001 D00002
	TELANGANA	42,00,00,000	11.10.2018 T00001 D00002
	AURAIYA R&M	50,00,00,000	11.10.2018 T00001 D00002
	NCTPP R&M	10,00,00,000	11.10.2018 T00001 D00002
	KAWAS R&M	15,00,00,000	11.10.2018 T00001 D00002
	GANDHAR R&M	35,00,00,000	11.10.2018 T00001 D00002
<b>Total Allocated Amount</b>		<b>5,00,00,00,000</b>	

**Statement Giving Details of Project Financed through a Combination of loan  
Form 8**

BP NO 5050000442		TRANCHE NO T00001		D0001
<b>Unsecured Loan From SBI-VIII</b>				
Source of Loan :	SBI-VIII			
Currency :	INR			
Amount of Loan :	1,00,00,00,00,000			
Total Drawn amount :	5,00,00,00,00,000			
Interest Type :	Floating			
Fixed Interest Rate :	-----			
Base Rate, If Floating Interest	D0001-3-10.10%			
Margin, If Floating Interest :	0.15%			
Are there any Caps/ Floor :	Y/N			
Frequency of Intt. Payment	Monthly			
If Above is yes, specify Caps/ Floor :				
Moratorium Period :	6 Years			
Moratorium effective from :	21.01.2015			
Repayment Period (Inc Moratorium) :	15 Years			
Repayment Frequency :	9 Yearly Installments			
Repayment Type :	AVG			
First Repayment Date :	31.01.2022			
Base Exchange Rate :	RUPEE			
Date of Base Exchange Rate :	N.A.			
<b>Project Code</b>	<b>Project Name</b>	<b>Amount</b>		
	BARH-I	1,00,00,00,00,000	21.01.2015	D0001
	FARAKKA R&M	25,00,00,00,000	21.01.2015	D0001
	TSTPP R&M	40,00,00,00,000	21.01.2015	D0001
	SINGRAULI R&M	40,00,00,00,000	21.01.2015	D0001
	RAMAGUNDAM R&M	50,00,00,00,000	21.01.2015	D0001
	KAWAS R&M	60,00,00,00,000	21.01.2015	D0001
	KORBA R&M	60,00,00,00,000	21.01.2015	D0001
	GANDHAR R&M	1,25,00,00,00,000	21.01.2015	D0001
<b>Total Allocated Amount</b>		<b>5,00,00,00,000.00</b>		



<b>SBI New York</b>		2014-15				
		01-04-2014	2.24820%	44	0.9892	
		15-05-2014	2.17290%	186	4.0416	
		17-11-2014	2.17615%	135	2.9378	
		01-04-2015		365	7.9686	<b>2.1989%</b>
		2015-16				
		01-04-2015	2.17615%	46	1.0010	
		17-05-2015	2.26415%	183	4.1434	
		16-11-2015	2.45050%	53	1.2988	
		08-01-2016	2.00050%	84	1.6804	
		01-04-2016				
				366	8.12361	<b>2.2355%</b>
		2016-17				
		01-04-2016	2.00050%	45	0.90023	
		16-05-2016	2.30665%	184	4.24424	
		16-11-2016	2.65822%	136	3.61518	
		01-04-2017				
				365	8.75964	<b>2.4171%</b>
		2017-18				
		01-04-2017	2.65822%	44	1.16962	
		15-05-2017	2.83933%	184	5.22437	
		15-11-2017	3.01618%	137	4.13217	
		01-04-2018				
				365	10.52615	<b>2.9046%</b>
		2018-19				
		01-04-2018	3.01618%	44	1.32712	
		15-05-2018	3.91500%	184	7.20360	
		15-11-2018	4.25500%	137	5.82935	
		01-04-2019				
				365	14.36007	<b>3.9625%</b>

Details of Sourcewise fuel for computation of Energy Charges			FORM -15							
Company		MTPC								
Name of the generating Station		Kawas Gas power project								
Month		Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	
Sl	Particulars	Unit	Natural Gas			Natural Gas			Natural Gas	
			APM			APM			APM	
<b>A) OPENING QUANTITY</b>										
1	Opening Stock of Gas	(1000 SCM )/MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Value of Stock	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>B) QUANTITY</b>										
3	Quantity of gas/RUNG/Liquid fuel supplied by gas	(1000 SCM )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Adjustment (+/-) in quantity supplied made by Gas	(1000 SCM )	0.00	0.00	0.00	0	0	0	0	0
5	Gas supplied by Gas Company (3+4)	(1000 SCM )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Normative transit & Handling losses	(1000 SCM )	NA	NA	NA	NA	NA	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>C) PRICE</b>										
8	Amount charged by the Gas/Oil Company	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Adjustment (+/-) in amount charged by Gas Company	Rs	0.00	0.00	0.00	0	0	0	0	0
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00	0	0	0	0	0
11	Total Amount charged (8+9+10)	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>D) TRANSPORTATION</b>										
12	Transportation charges by Rail / Ship / Road Transport									
	By Rail	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways /	Rs	0.00	0.00	0.00	0	0	0	0	0
14	Demurrage charges, if any	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Total transportation charges ( 12+/- 13 + 14)	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	Total amount charged for Gas/Oil supplied including	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>E) TOTAL COST</b>										
17	Landed Cost of Gas (2+16) / (1+7)	Rs/1000 SCM/MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	Blending Ratio		NA			NA			NA	
19	Weighted average cost of Gas		NA			NA			NA	
<b>F) QUANTITY</b>										
20	GCV of Gas of the opening stock as per bill of Gas	(kcal/SCM)	NA	NA	NA	NA	NA	NA	NA	NA
21	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)								
22	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA	NA	NA	NA	NA	NA
23	GCV of Gas supplied as received at station	(kcal/SCM)	0	0	0	0	0	0	0	0
24	Weighted average GCV of Gas as received	(kcal/SCM)	0	0	0	0	0	0	0	0
			Wt Avg Price		Wt Avg GCV					
For 2023-24			0.00		0.00					

Details of Sourcewise fuel for computation of Energy Charges					
Company					
Name of the generating Station					
Month	Unit	Dec-23	Jan-24	Feb-24	Mar-24
Sl. Particulars	Unit			Natural Gas APM	
<b>A) OPENING QUANTITY</b>					
1 Opening Stock of Gas	(1000 SCM )/MT	0.00	0.00	0.00	0.00
2 Value of Stock	Rs	0.00	0.00	0.00	0.00
<b>B) QUANTITY</b>					
3 Quantity of gas/RUNG/Liquid fuel supplied by gas	(1000 SCM )	0.00	0.00	0.00	0.00
4 Adjustment (+/-) in quantity supplied made by Gas	(1000 SCM )	0	0	0	0
5 Gas supplied by Gas Company (3+4)	(1000 SCM )	0.00	0.00	0.00	0.00
6 Normative transit & Handling losses	(1000 SCM )	NA	NA	NA	NA
7 Net gas supplied (5 - 6)	(1000 SCM )	0.00	0.00	0.00	0.00
<b>C) PRICE</b>					
8 Amount charged by the Gas/Oil Company	Rs	0.00	0.00	0.00	0.00
9 Adjustment (+/-) in amount charged by Gas Company	Rs	0	0	0	0
10 Handling, Sampling and such other similar charges	Rs	0	0	0	0
11 Total Amount charged (8+9+10)	Rs	0.00	0.00	0.00	0.00
<b>D) TRANSPORTATION</b>					
12 Transportation charges by Rail / Ship / Road Transport	Rs				
By Rail	Rs	0.00	0.00	0.00	0.00
By Road	Rs	0.00	0.00	0.00	0.00
By Ship	Rs	0.00	0.00	0.00	0.00
By Pipe	Rs	0.00	0.00	0.00	0.00
13 Adjustment (+/-) in amount charged by railways /	Rs	0	0	0	0
14 Demurrage charges, if any	Rs	0.00	0.00	0.00	0.00
15 Total transportation charges ( 12+ 13 + 14)	Rs	0.00	0.00	0.00	0.00
16 Total amount charged for Gas/Oil supplied including	Rs	0.00	0.00	0.00	0.00
<b>E) TOTAL COST</b>					
17 Landed Cost of Gas (2+16) / (1+7)	Rs/1000 SCM/MT	0.00	0.00	0.00	0.00
18 Blending Ratio				NA	
19 Weighted average cost of Gas				NA	
<b>F) QUANTITY</b>					
20 GCV of Gas of the opening stock as per bill of Gas	(kcal/SCM)	NA	NA	NA	NA
21 GCV of Gas supplied as per bill of Gas company	(kcal/SCM)				
22 GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA	NA
23 GCV of Gas supplied as received at station	(kcal/SCM)	0	0	0	0
24 Weighted average GCV of Gas as received	(kcal/SCM)	0	0	0	0

Petitioner

Details of Sourcewise fuel for computation of Energy Charges			FORM -15					
Company			NTPC Ltd					
Name of the generating Station			Kawas Gas power project					
Month		Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
Sl. Particulars	Unit	Committed Gas						
<b>A) OPENING QUANTITY</b>								
1 Opening Stock of Gas	(1000 SCM )/MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 Value of Stock	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>B) QUANTITY</b>								
3 Quantity of gas/RNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	902.82	0.00	9,030.05	13,173.19	25,329.13	10,668.74	10,939.76
4 Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	902.82	0.00	9,030.05	13,173.19	25,329.13	10,668.74	10,939.76
6 Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA	NA	NA	NA	NA
7 Net gas supplied (5 - 6)	(1000 SCM )/MT	902.82	0.00	9,030.05	13,173.19	25,329.13	10,668.74	10,939.76
<b>C) PRICE</b>								
8 Amount charged by the Gas/Oil Company	Rs	4,47,29,283.97	0.00	40,34,75,110.65	65,57,48,786.83	1,25,35,21,779.23	54,96,09,857.97	53,04,09,994.19
9 Adjustment (+ / -) in amount charged by Gas Company	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 Handling Sampling and such other similar charges	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 Total Amount charged (8+9+10)	Rs	4,47,29,283.97	0.00	40,34,75,110.65	65,57,48,786.83	1,25,35,21,779.23	54,96,09,857.97	53,04,09,994.19
<b>D) TRANSPORTATION</b>								
12 Transportation charges by Rail / Ship / Road Transport								
By Rail	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
By Road	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
By Ship	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
By Pipe	Rs	15,12,374.09	0.00	1,52,26,133.36	2,23,82,694.07	4,31,09,841.77	1,82,54,435.57	0.00
13 Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 Demurrage charges, if any	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 Total transportation charges ( 12+/- 13 - 14)	Rs	15,12,374.09	0.00	1,52,26,133.36	2,23,82,694.07	4,31,09,841.77	1,82,54,435.57	0.00
16 Total amount charged for Gas/Oil supplied including transportation (11 + 15)	Rs	4,62,41,658.00	0.00	41,87,01,244.01	67,81,31,480.90	1,29,66,31,621.00	56,80,64,293.54	53,04,09,994.19
<b>E) TOTAL COST</b>								
17 Landed Cost of Gas (2+16) / (1+7)	Rs/1000 SCM/MT	51,219.13		46,367.54	51,478.15	51,191.32	53,245.68	48,484.61
18 Blending Ratio				NA	NA	NA	NA	NA
19 Weighted average cost of Gas				NA	NA	NA	NA	NA
<b>F) QUALITY</b>								
20 GCV of Gas of the opening stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA	NA	NA	NA	NA
21 GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9552.92	0.00	9615.60	9557.49	9573.68	9682.20	9528.44
22 GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA	NA	NA	NA	NA
23 GCV of Gas supplied as received at station	(kcal/SCM)	9552.92	0.00	9615.60	9557.49	9573.68	9682.20	9528.44
24 Weighted average GCV of Gas as received	(kcal/SCM)	9552.92		9615.60	9557.49	9573.68	9682.20	9528.44
			Wt Avg Price		Wt Avg GCV			
For 2023-24			53594.47		9577.92			

Details of Sourcewise fuel for computation of Energy Charges						
Company						
Name of the generating Station						
Month		Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
Sl. Particulars	Unit					
<b>A) OPENING QUANTITY</b>						
1 Opening Stock of Gas	(1000 SCM )/MT	0.00	0.00	0.00	0.00	0.00
2 Value of Stock	Rs	0.00	0.00	0.00	0.00	0.00
<b>B) QUANTITY</b>						
3 Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	3,966.95	7,217.40	13,659.64	5,463.99	0.00
4 Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00	0.00	0.00
5 Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	3,966.95	7,217.40	13,659.64	5,463.99	0.00
6 Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA	NA	NA
7 Net gas supplied (5 - 6)	(1000 SCM )/MT	3,966.95	7,217.40	13,659.64	5,463.99	0.00
<b>C) PRICE</b>						
8 Amount charged by the Gas/Oil Company	Rs	31,91,82,867.69	43,49,57,002.74	69,35,27,666.76	21,82,34,247.00	0.00
9 Adjustment (+ / -) in amount charged by Gas Company	Rs	0.00	0.00	0.00	0.00	0.00
10 Handling Sampling and such other similar charges	Rs	0.00	0.00	0.00	0.00	0.00
11 Total Amount charged (8+9+10)	Rs	31,91,82,867.69	43,49,57,002.74	69,35,27,666.76	21,82,34,247.00	0.00
<b>D) TRANSPORTATION</b>						
12 Transportation charges by Rail / Ship / Road Transport						
By Rail	Rs	0.00	0.00	0.00	0.00	0.00
By Road	Rs	0.00	0.00	0.00	0.00	0.00
By Ship	Rs	0.00	0.00	0.00	0.00	0.00
By Pipe	Rs	0.00	0.00	0.00	0.00	0.00
13 Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00	0.00	0.00
14 Demurrage charges, if any	Rs	0.00	0.00	0.00	0.00	0.00
15 Total transportation charges ( 12+/- 13 - 14)	Rs	0.00	0.00	0.00	0.00	0.00
16 Total amount charged for Gas/Oil supplied including transportation (11 + 15)	Rs	31,91,82,867.69	43,49,57,002.74	69,35,27,666.76	21,82,34,247.00	0.00
<b>E) TOTAL COST</b>						
17 Landed Cost of Gas (2+16) / (1+7)	Rs/1000 SCM/MT	82,901.35	60,265.06	50,773.29	39,940.56	
18 Blending Ratio		NA	NA	NA	NA	NA
19 Weighted average cost of Gas		NA	NA	NA	NA	NA
<b>F) QUALITY</b>						
20 GCV of Gas of the opening stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA	NA	NA
21 GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9499.31	9641.20	9605.69	9522.67	0.00
22 GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA	NA	NA
23 GCV of Gas supplied as received at station	(kcal/SCM)	9499.31	9641.20	9605.69	9522.67	0.00
24 Weighted average GCV of Gas as received	(kcal/SCM)	9499.31	9641.20	9605.69	9522.67	

Petitioner

Details of Sourcewise fuel for computation of Energy Charges		FORM -15								
Company		MTPC								
Name of the generating Station		Kawas Gas power project								
Month		Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	
Sl	Particulars	Unit	RLNG							
<b>A) OPENING QUANTITY</b>										
1	Opening Stock of Gas	(1000 SCM )/MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Value of Stock	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>B) QUANTITY</b>										
3	Quantity of gas/RLNG/Liquid fuel supplied by gas	(1000 SCM )/MT	4,434.83	10,721.68	14,726.25	4,930.67	2,613.56	8,108.99	14,400.63	0
4	Adjustment (+/-) in quantity supplied made by Gas	(1000 SCM )/MT	0.00	0.00	0.00	0	0	0	0	0
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	4,434.83	10,721.68	14,726.25	4,930.67	2,613.56	8,108.99	14,400.63	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	0.00	0.00	0.00	NA	NA	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	4,434.83	10,721.68	14,726.25	4,930.67	2,613.56	8,108.99	14,400.63	0.00
<b>C) PRICE</b>										
8	Amount charged by the Gas/Oil Company	Rs	20,83,57,463.19	49,32,15,121.97	64,37,36,397.73	21,54,62,808.60	11,51,61,776.18	36,76,65,589.54	70,13,12,496.28	0.00
9	Adjustment (+/-) in amount charged by Gas	Rs	0.00	0.00	0.00	0	0	0	0	0
10	Handling Sampling and such other Similar charges	Rs	0.00	0.00	0.00	0	0	0	0	0
11	Total Amount charged (8+9+10)	Rs	20,83,57,463.19	49,32,15,121.97	64,37,36,397.73	21,54,62,808.60	11,51,61,776.18	36,76,65,589.54	70,13,12,496.28	0.00
<b>D) TRANSPORTATION</b>										
12	Transportation charges by Rail / Ship / Road Transport									
	By Rail	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Pipe	Rs	77,86,905.71	1,81,83,620.99	1,43,30,239.27	83,86,274.40	45,27,318.56	1,39,82,592.47	0.00	0.00
13	Adjustment (+/-) in amount charged by railways /	Rs	0.00	0.00	0.00	0	0	0	0	0
14	Demurrage charges, if any	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Total transportation charges ( 12+/- 13 - 14)	Rs	77,86,905.71	1,81,83,620.99	1,43,30,239.27	83,86,274.40	45,27,318.56	1,39,82,592.47	0.00	0.00
16	Total amount charged for Gas/Oil supplied including	Rs	21,61,44,369.00	51,13,98,742.96	66,80,66,637.00	22,38,49,083.00	11,96,89,094.74	38,16,48,182.01	70,13,12,496.28	0.00
<b>E) TOTAL COST</b>										
17	Landed Cost of Gas (2+16) / (1+7)	Rs/1000 SCM/MT	48,847.84	47,697.63	45,365.70	45,399.32	45,795.43	47,091.61	48,700.48	
18	Blending Ratio									NA
19	Weighted average cost of Gas									NA
<b>F) QUALITY</b>										
20	GCV of Gas of the opening stock as per bill of Gas	(kcal/SCM)	NA	NA	NA	NA	NA	NA	NA	NA
21	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	10036.93	9672.82	9423.01	9567.21	9743.87	9699.85	9710.48	0
22	GCV of Gas of the Opening stock as received at	(kcal/SCM)	NA	NA	NA	NA	NA	NA	NA	NA
23	GCV of Gas supplied as received at station	(kcal/SCM)	10036.93	9672.82	9423.01	9567.21	9743.87	9699.85	9710.48	0
24	Weighted average GCV of Gas as received	(kcal/SCM)	10036.93	9672.82	9423.01	9567.21	9743.87	9699.85	9710.48	
			Wt Avg Price		Wt Avg GCV					
For 2023-24			47177.45		9647.85					

Details of Sourcewise fuel for computation of Energy Charges					
Company					
Name of the generating Station					
Month		Dec-23	Jan-24	Feb-24	Mar-24
Sl	Particulars	Unit			
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas	(1000 SCM )/MT	0.00	0.00	0.00
2	Value of Stock	Rs	0.00	0.00	0.00
<b>B) QUANTITY</b>					
3	Quantity of gas/R LNG/Liquid fuel supplied by gas	(1000 SCM )/MT	0	3,707.86	2,844.78
4	Adjustment (+/-) in quantity supplied made by Gas	(1000 SCM )/MT	0	0	0
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	0.00	3,707.86	2,844.78
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	0.00	3,707.86	2,844.78
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	0.00	18,17,19,800.90	13,23,87,855.00
9	Adjustment (+ / -) in amount charged by Gas	Rs	0	0	0
10	Handling Sampling and such other similar charges	Rs	0	0	0
11	Total Amount charged (8+9+10)	Rs	0.00	18,17,19,800.90	13,23,87,855.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport				
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways /	Rs	0	0	0
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Total transportation charges ( 12+/- 13 - 14)	Rs	0.00	0.00	0.00
16	Total amount charged for Gas/Oil supplied including	Rs	0.00	18,17,19,800.90	13,23,87,855.00
<b>E) TOTAL COST</b>					
17	Landed Cost of Gas (2+16) / (1+7)	Rs/1000 SCM/MT		49,009.35	46,536.95
18	Blending Ratio				
19	Weighted average cost of Gas				
<b>F) QUALITY</b>					
20	GCV of Gas of the opening stock as per bill of Gas	(kcal/SCM)	NA	NA	NA
21	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	0	9807.08	9515.12
22	GCV of Gas of the Opening stock as received at	(kcal/SCM)	NA	NA	NA
23	GCV of Gas supplied as received at station	(kcal/SCM)	0	9807.08	9515.12
24	Weighted average GCV of Gas as received	(kcal/SCM)		9807.08	9515.12

Petitioner

Details of Sourcewise fuel for computation of Energy Charges		FORM -15								
Company		NTPC								
Name of the generating Station		Kawas Gas power project								
Month		Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	
Sl. Particulars	Unit	Liquia fuel-Naptha/HSD								
<b>A) OPENING QUANTITY</b>										
1	Opening Stock of Gas	(1000 SCM )/MT	3,070.58	3,070.58	3,070.58	3,070.58	1,741.82	2,982.11	2,879.74	2,879.74
2	Value of Stock	Rs	28,64,20,877.93	28,64,20,877.93	28,64,20,877.93	28,64,20,877.93	27,80,88,678.10	27,80,88,678.10	27,76,76,599.80	27,76,76,599.80
<b>B) QUANTITY</b>										
3	Quantity of gas/RLNG/Liquid fuel supplied by gas	(1000 SCM )/MT	0.00	0.00	0.00	0	0	0	0	0
4	Adjustment (+/-) in quantity supplied made by Gas	(1000 SCM )/MT	0.00	0.00	0.00	0	0	0	0	0
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	0.00	0.00	0.00	NA	NA	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>C) PRICE</b>										
8	Amount charged by the Gas/Oil Company	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Adjustment (+ / -) in amount charged by Gas	Rs	0.00	0.00	0.00	0	0	0	0	0
10	Handling Sampling and such other similar charges	Rs	0.00	0.00	0.00	0	0	0	0	0
11	Total Amount charged (8+9+10)	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>D) TRANSPORTATION</b>										
12	Transportation charges by Rail / Ship / Road Transport									
	By Rail	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways /	Rs	0.00	0.00	0.00	0	0	0	0	0
14	Demurrage charges, if any	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Total transportation charges ( 12+/- 13 - 14)	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	Total amount charged for Gas/Oil supplied including	Rs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>E) TOTAL COST</b>										
17	Landed Cost of Gas (2+16) / (1+7)	Rs/1000SCM/MT	93,278.94	93,278.94	93,278.94	93,278.94	1,01,424.12	93,220.51	93,188.05	93,188.05
18	Blending Ratio				NA					
19	Weighted average cost of Gas				NA					
<b>F) QUALITY</b>										
20	GCV of Gas of the opening stock as per bill of Gas	(kcal/SCM)	NA	NA	NA	NA	NA	NA	NA	NA
21	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	11299.24	11299.24	11299.24	11041.51	11299.24	9013.39	9013.39	9013.39
22	GCV of Gas of the Opening stock as received at	(kcal/SCM)	NA	NA	NA	NA	NA	NA	NA	NA
23	GCV of Gas supplied as received at station	(kcal/SCM)	11299.24	11299.24	11299.24	11041.51	11299.24	9013.39	9013.39	9013.39
24	Weighted average GCV of Gas as received	(kcal/SCM)	11299.24	11299.24	11299.24	11041.51	11299.24	9013.39	9013.39	9013.39
			Wt Avg Price		Wt Avg GCV					
			For 2023-24		93689.33		9944.35			



Details of Sourcewise fuel for computation of Energy Charges					
Company					
Name of the generating Station					
Month		Dec-23	Jan-24	Feb-24	Mar-24
Sl	Particulars	Unit			
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas	(1000 SCM )/MT	2,979.74	2,964.11	2,980.67
2	Value of Stock	Rs	27,76,76,539.80	27,80,78,807.46	27,55,29,111.06
<b>B) QUANTITY</b>					
3	Quantity of gas/LNG/Liquid fuel supplied by gas	(1000 SCM )/MT	0	0	0
4	Adjustment (+/-) in quantity supplied made by Gas	(1000 SCM )/MT	0	0	0
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	0.00	0.00	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	0.00	0.00	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	0.00	0.00	0.00
9	Adjustment (+ / -) in amount charged by Gas	Rs	0	0	0
10	Handling Sampling and such other similar charges	Rs	0	0	0
11	Total Amount charged (8+9+10)	Rs	0.00	0.00	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport				
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways /	Rs	0	0	0
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Total transportation charges ( 12+/- 13 - 14)	Rs	0.00	0.00	0.00
16	Total amount charged for Gas/Oil supplied including	Rs	0.00	0.00	0.00
<b>E) TOTAL COST</b>					
17	Landed Cost of Gas (2+16) / (1+7)	Rs/1000SCM/MT	93,182.05	93,140.59	93,060.92
18	Blending Ratio				
19	Weighted average cost of Gas				
<b>F) QUALITY</b>					
20	GCV of Gas of the opening stock as per bill of Gas	(kcal/SCM)	NA	NA	NA
21	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9013.39	9013.39	9013.39
22	GCV of Gas of the Opening stock as received at	(kcal/SCM)	NA	NA	NA
23	GCV of Gas supplied as received at station	(kcal/SCM)	9013.39	9013.39	9013.39
24	Weighted average GCV of Gas as received	(kcal/SCM)	9013.39	9013.39	9013.39

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Computation of Energy Charges

Sl.No.	Description	Unit		APM Gas	NON APM /COMMITTED Gas	LNG	Naphtha
		Gas/RLNG	Naphtha				
2024-25							
1	Normative Heat Rate (For CC Operation)	(Kcal/kwh)	(Kcal/kwh)			2050	
2	Normative Heat Rate (For OC Operation)	(Kcal/kwh)	(Kcal/kwh)			3010	
3	Capacity	MW	MW			666.20	
4	Normative Availability Factor	%	%			85.00%	
5	APC for CC operation	%	%			2.75%	
6	APC for OC operation	%	%			1.00%	
7	Weighted Average Rate of Fuel	Rs./1000SCM	Rs./KL	0.00	53594.47	47177.49	93889.33
8	Weighted Average GCV of Fuel	Kcal/SCM	Kcal/Kg	0.00	9577.92	9847.86	9944.35
9	Rate of Energy- Ex Bus-CC	(Paise/kwh)	(Paise/kwh)	0.00	1179.54	1030.78	1990.23
10	Rate of Energy- Ex Bus-OC	(Paise/kwh)	(Paise/kwh)	0.00	1701.30	1486.74	2870.59
11	Mode of Operation on Fuel during preceding years (% of Schedule Generation)	%	%	0.00%	56.77%	43.18%	0.05%
12	Weighted Average Cost of Fuel as per above in 2024-29- Ex Bus CC	(Paise/kwh)	(Paise/kwh)			1115.70	
13	Weighted Average Cost of Fuel as per above in 2024-29- Ex Bus OC	(Paise/kwh)	(Paise/kwh)			1609.20	
14	Closed Cycle operation (CC)	%	%			67.40	
15	Open Cycle operation (OC)	%	%			32.60	
16	Weighted Average Cost of Fuel as per above in 2024-29- Ex Bus CC & OC	(Paise/kwh)	(Paise/kwh)			1276.58	
<b>Below WC Calculation at CC Operation</b>							
17	Year		2024-25	2025-26	2026-27	2027-28	2028-29
18	No. Of days	Days	365	366	365	366	365
19	ESD in a year	MU	4779.54	4779.54	4779.54	4792.54	4779.54
20	Fuel cost for One month	Rs Lakh	50846.72	50846.72	50846.72	50985.02	50846.72
21	Fuel cost for 15 days	Rs Lakh	25074.80	25074.80	25074.80	25074.80	25074.80
22	Cost of Liquid stock for 15 days	Rs Lakh	22.72	22.72	22.72	22.72	22.72

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		PART-1 FORM-1		
Statement of Capital cost		Amount in ₹ lakh		
Name of the Petitioner		NTPC Ltd.		
Name of the Generating Station		KAWAS GPS		
COD		01.11.1993		
Sl. No.	Particulars	2024-25		
A	a) Opening Gross Block Amount as per books	2,34,476.77	264.84	2,34,741.61
	b) Amount of IDC in A(a) above	2,137.05	-	2,137.05
	c) Amount of FC in A(a) above	-	-	-
	d) Amount of FERR in A(a) above	1,870.07	-	1,870.07
	e) Amount of Blending Cost in A(a) above	-	-	-
	f) Amount of H-DC in A(a) above	-	-	-
B	a) Addition in Gross Block Amount during the period (Direct purchases)			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERR in B(a) above			
	e) Amount of Blending Cost in B(a) above			
	f) Amount of H-DC in B(a) above			
C	a) Addition in Gross Block Amount during the period (Transferred from CWIP)			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERR in C(a) above			
	e) Amount of Blending Cost in C(a) above			
	f) Amount of H-DC in C(a) above			
D	a) Deletion in Gross Block Amount during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERR in D(a) above			
	e) Amount of Blending Cost in D(a) above			
	f) Amount of H-DC in D(a) above			
E	a) Closing Gross Block Amount as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERR in E(a) above			
	e) Amount of Blending Cost in E(a) above			
	f) Amount of H-DC in E(a) above			

Petitioner

## Statement of Capital Works in Progress

Name of the Petitioner		NTPC Ltd.		
Name of the Generating Station		KAWAS GPS		
COD		01.11.1993		
		(Amount in Rs Lakh)		
Sl. No.	Particulars	2024-25		
		Accrual Basis	Un-discharged Liabilities	Cash Basis
A	a) Opening CWIP as per books	244.88	10.21	234.67
	b) Amount of IDC in A(a) above			
	c) Amount of FC in A(a) above			
	d) Amount of FERV in A(a) above			
	e) Amount of Hedging Cost in A(a) above			
	f) Amount of IEDC in A(a) above			
B	a) Addition in CWIP during the period			
	b) Amount of IDC in B(a) above			
	c) Amount of FC in B(a) above			
	d) Amount of FERV in B(a) above			
	e) Amount of Hedging Cost in B(a) above			
	f) Amount of IEDC in B(a) above			
C	a) Transferred to Gross Block Amount during the period			
	b) Amount of IDC in C(a) above			
	c) Amount of FC in C(a) above			
	d) Amount of FERV in C(a) above			
	e) Amount of Hedging Cost in C(a) above			
	f) Amount of IEDC in C(a) above			
D	a) Deletion in CWIP during the period			
	b) Amount of IDC in D(a) above			
	c) Amount of FC in D(a) above			
	d) Amount of FERV in D(a) above			
	e) Amount of Hedging Cost in D(a) above			
	f) Amount of IEDC in D(a) above			
E	a) Closing CWIP as per books			
	b) Amount of IDC in E(a) above			
	c) Amount of FC in E(a) above			
	d) Amount of FERV in E(a) above			
	e) Amount of Hedging Cost in E(a) above			
	f) Amount of IEDC in E(a) above			

Petitioner

**Calculation of Interest on Normative Loan**

Name of the Company :		NTPC Limited					
Name of the Power Station :		Kawas Gas Power Station					
(Amount in Rs Lakh)							
S. No.	Particulars	Existing 2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8
1	Gross Normative loan – Opening	1,05,098.92	1,05,250.91	1,05,484.01	1,07,672.36	1,08,624.36	1,08,666.36
2	Cumulative repayment of Normative loan up to previous year	1,05,098.92	1,05,250.91	1,05,484.01	1,07,040.66	1,08,624.36	1,08,666.36
3	Adj. in repayment due to liability discharge*	0.00	0.00	0.00	0.00	0.00	0.00
4	Adj. in repayment due to decap*	16.90	0.00	0.00	0.00	0.00	0.00
5	<b>Net Normative loan – Opening</b>	-	0.00	-	631.70	-	-
6	Add: Increase due to addition during the year / period	74.95	233.10	2188.34	952.00	42.00	42.00
7	Less: Decrease due to de-capitalisation during the year / period	-16.90	0.00	0.00	0.00	0.00	0.00
8	Less: Decrease due to reversal during the year / period	0.00	0.00	0.00	0.00	0.00	0.00
9	Add: Increase due to discharges during the year / period	93.95	0.00	0.00	0.00	0.00	0.00
10	Less: Repayment of Loan	168.90	233.10	1556.64	1583.70	42.00	42.00
11	<b>Net Normative loan - Closing</b>	0.00	-	631.70	-	-	-
12	<b>Average Normative loan</b>	0.00	0.00	315.85	315.85	-	-
13	Weighted average rate of interest (%)	8.0228	8.0161	8.0059	8.0051	8.0038	8.0008
14	<b>Interest on Loan</b>	<b>0.00</b>	<b>0.00</b>	<b>25.29</b>	<b>25.28</b>	<b>0.00</b>	<b>0.00</b>
15	Cumulative repayment of Normative loan at the end of the period after adjustments	<b>1,05,250.91</b>	1,05,484.01	1,07,040.66	1,08,624.36	1,08,666.36	1,08,708.36
<b>*Additional data</b>							
<b>(Petitioner)</b>							

**Calculation of Interest on Working Capital**

Name of the Company :	NTPC Limited
Name of the Power Station :	Kawas Gas Power Station

(Amount in Rs Lakh)

S. No.	Particulars	Existing 2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
1	2	3	4	5	6	7	8
1	Cost of Coal/Lignite						
2	Cost of Main Secondary Fuel Oil						
3	Fuel Cost	1,00,967.12	25,074.60	25,074.60	25,074.60	25,074.60	25,074.60
4	Liquid Fuel Stock		22.72	22.72	22.72	22.72	22.72
5	O & M Expenses	1,293.01	1186.14	1257.84	1333.64	1414.84	1501.64
6	Maintenance Spares	4,654.83	4270.11	4528.21	4801.11	5093.41	5405.89
7	Receivables	1,60,313.04	80875.02	80255.40	80448.05	80390.36	80468.22
8	Total Working Capital	<b>267227.99</b>	<b>111428.59</b>	<b>111138.77</b>	<b>111680.11</b>	<b>111995.92</b>	<b>112473.07</b>
9	Rate of Interest	12.0000	11.9000	11.9000	11.9000	11.9000	11.9000
10	Interest on Working Capital	<b>32067.36</b>	<b>13260.00</b>	<b>13225.51</b>	<b>13289.93</b>	<b>13327.51</b>	<b>13384.30</b>

Petitioner

**Summary of issue involved in the petition**

<b>Name of the Company :</b>		NTPC Limited				
<b>Name of the Power Station :</b>		Kawas Gas Power Station				
<b>1</b>	<b>Petitioner:</b>	NTPC Limited				
<b>2</b>	<b>Subject</b>	Approval of tariff of Kawas (656.20 MW) for the period from 01.04.2024 to 31.03.2029				
<b>3</b>	<b>Prayer:</b>	i) Approve tariff of Kawas GPS for the tariff period 2024-29. ii) Allow the recovery of filing fees as & when paid to the Hon'ble Commission and publication expenses from the beneficiaries. iii) Allow the recovery of pay/wage revision as additional O&M over and above the normative O&M. iv) Pass any other order as it may deem fit in the circumstances mentioned above.				
<b>4</b>	<b>Respondents</b>	Six(4) nos of respondents				
	<b>Name of Respondents</b>	1.MSEDCL, Maharashtra 2.GUVNL, Gujarat 3.Electricity Deptt, Goa 4.DNHDDPDCL				
<b>5</b>	<b>Cost (Approved cost) (In Rs Crore)</b>					
	<b>Claim</b>	<b>2024-25</b>	<b>2025-26</b>	<b>2026-27</b>	<b>2027-28</b>	<b>2028-29</b>
	<b>AFC (Rs Lakh)</b>	45837.66	40811.82	42374.42	42021.28	42538.05
	<b>Capital cost(Rs Lakh)</b>	1,92,297.64	1,94,027.24	1,96,270.35	1,96,980.35	1,97,040.35
	<b>Initial spare</b>	N.A.				
	<b>NAPAF (Gen)</b>	85%				
	<b>Any Specific</b>					
		<b>Petitioner</b>				

**Capacity Testing of DC Batteries**

- The measurement shall normally be taken hourly (0.2 C 5 discharging) but voltage shall be checked at 5 to 10 minutes interval when the total battery voltage has fallen below  $1.05 \times n$ .
- Discharging of the battery bank is to be continued up to achieving of end voltage  $1.0 \times n$ , (do not stop the discharging on achieving 100% capacity). Do not bypass or remove any cell during the discharge even if the voltage of lagging cells falls below 1.0 volts or reverse polarity is observed, however these weak cells can be identified and replaced by healthy ones later.
- Apply temperature correction to the capacity achieved as per curve  
Capacity Calculation = Amperes x Hours x Temperature correction.

4.4 The replacement of battery banks shall be as per the table below:

S.no.	Battery type	Replacement criteria
1	Lead Acid- Tubular	Capacity 80 % or 10 years of service life whichever is earlier
2	Lead Acid- Plante	Capacity 80 % or 20 years of service life whichever is earlier
3	Nickel Cadmium	Capacity 85 % or 10 years of service life whichever is earlier

4.5 A report shall be prepared after the completion of capacity test of each battery bank which shall include details of weak cells, replacement action and the actual capacity observed during the test.

#### 5.0 RESPONSIBILITY

The head of electrical maintenance shall be responsible for maintenance of records, of these tests and taking corrective action where necessary



**NTPC LIMITED**

NTPC Bhawan, Scope Complex, 7, Institutional Area  
New Delhi  
110003  
India

September 13, 2023



Control Component India Pvt. Ltd  
APIIC Industrial Park, Door no.  
282-1D, Kadalur Village,  
Sullurpet, Sri Potti Sriramulu  
Nellore, Andhra Pradesh –  
524401.

## Replacement of existing Positioning card GC02 cabinet with SmarTrak card- ST2 for HP/LP Bypass Valves

IMI CCI Budgetary Proposal 221201-102101-1

Rev 1

Customer Ref. # E-mail

K/Attn: Mr Nirav Dhruv

Dear Sir,

We thank you for your above referenced inquiry and for giving IMI CCI the opportunity to be of service to you. Enclosed is a budgetary Techno-commercial proposal based on the information that was provided. IMI CCI looks forward to receiving all the necessary information to provide a formal quote. If at any time during the development design stages assistance is needed in regards to control valves and/or the overall system please feel free to reach out to us for assistance or with questions.

IMI CCI takes pride in our experience of over 50 years in the industry, specializing in providing solutions for severe service applications and having many principal engineers or "Valve Doctors" who are available at your convenience.

Thank You,

**Your Factory Sales Contact****Ashwini Thangaraj**

Sr.Engineer- Inside Sales- MEA & India  
Phone: +91 9811706937  
E-mail: ashwini.thangaraj@imi-critical.com

**Your Local Sales Contact****Akash Bhatiya**

Sr. Engineer- Outside Sales  
Phone: +91 8320564572  
E-mail: akash.bhatia@imi-critical.com



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- ⑨ IMI SSP
- ⑩ IMI STI
- ⑪ IMI TH JANSEN
- ⑫ IMI TRUPLO MARINE
- ⑬ IMI TRUPLO BONA
- ⑭ IMI ZAJ

**Project** Replacement of existing Positioning card GC02 cabinet with SmarTrak card- ST2 for HP/LP Bypass Valves  
**Customer** NTPC LIMITED  
**Customer ref. No.** E-mail  
**Proposal #** 221201-102101-1  
**Date of issue** Sep 13, 2023



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## TABLE OF CONTENTS

- Scope of Supply (Priced)
- Technical Notes
- Commercial Notes
- IMI CCI Standard T&Cs
- Product Brochure

**Bid Tabulation - Scope of Supply**



Project Replacement of existing Positioning card GC02 cabinet with SmartTrak card- ST2 for HP/LP Bypass Valves  
 Customer NTPC LIMITED  
 Customer Ref.# E-mail  
 Proposal # 221201-102101-1  
 Date of Issue 2023-09-13

**Budgetary Technical & Commercial Summary 1**

Item	VO No.	Service	Description / Features	Unit Price	QTY.	Extd. Price
				INR		INR
1	VO# 249485	HP & LP Bypass system	<p>GC02 to SmartTrak- ST2 upgrade:</p> <p>The proposed New SmartTrak Cabinet consists of the following items:</p> <ul style="list-style-type: none"> <li>- 4 x SmartTrak2 Controller for mounting in existing control cabinet</li> <li>- 4 x Power transformer 230VAC/24VDC 10A and relevant fuses</li> <li>- 4 x LVD-3 position transducer signal conditioner including fuse for mounting in existing cabinet</li> <li>- USB cable for laptop connection</li> <li>- Necessary Drawings</li> <li>- Operation and Maintenance Manual</li> </ul> <p>2 SmartTrak controller cabinets are required for 4 valves in the HP Bypass unit and another 2 SmartTrak controller for 4 valves in the LP Bypass unit.</p> <p>HPBP :- 1 x steam conditioning Valve, 1 x Spray Control Valve and 2 x Spray Block Valve.                      LPBP :- 1 x steam shut-off valve, 1 x steam conditioning Valve, 1 x Spray Control Valve and 1 x Spray Block Valve.</p> <p><b>HP Bypass Valve accessories for 2 units</b></p> <ul style="list-style-type: none"> <li>- 4 x LVDT Position transducer RAG 2000 HR (0-100 mm), including 20 m cable and connector</li> <li>- 4 x Proportional hydraulic solenoid control valve</li> <li>- 4 x Directional hydraulic solenoid valve</li> <li>- Set of Cables with DIN-connector for hydraulic valves</li> <li>- Bolt set for hydraulic valves</li> </ul> <p><b>LP Bypass Valve accessories for 2 units</b></p> <ul style="list-style-type: none"> <li>- 4 x LVDT Position transducer RAG 5000 HR (0-250 mm), including 20 m cable and connector</li> <li>- 4 x Proportional hydraulic solenoid control valve</li> <li>- 4 x Directional hydraulic solenoid valve</li> <li>- Set of Cables with DIN-connector for hydraulic valves</li> <li>- Bolt set for hydraulic valves</li> </ul>	₹ 54,44,630.00	4	₹ 2,17,78,520.00

**Commercial Notes:**

**1) Delivery**

- 1.1) Location: IMI CCI Nellore, Andhra Pradesh
- 1.2) Incoterm 2010: EXW IMI CCI Nellore
- 1.3) Delivery: 36 weeks after technical and commercial clarified order.

**2) Prices**

- 2.1) Currency: INR, excl. VAT and other taxes, fees
- 2.2) Validity: 30 days from date of offer
- 2.3) Payment: Payment terms shall be as per below:  
100% advance payment along with the Purchase Order

**Notes:**

- 1) Please see the attached Terms and Conditions.
- 2) Based on the size of the opportunity partial delivery may occur.
- 3) The prices are based on the quantity of components per design, if less are required IMI CCI reserves the right to adjust pricing.
- 4) IMI CCI's enclosed budgetary proposal is being provided for planning purposes only and does not represent a firm commitment on behalf of IMI CCI. This is because IMI CCI is unable to provide a firm commitment for the effort without mutually acceptable terms and conditions, scope of supply and detailed

<b>Sub Total</b>		₹ 2,17,78,520.00
<b>Shipping</b>	EXW	Included
(per Incoterms 2010)		
<b>TOTAL CONTRACT VALUE</b>		<b>₹ 2,17,78,520.00</b>

### **Technical Notes:**

We have received a request from NTPC LIMITED to replace the existing Positioning card GC02 cabinet with SmarTrak card- ST2 for HP/LP Bypass Valves installed in NTPC-Kawas Power Plant. Since the existing controller card is obsolete, customer wants to upgrade it with the new controller.

The existing is GC02 Positioning card which is obsolete and hence we are proposing an upgraded new model SmarTrak2 controller against existing Serial no. 249485.

2 SmartTrak controller cabinets are required for 4 valves in the HP Bypass unit and another 2 SmartTrak controller for 4 valves in the LP Bypass unit.

As requested by M/s. NTPC Limited, IMI has provided the below accessories for HP & LP Bypass valves.

- LVDT Position transducer
- Proportional hydraulic solenoid control valve
- Directional hydraulic solenoid valve
- Set of Cables with DIN-connector for hydraulic valves
- Bolt set for hydraulic valves

### **Notes:**

- The ST-2 controllers to be mounted in existing control cabinet, replacing the existing and obsolete 2-channel PCS in the same cabinet.
- Signal interphase with DCS will be the same as existing interphase, however, some internal cabling will need to be re-wired.
- A new position transmitter amplifier is included to replace the existing and obsolete amplifier. To be mounted in the existing cabinet, located on the HVP.
- Installation material (like extra cables and cable tags) is NOT included.
- Position transmitters (LVDT) are selected to fit on existing valve yokes, including 20 m cable and connector.
- New proportional and directional valves are offered to fit on existing valve blocks on the HVP's.
- Cable set for proportional and directional valves is included (3 m each).

- Bolt set for hydraulic valves are included.
- Documentation includes the electric diagrams and O&M manual.
- Installation material other than offered above like cables, screws, hydraulic tubes etc. is not included in IMI scope of supply.
- IMI CCI Field Service is recommended Installation and commissioning of the upgrade, FS quoted would be issued separately as per customer request.
- With reference to the Actuator picture provided from site, the limit switches are missing. We assume that they are removed from the valves and is not needed. Customer to confirm whether limit switches are required or not.

## Commercial Notes



**Project** Replacement of existing Positioning card GC02 cabinet with SmarTrak card- ST2 fo  
**Customer** NTPC LIMITED  
**Customer Ref No.** E-mail  
**IMI CCI Proposal #** 221201-102101-1  
**Date of Issue** 13-Sep-23

**Prices:** Prices are in **INR** excl. VAT and other taxes based on following terms and conditions.

**Delivery time:** **36** weeks **EXW CCI Nellore**  
after receipt of technical and commercially clear order.

Indicated delivery time is based on actual factory load. If delivery requirements differ, expediting will be investigated upon request.

**Terms of delivery:** **EXW CCI Nellore** (Incoterms 2010)  
IMI CCI reserves the right to perform (manufacture) the work in any of its fully certified facilities.

In view of the COVID-19 / coronavirus pandemic (the "Pandemic"), any lead or delivery times agreed between the parties shall be indicative only. Customer acknowledges that Supplier / IMI CCI has no control over the impact of this Pandemic and that Supplier reserves its right to change or amend the indicated lead or delivery times depending on the current circumstances at any time, even after placement and acceptance of a purchase order. In case of any delay in delivery or performance directly or indirectly caused by, or due to, the Pandemic, including but not limited to governmental acts or decrees, quarantine restrictions, disruption of supply chains or transportation channels of freight, disruption of production through increased sickness leave, and shortage of materials Supplier / IMI CCI shall not be in default and is excused from performance of its obligations and not be liable for delay or any liquidated damages as long as the situation directly or indirectly caused by the Pandemic continues.

**Packing:** **IMI CCI standard** export packing included. (available on Request)

**Painting:** **IMI CCI Standard** painting procedure is considered. (available on Request)

**Documentation:** Price includes **IMI CCI standard** documentation (2 sets), English Version.

**QCP:** Proposal based on **IMI CCI standard** QCP and certificates. (available on Request)

**Warranty**  
Seller warrants title and that the goods will be free from defects in materials or workmanship under normal use and service until the expiration of the earlier of twelve (12) months from the date of initial operation or eighteen (18) months from the date of shipment.  
Warranty on repairs shall be valid till the end of the original warranty period and replaced part would have 12 months warranty from the date of replacement which shall end in any event one year after the original warranty period. The warranty expressly does not cover soft goods required to inspect or maintain any part of the equipment damage to the extent resulting from failure to keep equipment in good repair. The validity of the foregoing warranty requires adherence to CCI installation, startup and maintenance guidelines and the use of equipment in accordance with specified operating conditions. In case of a defect the purchaser or the end-user shall provide free access to the goods and all information available to support detecting the root cause of the problem.

**Payment Terms**  
Payment terms shall be as per below:  
100% advance payment along with the Purchase Order

## Commercial Notes



**Project** Replacement of existing Positioning card GC02 cabinet with SmarTrak card- ST2 fo  
**Customer** NTPC LIMITED  
**Customer Ref No.** E-mail  
**IMI CCI Proposal #** 221201-102101-1  
**Date of Issue** 13-Sep-23

**Limitation of Liability** Notwithstanding any other provision in this agreement to the contrary, Seller's and its affiliates' maximum aggregate liability for any and all claims, damages and losses arising out of any cause whatsoever (whether such cause be based in contract, negligence, warranty, strict liability, tort or otherwise) shall not exceed the contract price, except for any gross negligence and/or willful misconduct of the Seller.  
Notwithstanding any other clause in this agreement to the contrary neither Buyer nor the Seller shall be responsible to the other party for consequential damages or indirect losses of any kind, such as but not limited to loss of profit or revenue, loss of energy or production, loss of product or use, any costs of business interruption, loss of customers or contracts, costs of substitute energy and similar costs.  
The Seller shall not be liable at all on any ground whatsoever if damages and losses are caused by the product not being stored, handled, installed, operated, maintained and repaired properly by the Buyer or any other party according specifications and manuals provided by Seller.  
This entire clause shall also apply for all on site work performed by Seller, its affiliates or its agents or sub-sellers.

**Indemnity** Subject to the Limitation of Liability, Seller shall indemnify and hold harmless Buyer from and against all third party claims to the extent resulting from Seller's negligent acts or omissions, where there is a duty to act, arising from Seller's performance under the contract, including injuries to persons and damages to property.

**Validity:** 30 days from the date of submittal.

**Order and invoicing:** Order to be placed to our office:  
**Control Component India Pvt. Ltd.**  
**APIIC Industrial Park, Door no. 282-1D, Kadalur Village, Sullurpet, Sri Potti Sriramulu Nellore, Andhra Pradesh – 524401.**

**Cancellation Charges** Cancellation charges shall be below based on the number of days after receipt order and in percentage of the total P.O. Value  
o From PO date until 6 weeks after PO : 15%  
o From 7 weeks after PO until 12 weeks after PO: 30%  
o From 13 weeks after PO until 18 weeks after PO: 70%  
o From 19 weeks after PO until 7 weeks before contractual delivery: 90%  
o From 6 weeks before contractual delivery until contract delivery date: 100%

**Taxes and Duties** IGST @ 18% shall be applicable over the quoted price.

IMI CCI conducts its business in an ethical and legal manner and is committed to obey the law in all countries where we do business, in particular the U.S. Foreign Corrupt Practices Act and other countries' anti-bribery laws. As a result, this proposal from IMI CCI is expressly conditioned on the agreement of the counterparty not to engage in bribery or any other corrupt activities in connection with the sale of IMI CCI products or services.

IMI CCI's enclosed budgetary proposal is being provided for planning purposes only and does not represent a firm commitment on behalf of IMI CCI. This is because IMI CCI is unable to provide a firm commitment for the effort without mutually acceptable terms and conditions, scope of supply and detailed project schedule.

**For all Terms not mentioned in this T&C's, IMI CCI's latest Standard Terms and Conditions applies. (attached)**

# IMI CCI's Standard Terms and Conditions of Sale for Goods and Services

(Rev.0 August 2016)

IMI CCI is referred to in these terms and conditions as "Seller" and the customer or person or entity purchasing goods, services, parts and materials from Seller is referred to as "Buyer". "Goods" and/or "Services" mean the products, parts and materials manufactured by Seller or the services rendered, both as set out in Seller's technical documentation and quotation.

## 1. BASIS OF CONTRACT

These terms and conditions shall apply to any contract concluded (the "Contract") for the sale or supply of Goods and/or Services from Seller to Buyer whether the Contract for such sale is concluded by acceptance by Seller of Buyer's purchase order or by acceptance by Buyer of Seller's quotation, unless the parties expressly agree in writing in the Contract that these terms and conditions shall not apply to a specific Contract. In the event of a conflict between the pre-printed terms provided in any purchase order or other document and these terms and conditions, these terms and conditions shall prevail. All inconsistent or additional terms and conditions in any Buyer acknowledgement, invoice or other forms or which Buyer may seek to impose or incorporate by trade practice are expressly objected to and rejected by Seller and shall not bind Seller unless expressly agreed to in writing including as stated on Seller's quotation or sales order acknowledgement.

## 2. PRICE AND PAYMENT

2.1 Unless otherwise specified in writing by Seller, the price quoted or specified by Seller for the Goods and/or Services shall remain in effect for thirty (30) days after the date of Seller's quotation, or acknowledgment of Buyer's order for the Goods and/or Services, whichever occurs first, provided an unconditional authorisation from Buyer for the supply of the Goods and/or Services is received and accepted by Seller within such time period. If such authorisation is not received and accepted by Seller within such thirty (30) day period, Seller shall have the right to change the price for the Goods and/or Services.

2.2 Once accepted, the price will become firm, however, Seller shall be entitled to increase such price to take account of cost escalation in the event that delivery of the Goods or provision of the Services is delayed beyond standard delivery schedules for reasons outside of the control of Seller and/or to take account of foreign currency fluctuations where the same differ from currency exchange assumptions in Seller's proposal.

2.3 Unless otherwise specified in Seller's quotation, payment terms are net thirty (30) days after the date of invoice. Any amounts not paid when due shall bear interest at the rate of 1.5% per month or at the highest rate permitted by law (whichever is less) from the due date until paid.

2.4 If Buyer defaults in any payment when due, Seller, without incurring any liability to Buyer or any other party, may, at its option and in addition to other remedies available, declare all work complete with payment immediately due and payable together with interest as provided in the preceding paragraph on all outstanding amounts due therein; stop all further work and deliveries until all past due payments and interest have been made and/or require that any further deliveries be paid for prior to shipment. If requested by Seller, Buyer shall obtain a bond or other security to provide guarantees of payment to Seller.

2.5 As and if requested by Seller, Buyer shall at its expense establish and keep in force payment security in the form of an irrevocable, unconditional, sight letter of credit or bank guarantee allowing for pro-rata payments as Goods are shipped and Services are performed, plus payment of cancellation and termination charges, and all other amounts due from Buyer under the Contract ("Payment Security"). The Payment Security shall be (a) in a form, and issued or confirmed by a bank acceptable to Seller, (b) payable at the counters of such acceptable bank or negotiating bank, (c) opened at least sixty (60) days prior to both the earliest scheduled shipment of Goods and commencement of Services, and (d) remain in effect until the latest of ninety (90) days after the last scheduled Goods shipment, completion of all Services and Seller's receipt of the final payment required under the Contract. Buyer shall, at its expense, increase the amount(s), extend the validity period(s) and make other



appropriate modifications to any Payment Security within ten (10) days of Seller's notification that such adjustment is necessary in connection with Buyer's obligations under the Contract.

2.6 Seller is not required to commence or continue its performance unless and until any required Payment Security is received, operative and in effect and all applicable milestone payments have been received. For each day of delay in receiving all applicable milestone payments or acceptable Payment Security, Seller shall be entitled to a matching extension of the schedule. If at any time Seller reasonably determines that Buyer's financial condition or payment history does not justify continuation of Seller's performance, Seller shall be entitled to require full or partial payment in advance or otherwise restructure payments, request additional forms of Payment Security, suspend its performance or terminate the Contract.

### **3. TAXES AND OTHER CHARGES**

Unless otherwise specified in writing by Seller: (a) transportation and insurance charges shall be based upon point of manufacture and shall be paid by Buyer, (b) installation charges shall be borne by Buyer, and Seller has no obligation to install the Goods for Buyer and (c) any taxes, duties or other charges imposed or incurred in relation to the performance of the obligations contemplated in the Contract shall be borne by the party that incurred such obligation or as the law specifically provides as being responsible for such tax, duty or other charge.

### **4. DELIVERY, RISK AND TITLE**

4.1 Unless otherwise specified in Seller's quotation, delivery of the Goods shall be ex works (EXW, Incoterms 2010) Seller's manufacturing facility. Delivery shall be deemed to be completed when Seller informs Buyer in writing that the Goods are ready for shipment and can be picked up at the delivery location ("Delivery"), upon which time the risk to the Goods shall pass to Buyer. If Buyer delays shipment on notification of completion of the Goods, if Buyer fails to collect the Goods after Seller's notification or if Seller has agreed to deliver the equipment other than ex works and shipment is postponed by or due to Buyer's delay or request, Seller may tender delivery and store the equipment at Buyer's expense (and at a rate of 1% of contract value per month) and risk. Such tender shall constitute delivery and the full purchase price for the Goods tendered shall be immediately due and payable by Buyer.

4.2 Any claims regarding shortages in delivery must be made within thirty (30) days from Delivery and must be accompanied by the packing list(s) covering the shipment.

4.3 Title shall only pass upon receipt of full payment of the purchase price for the Goods by Seller.

4.4 Performance of the Contract is contingent upon Buyer supplying to Seller, when needed, all required technical information, including drawing approval and all required commercial documents, delivery instructions and other instructions required for the supply of the Goods. Unless otherwise agreed, Seller shall have the right to make partial deliveries.

### **5. WARRANTY**

5.1 Subject to the limitation of liability and the conditions set out below and unless otherwise specified in Seller's quotation, Seller warrants title to the Goods, that the Goods, upon delivery, shall conform with the specifications listed in the Contract (or to Seller's currently published specifications if there are no specifications in the Contract) and shall be free from defects in material and workmanship. The warranty period shall expire on the earlier of twelve (12) months from the date of commissioning or eighteen (18) months from the date of Delivery to Buyer.

5.2 Subject to the limitation of liability and the conditions set out below and unless otherwise specified in Seller's quotation, Seller warrants that in performing the Services, it will exercise all reasonable skill, care and due diligence and shall perform the Services in accordance with professional practice. Seller warrants that all Services performed shall be free from faulty workmanship for a period of ninety (90) days from completion of the Services.

5.3 The above warranties are given by Seller subject to the following conditions:

- (a) Seller shall be under no liability in respect of any defects arising from any drawing, design or specification supplied by Buyer or if the Goods differ from their specification as a result of changes made to ensure that they comply with applicable statutory or regulatory standards;

- (b) Seller shall be under no liability in respect of any defects arising from fair wear and tear, wilful damage, negligence, abnormal working conditions, failure to follow Seller's instructions, storage, installation, start up, maintenance and repair guidelines, modification, disassembly, alteration or repair of the Goods without Seller's written approval or where the Goods have been subject to corrosion or have been misused, mishandled or improperly installed;
- (c) Seller shall be under no liability under the above warranties (or any other warranty, condition or guarantee) if the total price of the Goods has not been paid by the due date for payment;
- (d) the above warranties do not extend to the supply of soft goods required to inspect or maintain any part of the Goods supplied;
- (e) the above warranties does not extend to parts, materials or equipment not manufactured by Seller in respect of which Buyer shall only be entitled to the benefit of any such warranty or guarantee as is given by the manufacturer to Seller;
- (f) Seller shall be under no liability if Buyer makes any further use of the Goods after giving notice in accordance with clause 5.5.

5.4 Any claim by Buyer which is based on any defect in the quality of the Services shall be notified to Seller as soon as possible within the warranty period. Failure by Buyer to give such written notice within the applicable time period specified above shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects. Seller's liability is limited solely to correct performance of that portion of the Services found by Seller to be defective or at Seller's option, refunding to Buyer purchase price allocable to the nonconforming part of the Services.

5.5 Any claim by Buyer which is based on any defect in the quality or condition of the Goods or their failure to respond to specification shall be notified to Seller within 30 days from the date of Delivery or (where the defect or failure was not apparent on a reasonable inspection) within a reasonable time after discovery of the defect or failure during the warranty period. Failure by Buyer to give such written notice within the applicable time period specified above shall be deemed an absolute and unconditional waiver of Buyer's claim for such defects. Buyer shall only have the right to reject Goods that do not conform to Seller's warranties.

5.6 Seller must receive written notice of any defect within the warranty period and be given a reasonable opportunity to examine the Goods and all information available so that Seller can detect the root cause of any defect. Seller's liability is limited solely to repair or replacement of any Good at Seller's point of manufacture or, at Seller's option, refunding to Buyer the purchase price allocable to the nonconforming portion of the Contract. However, for Goods not installed by Seller, Buyer shall be responsible for removal, return and reinstallation costs.

5.7 Before returning any Goods to Seller, Buyer must contact Seller for a return authorisation confirmation and provide a failure report detailing the claimed warranty defect or failure. Upon return confirmation, Buyer will return the Goods to Seller, freight prepaid. After Seller verifies that the Goods were nonconforming or defective under this clause 5, Seller will credit Buyer for the cost of returning the Goods. Unless approved in advance by Seller, Seller shall not be liable for any transportation charges for the return of the Goods nor any other costs or charges incurred by Buyer. Goods repaired and parts replaced during the warranty period shall be in warranty for the remainder of the original warranty period.

5.8 Subject to this clause 5, SELLER MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, NON-INFRINGEMENT OR ANY OTHER MATTER WITH RESPECT TO THE GOODS AND/OR SERVICES, whether the Goods are used alone or in combination with any other material. BUYER IS NOT AUTHORISED TO MAKE ANY WARRANTY OR ASSUME ANY OBLIGATION OR LIABILITY ON SELLER'S BEHALF IN CONNECTION WITH THE SALE, INSTALLATION OR USE OF THE GOODS. Seller's warranties shall not be enlarged by, nor shall any obligation or liability of Seller arise due to, Seller providing technical advice concerning processing, further manufacture, other use or resale of the Goods provided hereunder.

## **6. LIMITATION OF LIABILITY**

6.1 This clause sets out the entire financial liability of Seller (including any liability for the acts or omissions of their respective employees, agents and subcontractors) to Buyer in respect of (i) any breach of the Contract howsoever

arising, (ii) any use made or resale of the Goods by Buyer, or of any product incorporating any of the Goods; and (iii) any representation, statement or tortuous act or omission (including negligence) arising under or in connection with the Contract.

6.2 NOTHING IN THIS CONTRACT SHALL LIMIT OR EXCLUDE SELLER'S LIABILITY FOR DEATH OR BODILY INJURY RESULTING FROM NEGLIGENCE, FRAUD OR FRAUDULENT MISREPRESENTATION, OR OTHER LIABILITIES WHICH CANNOT BE EXCLUDED BY LAW.

6.3 WITHOUT PREJUDICE TO CLAUSE 6.2, SELLER SHALL NOT UNDER ANY CIRCUMSTANCES WHATSOEVER BE LIABLE TO BUYER IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, WARRANTY, INDEMNITY OR OTHERWISE FOR ANY (I) LOSS OF ANTICIPATED PROFITS OR REVENUES, (II) LOSS OF USE OR ANY LOSSES IN RELATION TO BUSINESS INTERRUPTION, (III) LOSS OF PRODUCTION, (IV) NON-OPERATION OF OTHER EQUIPMENT, (V) COST OF CAPITAL, (VI) DOWNTIME COSTS (VII) COST OF PURCHASED OR REPLACEMENT POWER AND/OR FACILITIES, (VIII) DAMAGE TO ENVIRONMENT, (IX) CLAIMS OF CUSTOMERS OF BUYER FOR DAMAGES OR (X) INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES THAT ARISES UNDER OR IN CONNECTION WITH THE CONTRACT, EVEN IF SELLER IS ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES.

6.4 WITHOUT PREJUDICE TO CLAUSE 6.2, SELLER'S TOTAL LIABILITY WITH RESPECT TO ANY AND ALL CLAIMS, LOSSES AND DAMAGES ARISING OUT OF ANY CAUSE WHATSOEVER (WHETHER SUCH CAUSE BE BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE) STRICT LIABILITY, WARRANTY OR OTHERWISE) RELATED HERETO SHALL IN NO EVENT EXCEED THE CONTRACT PRICE OF THE GOODS OR SERVICES IN RESPECT OF WHICH SUCH CAUSE ARISES.

6.5 All Seller liability shall end upon expiration of the applicable warranty period, provided that Buyer may continue to enforce a claim for which it has given notice prior to that date by commencing an action or arbitration, as applicable under this Contract, before expiration of any statute of limitations or other legal time limitation but in no event later than one year after expiration of such warranty period.

6.6 If Buyer is supplying Goods or Services to a third party, or using Goods or Services at a facility owned by a third party, Buyer shall either (i) indemnify and defend Seller from and against any and all claims by, and liability to, any such third party in excess of the limitations set forth in this Clause 6, or (ii) require that the third party agree, for the benefit of and enforceable by Seller, to be bound by all the limitations included in this clause 6.

6.7 The following terms ("a" through "c") apply specifically to all projects involving nuclear applications:

(a) Buyer (including for the purpose of this clause Owner/Operator) agrees to hold harmless, indemnify and keep indemnified Seller (for and on behalf of itself and each of its group undertakings, and their respective officers and employees) (each an Indemnified Person) from and against all losses, liabilities, obligations, claims (including claims from third parties), demands, damages, penalties, expenses and fees suffered or incurred by Seller or any other Indemnified Person, arising out of any actual or alleged nuclear damage caused by the Goods or which otherwise occurs in consequence of the performance of or failure to perform the Contract, whether by Seller, or any sub-contractors of Buyer or Seller, and any actual or alleged nuclear damage arising in consequence of any activities from time to time carried out in relation to the Contract, whether or not resulting from the negligence of Seller.

(b) Buyer undertakes to provide and to maintain, or procure that Owner/Operator of the site provides and maintains, throughout the operational life of the site and for ten years thereafter, insurance covering nuclear damage. Such policy will be placed with recognised international Nuclear Pools (Liability and Property) on industry standard terms, will provide for all suppliers and sub-suppliers to be covered as additional insured and will include a waiver of subrogation for the benefit of Seller. Buyer will pay any deductible applicable to such insurance (or, as applicable, procure that Owner/Operator pays such deductible). Buyer will provide a copy of the insurance certificate to Seller upon written request.

(c) In this clause, the term "liability" means any form of liability or obligation whatsoever including but not limited to liability for nuclear damage (as defined below) and liability for misrepresentation, under contract, common

law, equity or any statutory provision whether or not based on negligence or breach of any express or implied duty to act with care or skill. The term "nuclear damage" means injury or death to persons and damage to any property or facility and/or damage or harm to the environment, natural resources, flora and fauna (and including the property and/or facility of Buyer and Owner/Operator and/or the site) arising out of or resulting from radioactive, toxic, explosive or other hazardous properties (or any combination of such properties) of any nuclear matter in connection with which the Goods are directly or indirectly used, including but not limited to ionizing radiation or contamination by radioactivity from any nuclear fuels, radioactive products or any nuclear waste from the combustion of nuclear fuels coming from, originating in, or sent to, any site at which the Goods are to be installed and/or used, whether or not such injury, death or damage results from the negligence of Seller.

## **7. CHANGES**

7.1 Each party may at any time propose changes in the schedule or scope of Goods or Services. Seller is not obligated to proceed with any change until both parties agree upon such change in writing. The written change documentation will describe the changes in scope and schedule, and the resulting changes in price and other provisions, as agreed.

7.2 The scope, Contract Price, schedule, and other provisions will be equitably adjusted to reflect additional costs or obligations incurred by Seller resulting from a change, after Seller's proposal date, in Buyer's site-specific requirements or procedures, or in industry specifications, codes, standards, applicable laws or regulations. However, no adjustment will be made on account of a general change in Seller's manufacturing or repair facilities resulting from a change in laws or regulations applicable to such facilities. Unless otherwise agreed by the parties, pricing for additional work arising from such changes shall be at Seller's time and material rates.

7.3 Seller reserves the right to change or modify the design and construction of any of its products, in due course of its manufacturing procedure, without incurring any obligation to furnish or install such changes or modifications on products previously or subsequently sold. Seller also reserves the right to amend the specifications of the Goods if required by any applicable statutory or regulatory requirements.

7.4 In the event of a significant delay or price increase of raw materials during the performance of the Contract through no fault of the Seller, the Contract price, time of completion or contract requirements shall be equitably adjusted via Change Order in accordance with the procedures of the Contract documents. A change in raw material price will be considered significant when the price of an item increases by 3% based on the London Metal Exchange (LME) index between the date of proposal and the date of purchase of raw materials. Seller shall have the right to cancel the Contract or Order, without damages, if Buyer does not agree to an equitable price adjustment due to a significant increase in price of raw materials. As a condition to causing any price adjustment, Seller shall give Buyer at least ten (10) days prior written notice of any such changes, along with the written justification thereof (i.e., evidence of increase in third party costs) and provide Buyer with a detailed schedule of Supplier's new pricing. Any change in price shall be effective upon ten (10) days written notice to Buyer of such change.

## **8. TERMINATION AND SUSPENSION**

8.1 Buyer may terminate the Contract (or the portion affected) for cause if Seller (i) becomes insolvent, makes an assignment for the benefit of its creditors, has a receiver or trustee appointed for it or any of its assets, or files or has filed against it a proceeding under any bankruptcy, insolvency, dissolution or liquidation laws, or (ii) commits a material breach of the Contract which does not otherwise have a specified contractual remedy, provided that: (a) Buyer shall first provide Seller with detailed written notice of the breach and of Buyer's intention to terminate the Contract; and (b) Seller shall have failed, within 30 days after receipt of the notice, to commence and diligently pursue cure of the breach.

8.2 Seller may suspend or terminate the Contract (or any affected portion thereof) immediately for cause if Buyer (i) becomes insolvent, makes an assignment for the benefit of its creditors, has a receiver or trustee appointed for it or any of its assets, or files or has filed against it a proceeding under any bankruptcy, insolvency dissolution or liquidation laws, or (ii) materially breaches the Contract, including, but not limited to, a breach by the Buyer of clauses 10 or 12, failure or delay in Buyer providing Payment Security, making any payment when due, or fulfilling any payment conditions.

8.3 If the Contract (or any portion thereof) is terminated, Buyer shall pay Seller for all Goods completed, lease fees incurred and Services performed before the effective date of termination, plus expenses reasonably incurred by Seller in connection with the termination. The amount due for Services shall be determined in accordance with the milestone schedule (for completed milestones) and rates set forth in the Contract (for work toward milestones not yet achieved and where there is no milestone schedule), as applicable or, where there are no milestones and/or rates in the Contract, at Seller's then-current standard time and material rates. In addition, Buyer shall pay Seller a cancellation charge equal to 80% of the Contract price applicable to uncompleted made-to-order Goods and 15% of the Contract price applicable to all other uncompleted Goods.

8.4 Either Buyer or Seller may terminate the Contract (or the portion affected) upon twenty (20) days advance notice if there is a Force Majeure Event (as described in clause 9) lasting longer than one hundred and twenty (120) days. In such case, Buyer shall pay to Seller amounts payable under clause 8.3, excluding the cancellation charge for uncompleted Goods unless acts or omissions of Buyer or its contractors or suppliers cause the delay.

8.5 Buyer shall pay all reasonable expenses incurred by Seller in connection with a suspension (including a suspension as a result of a Force Majeure Event as described under clause 9), including, but not limited to, expenses for repossession, fee collection, demobilisation/remobilisation, and costs of storage during suspension. The schedule for Seller's obligations shall be extended for a period of time reasonably necessary to overcome the effects of any suspension.

## 9. FORCE MAJEURE

9.1 A Force Majeure Event means any circumstance not within a party's reasonable control including, without limitation:

- (a) acts of God, flood, drought, earthquake or other natural disaster;
- (b) epidemic or pandemic;
- (c) terrorist attack, civil war, civil commotion or riots, war, threat of or preparation for war, armed conflict;
- (d) imposition of sanctions, embargo, or breaking off of diplomatic relations;
- (e) any law or any action taken by a government or public authority, including without limitation imposing an export or import restriction, quota or prohibition, or failing to grant a necessary licence or consent;
- (f) any direction, request, requirement or obligation (whether or not having the force of law) of any monetary agency, central or other bank, or financing institution;
- (g) nuclear, chemical or biological contamination or sonic boom;
- (h) collapse of buildings, fire, explosion or accident; and
- (i) interruption or failure of utility service

provided it has complied with this clause 9, if a party is prevented, hindered or delayed in or from performing any of its obligations under the Contract by a Force Majeure Event ("Affected Party"), the Affected Party shall not be in breach of the Contract or otherwise liable for any such failure or delay in the performance of such obligations. If acts or omissions of the Buyer or its contractors or suppliers cause the delay, Seller shall also be entitled to an equitable price adjustment. The corresponding obligations of the other party will be suspended, and its time for performance of such obligations extended, to the same extent as those of the Affected Party. The Affected Party shall (a) as soon as reasonably practicable after the start of the Force Majeure Event and to the extent it is legally able, notify the other party of the Force Majeure Event, the date on which it started, its likely or potential duration, and the effect of the Force Majeure Event on its ability to perform any of its obligations under the Contract and Seller shall also advise of the effect of the Force Majeure Event on the price of the Goods to be supplied and (b)

use reasonable endeavours to mitigate the effect of the Force Majeure Event on the performance of its obligations.

## **10. ETHICS**

10.1 Buyer represents and warrants to Seller and Seller represents and warrants to Buyer, that both Parties and all persons or entities providing goods and/or services in connection with this Contract in any manner will comply with all applicable laws, statutes and regulations and any internal policies concerning anti-bribery and corruption, conflict of interest, money laundering, labour standards, and other laws that may be implicated in connection with this transaction. It is the intent of the Parties to prohibit participation in or facilitation of any form of public-sector or private-sector corruption, kickback, extortion, or any other illegal, unethical or improper means of obtaining or retaining a business advantage or inducing anyone to misuse his or her discretion.

10.2 If, during the term of the Contract, either Party knows or becomes aware of any facts or circumstances contrary to the representations and the warranties above, said Party will immediately notify the other Party and provide sufficient information for the affected Party to take appropriate protective or corrective actions, which may include voiding or rescinding the Contract. The notifying Party further agrees to cooperate fully in any investigation undertaken by the affected Party.

10.3 If requested, both Parties agree to show evidence of an ethics or code of conduct program or otherwise acknowledge in writing that their respective employees are aware of their obligations under this clause.

## **11. INTELLECTUAL PROPERTY AND CONFIDENTIALITY**

11.1 Buyer acknowledges that the intellectual property in the Goods and/or Services is Seller's property and that nothing in the Contract shall be construed as conferring any licence or granting any rights in favour of Buyer in relation to such intellectual property.

11.2 Seller's documentation, prints, and drawings ("Documents") (including without limitation, the underlying technology) furnished by Seller to Buyer in connection with the Contract are the property of Seller and Seller retains all rights, including without limitation, exclusive rights of use, licensing and sale. Notwithstanding the foregoing, Buyer may use the Documents as is necessary in the installation, operation, maintenance, and repair of the Goods sold under this Contract but may not disclose them to any third party without the prior written consent of Seller.

11.3 Seller warrants that the Goods sold pursuant to the Contract, or their use as provided below, except as are made specifically for Buyer according to Buyer's specifications, do not infringe any valid patent in existence in the country where the Goods are installed as of the date of delivery. This warranty is given upon condition that Buyer (i) promptly notifies Seller in writing of any claim or suit involving Buyer in which such infringement is alleged, (ii) makes no admission of liability and does not take any position adverse to the Seller, (iii) gives Seller sole authority to control defence and settlement of the claim, and (iv) provides Seller with full disclosure and reasonable assistance as required to defend the claim. Seller's warranty as to use only applies to infringements arising solely out of the inherent operation (i) of such goods, or (ii) of any combination of goods sold hereunder in a manner designed by Seller.

11.4 Should any Goods, or any portion thereof, become the subject of a claim notified under clause 11.3, Seller may at its option (i) procure for Buyer the right to continue using the Goods, or applicable portion thereof, (ii) modify or replace it in whole or in part to make it non-infringing, or (iii) failing (i) or (ii), take back infringing Goods and refund the price received by Seller attributable to the infringing Goods.

11.5 This clause 11 states Seller's exclusive liability for intellectual property infringement by Goods.

11.6 Buyer agrees, at its expense, to indemnify Seller against any claim for infringement of any intellectual property rights arising out of Goods made or Services provided by Seller in compliance with Buyer's designs, specifications or instructions.

11.7 Buyer undertakes to Seller to keep confidential all information (written or oral) disclosed by Seller to Buyer or otherwise acquired during the course of the performance of the Contract except information that is subject to

an obligation to disclose under law, or that is required to be disclosed by any competent regulatory authority, by notice or otherwise, or already in its possession other than as a result of a breach of this clause or in the public domain other than as a result of a breach of this clause.

## **12. EXPORT COMPLIANCE**

12.1 Buyer agrees to comply, at its own expense, with all applicable export control laws and regulations which control the Goods and/or Services it purchases from Seller, including, without limitation, the U.S. Export Administration Regulations, U.S. International Traffic in Arms Regulations, U.S. Nuclear Regulatory Commission Regulations, U.S. Office of Foreign Asset Control regulations, EU Regulation 428/2009, the export control regulations of the individual European countries, Swiss Goods Control Ordinance GKV 946.202.1, Korean Notice on Trade of Controlled Items and/or the Japanese Foreign Exchange and Foreign Trade Law regulations, all as amended or superseded from time to time and as applicable to this transaction. Buyer shall not import, export or re-export, or authorise the export or re-export any Goods procured under this Contract or any other goods, technology, or information that it obtains or learns from Seller under this Contract, or any copy or direct product thereof, in violation of any of such laws, restrictions, or regulations or without any government license or authorisation required thereunder. Any and all obligations of Seller to provide Goods, Services, technology or information hereunder shall be subject in all respects to such laws, restrictions, and regulations.

12.2 Without limiting the foregoing, any commodity, technology, or software provided by Seller is prohibited for export, re-export, or transfer to Cuba, Islamic Republic of Iran, Democratic People's Republic of North Korea, Republic of Sudan, Republic of South Sudan or Syrian Arab Republic, as well as to persons or entities listed on restricted parties lists published by the governments of the U.S., EU, UK, Switzerland, Japan or Korea as applicable to this transaction. Buyer shall immediately notify Seller if Buyer is, or becomes, listed in any restricted parties list or if Buyer's export privileges are otherwise denied, suspended or revoked in whole or in part by any government entity or agency. Additionally, any commodity, technology, or software provided by Seller is prohibited for export, re-export, or transfer to any person or entity which will use it for end-uses proscribed by any relevant export control regulations, including chemical and biological weapon, missile, nuclear, maritime nuclear propulsion, and terrorism related activities.

12.3 Buyer agrees to indemnify and hold harmless Seller from any and all fines, claims, damages, losses, costs and expenses (including reasonable attorney's fees) incurred by Seller as a result of any breach of this clause 12 by Buyer.

12.4 Performance of this Contract is contingent upon Seller obtaining any necessary government approvals, including, but not limited to, any required export licenses or required authorisations. Buyer acknowledges that failure to receive a required approval by the relevant government(s) to proceed with an export or transfer of technology excuses Seller from performing the Contract and delivering under the order.

## **13 MISCELLANEOUS**

13.1 Seller is a member of the group of companies whose holding company is IMI plc and accordingly, Seller may perform any of its obligations to exercise any of its right hereunder by itself or through any other member of its group, provided that any act or omission of any such other member shall be deemed to be the act of omission of Seller.

13.2 The validity, interpretation and performance of this Contract and any dispute connected herewith shall be governed and construed in accordance with English law, excluding any conflicts of laws, principles and excluding the United Nations Convention on Contracts for the International Sale of Goods.

13.3 Any dispute or claim arising from or in connection with this Contract, including any question regarding its existence, validity or termination, shall first be settled through discussion between the Parties upon the written request of any Party. In the event that no settlement is reached within forty five (45) days after any such written request, the courts of England shall have exclusive jurisdiction to settle any dispute or claim arising out of or in connection with the Contract or its subject matter or formation.

13.4 This Contract constitutes the full understanding of the parties, a complete allocation of risks between them and a complete and exclusive statement of the terms and conditions of their agreement and supersedes any price or contemporaneous oral or written communications between the parties concerning the goods supplied hereunder.

13.5 No conditions, usage of trade, course of dealing or performance, understanding or agreement purporting to modify, vary, explain or supplement the terms or conditions of this Contract shall be binding unless hereafter made in writing and signed by the party to be bound, and no modification shall be affected by the acknowledgement or acceptance of purchase order or shipping instruction forms containing terms or conditions at variance with or in addition to those set forth herein.

13.6 No waiver by either Seller or Buyer with respect to any breach or default or of any right or remedy and no course of dealing, shall be deemed to constitute a continuing waiver of any other breach or default or of any other right or remedy, unless such waiver is expressed in a writing signed by the party to be bound.

13.7 Buyer shall not (by operation of law or otherwise) assign its rights or delegate its performance hereunder without the prior written consent of Seller, and any attempted assignment or delegation without such consent shall be void.

13.8 If any provision or part-provision of the Contract or these terms and conditions is or becomes invalid, illegal or unenforceable, it shall be deemed modified to the minimum extent necessary to make it valid, legal and enforceable. If such modification is not possible, the relevant provision or part-provision shall be deemed deleted. Any modification to or deletion of a provision or part-provision under this clause shall not affect the validity and enforceability of the rest of the Contract.



# SmarTrak (ST-2)



Engineering  
GREAT Solutions

**Electronic controller for hydraulic  
positioning systems**

# SmarTrak Controller

The SmarTrak controller model ST-2 is used as a positioning system for proportionally-driven hydraulic actuators with up to two independent channels. Fast stroke and superior resolution allow the unit to be used with severe service hydraulic actuators which demand fast stroking and precise positioning. The SmarTrak system covers a wide range of actuator sizes and stroke-length requirements. SmarTrak is able to manage two fully independent actuators (moving two different valves).



*Fast stroke and  
precise positioning*

## Key features

- > Compact design
- > Integrated position transmitter
- > Auto-tuning system for calibration
- > Auto-diagnosis system
- > Dedicated software interface to set, customize, control and monitor high dynamic performance
- > Metallic case
- > High reliability
- > Powerful digital signal processor loop time of 1m/sec
- > High performances without expensive closed-loop proportional valves
- > PWM proportional solenoid valve driver with current feedback able to manage different types of valves (tested with Atos, Wandfluh, Bosch Rexroth)
- > The IP66 protection and unique exhaust protection system makes it suitable to be installed in harsh environments where there is tropical rain, dust, sand, salt etc.

## Benefits

- > No need for an amplification device in most applications
- > Superior control capacity of amplification device when installed
- > High flow with quick, precise and complete control capability
- > Powerful self calibration software with the ability to totally personalise the parameters
- > Wide set of configurable embedded features
- > Robust design with a full metal housing

## Technical specification

### Housing material

Painted carbon steel  
Full stainless steel 316

### Proportional solenoid valve driver (2x)

6-24V - proportional valve, up to 2,6A

### ON/OFF solenoid valve driver (6x)

(6x option available)  
24V - solenoids up to 1,5A

### Position sensor (2x)

Input for magnetostrictive or  
4-20mA passive loop

### Power supply

Electronic module  
24V - minimum 1A (up to 20A based on the number of solenoid connected)

### Assembly

For ac/dc input (85-264Vac: 90-350Vdc): up to 480W  
For 24Vdc input: up to 240VA

### Digital output (ALARM)

Configurable, dry contact

### Control loop time

1ms

### Certifications

CE  
ATEX 2014/34/UE

### Position feedback output (2x)

4-20mA passive loop isolated

### Digital input (TRIP)

Up to 6 (6x option available) dry contact or 24Vac/dc. Logic function configurable

### Enclosure protection

IP 66

### Weight

14 kg

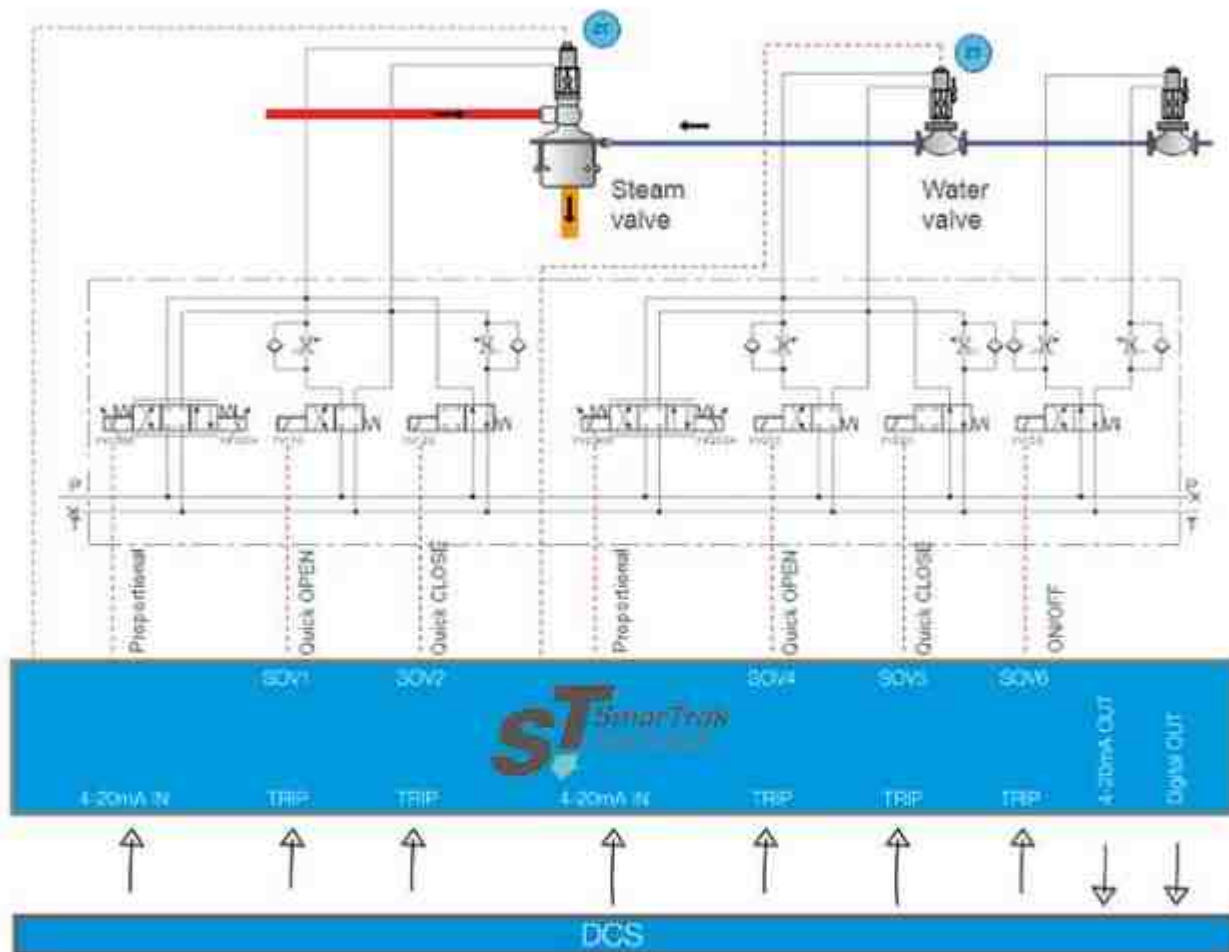
## Typical applications

### > For each channel

- 4-20mA input (position demand)
- FBK Probe (magnetostrictive or 4-20mA)
- One proportional valve + 3 on/off SOV
- 3 pressure sensor input

### > Common

- 6 digital inputs (trip, quick open, quick close, direct drive ...)
- 3 digital output relay (diagnostic)
- 2 analog output
- Each SOV can be assigned to a TRIP for DirectDrive function (i.e. Water ON/OFF valve)



## Remote control software interface

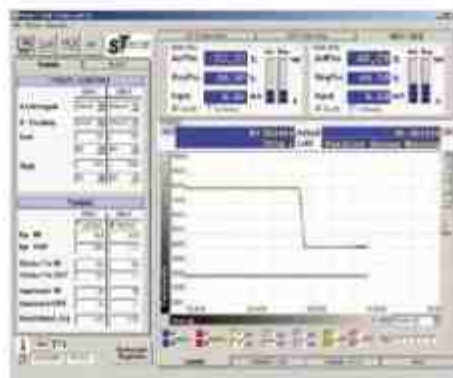
### > HART protocol

### > USB port

### > Up to 500 events are stored in eeprom on the PCB board:

- Parameters change and events like 'Trip', 'Low pressure', 'Probe fail' are stored
- All events are saved with date & time reference (and snapshot is saved on SD card)

### > Remote control software available for window system



**IMI STI - Headquarters**

Via Del Caravaggi 15  
24040 Levate (BG)  
Italy

Tel. +39 035 2928.2  
Fax +39 035 2928.247

**IMI STI - Quarter Turn Division**

Via San Francesco 18  
29017 Fiorenzuola d'Arda (PC)  
Italy

Tel. +39 035 2928.2  
Fax +39 0523 1715.295

**IMI Critical Engineering**

Lakeside, Solihull Parkway  
Birmingham Business Park  
Birmingham B37 7XZ  
United Kingdom

Tel: +44 (0)121 717 3700  
Fax: +44 (0)121 717 3701

[www.imi-critical.com](http://www.imi-critical.com)  
[imicst.sales@imi-critical.com](mailto:imicst.sales@imi-critical.com)





*BHEL-GE Gas Turbine Services Pvt. Ltd.*

## **HMI UPGRADE FOR EXISTING MARK VIE GAS TURBINE CONTROL SYSTEM NATIONAL THERMAL POWER CORPORATION (NTPC)**

**Site: Kawas**

Unit Serial: GT1A # 900540, GT1B # 900539, ST1C # E300406/1, GT2A # 900538, GT2B # 900541, ST2C # E300406/2

Quote Number: QEW23-0458

Revision: 0

Proposal Date: 31-Jan-2024

Proposal Type: Techno\_Commercial Only



## Technical Summary

We BHEL-GE GAS TURBINE SERVICES PVT LTD (also called BGGTS or "Seller") along with GE, GE Vernova hereafter referred as "GE", is pleased to submit this proposal to **National Thermal Power Corporation, Kawas Plant**, Gujarat India, hereafter referred to as "NTPC" or "Customer" or "Buyer", for MARK VIe Windows® 10 HMI, Historian and EMAP server Upgrade.

Number	OEM nameplate number	Technology	Equipment Name
E300406/1	E300406/1	Steam Turbine	KAWAS CC1 ST
900539	900539	Gas Turbine	KAWAS-GT-1B
900538	900538	Gas Turbine	KAWAS-GT-2A
900541	900541	Gas Turbine	KAWAS-GT-2B
900540	900540	Gas Turbine	KAWAS-GT-1A
E300406/2	E300406/2	Steam Turbine	KAWAS CC2 ST

The Seller's latest HMI technology provides the most current software and hardware technology available from GE for the turbine control operator interface. The latest software packages provide improved features and protection functions as compared to previous versions.

- Current HMIs & Historians being built today are Windows® 10 IOT Enterprise operating system and the HMIs have CIMPLICITY® 11 Advanced Viewer. All original HMIs on the same network must be upgraded at the same time to allow proper interface between the equipment and the software packages.
- The benefits of this retrofit include:
  - a) Industry standard operating system and software.
  - b) Integration of various systems and devices (as needed) to reduce resources required for operating and maintaining the units.
  - c) The ability to find and eliminate problems before they become critical.
  - d) CIMPLICITY Graphical User Interface (GUI) software on HMIs is for industrial controls.
  - e) Solid State hard drives for increased uptime on some PC models

### **General Project Overview**

This project will consist of replacing 14 HMI operator interface, 6 LVS server, 4 Historian Servers, 2 EMAP servers and 1 Documentation server at the Error! Reference source not found. with new HMIs, Historian and New EMAP servers located in the same locations with similar functionality. This proposal is for the site which is equipped with MARK VIe controller.

As part of the upgrades and enhancements, the Seller is offering the following;

- a) Upgrade the existing HMIs to latest commercial Grade HMI Servers.



- b) Upgrade the existing LVS Server to latest commercial Grade LVS Servers.
- c) Upgrade the existing Historian Servers to latest commercial Grade Historian Servers.
- d) Upgrade the existing Documentation server to latest commercial Grade Documentation Servers.
- e) Upgrade the existing EMAP servers to latest commercial Grade EMAP Servers.
- f) Upgrade the existing Network switches to latest validated Network switches.
- g) Upgrade the existing NTP server with master clock to latest validated NTP server with master clock.
- h) All the printers shall also be upgraded.
- i) LVS screens shall be reused.
- j) LAN Server shall be reused.
- k) One Pair of UTM device shall be added to interface with existing DM zone.

### **Quality**

Controls Business Line is committed to Customer Satisfaction, Compliance and Continuous Improvement. Our Quality Policy, compliance to numerous standards and many reference sites demonstrate our adherence to these principles.

- a. Our Quality Management System (QMS) is scalable assuring lean quality from software patch or parts delivery to multisite mission critical control systems deployments.
- b. Our procedures drive clear requirements management through to the end solution. We also integrate global regulatory, technical and cyber security standards into our upfront proposal process so all stakeholders know how end user will be compliant.
- c. If new requirements emerge, we manage scope, schedule, cost and regulatory impacts to optimally deliver only the value customer contracts and regulations require.
- d. All our global design and manufacturing sites (USA, Hungary, UAE, Saudi, Korea, China) are ISO-9001:2015 certified by a leading Auditor such as LRQA or BSI. All operate under a single QA Manual.
- e. We survey using Net Promoter Score methodology driving lessons learned on Parts, Projects and Service deliveries.
- f. Our Continuous Improvement leverages root cause analysis and Lean Six Sigma disciplines to provide clear tie from improvement opportunities to countermeasure effectivity reviews.
- g. We welcome an examination of our procedures and objective evidence for compliance to contract and ISO-9001:2015 anytime during a project. Usually, this would last less than one day. Please work with your Project Manager once project is kicked off to arrange.

Some customers require additional assurances above and beyond contractual, ISO-9001:2015 and relevant technical regulatory standards. We can proceed with discussion on any of these options:

- a. Full System Audit. Occasionally end customers require documented assurance of compliance to contractual and quality standards. These audits require multiple days to complete and some planning for scope. We can include this scope in the contract.
- b. Expanded Project Quality Documentation. Some projects require specific quality requirements that are not part of ISO-9001:2015, we offer to contract these activities to document additional deliverables (examples: Project Quality Plans, Software Quality Plans, Packaging Plans, Inspection Quality Plans)
- c. Where end customers require compliance to standards we do not currently possess we will work with you to develop a custom solution to meet your needs.

### **Space**



### **Project Management**

Upon receipt of an order, the Seller will assign a Project Manager who will be the Buyer/End-user's single point of contact to ensure that the scope and delivery requirements are satisfied. The Project Manager's responsibilities will include:

- a. Project scheduling and tracking for the project activities associated with the equipment delivery.
- b. Procurement and expediting of all equipment and services included in this proposal to insure a smooth project.

Coordination of engineering, test and startup activities (if included) for the equipment upgrade.





# 1 HMI Base Workscope

## 1.1 HMIs Proposed Changes/Solution

This project will consist of replacing 23 HMI operator interface and 4 Historians and 2 EMAP servers, at the Error! Reference source not found. with new HMIs, new Historian and new EMAP servers located in the same locations with similar functionality. This proposal is for the site which is equipped with MARK VIe controller. The upgrade also includes the upgrade of network switches and printers.

The final site-specific configuration will be completed during installation. It is recommended that the Seller's field service employees perform the installing and system/controller configuration to maintain system integrity and robustness.

New ControlST site software is included with the HMI as part of the base scope offering. Installation of the controller software based on the upgrade is included as part of the installation activities.

### 1.1.1 HMI System Architecture

- HMI will be supplied in the quantities and with the functionality described in words and in the configuration tables below.

No changes to the existing UDH/PDH networks link are provided. These HMI will be an Commercial Desktop mounted in a tower configuration.

### Proposed HMI Capability Table for Block 1

<u>Block # 1</u>	HMI #1 CONTROL ROOM	HMI #2 CONTROL ROOM	HMI #3 CONTROL ROOM	HMI #4 CONTROL ROOM	HMI #5 CONTROL ROOM	HMI #6 CONTROL ROOM
GT#1A, 1B and ST1C	Server	Server	Server	Server	Server	Server
<u>HMI FUNCTIONALITY</u>	GT1A_SVR	GT1B_SVR	CRM1_SVR	CRM2_SVR	CRM3_SVR	CRM4_SVR
PC Style	Commercial PC	Commercial PC	Commercial PC	Commercial PC	Commercial PC	Commercial PC
Commercial – uptime enhancement	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives
PC orientation (Industrial and rack mount server PC's)	Tower	Tower	Tower	Tower	Tower	Tower
Widescreen Formatting	Yes	Yes	Yes	Yes	Yes	Yes
IRIG-B/GPS time synch server*	No	No	No	No	No	No
Audible alarm with speakers	Yes	Yes	Yes	Yes	Yes	Yes



**BHEL-GE Gas Turbine Services Pvt. Ltd.**

<b>Block # 1</b>	<b>HMI #1 CONTROL ROOM</b>	<b>HMI #2 CONTROL ROOM</b>	<b>HMI #3 CONTROL ROOM</b>	<b>HMI #4 CONTROL ROOM</b>	<b>HMI #5 CONTROL ROOM</b>	<b>HMI #6 CONTROL ROOM</b>
Generator Capability Curves	NO	NO	NO	NO	NO	NO
Expanded Serial Ports	NO	NO	Yes	Yes	NO	NO
Parallel port support for dot matrix printer	NO	NO	NO	NO	NO	NO
MODEM	NO	NO	NO	NO	NO	NO

<b>Block # 1</b>	<b>HMI #7 CONTROL ROOM</b>	<b>HMI #8 CONTROL ROOM</b>	<b>HMI #9 CONTROL ROOM</b>	<b>HMI #10 CONTROL ROOM</b>	<b>HMI #11 CONTROL ROOM</b>	<b>HMI #12 CONTROL ROOM</b>
GT#1A, 1B and ST1C	Server	Server	Server	Server	Server	Server
<b>HMI FUNCTIONALITY</b>	EWS1_SVR	SI_SVR	LVS1_SVR	LVS2_SVR	LVS3_SVR	HST1
PC Style	Commercial PC	Commercial PC	Commercial PC	Commercial PC	Commercial PC	Commercial Server
Commercial – uptime enhancement	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives
PC orientation (Industrial and rack mount server PC's)	Tower	Tower	Tower	Tower	Tower	Tower
Widescreen Formatting	Yes	Yes	Yes	Yes	Yes	Yes
IRIG-B/GPS time synch server*	No	No	No	No	No	No
Audible alarm with speakers	Yes	Yes	Yes	Yes	Yes	Yes
Generator Capability Curves	NO	NO	NO	NO	NO	NO
Expanded Serial Ports	NO	NO	Yes	Yes	NO	NO
Parallel port support for dot matrix printer	NO	NO	NO	NO	NO	NO
MODEM	NO	NO	NO	NO	NO	NO

<b>Block # 1</b>	<b>HMI #13 CONTROL ROOM</b>	<b>HMI #14 CONTROL ROOM</b>	<b>HMI #15 CONTROL ROOM</b>
GT#1A, 1B and ST1C	Server	Server	Server
<b>HMI FUNCTIONALITY</b>	HST2	DOC_STN1	EMAP1_SVR



<b>Block # 1</b>	<b>HMI #13 CONTROL ROOM</b>	<b>HMI #14 CONTROL ROOM</b>	<b>HMI #15 CONTROL ROOM</b>
PC Style	Commercial PC	Commercial PC	Commercial Server
Commercial – uptime enhancement	Solid State hard drives	Solid State hard drives	Solid State hard drives
PC orientation (Industrial and rack mount server PC's)	Tower	Tower	Tower
Widescreen Formatting	Yes	Yes	Yes
IRIG-B/GPS time synch server*	No	No	No
Audible alarm with speakers	Yes	Yes	Yes
Generator Capability Curves	NO	NO	NO
Expanded Serial Ports	NO	NO	Yes
Parallel port support for dot matrix printer	NO	NO	NO
MODEM	NO	NO	NO

**Proposed HMI Capability Table for Block 2**

<b>Block # 1</b>	<b>HMI #1 CONTROL ROOM</b>	<b>HMI #2 CONTROL ROOM</b>	<b>HMI #3 CONTROL ROOM</b>	<b>HMI #4 CONTROL ROOM</b>	<b>HMI #5 CONTROL ROOM</b>	<b>HMI #6 CONTROL ROOM</b>
GT#2A, 2B and ST2C	Server	Server	Server	Server	Server	Server
<b>HMI FUNCTIONALITY</b>	GT2A_SVR	GT2B_SVR	CRM5_SVR	CRM6_SVR	CRM7_SVR	CRM8_SVR
PC Style	Commercial PC	Commercial PC	Commercial PC	Commercial PC	Commercial PC	Commercial PC
Commercial – uptime enhancement	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives
PC orientation (Industrial and rack mount server PC's)	Tower	Tower	Tower	Tower	Tower	Tower
Widescreen Formatting	Yes	Yes	Yes	Yes	Yes	Yes
IRIG-B/GPS time synch server*	No	No	No	No	No	No
Audible alarm with speakers	Yes	Yes	Yes	Yes	Yes	Yes



**BHEL-GE Gas Turbine Services Pvt. Ltd.**

<b>Block # 1</b>	<b>HMI #1 CONTROL ROOM</b>	<b>HMI #2 CONTROL ROOM</b>	<b>HMI #3 CONTROL ROOM</b>	<b>HMI #4 CONTROL ROOM</b>	<b>HMI #5 CONTROL ROOM</b>	<b>HMI #6 CONTROL ROOM</b>
Generator Capability Curves	NO	NO	NO	NO	NO	NO
Expanded Serial Ports	NO	NO	Yes	Yes	NO	NO
Parallel port support for dot matrix printer	NO	NO	NO	NO	NO	NO
MODEM	NO	NO	NO	NO	NO	NO

<b>Block # 1</b>	<b>HMI #7 CONTROL ROOM</b>	<b>HMI #8 CONTROL ROOM</b>	<b>HMI #9 CONTROL ROOM</b>	<b>HMI #10 CONTROL ROOM</b>	<b>HMI #11 CONTROL ROOM</b>	<b>HMI #12 CONTROL ROOM</b>
GT#2A, 2B and ST2C	Server	Server	Server	Server	Server	Server
<b>HMI FUNCTIONALITY</b>	EWS2_SVR	S2_SVR	LVS4_SVR	LVS5_SVR	LVS6_SVR	HST2
PC Style	Commercial PC	Commercial PC	Commercial PC	Commercial PC	Commercial PC	Commercial Server
Commercial – uptime enhancement	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives	Solid State hard drives
PC orientation (Industrial and rack mount server PC's)	Tower	Tower	Tower	Tower	Tower	Tower
Widescreen Formatting	Yes	Yes	Yes	Yes	Yes	Yes
IRIG-B/GPS time synch server*	No	No	No	No	No	No
Audible alarm with speakers	Yes	Yes	Yes	Yes	Yes	Yes
Generator Capability Curves	NO	NO	NO	NO	NO	NO
Expanded Serial Ports	NO	NO	Yes	Yes	NO	NO
Parallel port support for dot matrix printer	NO	NO	NO	NO	NO	NO
MODEM	NO	NO	NO	NO	NO	NO

<b>Block # 1</b>	<b>HMI #13 CONTROL ROOM</b>	<b>HMI #14 CONTROL ROOM</b>
GT#2A, 2B and ST2C	Server	Server
<b>HMI FUNCTIONALITY</b>	HST4	EMAP2_SVR



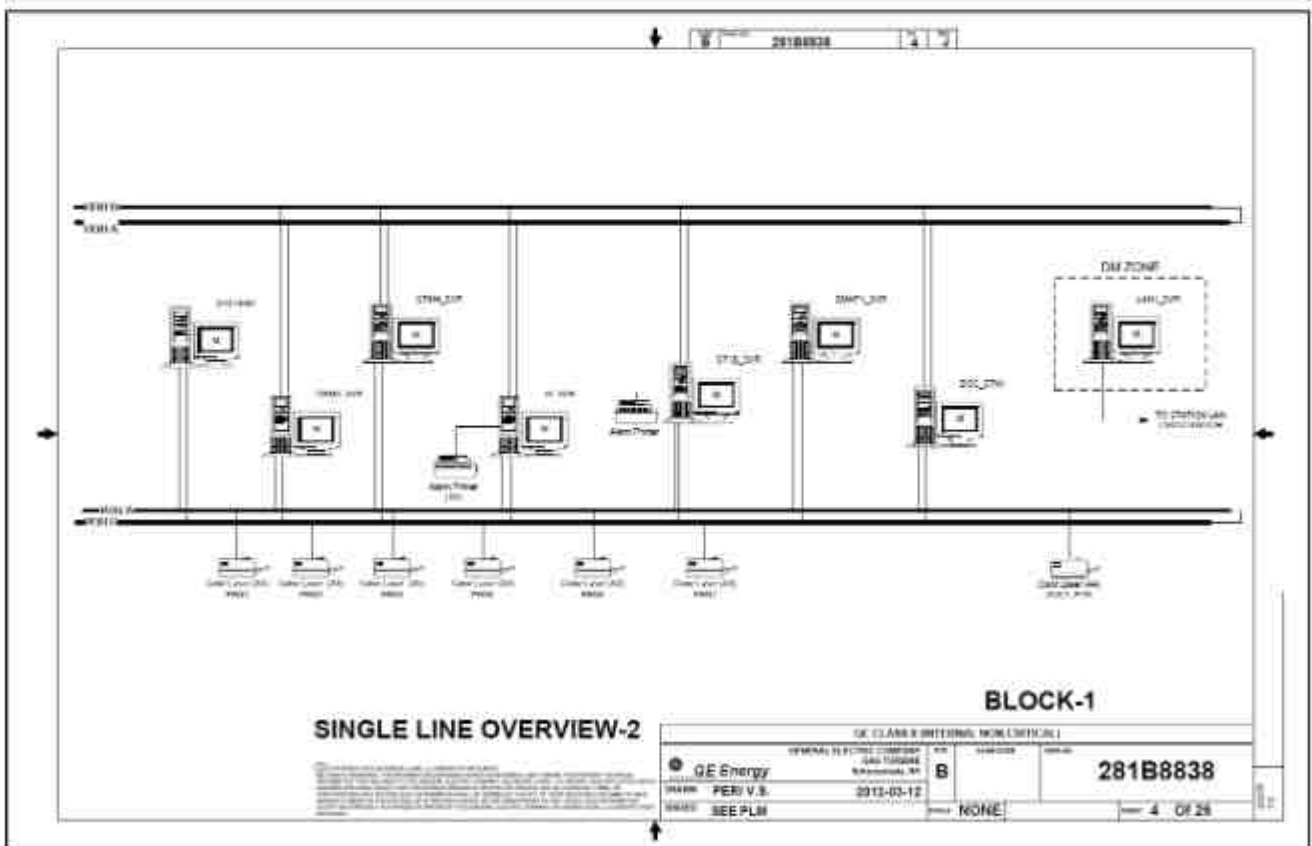
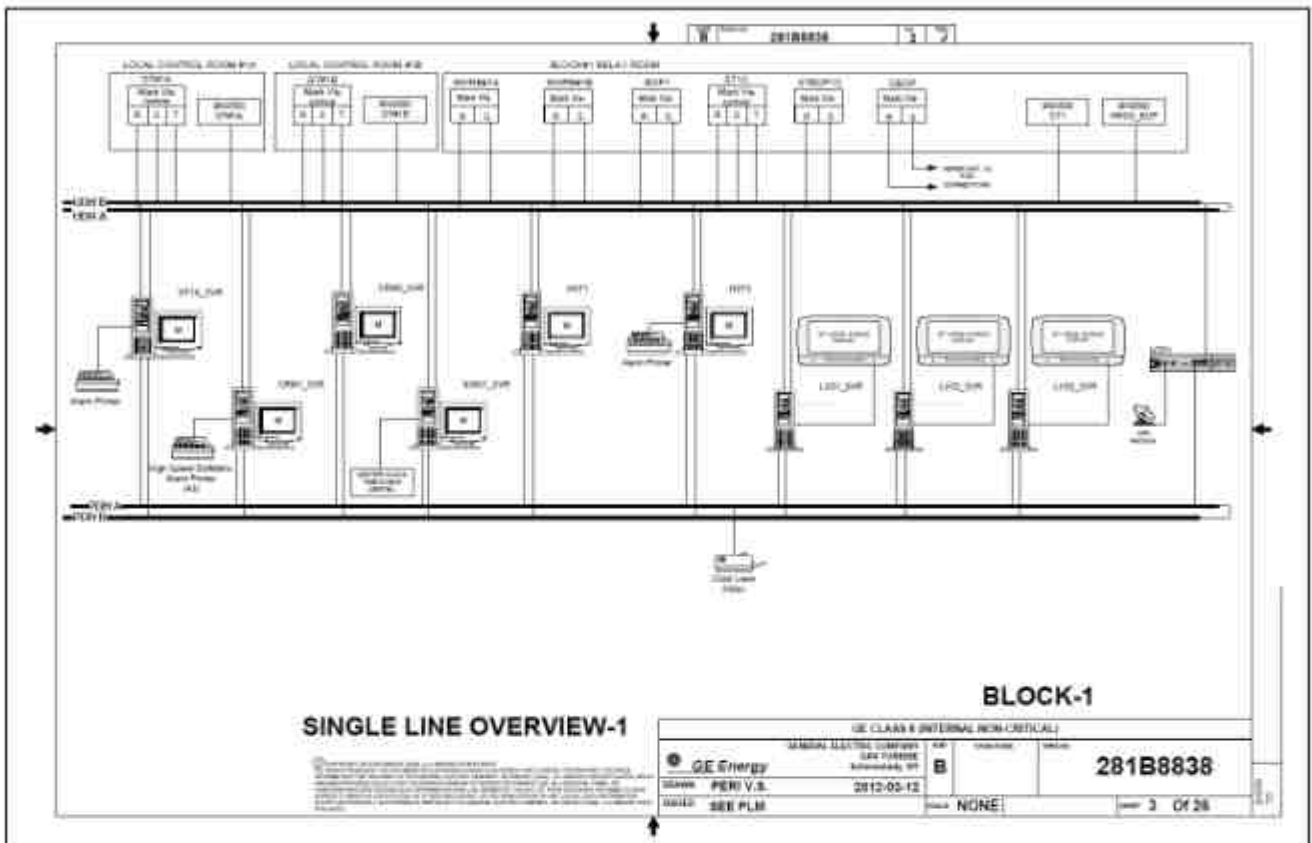
Block # 1	HMI #13 CONTROL ROOM	HMI #14 CONTROL ROOM
PC Style	Commercial PC	Commercial Server
Commercial – uptime enhancement	Solid State hard drives	Solid State hard drives
PC orientation (Industrial and rack mount server PC's)	Tower	Tower
Widescreen Formatting	Yes	Yes
IRIG-B/GPS time synch server*	No	No
Audible alarm with speakers	Yes	Yes
Generator Capability Curves	NO	NO
Expanded Serial Ports	NO	Yes
Parallel port support for dot matrix printer	NO	NO
MODEM	NO	NO

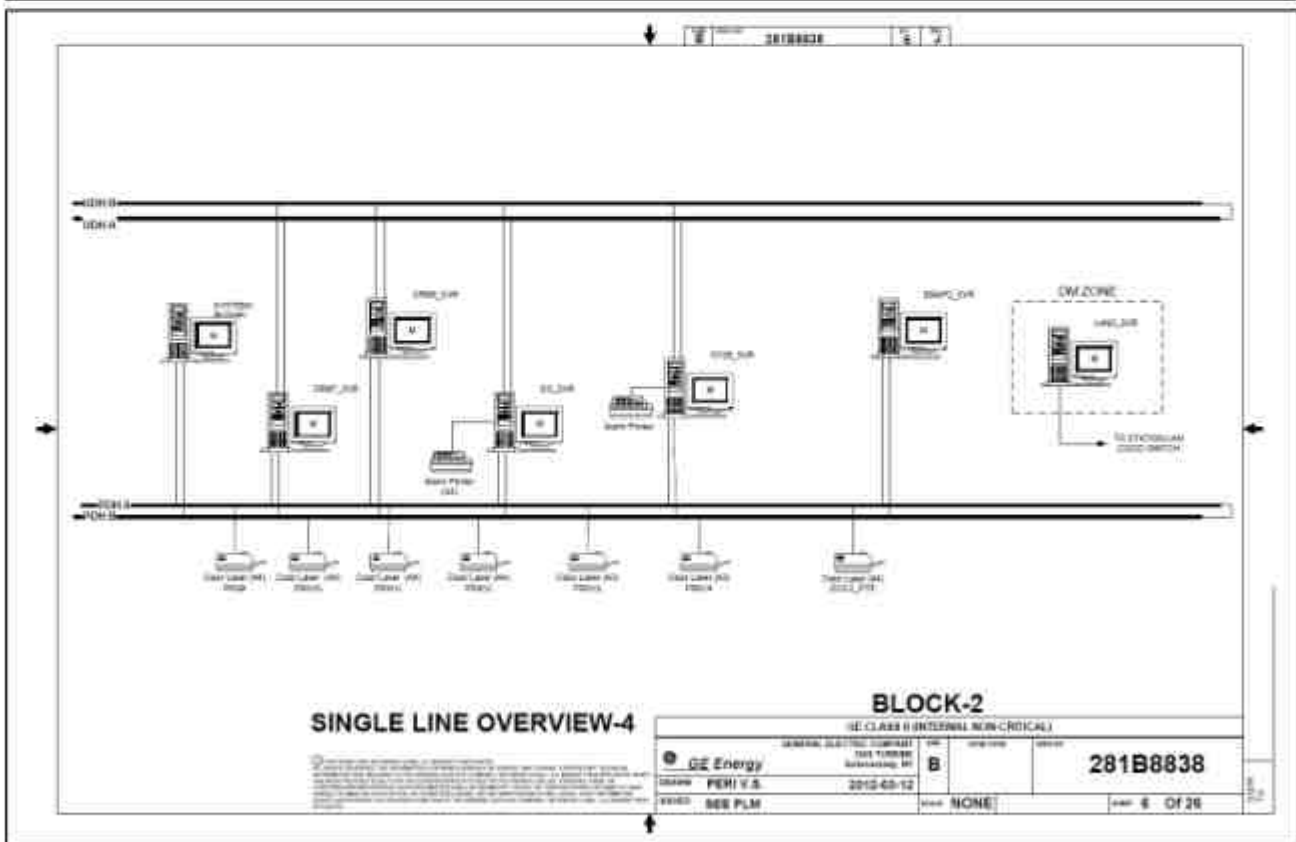
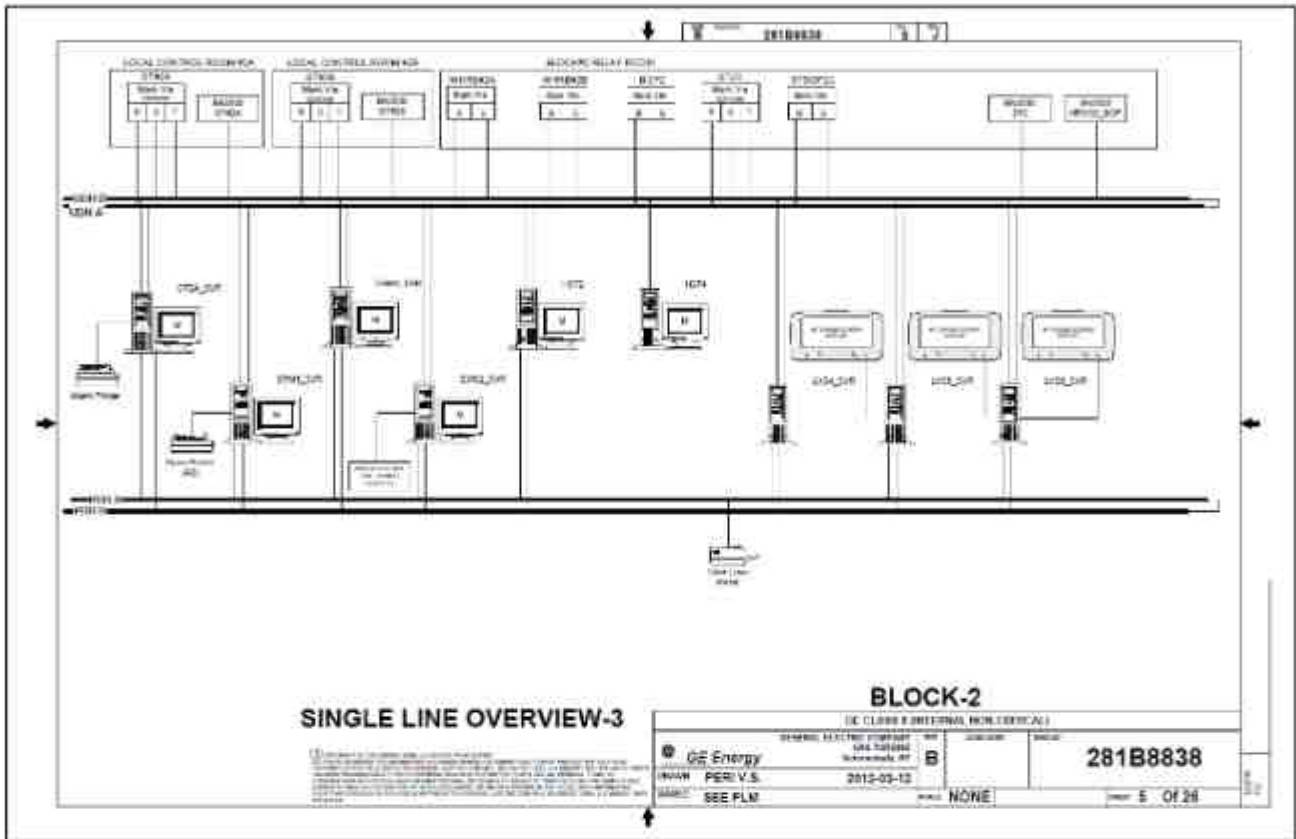
### 1.1.2 Proposed HMI External Communication

Seller will not modify the Buyer supplied external (Non-GE) equipment/foreign devices or other sub-systems for communication interface with the Mark VI. Buyer/End-User is responsible for any additional hardware or programming required for the interfacing of Seller supplied equipment to Buyer/End-User supplied external equipment/foreign devices. The Seller expects the Buyer or his vendor will be needed to help with the communication on his Equipment. The Seller will work on GE equipment to help support commissioning the communication link(s).

### 1.1.3 Copy of current site Network Topology

Please include a copy of the current as-running site network topology for engineering review. Any changes to available network topology will be informed by customer during engineering phase.







1.1.4 Bill of Material for Block -1

The base scope of material and work detailed in the proposal will be as follows:

(a) OWS, CRM, DOC and EWS Servers

Qty.	Description
9	<p><b>Commercial grade HMI Server for HMI Upgrade: (or Current GE Standard) PC details are typical. Seller will provide a HMI that meets the specific requirements of the project, details of which will be provided during project execution:</b></p> <ul style="list-style-type: none"> <li>o Windows 10 IoT</li> <li>o Minitower - H: 17.0" [431.8mm] x W: 6.65" [168.91mm] x D: 17.5" [444.7mm]</li> <li>o Xeon® Processor E5-1620 v3 Quad Core 10M Cache, 3.50 GHz</li> <li>o RAID 1 QTY two 256GB SATA Solid State Drives – first for operating system, second for data</li> <li>o Dual Monitor Video Card (Dual DVI or Dual VGA)</li> <li>o 32 GB RAM memory</li> <li>o External speakers</li> <li>o 10 external USB ports</li> <li>o 1 RS-232 serial port</li> <li>o PS/2 Ports</li> <li>o 4 RJ45 Ethernet ports</li> <li>o DVD +RW</li> <li>o 1 – PCIe Slot available for optional card</li> <li>o 1 - PCI Slot</li> <li>o Keyboard (USB)</li> <li>o Mouse (USB)</li> <li>o Auto sensing 700W Power Supply (110-220 VAC, 50-60 Hz-90% Efficient Power Supply)</li> <li>o Temp rating: Operating: 5° to 35° C (40° to 95° F) / Non-operating: -40° to 60° C (-40° to 140° F)</li> <li>o Humidity: Operating: 8% to 85% relative humidity, non-condensing / Non-operating: 8% to 90% relative humidity, non-condensing</li> </ul> <ul style="list-style-type: none"> <li>• MARK VIe – Dual UDH, Dual PDH Ethernet</li> <li>• 50' section of CAT6 Ethernet cables with RJ45 connectors (qty 4)</li> <li>• Windows® 10 with CIMPLICITY ADVANCED VIEWER 11 and Workstation ST 7.0 or higher</li> <li>• Microsoft Excel and Word</li> <li>• McAfee Antivirus Software – 2 Years</li> <li>• Acronis Backup and Restore Software</li> <li>• Documentation</li> <li>• English Language</li> </ul>
9	24-inch LED flat screen monitor for operator station above
9	Power Cords Supplied per Powered Device for use in the India
1	Network Topology Drawing updated
14	Multi VLAN Network Switch
6	Color Laser Printer A4
2	Color Laser Printer A3
4	High Speed Dot-Matrix Alarm Printer(A3)
1	NTP Server with GPS





(b) LVS Server

Qty.	Description
3	<p><b>Commercial grade HMI Server for HMI Upgrade: (or Current GE Standard) PC details are typical. Seller will provide a HMI that meets the specific requirements of the project, details of which will be provided during project execution:</b></p> <ul style="list-style-type: none"> <li>o Windows 10 IoT</li> <li>o Minitower - H: 17.0" [431.8mm] x W: 6.65" [168.91mm] x D: 17.5" [444.7mm]</li> <li>o Xeon® Processor E5-1620 v3 Quad Core 10M Cache, 3.50 GHz</li> <li>o RAID 1 QTY two 256GB SATA Solid State Drives – first for operating system, second for data</li> <li>o Dual Monitor Video Card (Dual DVI or Dual VGA)</li> <li>o NVIDIA T1000 4GB LP Blower Fan 4mDP PCIe x16 Graphics Card Qty-2</li> <li>o 32 GB RAM memory</li> <li>o External speakers</li> <li>o 10 external USB ports</li> <li>o 1 RS-232 serial port</li> <li>o PS/2 Ports</li> <li>o 4 RJ45 Ethernet ports</li> <li>o DVD +-RW</li> <li>o 1 – PCIe Slot available for optional card</li> <li>o 1 - PCI Slot</li> <li>o Keyboard (USB)</li> <li>o Mouse (USB)</li> <li>o Auto sensing 700W Power Supply (110-220 VAC, 50-60 Hz-90% Efficient Power Supply)</li> <li>o Temp rating: Operating: 5° to 35° C (40° to 95° F) / Non-operating: -40° to 60° C (-40° to 140° F)</li> <li>o Humidity: Operating: 8% to 85% relative humidity, non-condensing / Non-operating: 8% to 90% relative humidity, non-condensing</li> </ul> <ul style="list-style-type: none"> <li>• MARK VIe – Dual UDH, Dual PDH Ethernet</li> <li>• 50' section of CAT6 Ethernet cables with RJ45 connectors (qty 4)</li> <li>• Windows® 10 with SIMPLICITY ADVANCED VIEWER 11 and Workstation ST 7.0 or higher</li> <li>• Microsoft Excel and Word</li> <li>• McAfee Antivirus Software – 2 Years</li> <li>• Acronis Backup and Restore Software</li> <li>• Documentation</li> <li>• English Language</li> </ul>
0	<u>Existing 67 Inch LVS to be reused</u>
3	Power Cords Supplied per Powered Device for use in the India

(c) Historian Server:

Qty	Description
2	<p><b>Commercial grade Historian Server: (or Current GE Standard) which includes the following items as standard:</b></p> <ul style="list-style-type: none"> <li>o HPE ProLiant ML110 (RAID-1) or Equivalent</li> <li>o Tower Based Server Class PC (desktop mounted)</li> <li>o Intel Xeon processor, 4 cores (min), 3 GHz (min)</li> <li>o 32GB DDR memory (Total Memory)</li> <li>o 2GB (or greater) Graphics Card (w/4mDP outputs)</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (OS - C:\) Operating System</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (BACKUP - X:\ &amp; DATA E:\) System Data Backup</li> </ul>



Qty	Description
	<ul style="list-style-type: none"> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (DATA D:\) Historian Data Backup</li> <li>o 9.5 mm DVD-Read/Write</li> <li>o 2 x Dual Port Gigabit NIC (total of 4 ethernet ports)</li> <li>o Keyboard &amp; Optical Mouse</li> <li>o Microsoft Server 2019 Standard or Newer</li> <li>o Microsoft Office – Word and Excel only</li> <li>o OSI/AVEVA – PI Vision: 25000 pts Historian Tags Includes 1Yr SRP (OSI/AVEVA Support &amp; Maintenance)</li> <li>o Acronis Backup Advanced for Windows Server (Latest validated version)</li> <li>o McAfee Endpoint Threat Protection (Servers) (Latest validated version)</li> <li>o Adobe Acrobat Reader</li> </ul>
2 No	24 Inch LED Monitor
2 No	<ul style="list-style-type: none"> <li>• WORKSTATION ST software and Dongle</li> </ul>
2 No	Engineering and software update for Historian

(d) EMAP Server:

Qty	Description
1	<p><b>Commercial grade EMAP Server: (or Current GE Standard) which includes the following items as standard:</b></p> <ul style="list-style-type: none"> <li>o HPE ProLiant ML110 (RAID-1) or Equivalent</li> <li>o Tower Based Server Class PC (desktop mounted)</li> <li>o Intel Xeon processor, 4 cores (min), 3 GHz (min)</li> <li>o 32GB DDR memory (Total Memory)</li> <li>o 2GB (or greater) Graphics Card (w/4mDP outputs)</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (OS - C:\) Operating System</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (BACKUP - X:\ &amp; DATA E:\) System Data Backup</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (DATA D:\) Historian Data Backup</li> <li>o 9.5 mm DVD-Read/Write</li> <li>o 2 x Dual Port Gigabit NIC (total of 4 ethernet ports)</li> <li>o Keyboard &amp; Optical Mouse</li> <li>o Microsoft Server 2019 Standard or Newer</li> <li>o Microsoft Office – Word and Excel only</li> <li>o OSI/AVEVA – PI Vision: 3000 pts Historian Tags Includes 1Yr SRP (OSI/AVEVA Support &amp; Maintenance)</li> <li>o Acronis Backup Advanced for Windows Server (Latest validated version)</li> <li>o McAfee Endpoint Threat Protection (Servers) (Latest validated version)</li> <li>o Adobe Acrobat Reader</li> </ul>
1 No	24 Inch LED Monitor
1 No	Windows® 10 with SIMPLICITY ADVANCED VIEWER 11 and Workstation ST 7.0 or higher



Qty	Description
1 No	Performance Engg for Block -1

1.1.5 Bill of Material for Block -2

The base scope of material and work detailed in the proposal will be as follows:



(a) OWS, CRM, DOC and EWS Servers

Qty.	Description
8	<p><b>Commercial grade HMI Server for HMI Upgrade: (or Current GE Standard) PC details are typical. Seller will provide a HMI that meets the specific requirements of the project, details of which will be provided during project execution:</b></p> <ul style="list-style-type: none"> <li>o Windows 10 IoT</li> <li>o Minitower - H: 17.0" [431.8mm] x W: 6.65" [168.91mm] x D: 17.5" [444.7mm]</li> <li>o Xeon® Processor E5-1620 v3 Quad Core 10M Cache, 3.50 GHz</li> <li>o RAID 1 QTY two 256GB SATA Solid State Drives – first for operating system, second for data</li> <li>o Dual Monitor Video Card (Dual DVI or Dual VGA)</li> <li>o 32 GB RAM memory</li> <li>o External speakers</li> <li>o 10 external USB ports</li> <li>o 1 RS-232 serial port</li> <li>o PS/2 Ports</li> <li>o 4 RJ45 Ethernet ports</li> <li>o DVD +RW</li> <li>o 1 – PCIe Slot available for optional card</li> <li>o 1 - PCI Slot</li> <li>o Keyboard (USB)</li> <li>o Mouse (USB)</li> <li>o Auto sensing 700W Power Supply (110-220 VAC, 50-60 Hz-90% Efficient Power Supply)</li> <li>o Temp rating: Operating: 5° to 35° C (40° to 95° F) / Non-operating: -40° to 60° C (-40° to 140° F)</li> <li>o Humidity: Operating: 8% to 85% relative humidity, non-condensing / Non-operating: 8% to 90% relative humidity, non-condensing</li> </ul> <ul style="list-style-type: none"> <li>• MARK VIe – Dual UDH, Dual PDH Ethernet</li> <li>• 50' section of CAT6 Ethernet cables with RJ45 connectors (qty 4)</li> <li>• Windows® 10 with CIMPLICITY ADVANCED VIEWER 11 and Workstation ST 7.0 or higher</li> <li>• Microsoft Excel and Word</li> <li>• McAfee Antivirus Software – 2 Years</li> <li>• Acronis Backup and Restore Software</li> <li>• Documentation</li> <li>• English Language</li> </ul>
8	24-inch LED flat screen monitor for operator station above
8	Power Cords Supplied per Powered Device for use in the India
1	Network Topology Drawing updated
14	Multi VLAN Network Switch
6	Color Laser Printer A4
2	Color Laser Printer A3
4	High Speed Dot-Matrix Alarm Printer(A3)
1	NTP Server with GPS



(b) LVS Server

Qty.	Description
3	<p><b>Commercial grade HMI Server for HMI Upgrade: (or Current GE Standard) PC details are typical. Seller will provide a HMI that meets the specific requirements of the project, details of which will be provided during project execution:</b></p> <ul style="list-style-type: none"> <li>o Windows 10 IoT</li> <li>o Minitower - H: 17.0" [431.8mm] x W: 6.65" [168.91mm] x D: 17.5" [444.7mm]</li> <li>o Xeon® Processor E5-1620 v3 Quad Core 10M Cache, 3.50 GHz</li> <li>o RAID 1 QTY two 256GB SATA Solid State Drives – first for operating system, second for data</li> <li>o Dual Monitor Video Card (Dual DVI or Dual VGA)</li> <li>o NVIDIA T1000 4GB LP Blower Fan 4mDP PCIe x16 Graphics Card Qty-2</li> <li>o 32 GB RAM memory</li> <li>o External speakers</li> <li>o 10 external USB ports</li> <li>o 1 RS-232 serial port</li> <li>o PS/2 Ports</li> <li>o 4 RJ45 Ethernet ports</li> <li>o DVD +RW</li> <li>o 1 – PCIe Slot available for optional card</li> <li>o 1 - PCI Slot</li> <li>o Keyboard (USB)</li> <li>o Mouse (USB)</li> <li>o Auto sensing 700W Power Supply (110-220 VAC, 50-60 Hz-90% Efficient Power Supply)</li> <li>o Temp rating: Operating: 5° to 35° C (40° to 95° F) / Non-operating: -40° to 60° C (-40° to 140° F)</li> <li>o Humidity: Operating: 8% to 85% relative humidity, non-condensing / Non-operating: 8% to 90% relative humidity, non-condensing</li> </ul> <ul style="list-style-type: none"> <li>• MARK VIe – Dual UDH, Dual PDH Ethernet</li> <li>• 50' section of CAT6 Ethernet cables with RJ45 connectors (qty 4)</li> <li>• Windows® 10 with CIMPLICITY ADVANCED VIEWER 11 and Workstation ST 7.0 or higher</li> <li>• Microsoft Excel and Word</li> <li>• McAfee Antivirus Software – 2 Years</li> <li>• Acronis Backup and Restore Software</li> <li>• Documentation</li> <li>• English Language</li> </ul>
0	<u>Existing 67 Inch LVS to be reused</u>
3	Power Cords Supplied per Powered Device for use in the India

(c) Historian Server:

Qty	Description
2	<p><b>Commercial grade Historian Server: (or Current GE Standard) which includes the following items as standard:</b></p> <ul style="list-style-type: none"> <li>o HPE ProLiant ML110 (RAID-1) or Equivalent</li> <li>o Tower Based Server Class PC (desktop mounted)</li> <li>o Intel Xeon processor, 4 cores (min), 3 GHz (min)</li> <li>o 32GB DDR memory (Total Memory)</li> <li>o 2GB (or greater) Graphics Card (w/4mDP outputs)</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (OS - C:\) Operating System</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (BACKUP - X:\ &amp; DATA E:\) System Data Backup</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (DATA D:\) Historian Data Backup</li> </ul>



Qty	Description
	<ul style="list-style-type: none"> <li>o 9.5 mm DVD-Read/Write</li> <li>o 2 x Dual Port Gigabit NIC (total of 4 ethernet ports)</li> <li>o Keyboard &amp; Optical Mouse</li> <li>o Microsoft Server 2019 Standard or Newer</li> <li>o Microsoft Office – Word and Excel only</li> <li>o OSI/AVEVA – PI Vision: 25000 pts Historian Tags Includes 1Yr SRP (OSI/AVEVA Support &amp; Maintenance)</li> <li>o Acronis Backup Advanced for Windows Server (Latest validated version)</li> <li>o McAfee Endpoint Threat Protection (Servers) (Latest validated version)</li> <li>o Adobe Acrobat Reader</li> </ul>
2 No	24 Inch LED Monitor
2 No	<ul style="list-style-type: none"> <li>• WORKSTATION ST software and Dongle</li> </ul>
2 No	Engineering and software update for Historian

(d) *EMAP Server:*

Qty	Description
1	<p><b>Commercial grade EMAP Server: (or Current GE Standard) which includes the following items as standard:</b></p> <ul style="list-style-type: none"> <li>o HPE ProLiant ML110 (RAID-1) or Equivalent</li> <li>o Tower Based Server Class PC (desktop mounted)</li> <li>o Intel Xeon processor, 4 cores (min), 3 GHz (min)</li> <li>o 32GB DDR memory (Total Memory)</li> <li>o 2GB (or greater) Graphics Card (w/4mDP outputs)</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (OS - C:\) Operating System</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (BACKUP - X:\ &amp; DATA E:\) System Data Backup</li> <li>o 1 x 512GB SATA RI SFF DS 2.5 inch Solid State Drive - (DATA D:\) Historian Data Backup</li> <li>o 9.5 mm DVD-Read/Write</li> <li>o 2 x Dual Port Gigabit NIC (total of 4 ethernet ports)</li> <li>o Keyboard &amp; Optical Mouse</li> <li>o Microsoft Server 2019 Standard or Newer</li> <li>o Microsoft Office – Word and Excel only</li> <li>o OSI/AVEVA – PI Vision: 3000 pts Historian Tags Includes 1Yr SRP (OSI/AVEVA Support &amp; Maintenance)</li> <li>o Acronis Backup Advanced for Windows Server (Latest validated version)</li> <li>o McAfee Endpoint Threat Protection (Servers) (Latest validated version)</li> <li>o Adobe Acrobat Reader</li> </ul>
1 No	24 Inch LED Monitor
1 No	Windows® 10 with SIMPLICITY ADVANCED VIEWER 11 and Workstation ST 7.0 or higher
1 No	Performance Engg for Block -2



### 1.1.6 Software

Please note that the ControlST versions must be consistent throughout the UDH. The assumption is made all HMIs, Historian and Mark VIe panels on the network will be available to be upgraded during the field services trip. Turbine shutdown will be required to upgrade ControlST Software/Firmware.

## 1.2 Testing

FAT - Factory Acceptance Test (FAT)/SWAT is not included in the scope.

### Notes for above sections:

- Existing fiber optic cables, patch panels, patch cords, SFPs, convertors will be utilized with HMIs
- Mark-VIe control logic will not be modified with the HMI upgrade. GE has not included any scope related to changes/modification/upgradation of existing control logic in these units.
- HMIs will be hardened prior to shipment to site.



## HMI FEATURES

### **Network Topology Review**

For HMI & Historian upgrades, we suggest the Buyer review the new network topology (4108) being generated by the Seller prior to the completion of the Seller's engineering process. This review will be scheduled by the Project Manager and generally takes place 4 weeks after we have received completed HMI & Historian site data. Also, during the same meeting, the Seller will ask questions concerning the HMI screens to determine if there is a need for an HMI screen review meeting.

### **HMI Screens**

The Seller will upgrade and translate the existing screens to the new HMIs with minimal changes to the graphics. The Seller will verify any updates required to allow these screens to work properly with the existing controller code.

If a screen review meeting is needed, it can be made based on inputs from the network topology review meeting or at the customer's request. The review of the proposed HMI screens will be no later than a week after a pdf copy of the screens have been submitted to the customer for review to meet the ship dates agreed to in the contract. Corrections and minor changes can be accommodated. Significant changes or additional screens would require a cost and cycle quote.

1-day Screen review meeting through teleconference is included in proposal.

The Seller requires that screen changes be frozen after any scheduled screen review. Any screen changes not reported, or files not submitted at the time of the screen review will not be included on the upgraded HMIs. The Seller is not responsible for the resulting data gaps.

### **Engineering Design, Testing and Meetings**

As part of the project, the Sellers Engineering Design will include the following:

- a) Create or update the network topology drawing (aka the 4108 drawing).
- b) **Kickoff Meeting:** A Buyer/Seller kickoff meeting will be held per conference call. Attendees from the Seller's team will include, at a minimum, the project manager and a project engineer. During the phone conference kickoff meeting, the project scope and schedule will be reviewed and agreed upon between the parties.
- c) Documentation (detailed below)

### **Documentation**

Unless otherwise indicated, all electronic (softcopy) & hardcopy documentation, control screens, panel labels and wiring identification will be provided in the English language only, unless otherwise indicated. The Seller will provide the following product documentation in quantities and media type listed below.





The Seller will provide an equipment network topology (4108) diagram in support of HMI and Historian upgrade. The topology provided is based on the current site information provided to the Seller by the Buyer/End-User at the time of purchase order. One "as-installed" revision of this drawing is included with this offer (price). Additional revisions would be quoted separately. This drawing is provided as a reference drawing only and the Seller is not liable for incorrect or missing information.

**Electronic Media Documentation**

One (1) softcopy of the project documentation will be provided on electronic/digital media. The file types will be Adobe Acrobat PDF, or the native file type received by the Seller's third-party vendor supplying its documents.

**Hardcopy Media Documentation**

Note that HMI and Historian only projects will not include hardcopy documentation.

**Documentation List**

The following table shows the description of the project documentation that the Seller will be providing as part of the deliverables for the contract:

Item	Generic List
1.	ToolboxST Guide for the WorkstationST Application
2.	Instruction Manuals/Publications, including Maintenance & User Guides; Ex: GEH, GEK
3.	HMI Backup and Recovery Procedure
Item	Application Specific List
1.	Network Topology Diagram ("4108 drawing") (TC/HMI/NM)

**Proposal Basis**

This section lists those items which are provided by the Buyer or End-User and not part of the Seller's scope of supply. It also lists the Seller's assumptions, comments to Buyer's requirements, and the breakdown of Buyer/End-User responsibilities.

**General Assumptions and Clarifications**

Below represents the Seller's Clarifications, Assumptions and Exceptions related to the Seller supplied equipment and services.

- a) Historian is considered with 25000 license points.
- b) The Mark VIe software logics would not be modified during HMI upgrade.
- c) For LVS existing Large Video screens to be reused.
- d) LAN1\_SVR and LAN2\_SVR servers are not part of the upgrade scope.
- e) BN System1 Servers for both blocks 1 and 2 are not part of upgrade scope.
- f) Its is assumed that the New Switches and HMI shall be placed at existing locations and existing Power supply connections to be reused.
- g) For DOC1\_SVR AutoCAD software is not considered as part of upgrade scope.
- h) EMAP Software commissioning and tuning at site shall be supported by GE Gas Power Performance engg team.



- i) For EMAP, Optimizer, Compressor Wash Advisor Modules have been **deprecated** since 2021 due to Tools/Techstack obsolescence. These two modules **will not be offered** as part of this HMI upgrade project.
- j) Proposed EMAP solution is based on **Cimplicity UI** and will not be offered under legacy WebGUI.
- k) Seller believes that this proposal/quote meets the intent of the Buyer's request and will be the document of reference in any resulting contract.
- l) Unless otherwise specifically identified herein, this proposal assumes that none of the Seller's equipment (and related engineering) being supplied under this contract (or related contract) will be installed in, or have its wiring routed through, a classified hazardous area (Ex: Nuclear, Safety Related, ATEX, Class I, Div2 or Class 1 Div1 area).
- m) Unless specifically identified in this proposal, the Seller is not supplying any cables (copper, Ethernet, or fiber optic), networking equipment, field devices, instrumentation, cabinets, housings, solenoids, actuation devices, or installation materials.
- n) It is assumed that any existing equipment, including but not limited to cabling, wiring, sensors, field devices, terminal boards, communication networks, etc., that are not being replaced as part of this Workscope are in a good working order and calibrated to OEM specifications. Replacement of non-functioning, calibration, or faulty equipment is not included in the scope of this document, unless otherwise specified. If a site survey by Seller's engineering results in the need for additional equipment, cabling and field devices, this will result in a contract change order where pricing and delivery cycle relief will be afforded to the Seller.
- o) All machine components are in satisfactory condition and will operate with the new controls. This includes, but is not limited to, the existing metering, generator protection/control, lubrication, cooling, gas, fuel, steam and hydraulics systems.
- p) If a Request for Quote (RFQ) or technical specification is presented by the Buyer/End-User during the project's execution (contract term), that were not initially brought to the attention of the Seller during the proposal development stage and said specifications/requirements subsequently increase the cost of the project for the Seller, this will be treated as a Contract Change Order and billed accordingly.
- q) Seller reserves the right to substitute suitable and equivalent third-party hardware in place of those proposed, should such items become obsolete prior to final delivery of those products. If during the warranty period, a third-party hardware item becomes defective and requires replacement, such item may be replaced by a substitute item if the third-party item has been obsoleted. Buyer shall receive notification of substitution prior to shipment of the items.
- r) When existing cabinetry is being reused, the Buyer/End-User shall be responsible for the condition and suitability of same to house the Seller supplied equipment, maintaining NEMA, EMI and RFI requirements, as an example.
- s) No provisions for a separate, integrated FAT or communication testing with a foreign device or other sub-systems (DCS, SCADA, etc.) are included in this proposal. Simple communication testing with Buyer/End-User's foreign devices or other sub-systems can be conducted and verified by the Seller's field engineer carrying out the commissioning onsite. Should Buyer decide to have a separate communication test with other systems at Buyer's facility, Seller will provide a quotation upon Buyer's request and detailed definition.
- t) No modifications to any Buyer DCS or third-party equipment are included in this proposal. The new Seller supplied equipment may require modification to DCS for signals to maintain compatibility. Modification of the DCS and its signals is the responsibility of Buyer.
- u) Relevant OEM Technical Information Letters ("TIL") related to equipment being provided, have been performed by Buyer/End-User prior to installation of Seller supplied equipment.
- v) Buyer is responsible to adhere to the timetable of critical project data exchange and execution milestones as identified in the detailed project schedule agreed to at the kick-off meeting.



- w) As the project, must incorporate Buyer specific requirements, Buyer must support all project activities.
- i. Support kick-off meeting, site visits, design reviews, status meetings, etc.
  - ii. Participate in Buyer Witnessed Factory Test (if included) and Site Acceptance Tests.
  - iii. Respond to Seller inquiries and requests for documentation in a timely manner.
  - iv. Direct all communications through Seller's assigned Project Manager.
  - v. Document, in writing, approvals for all change orders.
- x) Non-GE/BH Engineering Design Package: As part of our base offer the Seller will provide unit specific equipment design drawings for the equipment we are providing, which will show termination points/locations. A plant specific Engineering Design Package ("EDP") is typically required, which takes the Seller's equipment specific drawings and the existing plant drawings and integrates them into a seamless EDP for the Site Services and Craft Labor teams. If the EDP is not provided by the Seller (as Base or Optional), and a Non-GE/BH third-party provides this EDP, the Seller assumes that the third-party's EDP is accurate and without errors. Should errors in this third-party EDP result in re-work or delays, on the part of the Seller, these delays/additional work will be treated as contract change order.
- y) Any GE/BH HMI and Historian equipment provided with the Windows 7 or SERVER 2008R2 operating system will be supported by Seller for any needed warranty support during the warranty coverage period. If Microsoft® software utilized on the HMI and Historian reaches the end of support from Microsoft during the Seller's warranty period, Seller will continue to support HMI and Historian functionality for these systems for warranty concerns excluding updates that may no longer be available from Microsoft. This quote does not include an upgrade from the current proposed operating system to any newer operating system in the future.
- i. Microsoft currently states that Windows® 7 operating system has an "Extended Support End Date" of January 14, 2020
  - ii. Microsoft currently states that Microsoft® SERVER 2008 R2 operating system has an "Extended Support End Date" of January 14, 2020
  - iii. HMI & Historian upgrades to new hardware with the latest Microsoft operating system available from Seller would have to be quoted separately in the future, if not included in this proposal.
  - iv. Windows NT, 2000 and XP are at End of Life and no Microsoft support is available.
- If End-User upgrades the devices covered by CAP during the CAP Term of the agreement, i.e. upgrade HMIs and Historians from Windows-7 to Windows-10, Seller will upgrade the Win-7 CAP subscription to Win-10 for the remainder of the original agreement Term.
- z) Services pricing included assumes all units/machines associated with this HMI upgrade will be offline
- aa) Formal training on the new equipment is not included.
- bb) The HMI and Historian hardware and software packages are tested as an integrated system. Extensive qualification and verification is performed to ensure compatibility of the hardware and software components. For warranty and support reasons removal of any of the Seller's provided software or addition of any third-party software/hardware packages (not previously approved by the Seller) will result in Seller's inability service and maintain the equipment and will void Seller's warranty on these products.
- cc) Seller & GE does not support connecting different Cimplicity versions of HMIs to the same network. The older versions of HMI can be identified by the version of CIMPLICITY present on the HMI. It will be either "3.22", "4.01", "5.5", "6.1", "7.5" or "8.2". There are major configuration differences between HMI versions, creating a high potential for corruption of the HMI core-load by manipulating multiple versions at the same time. There is also a potential for unforeseen conflicts, which Seller has not fully documented or discovered. Any issues



- created by intermixing different CIMPLICITY version HMIs, will be treated as out of warranty expenses. Support can be made available at site to restore HMIs using customer/site generated backup media and this assistance will be billed on a time and material basis.
- dd) New HMIs and Historians are supplied with sufficient NIC (Network Interface Card) ports to support dual PDH/UDH networks. This does not imply that the new or existing site network has a redundant PDH/UDH network.
  - ee) The current screens and alarms will be copied to the new HMIs. This proposal does not include a change in language or additional screens being added. Significant customization of screens may require additional engineering time and hence a change in pricing.
  - ff) It is assumed that the current HMIs and Historian are not interfaced to or providing data to any existing DCS.
  - gg) Seller can offer a Spare HMI computer consistent preloaded with a base configuration as well as all peripheral equipment (excluding monitor), the configuration as per HMIs in the base scope. This PC does not include GE ControlST, CIMPLICITY or specific site software configuration. This Spare HMI computer is intended to be used as a replacement for a failed HMI computer. To replace a failed HMI computer with this Spare unit, a site created backup image from the failed HMI computer must be available to load onto the spare computer. The ControlST and CIMPLICITY licenses from the failed HMI will be transferred on to this Spare PC making it a fully functional HMI to replace the failed HMI.

We highly recommend one or more optional Spare HMI computer(s) to extend the useful life of the site-specific HMI configuration to delay obsolescence issues. Quote for this spare HMI can be provided on request.

The Spare HMI cannot be connected to the site PDH/UDH network and used as an operator interface until it has been loaded with the ControlST, CIMPLICITY and site software for the HMI that it is replacing.

The Spare HMI does not support being used as an Additional HMI for a site since it does not have the applicable software licenses to operate as a GE HMI.

- hh) Existing GE Network wiring (power, networking, etc.) will be reused unless otherwise indicated. Additional Ethernet cabling or changes to the current design will/may constitute a contract change order and will need to be quoted at the time of the work. All cabling, connections, or installation associated with relocating or networking the HMIs and Historian PCs, such as hubs or converters, are out of the scope of this proposal.
- ii) If there is an existing OSM (Onsite monitor) computer at site, and it is interfaced with the HMI being upgraded as part of this proposal, the Seller will need to be made aware of this condition. If so, the Seller must then include modification to the HMI to allow for it to interface with OSM computer. The Seller has not included scope/price to interface the HMI with any OSM computer.
- jj) If the existing equipment onsite incorporates GE's DLN Remote Tuning option, then the Seller's project manager (for the HMI and Historian project) and the DLN contract manager will need to be made aware of this condition. It is the requirement of the Buyer/End-User to make the Seller aware of this condition at the time the Purchase Order is placed. Support for the DLN tuning application and possible changes to this service may be required.
- kk) Network switches not in scope of supply.
- ll) In an application where a GE FANUC PLC, whether originally installed by GE or BH or installed by others, communicates with the GE/BH HMI equipment, any upgrades that may be required to these PLC's to allow them to continue to communicate with the new HMIs and Historian being installed are not included in this quote. Please contact your local GE FANUC PLC representative to discuss if updates will be required to allow communication with the new HMIs and Historian.



**mm) Printers**

- i. Existing dot matrix printers may be reused for alarm printing, if compatible with Windows 10 OS (see Windows 7/10 64-bit assumption below).
- ii. Notwithstanding anything else, Seller shall not have any liability for delays resulting directly from governmental actions, supply chain shortages, or any other consequences attributable to the widespread impact of the pandemic known as Covid-19 or other similar strains or Coronavirus pandemics.

**Application/Product Specific Buyer/End-User Responsibilities**

The following represents the Buyer/End-User responsibilities which are specific to the product being supplied by the Seller;

- a) Site information/data related to the current HMI and Historian installation. This data will be required prior to order acknowledgement and prior to the Seller building/designing the new system. This data will also be used to create/update the Network Topology (4108) drawing associated with this site/installation. The Site data shall include:
  - i. Existing as-running network topology drawings: The Seller assumes that a 4108 Network Topology drawing is available today. The Sellers has not included the cost to create a new 4108 Drawing, only to update an existing drawing.
  - ii. Other Network Information: Include any devices, communications and other items that are not shown on the current network topology drawings.
  - iii. As Running software (must run software gathering tool). It is important that current data be collected from the equipment to avoid issues with the new equipment not arriving with current control constants, unit software updates or screen updates.
  - iv. Current and as desired HMI and Historian information, via HMI/Network Questionnaire form.
  - v. If the Buyer cannot provide the Seller with the above site data, the Seller will be obligated to retrieve the data. All time and related expenses associated with collecting the site information/data will be billed to the Buyer/End-User at actuals, per the Sellers Standard Services Rate Schedule in affect at the time of the work. A site survey has been included in offer to get relevant data and information from site.
- b) Considerations for the purchase of Panel Mount HMI models: PC models have changed their mounting patterns and sizes over the years and existing door cut-outs will often have to be modified for the new mounting requirements. The Buyer/End-User will be required to rework/modify the existing panels to accommodate the new Panel Mount HMI prior to the arrival of the Seller's field engineer.
- c) Considerations for the purchase of new or additional network switches: The Buyer/End-User will be required to install and verify new Ethernet cabling prior to the arrival of the Seller's field engineer.
- d) Services pricing included assumes all units/machines associated with this HMI and Historian upgrade will be offline concurrently.
- e) Network Analysis & Troubleshooting software (Non-GE/BH supplied software): Network analysis software is permitted to be installed (by the Buyer/End-User) on a supplied computer from the Seller for network analysis and troubleshooting physical network nodes connected to the GE Plant Data Highway (PDH), GE Unit Data Highway (UDH) and third-party interface protocol communications, e.g., Modbus, IEC-60870, OPC, DNP3, IEC-61850. This permission assumes that this software does not directly interface or disrupt the process of the GE turbine/generator control software and associated communication and that it will not interfere with the operation of the Seller's supplied computer in any way. This practice will not



void the Seller's software warranty, provided as part of the software license/Addendum, provided that the malfunction was not caused by the installation of the Network analysis software by the Buyer/End-User.

- f) Supply of controllers and other component as needed during the HMI upgrade due malfunctioning, not working to be supplied by the purchaser

**Documentation Related Buyer/End-User Responsibilities**

- a) Except where stated herein, all documentation and computer screens will be in English
- b) It is assumed that Seller will be furnished, upon request, with full drawings and information concerning the state of the existing installation including communication connection information to the existing network devices. If such information is not available Seller will charge for the work involved in obtaining this information
- c) Overall project cycle time is dependent upon receipt of current "Site data". It is Buyer's responsibility to provide the relevant Site Data in a timely manner. Seller's Project Manager will be assigned after receipt of order and will provide instructions for the download and transfer of site data as necessary. If the Buyer cannot provide the Seller with the requested site data, the Seller will be obligated to retrieve the data. All time and related expenses associated with collecting the site information/data will be billed to the Buyer/End-User at actuals, per the Sellers Standard Services Rate Schedule in affect at the time of the work. Site Data includes, but is not limited to, 1) as running software (must run software gathering tool) and 2) network topology drawings.
- d) If this Site Data is not provided or can be retrieved by Seller within two weeks upon placement of order, the possibility exists that the hardware/software may be engineered using default, generic data and a delay in delivery and/or an extended startup time may result.
- e) This proposal does not include Plant Operation manual updates, or any other site documentation modifications that are not mentioned as being supplied.

NOTE: Delays in receiving 1) current/as running drawings/software and/or 2) incomplete or poor-quality drawings, which contain errors could result in a contract change order (with schedule and price relief) to overcome drawing/documentation issues which may hinder Seller from completing its engineering within the agreed upon schedule.



**Commercial Summary**

<b>Item</b>	<b>Description</b>	<b>Basic unit Price (in INR)</b>
1	HMI Upgrade Scope as detailed in section 1.0	<b>INR 32,00,00,000.00</b>
2	Installation & Commissioning of Mark Vie	Shall be done on perdiem basis against PO 4000313229-056-1035

**Special Notes**

**Schedule**

**Equipment (Hardware and Software) Schedule**

The After Receipt of Order ("ARO") date will be the date that the Seller acknowledges the Purchase Order, not the initial date that the Seller receives that PO.

The estimated timescale from acknowledgement of PO/contract to the Delivery (Incoterms) of the equipment is **12 Months** and is based on current factory loading and lead times offered by the Seller and other vendors, if any.

**Equipment Schedule Limitations**

Delivery dates can vary depending on factory workload and should be confirmed before issue of order. Delays in receiving vital information from the Buyer/End-User or delays in receiving "review" drawings back from the Buyer/End-User will impact the ARO delivery dates. These delays may result in a day for day slip in the delivery schedule or a complete shift the delivery dates indicated herein.

When detailed drawings representing the Buyer/End-user's current (as-running), installed equipment cannot be made available to the Seller, it is critical that the Seller has sufficient time and physical access to the Buyer/End-user's equipment while in a Lock-out/Tag-out condition. This will allow the Seller to take measurements, design, manufacture, and **Field Fit** these portions of the total scope of supply. Some examples of this may include fuel valve/actuator/solenoid mounting plates, blanking plates, speed probe brackets, etc.

Seller's proposed schedule with milestone dates will be presented at the Project Kick-Off Meeting. This project schedule will illustrate the various activities from purchase order/contract receipt, through design, manufacture, testing, shipment and site services (if in work scope).

The overall price and cycle quoted herein requires full cooperation between the Seller and the Buyer/End-User, and adherence to key milestones dates specified as part of a project implementation plan. The specific milestone dates will normally be set during the Project kick-off meeting and will normally include, but may not be limited to, the following key project control points.

- a. Project Kick-Off Meeting (Buyer/End-user and Seller)
- b. Site survey and/or supply of applicable site data (Buyer/End-user and Seller)
  - i. Site data (Buyer/End-user)
  - ii. Drawings and documentation (Buyer/End-user)
  - iii. Logistics Data (Buyer/End-user and Seller)
- c. Drawing submittals (Seller)
- d. Design review and approval (Buyer/End-user)
- e. Design freeze (Buyer/End-user and Seller)
- f. Factory acceptance test/Buyer witness test (Buyer/End-user and Seller)
- g. Supply of documentation for shipment (Buyer/End-user)



- h. Support commissioning, start-up, site acceptance testing and handoff (Buyer/End-user and Seller)
- i. Delivery of documentation (Seller)

Unless otherwise agreed upon in advance, the work shall be executed in an uninterrupted and sequential fashion. If the work is interrupted by or for the convenience of the Buyer/End-user, or cannot be performed according to the schedule, the Seller has the right to submit a change order for incremental charges (for example multiple site trips or additional design review cycles, etc.). The Buyer/End-user shall be provided drawings of sufficient quality and thoroughness early in the project and be given one review cycle, to submit comments and request changes. The review cycle is typically three weeks long but depends on the project schedule and will be reviewed and agreed upon at the Kickoff Meeting. After the review cycle the design will be considered frozen and the cost and schedule impact of requested changes will increase.

### **Work Assumptions**

The works described herein will be scheduled on dates and at times which are mutually agreeable between the Buyer and Seller. Unless otherwise agreed upon in advance, work shall occur in an uninterrupted and sequential fashion. If the work is interrupted by or for the convenience of the Buyer, or cannot be performed according to the agreed Project Schedule, there will be separate charges for multiple trips and rescheduling of Seller's personal. Seller reserves the right to charge for additional costs incurred as a result of Buyer initiated changes. Buyer shall also remain liable for meeting milestone payments as agreed in the project schedule.

### **Title Transfer, and Risk of Loss**

Title to Services shall pass to Buyer as performed. Seller shall deliver Products to Buyer EX Works Pune Factory, Incoterms 2010. Title Transfer and Risk of loss will be governed as per the delivery terms mentioned. The prices quoted are firm during the validity of the proposal.

### **Pricing Limitations**

Seller reserves the right to review and re-quote this job if there is a discrepancy between this proposal and the purchase order. If Seller receives a specification between the issuance date of this proposal and receipt of the purchase order, Seller reserves the right to re-evaluate this proposal.

Changes to specifications, drawings, services or hardware will be evaluated by Seller for a Change in Scope to the contract. Seller will quote the changes and a customer change order must be received before work is to proceed.

The pricing breakouts outlined in this proposal are for accounting purposes only and are not to be considered as stand-alone prices.

**PRICE:** The total price for the supply of parts of GT listed in Appendix 'A' of this proposal is **Quoted in Indian Rupees only**. The price excludes GST, Freight and Insurance and which shall be extra to buyers (Customer) account. As applicable for both supply & services.

**SHIPMENT, FREIGHT & INSURANCE:** BGGTS have quoted Ex Works/ Ex Suppliers works prices, which do not include the insurance and freight. The same shall be arranged and borne by buyer (customer) only.





## **BHEL-GE Gas Turbine Services Pvt. Ltd.**

**DUTIES:** BGGTS has not included in its price the GST, which are extra payable by buyer (customer), as applicable on the date of dispatch. If VAT is applicable at the time of dispatch, same shall be applicable as extra at actuals. As applicable for both supply & services.

**TERMS OF PAYMENTS:** A. 100% against Exchange of Documents. BGGTS shall arrange pro-forma invoice to enable purchaser to prepare cheque in advance and the same shall be exchanged Exchange of Documents.

**DELIVERY:** Delivery time mentioned in the attached Appendix-A is based on standard cycle time i.e 12 Months.

*COVID-19 VIRUS: The parties acknowledge that the COVID-19 pandemic and government actions in response to it have affected and will continue to affect Seller's ability to deliver goods and services around the world (the "COVID-19 Impact"). In the event that the COVID-19 Impact affects Seller's ability to deliver on time or at the bid price, Seller shall be entitled to an equitable adjustment in schedule and price as appropriate, subject to Seller's obligation to work in good faith with Buyer to mitigate the impact on schedule and/or cost.*

**For Site Services, 100% on completion of the job and submission of invoice documents.**

**WARRANTY CLAUSE:** Parts quoted by us are warranted for a period of 18 months from the date of dispatch or 12 months from the date of installation whichever expires earlier.

It is strongly recommended that, after supply of goods, subject to an order, purchaser to conduct material inspection at site within 30 days from the date of dispatch to avail the warranty benefit, when parts are not used immediately in the equipment.

**For Site Services, workmanship warranty is NOT applicable.,**

**NON-ACCEPTANCE OF LIQUIDATED DAMAGES CLAUSE:** As a company Policy, BGGTS shall not accept any liquidated damages clause for delays in delivery. However, BGGTS shall endeavor to meet delivery mentioned in quotation and even improves it wherever possible.

**VALIDITY:** This proposal shall remain valid 30 days from the date of proposal only.

**ORDER CANCELLATION:** Once the purchaser places the order, it cannot be cancelled unless seller accepts the cancellation in writing.

**NON-ACCEPTANCE OF SECURITY CUM PERFORMANCE GUARANTEE CLAUSE NOT APPLICABLE.**

Thanking you & Yours sincerely,  
For **BHEL-GE Gas Turbine Services Pvt. Limited.,**



**Mithun Pillai**  
**Sr. Manager – Sales & Marketing**



APPENDIX-A

Products and/or Services Terms and Conditions 2019

NOTICE: Sale of any Product and/or Service is expressly conditioned on Buyer's assent to these Terms and Conditions. Any acceptance of Seller's offer is expressly limited to acceptance of these Terms and Conditions and Seller expressly object to any additional or different terms proposed by Buyer. No facility entry form shall modify these Terms and Conditions even if signed by Seller's representative. Any order to perform work and Seller's performance of work shall constitute Buyer's assent to these Terms and Conditions. Unless otherwise specified in the quotation, Seller's quotation expires 30 days from its date and may be modified or withdrawn by Seller before receipt of Buyer's conforming acceptance.

1. Definitions

"Buyer" means the entity to which Seller is providing Products and/or Services under the Contract.

"Contract" means either the contract agreement signed by both parties, or the purchase order signed by Buyer and accepted by Seller in writing, for the sale of Products and/or Services, together with these Terms and Conditions, Seller's final quotation, the agreed scope(s) of work, and Seller's order acknowledgement. In the event of any conflict, the Terms and Conditions shall take precedence over other documents included in the Contract.

"Contract Price" means the agreed price stated in the Contract for the sale of Products and/or Services, including adjustments (if any) in accordance with the Contract.

"Derivative Works" means: (a) any work based upon one or more pre-existing works, such as a revision, enhancement, modification, translation, abridgment, condensation, expansion, extension or any other form in which such pre-existing works may be published, recast, transformed, or adapted, and that if prepared without the authorization of the owner of the copyright or other intellectual property right to such pre-existing works, would constitute an infringement of such copyright or other intellectual property right, and/or (b) any compilation that incorporates such pre-existing works.

"Hazardous Materials" means any toxic or hazardous substance, hazardous material, dangerous or hazardous waste, dangerous good, radioactive material, petroleum or petroleum-derived products or by-products, or any other chemical, substance, material or emission, that is regulated, listed or controlled pursuant to any national, state, provincial, or local law, statute, ordinance, directive, regulation or other legal requirement of the United States ("US") or the country of the Sale.

"Insolvent/Bankrupt" means that a party is insolvent, makes an assignment for the benefit of its creditors, has an administrator, receiver, liquidator or trustee appointed for it or any of its assets, or files or has filed against it a proceeding under any bankruptcy, insolvency dissolution or liquidation laws.

"Products" means the equipment, parts, materials, supplies, software, and other goods Seller has agreed to supply to Buyer under the Contract.

"Seller" means the entity providing Products or performing Services under the Contract.

"Services" means the services Seller has agreed to perform for Buyer under the Contract.

"Site" means the premises where Products are used or Services are performed, not including Seller's premises from which it performs Services.

"Terms and Conditions" means these "Products and/or Services Terms and Conditions", including any relevant addenda pursuant to Article 11, together with any modifications or additional provisions specifically stated in Seller's final quotation or specifically agreed upon by Seller in writing.

"USD" means United States Dollars.

2. Payment

2.1 Buyer shall pay Seller for the Products and/or Services by paying all invoiced amounts by direct bank transfer in the currency specified by Seller in the Contract, without deduction, withholding or set-off for any payment or claim, within thirty (30) days from the invoice date. If the Contract Price is less than two hundred fifty thousand USD (\$250,000), Seller shall issue invoices upon shipment of Products and as Services are performed. If the Contract Price is two hundred fifty thousand USD (\$250,000) or more, progress payments shall be invoiced starting with twenty-five percent (25%) of the Contract Price for Products and/or Services upon the earlier of Contract signature or issuance of Seller's order acknowledgement and continuing such that the Contract Price for remaining Services is invoiced as they are performed and ninety percent (90%) of the Contract Price for Products is received before the earliest scheduled Product shipment ("Progress Payments"). For each calendar month, or fraction thereof, that payment is late, Buyer shall pay a late payment charge computed at the rate of 1.5% per month on the overdue balance, or the maximum rate permitted by law if it is less. If the price is set by the Contract in a currency other than USD, references to USD in this Section 2.1 shall mean the equivalent amount in the applicable currency.

2.2 As and if requested by Seller, Buyer shall at its expense establish and keep in force payment security in the form of an irrevocable, unconditional, sight letter of credit or bank guarantee allowing for pre-advance payments as Products are shipped, and Services are performed, plus payment of cancellation and termination charges, and all other amounts due from Buyer under the Contract ("Payment Security"). The Payment Security shall be (a) in a form, and issued or confirmed by a bank acceptable to Seller, (b) payable at the counters of such acceptable bank or negotiating bank, (c) opened at least sixty (60) days prior to both the earliest scheduled shipment of Products and commencement of Services, and (d) remain in effect until the latest of ninety (90) days after the last scheduled Product shipment, completion of all Services and Seller's receipt of the final payment required under

the Contract. Buyer shall, at its expense, increase the amount(s), extend the validity period(s) and make other appropriate modifications to any Payment Security within ten (10) days of Seller's notification that such adjustment is necessary in connection with Buyer's obligations under the Contract.

2.3 Seller is not required to commence or continue its performance unless and until any required Payment Security is received, operative and in effect and all applicable Progress Payments have been received. For each day of delay in receiving any Progress Payments or acceptable Payment Security, Seller shall be entitled to an equitable extension of time to durations or periods of time (if any) expressly agreed to by the Parties in the written schedule for performance and/or completion of the Services or any parts thereof. If at any time Seller reasonably determines that Buyer's financial condition or payment history does not justify continuation of Seller's performance, Seller shall be entitled to require full or partial payment in advance or otherwise restructure payments, request additional forms of Payment Security, suspend its performance or terminate the Contract.

3. Taxes and Duties

Seller shall be responsible for all corporate taxes measured by net income due to performance of or payment for work under this Contract ("Seller Taxes"). Buyer shall be responsible for all taxes, duties, fees, or other charges of any nature (including, but not limited to, consumption, gross receipts, import, property, sales, stamp, turnover, use, or value-added taxes, and all items of withholding, deficiency, penalty, addition to tax, interest, or assessment related thereto, imposed by any governmental authority on Buyer or Seller or its subcontractors) in relation to the Contract or the performance of or payment for work under the Contract other than Seller Taxes ("Buyer Taxes"). The Contract Price does not include the amount of any Buyer Taxes. If Buyer deducts or withholds Buyer Taxes, Buyer shall pay additional amounts so that Seller receives the full Contract Price without reduction for Buyer Taxes. Buyer shall provide to Seller, within one month of payment, official receipts from the applicable governmental authority for deducted or withheld taxes.

4. Deliveries, Title Transfer, Risk of Loss, Storage

4.1 For shipments that do not involve export, including shipments from one European Union ("EU") country to another EU country, Seller shall deliver Products to Buyer at Seller's facility or warehouse (Incoterms 2010), for export shipments, Seller shall deliver Products to Buyer (Incoterms 2010). Buyer shall pay all delivery costs and charges or pay Seller's standard shipping charges plus up to twenty-five (25%) percent. Partial deliveries are permitted. Seller may deliver Products in advance of the delivery schedule. If Products delivered do not correspond in quantity, type or price to those itemized in the shipping invoice or documentation, Buyer shall notify Seller within ten (10) days after receipt.

4.2 For shipments that do not involve export, title to Products shall pass to Buyer upon delivery in accordance with Section 4.1. For export shipments from a Seller facility or warehouse outside the US, title shall pass to Buyer upon delivery in accordance with Section 4.1. For shipments from the US to another country, title shall pass to Buyer immediately after each item departs from the territorial land, seas and overlying airspace of the US. The 1924 United Nations Convention of the Law of the Sea shall apply to determine the US territorial seas. For all other shipments, title to Products shall pass to Buyer the earlier of (i) the port of export immediately upon clearance of Products for export or (ii) immediately after each item departs from the territorial land, seas and overlying airspace of the sending country. When Buyer arranges the export or intercommunity shipment, Buyer will provide Seller evidence of exportation or intercommunity shipment acceptable to the relevant tax and custom authorities. Where Seller is responsible for importing or directly or indirectly reimburses Buyer for import costs, Buyer agrees to have import arranged through the agency of one of Seller's approved global customs brokers, whereby Seller will provide required support for instructions. If Buyer arranges for any import of Parts, Buyer may not use any third party vendor for providing customs clearance services until Seller has approved such party prior to shipment of the Parts. Notwithstanding the foregoing, Seller grants only a non-exclusive license, and does not pass title, for any software provided by Seller under this Contract, and title to any leased equipment remains with Seller.

4.3 Risk of loss shall pass to Buyer upon delivery pursuant to Section 4.1, except that for export shipments from the US, risk of loss shall transfer to Buyer upon title passage.

4.4 If any Products to be delivered under this Contract or if any Buyer equipment repaired at Seller's facilities cannot be shipped to or received by Buyer when ready due to any cause attributable to Buyer or its other contractors, Seller may ship the Products and equipment to a storage facility, including storage at the place of manufacture or repair, or to an agreed freight forwarder, if Seller places Products or equipment into storage, the following apply: (i) title and risk of loss immediately pass to Buyer, if they have not already passed, and delivery shall be deemed to have occurred, (ii) any amounts otherwise payable to Seller upon delivery or shipment shall be due (iii) all expenses and charges incurred by Seller related to the storage shall be payable by Buyer upon submission of Seller's invoices and (iv) when conditions permit and upon payment of all amounts due, Seller shall make Products and repaired equipment available to Buyer for delivery.

4.5 If repair Services are to be performed on Buyer's equipment at Seller's facility, Buyer shall be responsible for, and shall retain risk of loss of, such equipment at all times, except that Seller shall be responsible for damage to the equipment while at Seller's facility to



# BHEL-GE Gas Turbine Services Pvt. Ltd.

the extent such damage is caused by Seller's negligence.

4.6 Except as otherwise expressly agreed to by the Parties in writing, acceptance of Products shall be deemed to occur upon delivery; acceptance of Services shall be deemed to occur upon performance of the Services. Acceptance shall not be delayed by delays in provision of documentation or other non-conformances which do not prevent operation of Buyer's equipment, nor by requirements which the Contract contemplates may be carried out after acceptance.

## 5. Warranty

5.1 Seller warrants that Products shall be delivered free from defects in material, workmanship and title and that Services shall be performed in a competent, diligent manner in accordance with any mutually agreed specifications incorporated into the Contract.

5.2 The warranty for Products shall expire one (1) year from first use or eighteen (18) months from delivery, whichever occurs first, except that software is warranted for ninety (90) days from delivery, and the warranty for Services shall expire one (1) year after performance of the Services, except that software-related Services are warranted for ninety (90) days (as applicable, the "Warranty Period").

5.3 If Products and/or Services do not meet the above warranties, Buyer shall promptly notify Seller in writing prior to expiration of the applicable Warranty Period. Seller shall (i) at its option, repair or replace defective Products and (ii) re-perform defective Services. If despite Seller's reasonable efforts, a non-conforming Product cannot be repaired or replaced, or non-conforming Services cannot be re-performed, Seller shall refund or credit monies paid by Buyer for such non-conforming Products and/or Services. Warranty repair, replacement or re-performance by Seller shall not extend or renew the applicable Warranty Period. Seller's warranty obligations exclude the repair or replacement of any damaged parts or Products other than the initially failing part which caused the damage. Buyer shall obtain Seller's agreement on the specifications of any tests it plans to conduct to determine whether a non-conformance exists.

5.4 Buyer shall bear the costs of access for Seller's remedial warranty efforts (including removal and replacement of systems, structures or other parts of Buyer's facility), de-installation, decontamination, re-installation and transportation of defective Products to Seller and back to Buyer.

5.5 The warranties and remedies are conditioned upon (a) proper storage, installation, use, operation and maintenance of Products, (b) Buyer keeping accurate and complete records of operation and maintenance during the warranty period and providing Seller access to those records, and (c) modification or repair of Products and/or Services only as authorized by Seller in writing. Failure to meet any such conditions renders the warranty null and void. Seller is not responsible for normal wear and tear.

5.6 This Article 5 provides the exclusive remedies for all claims based upon the failure of or defect in Products or Services, whether the claim is based in contract, negligence, statute, or any tortious/extra-contractual liability theory, strict liability or otherwise. The foregoing warranties in this Article 5 are exclusive and are in lieu of all other warranties, conditions and guarantees whether written, oral, implied or statutory. NO IMPLIED OR STATUTORY WARRANTY, OR WARRANTY OR CONDITION OF MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE APPLIES.

## 6. Confidentiality

6.1 Seller and Buyer (as to information disclosed, the "Disclosing Party") may each provide the other party (as to information received, the "Receiving Party") with Confidential Information in connection with this Contract. "Confidential Information" means information that is designated in writing as "Confidential" or "proprietary" by Disclosing Party at the time of written disclosure. In addition, prices for Products and/or Services shall be considered Seller's Confidential Information.

6.2 Receiving Party agrees: (i) to use the Confidential Information only in connection with the Contract and use of Products and/or Services, (ii) to take reasonable measures to prevent disclosure of the Confidential Information to third parties, and (iii) not to disclose the Confidential Information to a competitor of Disclosing Party. Notwithstanding these restrictions, (a) Seller may disclose Confidential Information to its affiliates and subcontractors in connection with performance of the Contract, (b) a Receiving Party may disclose Confidential Information to its auditors, (c) Buyer may disclose Confidential Information to lenders as necessary for Buyer to secure or obtain financing needed to perform its obligations under the Contract, and (d) a Receiving Party may disclose Confidential Information to any other third party with the prior written permission of Disclosing Party, and in each case, only so long as the Receiving Party obtains a non-disclosure commitment from any such subcontractors, auditors, lenders or other permitted third party that prohibits disclosure of the Confidential Information and provided further that the Receiving Party remains responsible for any unauthorized use or disclosure of the Confidential Information. Receiving Party shall upon request return to Disclosing Party or destroy all copies of Confidential Information except to the extent that a specific provision of the Contract entitles Receiving Party to retain an item of Confidential Information. Seller may also retain one archive copy of Buyer's Confidential Information.

6.3 The obligations under this Article 6 shall not apply to any portion of the Confidential Information that: (i) is or becomes generally available to the public other than as a result of disclosure by Receiving Party, its representatives or its affiliates; (ii) is or becomes available to Receiving Party on a non-confidential basis from a source other than Disclosing Party when the source is not, to the best of Receiving Party's knowledge, subject to a confidentiality obligation to Disclosing

Party; (iii) is independently developed by Receiving Party, its representatives or affiliates, without reference to the Confidential Information; (iv) is required to be disclosed by law or valid legal process provided that the Receiving Party intending to make disclosure in response to such requirements or process shall promptly notify the Disclosing Party in advance of such disclosure and reasonably cooperate in attempts to maintain the confidentiality of the Confidential Information.

6.4 Each Disclosing Party warrants that it has the right to disclose the information that it discloses. Neither Buyer nor Seller shall make any public announcement about the Contract without prior written approval of the other party. As to any individual item of Confidential Information, the restrictions under this Article 6 shall expire five (5) years after the date of disclosure. Trade secrets that are contained in or comprise Confidential Information are to be protected for the life of the trade secret. Article 6 does not supersede any separate confidentiality or nondisclosure agreement signed by the parties.

## 7. Intellectual Property

7.1 Seller shall defend and indemnify Buyer against any claim by a non-affiliated third party (a "Claim") alleging that Products and/or Services furnished under this Contract infringe a patent in effect in the U.S., an EU member state or the country of the Site (provided there is a corresponding patent issued by the U.S. or an EU member state), or any copyright or trademark registered in the country of the Site, provided that Buyer (a) promptly notifies Seller in writing of the Claim, (b) makes no admission of liability and does not take any position adverse to Seller, (c) gives Seller sole authority to control defense and settlement of the Claim, and (d) provides Seller with full disclosure and reasonable assistance as required to defend the Claim.

7.2 Section 7.1 shall not apply and Seller shall have no obligation or liability with respect to any Claim based upon (a) Products and/or Services that have been modified, or revised, (b) the combination of any Products and/or Services with other products and/or services when such combination is a basis of the alleged infringement, (c) failure of Buyer to implement any update provided by Seller that would have prevented the Claim, (d) unauthorized use of Products and/or Services, or (e) Products and/or Services made or performed to Buyer's specifications.

7.3 Should any Product and/or Service, or any portion thereof, become the subject of a Claim, Seller may at its option (a) procure for Buyer the right to continue using the Product and/or Service, or applicable portion thereof, (b) modify or replace it in whole or in part to make it non-infringing, or (c) failing (a) or (b), take back infringing Products and/or discontinue infringing Services and refund the price received by Seller attributable to the infringing Products and/or Services.

7.4 Article 7 states Seller's exclusive liability for intellectual property infringement by Products and/or Services.

7.5 Each party shall retain ownership of all Confidential Information and intellectual property it had prior to the Contract. All rights in and to software not expressly granted to Buyer are reserved by Seller. All new Intellectual property conceived or created by Seller in the performance of this Contract, whether alone or with any contribution from Buyer, shall be owned exclusively by Seller. Buyer agrees to deliver assignment documentation as necessary to achieve that result.

7.6 Buyer will not itself, and will not allow any party (including Buyer Affiliates) to: (i) reverse engineer Products or Services (including any Seller monitoring or data analysis by Seller), (ii) prepare Derivative Works from, alter, modify, disassemble, reverse engineer, reverse assemble, de-compile, or otherwise attempt to reconstruct, discover or derive the object or source code of any software licensed to Buyer by Seller under this Contract (including any third party software); (iii) permit or otherwise grant any third party access to Products, Services or software for such purpose, even if such third party is performing any corrections, bug fixes and updates.

7.7 Products furnished by Seller under this Contract shall not be installed, used, or made available for use in any equipment other than the equipment specified in the Contract at Buyer's Site. Buyer warrants that such equipment, and the Site, is under its ownership and control, and agrees to inform Seller forthwith should this cease to be the case at any time before expiry of the Warranty Period.

## 8. Indemnity

Each of Buyer and Seller (as an "Indemnifying Party") shall indemnify the other party (as an "Indemnified Party") from and against claims brought by a third party, on account of personal injury or damage to the third party's tangible property, to the extent caused by the negligence of the Indemnifying Party in connection with this Contract. In the event the injury or damage is caused by joint or concurrent negligence of Buyer and Seller, the loss or expense shall be borne by each party in proportion to its degree of negligence. For purposes of Seller's indemnity obligation, no part of the Products or Site is considered third party property.

## 9. Insurance

During the term of the Contract, Seller shall maintain for its protection the following insurance coverage: (i) Worker's Compensation, Employer's Liability and other statutory insurance required by law with respect to work related injuries or disease of employees of Seller in such form(s) and amount(s) as required by applicable laws; (ii) Automobile Liability insurance with a combined single limit of \$2,500,000.00; and (iii) Commercial General Liability or Public Liability insurance for bodily injury and property damage with a combined single limit of \$2,500,000.00. If required in the Contract, Seller shall provide a certificate of insurance reflecting such coverage.

## 10. Schedule and Excusable Events

10.1 Any durations or periods of time quoted on the schedule or otherwise agreed for performance, delivery and/or completion of the Services or delivery of Products shall be regarded as estimated only. In addition, delivery times are dependent upon prompt receipt by Seller of all information necessary to proceed with the work without



the extent such damage is caused by Seller's negligence.

4.5 Except as otherwise expressly agreed to by the Parties in writing acceptance of Products shall be deemed to occur upon delivery, acceptance of Services shall be deemed to occur upon performance of the Services. Acceptance shall not be delayed by delays in provision of documentation or other non-conformances which do not prevent operation of Buyer's equipment, nor by requirements which the Contract contemplates may be carried out after acceptance.

## 5. Warranty

5.1 Seller warrants that Products shall be delivered free from defects in material, workmanship and title and that Services shall be performed in a competent, diligent manner in accordance with any mutually agreed specifications incorporated into the Contract.

5.2 The warranty for Products shall expire one (1) year from first use or eighteen (18) months from delivery, whichever occurs first, except that software is warranted for ninety (90) days from delivery; and the warranty for Services shall expire one (1) year after performance of the Service, except that software-related Services are warranted for ninety (90) days (as applicable, the "Warranty Period").

5.3 If Products and/or Services do not meet the above warranties, Buyer shall promptly notify Seller in writing prior to expiration of the applicable Warranty Period. Seller shall (i) at its option, repair or replace defective Products and (ii) re-perform defective Services. If despite Seller's reasonable efforts, a non-conforming Product cannot be repaired or replaced, or non-conforming Services cannot be re-performed, Seller shall refund or credit monies paid by Buyer for such non-conforming Products and/or Services. Warranty repair, replacement or re-performance by Seller shall not extend or renew the applicable Warranty Period. Seller's warranty obligations exclude the repair or replacement of any damaged parts or Products other than the initially failing part which caused the damage. Buyer shall obtain Seller's agreement or the specifications of any tests it plans to conduct to determine whether a non-conformance exists.

5.4 Buyer shall bear the costs of access for Seller's remedial warranty efforts (including removal and replacement of systems, structures or other parts of Buyer's facility), de-installation, decontamination, re-installation and transportation of defective Products to Seller and back to Buyer.

5.5 The warranties and remedies are conditioned upon (a) proper storage, installation, use, operation, and maintenance of Products, (b) Buyer keeping accurate and complete records of operation and maintenance during the warranty period and providing Seller access to those records, and (c) modification or repair of Products and/or Services only as authorized by Seller in writing. Failure to meet any such conditions renders the warranty null and void. Seller is not responsible for normal wear and tear.

5.6 This Article 5 provides the exclusive remedies for all claims based upon the failure of or defect in Products or Services, whether the claim is based in contract, negligence, statute, or any tortious/extra-contractual liability theory, strict liability or otherwise. The foregoing warranties in this Article 5 are exclusive and are in lieu of all other warranties, conditions and guarantees whether written, oral, implied or statutory. **NO IMPLIED OR STATUTORY WARRANTY, OR WARRANTY OR CONDITION OF MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE APPLIES.**

## 6. Confidentiality

6.1 Seller and Buyer (as to information disclosed, the "Disclosing Party") may each provide the other party (as to information received, the "Receiving Party") with Confidential Information in connection with this Contract. Confidential Information means information that is designated in writing as "Confidential" or "proprietary" by Disclosing Party at the time of written disclosure. In addition, prices for Products and/or Services shall be considered Seller's Confidential Information.

6.2 Receiving Party agrees: (i) to use the Confidential Information only in connection with the Contract and use of Products and/or Services, (ii) to take reasonable measures to prevent disclosure of the Confidential Information to third parties, and (iii) not to disclose the Confidential Information to a competitor of Disclosing Party. Notwithstanding these restrictions, (a) Seller may disclose Confidential Information to its affiliates and subcontractors in connection with performance of the Contract, (b) a Receiving Party may disclose Confidential Information to its auditors, (c) Buyer may disclose Confidential Information to lenders as necessary for Buyer to secure or retain financing needed to perform its obligations under the Contract, and (d) a Receiving Party may disclose Confidential Information to any other third party with the prior written permission of Disclosing Party, and in each case, only so long as the Receiving Party obtains a non-disclosure commitment from any such subcontractors, auditors, lenders or other permitted third party that prohibits disclosure of the Confidential Information and provided further that the Receiving Party remains responsible for any unauthorized use or disclosure of the Confidential Information. Receiving Party shall upon request return to Disclosing Party or destroy all copies of Confidential Information except to the extent that a specific provision of the Contract entitles Receiving Party to retain an item of Confidential Information. Seller may also retain one archive copy of Buyer's Confidential Information.

6.3 The obligations under this Article 6 shall not apply to any portion of the Confidential Information that: (i) is or becomes generally available to the public other than as a result of disclosure by Receiving Party, its representatives or its affiliates; (ii) is or becomes available to Receiving Party on a non-confidential basis from a source other than Disclosing Party when the source is not, to the best of Receiving Party's knowledge, subject to a confidentiality obligation to Disclosing

Party; (iii) is independently developed by Receiving Party, its representatives or affiliates, without reference to the Confidential Information; (iv) is required to be disclosed by law or valid legal process provided that the Receiving Party intending to make disclosure in response to such requirements or process shall promptly notify the Disclosing Party in advance of such disclosure and reasonably cooperate in attempts to maintain the confidentiality of the Confidential Information.

6.4 Each Disclosing Party warrants that it has the right to disclose the information that it discloses. Neither Buyer nor Seller shall make any public announcement about the Contract without prior written approval of the other party. As to any individual item of Confidential Information, the restrictions under this Article 6 shall expire five (5) years after the date of disclosure. Trade secrets that are contained in or comprise Confidential Information are to be protected for the life of the trade secret. Article 6 does not supersede any separate confidentiality or nondisclosure agreement signed by the parties.

## 7. Intellectual Property

7.1 Seller shall defend and indemnify Buyer against any claim by a non-affiliated third party (a "Claim") alleging that Products and/or Services furnished under this Contract infringe a patent in effect in the U.S., an EU member state or the country of the Site (provided there is a corresponding patent issued by the U.S. or an EU member state), or any copyright or trademark registered in the country of the Site, provided that Buyer (a) promptly notifies Seller in writing of the Claim, (b) makes no admission of liability and does not take any position adverse to Seller, (c) gives Seller sole authority to control defense and settlement of the Claim, and (d) provides Seller with full disclosure and reasonable assistance as required to defend the Claim.

7.2 Section 7.1 shall not apply and Seller shall have no obligation or liability with respect to any Claim based upon (a) Products and/or Services that have been modified, or revised, (b) the combination of any Products and/or Services with other products and/or services when such combination is a basis of the alleged infringement, (c) failure of Buyer to implement any updates provided by Seller that would have prevented the Claim, (d) unauthorized use of Products and/or Services, or (e) Products and/or Services made or performed to Buyer's specifications.

7.3 Should any Product and/or Service, or any portion thereof, become the subject of a Claim, Seller may at its option (a) procure for Buyer the right to continue using the Product and/or Service, or applicable portion thereof, (b) modify or replace it in whole or in part to make it non-infringing or (c) failing (a) or (b), take back infringing Products and/or discontinue infringing Services and refund the price received by Seller attributable to the infringing Products and/or Services.

7.4 Article 7 states Seller's exclusive liability for intellectual property infringement by Products and/or Services.

7.5 Each party shall retain ownership of all Confidential Information and intellectual property it had prior to the Contract. All rights in and to software not expressly granted to Buyer are reserved by Seller. All new Intellectual property conceived or created by Seller in the performance of this Contract, whether alone or with any contribution from Buyer, shall be owned exclusively by Seller. Buyer agrees to deliver assignment documentation as necessary to achieve that result.

7.6 Buyer will not itself, and will not allow any party (including Buyer Affiliates) to: (i) reverse engineer Products or Services (including any Seller monitoring or data analysis by Seller), (ii) prepare Derivative Works from, alter, modify, disassemble, reverse engineer, reverse assemble, de-compile, or otherwise attempt to reconstruct, discover or derive the object or source code of any software licensed to Buyer by Seller under this Contract (including any third party software), (iii) permit or otherwise grant any third-party access to Products, Services or software for such purpose, even if such third party is performing any corrections, bug fixes and updates.

7.7 Products furnished by Seller under this Contract shall not be installed, used, or made available for use in any equipment other than the equipment specified in the Contract at Buyer's Site. Buyer warrants that such equipment, and the Site, is under its ownership and control, and agrees to inform Seller forthwith should this case to be the case at any time before expiry of the Warranty Period.

## 8. Indemnity

Each of Buyer and Seller (as an "Indemnifying Party") shall indemnify the other party (as an "Indemnified Party") from and against claims brought by a third party, on account of personal injury or damage to the third party's tangible property, to the extent caused by the negligence of the Indemnifying Party in connection with this Contract. In the event the injury or damage is caused by joint or concurrent negligence of Buyer and Seller, the loss or expense shall be borne by each party in proportion to its degree of negligence. For purposes of Seller's indemnity obligation, no part of the Products or Site is considered third party property.

## 9. Insurance

During the term of the Contract, Seller shall maintain for its protection the following insurance coverage: (i) Worker's Compensation, Employer's Liability and other statutory insurance required by law with respect to work related injuries or disease of employees of Seller in such form(s) and amount(s) as required by applicable laws; (ii) Automobile Liability insurance with a combined single limit of \$2,500,000.00; and (iii) Commercial General Liability or Public Liability insurance for bodily injury and property damage with a combined single limit of \$2,500,000.00. If required in the Contract, Seller shall provide a certificate of insurance reflecting such coverage.

## 10. Schedule and Excusable Event

10.1 Any durations or periods of time quoted on the schedule or otherwise agreed for performance, delivery and/or completion of the Services or delivery of Products shall be regarded as estimated only. In addition, delivery times are dependent upon prompt receipt by Seller of all information necessary to proceed with the work without



interruption. In the event Seller agrees in writing to guaranteed performance, delivery and/or completion times and specific sums as liquidated damages for late performance, delivery or completion, any such liability for damages shall only commence when the period of delay exceeds the guaranteed date or time by 14 (fourteen) calendar days and liquidated damages may be applied and be levied only from that 14th day onwards. Payment of liquidated damages shall be in full and final settlement of any and all liability of the Seller for delays under the Contract and shall be Buyer's sole and exclusive remedy for failing to achieve the performance, delivery and/or completion guarantee. The Seller's maximum aggregate liability for liquidated damages for delay shall in no circumstances exceed 5% (five per cent) of the total amount of the Contract Price paid to the Seller.

10.2 Seller shall not be liable and shall not be considered in breach of any obligations to supply manpower, deliver Products or to perform, deliver or complete the Services or any parts thereof within specified durations or periods or by a specified time if it is delayed or prevented, directly or indirectly, by any cause beyond its reasonable control, or by armed conflict, acts or threats of terrorism, epidemics, strikes or other labor disturbances, or acts or omissions of any governmental authority or of the Buyer or Buyer's contractors or suppliers or for any period of suspension under Section 11.3. If any such cause or excusable event occurs, the schedule for Seller's performance shall be adjusted accordingly and dates or times stated in the schedule for performance and/or completion of the Services shall be extended by the amount of time lost by reason of the event plus such additional time as may be needed to overcome the effect of the event. If acts or omissions of the Buyer or its contractors or suppliers cause the delay, Seller shall also be entitled to an equitable price adjustment.

11. Termination and Suspension

11.1 Buyer may terminate the Contract (or the portion affected) for cause if Seller (i) becomes Insolvent/Bankrupt, or (ii) commits a material breach of the Contract which does not otherwise have a specified contractual remedy, provided that: (a) Buyer shall first provide Seller with detailed written notice of the breach and of Buyer's intention to terminate the Contract, and (b) Seller shall have failed, within 30 days after receipt of the notice, to commence and diligently pursue cure of the breach.

11.2 If Buyer terminates the Contract pursuant to Section 11.1, (i) Seller shall reimburse Buyer the difference between that portion of the Contract Price allocable to the terminated scope and the actual amounts reasonably incurred by Buyer to complete that scope, and (ii) Buyer shall pay to Seller (a) the portion of the Contract Price allocable to Products and/or Services completed, (b) lease fees incurred, and (c) amounts for Services performed before the effective date of termination. The amount due for Services shall be determined in accordance with the milestone schedule (for completed milestones) and rates set forth in the Contract (for work toward milestones not yet achieved and where there is no milestone schedule), as applicable or, where there are no milestones and/or rates in the Contract, at Seller's then-current standard time and material rates.

11.3 Seller may suspend or terminate the Contract (or any affected portion thereof) immediately for cause if Buyer (i) becomes Insolvent/Bankrupt, or (ii) materially breaches the Contract, including, but not limited to, failure or delay in Buyer providing Payment Security, making any payment when due, or fulfilling any payment conditions.

11.4 If the Contract (or any portion thereof) is terminated for any reason other than Seller's default under Section 11.1, Buyer shall pay Seller for all Products completed, lease fees incurred and Services performed before the effective date of termination, plus expenses reasonably incurred by Seller in connection with the termination. The amount due for Services shall be determined in accordance with the milestone schedule (for completed milestones) and rates set forth in the Contract (for work toward milestones not yet achieved and where there is no milestone schedule), as applicable or, where there are no milestones and/or rates in the Contract, at Seller's then-current standard time and material rates. All work in progress shall be paid for at Seller's standard time and material rates. In addition, Buyer shall pay Seller a cancellation charge equal to 10% of the Contract Price applicable to uncompleted made-to-order Products and/or Services and 15% of the Contract Price applicable to all other uncompleted Products and/or Services.

11.5 Either Buyer or Seller may terminate the Contract (or the portion affected) upon twenty (20) days advance notice if there is an excusable event (as described in Article 10) lasting longer than one hundred and twenty (120) days. In such case, Buyer shall pay to Seller amounts payable under Section 11.4, excluding the cancellation charge for uncompleted Products and/or Services.

11.6 Buyer shall pay all reasonable expenses incurred by Seller in connection with a suspension, including, but not limited to, expenses for repossession, fee collection, demobilization/remobilization, and costs of storage during suspension. The schedule for Seller's obligations shall be extended for a period of time reasonably necessary to overcome the effects of any suspension.

12. Compliance with Laws, Codes and Standards

12.1 Seller shall comply with laws applicable to the manufacture of Products and its performance of Services. Buyer shall comply with laws applicable to the application, operation, use and disposal of the Products and Services.

12.2 Seller's obligations are conditioned upon Buyer's compliance with all U.S., EU and other applicable trade control laws and regulations. Buyer shall not trans-ship, re-export, divert or direct or otherwise move or allow any disposition of Products other than in and to the ultimate country of destination declared by Buyer and specified as the country of ultimate destination on Seller's invoice. Buyer hereby

certifies that the equipment, materials, services, technical data, software or other information or assistance furnished by Seller under this Contract will not be used in the design, development, production, stockpiling or use of chemical, biological, or nuclear weapons either by Buyer or by any entity acting on Buyer's behalf.

12.1 Notwithstanding any other provision, Buyer shall timely obtain, effectuate and maintain in force any required permit, license, exemption, filing, registration and other authorization, including, but not limited to, building and environmental permits, import licenses, environmental impact assessments and foreign exchange authorizations, required for the lawful performance of Services at the Site or fulfillment of Buyer's obligations, except that Seller shall obtain any license or registration necessary for Seller to generally conduct business and visas or work permits, if any, necessary for Seller's personnel. Buyer shall provide reasonable assistance to Seller in obtaining such visas and work permits.

13. Environmental, Health and Safety Matters

13.1 Buyer shall maintain safe working conditions at the Site, including without limitation, implementing appropriate procedures regarding hazardous Materials, confined space entry, and energization and de-energization of power systems (electrical, mechanical and hydraulic) using safe and effective lock-out/tag out (LOTO) procedures including physical LOTO or a mutually agreed upon alternative method.

13.2 Buyer shall timely advise Seller in writing of all applicable Site-specific health, safety, security and environmental requirements and procedures. Without limiting Buyer's responsibilities under Article 13, Seller has the right but not the obligation to, from time to time, review and inspect applicable health, safety, security and environmental documentation, procedures and conditions at the Site.

13.3 If, in Seller's reasonable opinion, the health, safety, or security of personnel at the Site is, or is apt to be, imperiled by security risks, terrorist acts or threats, the presence of or threat of exposure to hazardous Materials, or unsafe working conditions, Seller may, in addition to other rights or remedies available to it, evacuate some or all of its personnel from Site, suspend performance of all or any part of the Contract, and/or remotely perform or supervise work. Any such occurrence shall be considered an excusable event. Buyer shall reasonably assist in any such evacuation.

13.4 Operation of Buyer's equipment is the responsibility of Buyer. Buyer shall not require or permit Seller's personnel to operate Buyer's equipment at Site.

13.5 Buyer will make its Site medical facilities and resources available to Seller personnel who need medical attention.

13.6 Seller has no responsibility or liability for the pre-existing condition of Buyer's equipment or the Site. Prior to Seller starting any work at Site, Buyer will provide documentation that identifies the presence and condition of any hazardous Materials existing in or about Buyer's equipment or the Site that Seller may encounter while performing under this Contract. Buyer shall disclose to Seller industrial hygiene and environmental monitoring data regarding conditions that may affect Seller's work or personnel at the Site. Buyer shall keep Seller informed of changes in any such conditions.

13.7 Seller shall notify Buyer if Seller becomes aware of: (i) conditions at the Site differing materially from those disclosed by Buyer, or (ii) previously unknown physical conditions at Site differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract. If any such conditions cause an increase in Seller's cost of, or the time required for, performance of any part of the work under the Contract, an equitable adjustment in price and schedule shall be made.

13.8 If Seller encounters hazardous Materials in Buyer's equipment or at the Site that require special handling or disposal, Seller is not obligated to continue work affected by the hazardous conditions. In such an event, Buyer shall eliminate the hazardous conditions in accordance with applicable laws and regulations so that Seller's work under the Contract may safely proceed, and Seller shall be entitled to an equitable adjustment of the price and schedule to compensate for any increase in Seller's cost of, or time required for, performance of any part of the work. Buyer shall properly store, transport and dispose of all hazardous materials introduced, produced or generated in the course of Seller's work at the Site.

13.9 Buyer shall indemnify Seller for any and all claims, damages, losses, and expenses arising out of or relating to any Hazardous Materials which are or were (i) present in or about Buyer's equipment or the Site prior to the commencement of Seller's work, (ii) improperly handled or disposed of by Buyer or Buyer's employees, agents, contractors or subcontractors, or (iii) brought, generated, produced or released on Site by parties other than Seller.

14. Changes

14.1 Each party may at any time propose changes in the schedule or scope of Products and/or Services. Seller is not obligated to proceed with any change until both parties agree upon such change in writing. The written change documentation will describe the changes in scope and schedule, and the resulting changes in price and other provisions, as agreed.

14.2 The scope, Contract Price, schedule, and other provisions will be equitably adjusted to reflect additional costs or obligations incurred by Seller resulting from a change, after Seller's proposal date, in Buyer's Site-specific requirements or procedures, or in industry specifications, code, standards, applicable laws or regulations. Unless otherwise agreed by the parties, pricing for additional work arising from such changes shall be at Seller's time and material rates.

14.3 It shall be acceptable and not considered a change if Seller delivers a Product that bears a different, superseding or new part or version number compared to the part or version number listed in the Contract.

15. Limitation of Liability

15.1 To the maximum extent permitted by applicable law, the total liability of Seller for all claims arising from or related to the formation, performance or breach of this Contract, or provision of any Products and/or Services, shall not exceed the (i) Contract Price, or (ii) if



Buyer places multiple order(s) under the Contract. The price of each particular order for all claims arising from or related to that order and ten thousand USD (US \$10,000) for all claims not part of any particular order.

**15.2** Seller shall not be liable for loss of profit or revenues, loss of use of equipment or systems, interruption of business, cost of replacement power, cost of capital, downtime costs, increased operating costs, any special, consequential, incidental, indirect, or punitive damages, or claims of Buyer's customers for any of the foregoing types of damages, or for any cost, loss or liability Buyer may suffer under any agreement by which it sells or transmits electricity to its customer(s) or third parties.

**15.3** All Seller liability shall end upon expiration of the applicable warranty period, provided that Buyer may continue to enforce a claim for which it has given notice prior to that date by commencing an action or arbitration, as applicable under this Contract, before expiration of any statute of limitations or other legal time limitation but in no event later than one year after expiration of such warranty period.

**15.4** Seller shall not be liable for advice or assistance that is not required for the work scope under this Contract.

**15.5** Buyer will not supply Products and/or Services to any third party, or use Products and/or Services other than at the Site owned by Buyer. In case of non-compliance, Buyer shall (i) indemnify and defend Seller from and against any and all claims by, and liability to, any third party to whom Products and/or Services are supplied, and (ii) require that the third party agree, for the benefit of and enforceable by Seller, to be bound by the provisions of Article 7 and all the limitations included in this Article 15.

**15.6** For purposes of this Article 15, the term "Seller" means Seller, its affiliates, subcontractors and suppliers of any tier, and their respective employees. The limitations in this Article 15 shall apply regardless of whether a claim is based in contract, negligence, statute, indemnity, tortious/extra-contractual liability theory, strict liability or otherwise.

## 16. Governing Law and Dispute Resolution

**16.1** This Contract shall be governed by and construed in accordance with the laws of (i) the State of New York if Buyer's place of business is in the U.S. or (ii) England and Wales, if the Buyer's place of business is outside the U.S., in either case without giving effect to any choice of law rules that would cause the application of laws of any other jurisdiction (the "Governing Law").

**16.2** All disputes and, to the maximum extent permitted by applicable law, all non-contractual obligations arising in any way whatsoever out of or in connection with this Contract arising in connection with this Contract, including any question regarding its existence or validity, shall be resolved in accordance with this Article 16. If a dispute is not resolved by negotiations, either party may, by giving written notice, refer the dispute to a meeting of appropriate higher management, to be held within twenty (20) business days after the giving of notice. If the dispute is not resolved within thirty (30) business days after the giving of notice, or such later date as may be mutually agreed, either party may commence arbitration or court proceedings, depending upon the location of the Buyer, in accordance with one of the following:

(a) if the Buyer's pertinent place of business is in the U.S., legal action shall be commenced in federal court with jurisdiction applicable to, or state court located in, either New York, New York (and Buyer hereby consents to be subject to such New York federal and state jurisdiction) or the location of Buyer's principal place of business; or

(b) if the Buyer's pertinent place of business is outside the U.S., the dispute shall be submitted to and finally resolved under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules (the "Rules"). The seat of arbitration shall be in London, England. The arbitration shall be conducted in English. The decision of the arbitrators shall be final and binding upon the parties.

**16.3** Notwithstanding the foregoing, each party shall have the right at any time, at its option and where legally available, to commence an action or proceeding in a court of competent jurisdiction, subject to the terms of this Contract, to seek a restraining order, injunction, or similar order (but not monetary damages), or to seek interim or conservatory measures.

## 17. Inspection and Factory Tests

Seller will apply its normal quality control procedures in manufacturing Products. Seller shall attempt to accommodate requests by Buyer to witness Seller's factory tests of Products, subject to appropriate access restrictions, if such witnessing can be arranged without delaying the work.

## 18. Software, Leased Equipment, Remote Diagnostic Services, PCB Services

If Seller provides any software to Buyer, the Software License Addendum shall apply. If Seller leases any of Seller's equipment or provides related Services to Buyer, including placing Seller's equipment at Buyer's site to provide remote Services, the Leasing Addendum shall apply. If Seller provides remote diagnostic services to Buyer, the Remote Diagnostic Services Addendum shall apply. If Seller provides PCB Services to Buyer, the PCB Services Addendum shall apply. If there is any conflict between these Products and/or Services Terms and Conditions and the terms of any addendum incorporated pursuant to this Article 18, the terms of the addendum shall take precedence with respect to the applicable scope.

## 19. General Clauses

**19.1** Products and Services sold by Seller are not intended, in whole or in part, for application (and will not be used) in connection with or nearby any nuclear facility or activity, and Buyer warrants that it shall not use or permit others to use Products and/or Services for any such purposes, without the advance written consent of Seller.

**19.2** Seller may assign or novate its rights and obligations under the Contract, in whole or in part, to any of its affiliates or may assign any of its accounts receivable under this Contract to any party without Buyer's consent. Buyer agrees to execute any documents that may be necessary to complete Seller's assignment or novation. Seller may subcontract portions of the work, so long as Seller remains responsible for it. The delegation or assignment by Buyer of any or all of its rights or obligations under the Contract without Seller's prior written consent (which consent shall not be unreasonably withheld) shall be void.

**19.3** Buyer shall notify Seller immediately upon any change in ownership of more than fifty percent (50%) of Buyer's voting rights or of any controlling interest in Buyer. If Buyer fails to do so or Seller objects to the change, Seller may (a) terminate the Contract, (b) require Buyer to provide adequate assurance of performance (including but not limited to payment), and/or (c) put in place special controls regarding Seller's Confidential Information.

**19.4** If any Contract provision is found to be void or unenforceable, the remainder of the Contract shall not be affected. The parties will endeavor to replace any such void or unenforceable provision with a new provision that achieves substantially the same practical and economic effect and is valid and enforceable.

**19.5** The following Articles shall survive termination or cancellation of the Contract: 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 18, 19 and 20.

**19.6** The Contract represents the entire agreement between the parties. No oral or written representation or warranty not contained in this Contract shall be binding on either party. Buyer's and Seller's rights, remedies and obligations arising from or related to Products and/or Services sold under this Contract are limited to the rights, remedies and obligations stated in this Contract. No modification, amendment, rescission or waiver shall be binding on either party unless agreed in writing.

**19.7** Except as provided in Article 15 (Limitations of Liability), this Contract is only for the benefit of the parties and not for any third parties.

**19.8** This Contract may be signed in multiple counterparts that together shall constitute one agreement.

## 20. U.S. Government Contracts

**20.1** This Article 20 applies only if the Contract is for the direct or indirect sale to any agency of the U.S. government and/or is funded in whole or in part by any agency of the U.S. government.

**20.2** Buyer agrees that all Products and/or Services provided by Seller meet the definition of "commercial off-the-shelf" ("COTS") or "commercial item" as those terms are defined in Federal Acquisition Regulation ("FAR") 2.101. To the extent the Buy American Act, Trade Agreements Act, or other domestic preference requirements are applicable to this Contract, the country of origin of Products is unknown unless otherwise specifically stated by Seller in this Contract. Buyer agrees any Services offered by Seller are exempt from the Service-Contract Act of 1985 (FAR 52.222-4). Buyer represents and agrees that this Contract is not funded in whole or in part by American Recovery Reinvestment Act funds unless otherwise specifically stated in the Contract. The version of any applicable FAR clause listed in this Article 20 shall be the one in effect on the effective date of this Contract.

**20.3** If Buyer is an agency of the U.S. Government, then as permitted by FAR 12.302, Buyer agrees that all paragraphs of FAR 52.212-4 (except those listed in 12.302(b)) are replaced with these Terms and Conditions. Buyer further agrees the subparagraphs of FAR 52.212-5 apply only to the extent applicable for sale of COTS and/or commercial items and as appropriate for the Contract Price.

**20.4** If Buyer is procuring the Products and/or Services as a contractor, or subcontractor at any tier, on behalf of any agency of the U.S. Government, then Buyer agrees that FAR 52.212-5(e) or 52.244-6 (whichever is applicable) applies only to the extent applicable for sale of COTS and/or commercial items and as appropriate for the Contract Price.

Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Apr-23			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	3,070.58
2	Value of Stock	Rs	0.00	0.00	286,420,877.93
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	902.82	4,424.85	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	902.82	4,424.85	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	902.82	4,424.85	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	44,729,283.97	208,357,463.29	0.00
9	Adjustment (+ / -) In amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	44,729,283.97	208,357,463.29	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	1,512,374.03	7,786,903.71	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	1,512,374.03	7,786,903.71	0.00
17	Total amount charged for Gas/Oil supplied including transportation (11 + 16)	Rs	46,241,658.00	216,144,369.00	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	51,219.31	48,847.82	93,278.94
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9552.92	10036.95	11299.24
23	GCV of imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9552.92	10036.95	11299.24
28	GCV of imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9552.92	10036.95	11299.24

Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		May-23			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	3,070.58
2	Value of Stock	Rs	0.00	0.00	286,420,877.93
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	0.00	10,721.68	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	0.00	10,721.68	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	0.00	10,721.68	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	0.00	493,215,121.97	0.00
9	Adjustment (+ / -) In amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	0.00	493,215,121.97	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	0.00	18,183,620.99	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	0.00	18,183,620.99	0.00
17	Total amount charged for Gas/Oil supplied including transportation (11 + 16)	Rs	0.00	511,398,742.97	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	0.00	47,697.62	93,278.94
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	#DIV/0!	9672.82	11299.24
23	GCV of imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	#DIV/0!	9672.82	11299.24
28	GCV of imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	#DIV/0!	9672.82	11299.24



Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Jun-23			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	3,070.58
2	Value of Stock	Rs	0.00	0.00	286,420,877.93
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	9,030.05	14,726.25	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	9,030.05	14,726.25	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	9,030.05	14,726.25	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	403,475,110.65	643,736,397.73	0.00
9	Adjustment (+ / -) in amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	403,475,110.65	643,736,397.73	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	15,226,133.36	24,330,239.27	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	15,226,133.36	24,330,239.27	0.00
17	Total amount charged for Gas/Oil supplied including transportation (11 + 16)	Rs	418,701,244.00	668,066,637.00	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	46,367.56	45,365.71	93,278.94
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9615.60	9423.01	11299.24
23	GCV of imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9615.60	9423.01	11299.24
28	GCV of imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9615.60	9423.01	11299.24

Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Jul-25			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	3,070.58
2	Value of Stock	Rs	0.00	0.00	286,420,877.93
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	13,173.19	4,930.67	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	13,173.19	4,930.67	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	13,173.19	4,930.67	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	655,748,786.83	215,462,808.60	0.00
9	Adjustment (+ / -) in amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other similar charges	Rs	0.00	0.00	0.00
11	<b>Total Amount charged (8 +9+10)</b>	Rs	655,748,786.83	215,462,808.60	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	22,382,694.07	8,386,274.40	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	<b>Total transportation charges ( 12+/- 13 - 14 + 15 )</b>	Rs	22,382,694.07	8,386,274.40	0.00
17	<b>Total amount charged for Gas/Oil supplied including transportation (11 + 16)</b>	Rs	678,131,480.90	223,849,083.00	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	51,478.16	45,399.29	93,278.94
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9557.49	9567.21	11041.51
23	GCV of Imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of Imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9557.49	9567.21	11041.51
28	GCV of Imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of Imported coal supplied as received at station	(kcal/SCM)			
30	<b>Weighted average GCV of GAS as received</b>	(kcal/SCM)	9557.49	9567.21	11041.51

Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Aug-25			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	2,741.82
2	Value of Stock	Rs	0.00	0.00	278,086,678.10
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	25,329.13	2,613.56	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	25,329.13	2,613.56	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	25,329.13	2,613.56	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	1,253,521,779.23	115,161,776.18	0.00
9	Adjustment (+ / -) In amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	1,253,521,779.23	115,161,776.18	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	43,109,841.77	4,527,318.56	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	43,109,841.77	4,527,318.56	0.00
17	Total amount charged for Gas/Oil supplied including transportation (11 + 16)	Rs	1,296,631,621.00	119,689,094.74	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	51,191.32	45,795.48	101,424.19
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9573.68	9743.87	11299.24
23	GCV of imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9573.68	9743.87	11299.24
28	GCV of imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9573.68	9743.87	11299.24

Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Sep-23			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	2,983.11
2	Value of Stock	Rs	0.00	0.00	278,086,678.10
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	10,668.74	8,108.59	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	10,668.74	8,108.59	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	10,668.74	8,108.59	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	549,809,857.97	367,865,589.54	0.00
9	Adjustment (+ / -) In amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	549,809,857.97	367,865,589.54	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	18,254,435.57	13,982,592.47	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	18,254,435.57	13,982,592.47	0.00
17	Total amount charged for Gas/Oil supplied including transportation (11 + 16)	Rs	568,064,293.54	381,848,182.01	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	53,245.70	47,091.84	93,220.51
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9682.20	9699.85	9013.39
23	GCV of imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9682.20	9699.85	9013.39
28	GCV of imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9682.20	9699.85	9013.39

18,777.32

Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Oct-23			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	2,979.74
2	Value of Stock	Rs	0.00	0.00	277,676,559.80
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	10,939.76	14,400.65	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	10,939.76	14,400.65	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	10,939.76	14,400.65	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	530,409,994.19	701,318,496.28	0.00
9	Adjustment (+ / -) in amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8+9+10)	Rs	530,409,994.19	701,318,496.28	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs			0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	0.00	0.00	0.00
17	Total amount charged for Gas/Oil supplied including transportation (11 + 16)	Rs	530,409,994.19	701,318,496.28	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	48,484.61	48,700.46	93,188.05
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9528.44	9710.48	9013.39
23	GCV of Imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of Imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9528.44	9710.48	9013.39
28	GCV of Imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of Imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9528.44	9710.48	9013.39

25,340.41

1,231,728,490.47

Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		31-11-2023			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	2,979.74
2	Value of Stock	Rs	0.00	0.00	277,676,559.80
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	3,966.95	0.00	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	3,966.95	0.00	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	3,966.95	0.00	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	329,182,867.69	0.00	0.00
9	Adjustment (+ / -) In amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	329,182,867.69	0.00	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	0.00	0.00	0.00
17	Total amount charged for Gas/Oil supplied including transportation (11 + 16)	Rs	329,182,867.69	0.00	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	82,981.28	0.00	93,188.05
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9499.31	0.00	9013.39
23	GCV of imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9499.31	0.00	9013.39
28	GCV of imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9499.31	0.00	9013.39

Details of Sourcewise fuel for computation of Energy Charges

FORM -15

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Dec-23			
Sl	Particulars	Unit	Committed Gas	RUNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	2,979.74
2	Value of Stock	Rs	0.00	0.00	277,676,559.80
<b>B) QUANTITY</b>					
3	Quantity of gas/RUNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	7,217.40	0.00	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	7,217.40	0.00	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	7,217.40	0.00	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	434,957,002.74	0.00	0.00
9	Adjustment (+ / -) in amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	434,957,002.74	0.00	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	0.00	0.00	0.00
17	Total amount charged for Gas/Oil supplied including transportation ( 11 + 16)	Rs	434,957,002.74	0.00	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	60,265.05	0.00	93,188.05
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9641.20	0.00	9013.39
23	GCV of Imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9641.20	0.00	9013.39
28	GCV of imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9641.20	0.00	9013.39

## Details of Sourcewise fuel for computation of Energy Charges

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Jan-24			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	2,954.11
2	Value of Stock	Rs	0.00	0.00	276,078,807.46
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	13,659.84	3,707.86	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	13,659.84	3,707.86	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	13,659.84	3,707.86	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	693,527,666.76	181,719,800.90	0.00
9	Adjustment (+ / -) In amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	693,527,666.76	181,719,800.90	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport	Rs			
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	0.00	0.00	0.00
17	Total amount charged for Gas/Oil supplied including transportation (11 + 16)	Rs	693,527,666.76	181,719,800.90	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	50,771.30	49,009.41	93,140.59
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9605.69	9607.08	9013.39
23	GCV of imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9605.69	9607.08	9013.39
28	GCV of imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9605.69	9607.08	9013.39



## Details of Sourcewise fuel for computation of Energy Charges

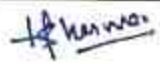
Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Feb-24			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	2,960.67
2	Value of Stock	Rs	0.00	0.00	275,523,111.06
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	5,463.99	2,844.79	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	5,463.99	2,844.79	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	5,463.99	2,844.79	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	218,234,847.00	132,387,855.00	0.00
9	Adjustment (+ / -) in amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	218,234,847.00	132,387,855.00	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport				
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	0.00	0.00	0.00
17	Total amount charged for Gas/Oil supplied Including transportation (11 + 16)	Rs	218,234,847.00	132,387,855.00	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	39,940.59	46,536.90	93,060.92
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9522.67	9515.12	9013.39
23	GCV of Imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of Imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9522.67	9515.12	9013.39
28	GCV of Imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of Imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9522.67	9515.12	9013.39

## Details of Sourcewise fuel for computation of Energy Charges

Company		NTPC			
Name of the generating Station		Kawas Gas power project			
Month		Mar-24			
Sl	Particulars	Unit	Committed Gas	RLNG	Liquid fuel - Naphtha/ HSD
<b>A) OPENING QUANTITY</b>					
1	Opening Stock of Gas/Oil	(1000 SCM )/MT	0.00	0.00	2,947.27
2	Value of Stock	Rs	0.00	0.00	274,526,303.26
<b>B) QUANTITY</b>					
3	Quantity of gas/RLNG/Liquid fuel supplied by gas company	(1000 SCM )/MT	0.00	1,424.75	0.00
4	Adjustment (+/-) in quantity supplied made by Gas Company	(1000 SCM )/MT	0.00	0.00	0.00
5	Gas supplied by Gas Company (3+4)	(1000 SCM )/MT	0.00	1,424.75	0.00
6	Normative transit & Handling losses	(1000 SCM )/MT	NA	NA	NA
7	Net gas supplied (5 - 6)	(1000 SCM )/MT	0.00	1,424.75	0.00
<b>C) PRICE</b>					
8	Amount charged by the Gas/Oil Company	Rs	0.00	67,433,926.00	0.00
9	Adjustment (+ / -) in amount charged by Gas Company	Rs	0.00	0.00	0.00
10	Handling, Sampling and such other Similar charges	Rs	0.00	0.00	0.00
11	Total Amount charged (8 +9+10)	Rs	0.00	67,433,926.00	0.00
<b>D) TRANSPORTATION</b>					
12	Transportation charges by Rail / Ship / Road Transport				
	By Rail	Rs	0.00	0.00	0.00
	By Road	Rs	0.00	0.00	0.00
	By Ship	Rs	0.00	0.00	0.00
	By Pipe	Rs	0.00	0.00	0.00
13	Adjustment (+/-) in amount charged by railways / transport company	Rs	0.00	0.00	0.00
14	Demurrage charges, if any	Rs	0.00	0.00	0.00
15	Cost of diesel in transporting Coal through MGR system, if applicable	Rs	NA	NA	NA
16	Total transportation charges ( 12+/- 13 - 14 + 15 )	Rs	0.00	0.00	0.00
17	Total amount charged for Gas/Oil supplied Including transportation (11 + 16)	Rs	0.00	67,433,926.00	0.00
<b>E) TOTAL COST</b>					
18	Landed Cost of Gas ( 2+17) / (1+7)	Rs/1000 SCM/MT	0.00	47,330.36	93,145.92
19	Blending Ratio (Domestic/Imported)			NA	
20	Weighted average cost of Gas			NA	
<b>F) QUALITY</b>					
21	GCV of Gas of the opening coal stock as per bill of Gas company	(kcal/SCM)	NA	NA	NA
22	GCV of Gas supplied as per bill of Gas company	(kcal/SCM)	9522.67	9502.23	9013.39
23	GCV of Imported coal of the opening coal stock as per bill of Gas company	(kcal/SCM)			NA
24	GCV of Imported coal supplied as per bill of Gas company	(kcal/SCM)			
25	Weighted average GCV of Coal /Lignite as billed	(kcal/SCM)		NA	
26	GCV of Gas of the Opening stock as received at station	(kcal/SCM)	NA	NA	NA
27	GCV of Gas supplied as received at station	(kcal/SCM)	9522.67	9502.23	9013.39
28	GCV of Imported coal of the Opening stock as received at station	(kcal/SCM)			
29	GCV of Imported coal supplied as received at station	(kcal/SCM)			
30	Weighted average GCV of GAS as received	(kcal/SCM)	9522.67	9502.23	9013.39

## Form-I

Particulars	
1. Name of the Petitioner/Applicant	NTPC Limited
2. Address of the Petitioner/Applicant	SCOPE Complex, Core -7, Institutional Area, Lodhi Road, New Delhi – 110 003
3. Subject Matter	Payment of Annual Tariff Filing fees for NTPC Stations for FY 2024-25 as per CERC (Payment of Fees) (Third Amendment) Regulations, 2022
4. Petition No., if any	As per Enclosed Sheet (Annexure A)
5. Details of generation assets  a) Generating station/units b) Capacity in MW c) Date of commercial operation d) Period for which fee paid e) Amount of fee paid f) Surcharge, if any	As per Enclosed Sheet (Annexure A)
6. Details of transmission assets  a) Transmission line and sub- stations b) Date of commercial operation c) Period for which fee paid d) Amount of fee paid e) Surcharge, if any	N.A.
7. Fee paid for Adoption of tariff for  a) Generation asset b) Transmission asset	N.A.
8. Application fee for licence  a) Trading licence b) Transmission licence c) Period for which paid d) Amount of fee paid	N.A.
9. Fees paid for Miscellaneous Application	N.A.
10. Fees paid for Interlocutory Application	N.A.

11. Fee paid for Regulatory Compliance petition	N.A.
12. Fee paid for Review Application	N.A.
13. License fee for inter-State Trading a) Category b) Period c) Amount of fee paid d) Surcharge, if any	N.A.
14. License fee for inter-State Transmission a) Expected/Actual transmission charge b) Period c) Amount of fee calculated as a percentage of transmission charge. d) Surcharge, if any	N.A.
15. Annual Registration Charge for Power Exchange a) Period b) Amount of turnover c) Fee paid d) Surcharge, if any	N.A.
16. Details of fee remitted a) Transaction id/ Reference No./ Payment id b) Date of remittance c) Amount remitted	37c568eba62158b7b321 24.04.2024 Rs. 256553700.00/-
Note: While Sl. Nos. 1 to 3 and 16 are compulsory, the rest may be filled up as applicable	
Signature of the authorized signatory with date	
 Dt. 27.04.2024	

**हरषित शर्मा / HARSHIT SHARMA**  
**वरिष्ठ प्रबन्धक (व्यावसायिक)**  
**Sr. Manager (Commercial)**  
**एन टी पी सी लिमिटेड / NTPC Limited**  
**9A, Sector-24, NOIDA-201301 (U.P.)**

**CERC Filing Fees For FY 2024-25 For NTPC Stations**

**Annexure - 1**

S.No	Region	Station Name	Capacity as on 01.04.2024 (in MW)	Filing fees for 2024-25 (In Rs.) Rounded off to nearest hundred as per CERC Regulation
1	NR	Feroze Gandhi Unchahar Thermal Power Station-I	420	18,48,000
2	NR	Feroze Gandhi Unchahar Thermal Power Station-II	420	18,48,000
3	NR	Feroze Gandhi Unchahar Thermal Power Station-III	210	9,24,000
4	NR	Feroze Gandhi Unchahar Thermal Power Station-IV	500	22,00,000
5	NR	National capital Power Project Dadri Stage-I	840	36,96,000
6	NR	National capital Power Project Dadri Stage-II	980	43,12,000
7	NR	Tanda Thermal Power Station	440	19,36,000
8	NR	Tanda Super Thermal Power Station Stage-II	1320	58,08,000
9	NR	Singrauli Super thermal Power Station	2000	88,00,000
10	NR	Rihand Super Thermal Power Station-I	1000	44,00,000
11	NR	Rihand Super Thermal Power Station-II	1000	44,00,000
12	NR	Rihand Super Thermal Power Station-III	1000	44,00,000
13	NR	Dadri Gas Power Station	829.78	36,51,000
14	NR	Anta Gas Power Station	419.33	18,45,100
15	NR	Auraiya Gas Power Station	663.36	29,18,800
16	NR	Faridabad Gas Power Station	431.586	18,99,000
17	ER	Farakka Super Thermal Power Station, Stage-I&II	1600	70,40,000
18	ER	Farakka Super Thermal Power Station, Stage-III	500	22,00,000
19	ER	Kahalgaoon Super Thermal Power Station Stage-I	840	36,96,000
20	ER	Kahalgaoon Super Thermal Power Station Stage-II	1500	66,00,000
21	ER	Bongaigaon TPS	750	33,00,000
22	ER	Barh Super Thermal Power Station-I	1320	58,08,000
23	ER	Barh Super Thermal Power Station-II	1320	58,08,000
24	ER	Barauni TPS Stage-II	500	22,00,000
25	ER	Talcher Super Thermal Power Station Stage-I	1000	44,00,000
26	ER	Darlipalli Super Thermal Power Station-I	1600	70,40,000
27	ER	North Karanpura Super Thermal Power Station	1320	58,08,000
28	ER	Nabinagar Super Thermal Power Station	1980	87,12,000
29	ER	Muzaffarpur Thermal Power Station Stage-II	390	17,16,000
30	WR	Korba Super Thermal Power Station, Stage-I&II	2100	92,40,000
31	WR	Korba Super Thermal Power Station, Stage-III	500	22,00,000
32	WR	Jhanor Gandhar Gas Power Project	657.39	28,92,500
33	WR	Kawas Gas Power Project	656.2	28,87,300
34	WR	Sipat Super Thermal Power Project Stage-I	1980	87,12,000

**CERC Filing Fees For FY 2024-25 For NTPC Stations**

**Annexure -**

S.No	Region	Station Name	Capacity as on 01.04.2024 (in MW)	Filing fees for 2024-25 (in Rs.) Rounded off to nearest hundred as per CERC Regulation
35	WR	Sipat Super Thermal Power Project Stage-II	1000	44,00,000
36	WR	Vindhyachal Super Thermal Power Station-I	1260	55,44,000
37	WR	Vindhyachal Super Thermal Power Station-II	1000	44,00,000
38	WR	Vindhyanchal Super Thermal Power Station-III	1000	44,00,000
39	WR	Vindhyanchal Super Thermal Power Station-IV	1000	44,00,000
40	WR	Vindhyanchal Super Thermal Power Station-V	500	22,00,000
41	WR	Mouda Super Thermal Power Station I	1000	44,00,000
42	WR	Mouda Super Thermal Power Station II	1320	58,08,000
43	WR	Solapur Super Thermal Power Station	1320	58,08,000
44	WR	Gadarwara Super Thermal Power Station	1600	70,40,000
45	WR	Lara Super Thermal Power Station	1600	70,40,000
46	WR	Khargone Super Thermal Power Project	1320	58,08,000
47	SR	Talcher Super Thermal Power Station Stage-II	2000	88,00,000
48	SR	Ramagundam STPS Stage-I&II	2100	92,40,000
49	SR	Ramagundam STPS Stage- III	500	22,00,000
50	SR	Simadhri Thermal Power Station, Stage-I	1000	44,00,000
51	SR	Simadhri Thermal Power Station Stage-II	1000	44,00,000
52	SR	Kudgi Super Thermal Power station	2400	1,05,60,000
53	SR	Telangana Super Thermal Power Station	1600	70,40,000
54	HYDRO	Koldam Hydro	800	35,20,000
<b>TOTAL</b>			<b>58307.646</b>	<b>25,65,53,700</b>

*AS Pandey*

आनंद सागर पाण्डेय/ANAND SAGAR PANDEY  
 महाप्रबंधक (वाणिज्यिक)  
 General Manager (Commercial)  
 एन टी पी सी लिमिटेड/NTPC LIMITED

*H. Sharma*  
13/04/2024

हरषित शर्मा / HARSHIT SHARMA  
 वरिष्ठ प्रबन्धक (वाणिज्यिक)  
 Sr. Manager (Commercial)  
 एन टी पी सी लिमिटेड / NTPC Limited  
 Floor 3 & 4, Sector-24, Noida-201301 (UP) India

## Fee Acknowledgement

Counterfoil (Office Copy)

Transaction Id.: 37c568eba62158b7b321  
Payment 19716455492  
Gateway ID:  
Status: success

Received From : NTPC Limited

The Sum of Rs. : 256553700

Fee Type: Annual Fees for Determination of Tariff Generating Station(GT) Dated : Apr 24, 2024, 2:56 PM

Fee Mode: NB

Fee Period: 2024-25

Petitioner/ Organisation Name: NTPC Limited

NARMADA WATER RESOURCES WATER SUPPLY AND KALPSAR DEPARTMENT

નર્મદા જળસંપત્તિ પાણી પુરવઠા અને કલ્પસર વિભાગ

Office of the Executive Engineer, K.R.B.C.

Division, Surat

Near Lourdes Convent bus stop

Athwalines Surat-395001

Tel. (0261)- 2669048

Fax- (0261)-2667494

E-mail : krbcdn@gmail.com



કાર્યપાલક ઇજનેરશ્રીની કચેરી, કા.જ.કા.  
નહેર વિભાગ, સુરત

લુડર્સ કોન્વેન્ટ સ્કુલ બસ સ્ટોપની બાજુમાં  
અઠવાલાઇન્સ,

સુરત- ૩૯૫૦૦૧

ટેલીફોન નંબર- (૦૨૬૧)- ૨૬૬૯૦૪૮

ઇ-મેઇલ: krbcdn@gmail.com

જા.નં. કાજકાનવિ/પીબી-૪/ડબલ્યુટીઆર/કરારનામું રીન્યુ/એનટીપીસી/વશી/ ૩૦૬૪

06 NOV 2020

પ્રતિ,  
અધિક્ષક ઇજનેરશ્રી,  
સુરત સિંચાઈ વર્તુળ,  
સુરત

*Handwritten signatures and notes:*  
Gm (copy) [Signature]  
12/11/20  
Gm (copy) [Signature]  
Gm (copy) [Signature]  
Handwritten note: Handwritten  
14/11/20

વિષય:- કરારનામું રીન્યુ કરવા બાબત

મે. નેશનલ થર્મલ પાવર કોર્પોરેશન લિ., મોજે: કવાસ, તા.: ચોર્યાસી, જી. સુરત

સંદર્ભ:- (૧) સરકારશ્રીનો પત્ર ક્રમાંક: ડબલ્યુટીઆર/૧૦૯૦/૮/પાર્ટ-૨/પી, તા. ૨૯-૦૯-૨૦૨૦

ઉપરોક્ત વિષય પરત્વે સવિનય સાદર જણાવવાનું કે નેશનલ થર્મલ પાવર કોર્પોરેશન લિ., મોજે: કવાસ, તા.: ચોર્યાસી, જી. સુરતને સરકારશ્રીના સંદર્ભિત ઠરાવ ક્રમાંકથી બિનખેતી વિષયક હેતુ માટે પાણી ઉપાડવાની આપેલ મંજૂરીમાં સિંગણાપોર વિયર ઉપરથી દૈનિક ૩૦૨૭૬ ઘનમીટર પાણી ઔદ્યોગિક હેતુ માટે તથા દૈનિક ૨૧૦.૫૭ ઘ.મી. પાણી પીવાના હેતુ માટે ઉપાડવાની પરવાનગી આપવામાં આવેલ જે સાથે કરવાના થતા કરારનામાના મુસદ્દાને પણ મંજૂરી આપેલ છે. જે અન્વયે કંપની દ્વારા કરેલ કરારનામાની બે નકલ તથા "કરવામાં આવેલ કરારનામું સરકારશ્રી દ્વારા મંજૂર કરવામાં આવેલ મુસદ્દા અનુસાર છે અને તેમાં કોઈ ફેરફાર કરવામાં આવેલ નથી" તે મતલબનું પ્રમાણપત્ર સાથે વર્તુળ કચેરીના રેકર્ડ અર્થે તેમજ સરકારશ્રીમાં સાદર થવા અર્થે અત્રેથી સાદર કરવામાં આવે છે.

બિડાણ: (૧) કરારનામાની નકલ (બે)  
(૨) પ્રમાણપત્ર

*Handwritten signature:*  
અ.કે.ડી.પટેલ  
કાર્યપાલક ઇજનેર,  
કા.જ.કા.નહેર વિભાગ,  
સુરત

નકલ રવાના પ્રતિ, ડિરેક્ટરશ્રી, નેશનલ થર્મલ પાવર કોર્પોરેશન લિ., કવાસ ગેસ પાવર પ્રોજેક્ટ, આદિત્ય નગર,  
જી. સુરત - ૩૯૪૫૧૬ તરફ જાણ તેમજ જરૂરી કાર્યવાહી સારું.

- બિડાણ: કરારનામાની નકલ

- નકલ રવાના પ્રતિ, નાયબ કાર્યપાલક ઇજનેરશ્રી, રાદિર સિંચાઈ પેટા વિભાગ, રાદિર તરફ જાણ સારું તેમજ જરૂરી કાર્યવાહી સારું.

બિડાણ: કરારનામાની નકલ







सत्यमेव जयते

INDIA NON JUDICIAL  
Government of Gujarat  
Certificate of Stamp Duty

Certificate No. : IN-GJ56961911783807S  
Certificate Issued Date : 21-Oct-2020 12:00 PM  
Account Reference : IMPACC (SV)/ gj13206404/ NANPURA/ GJ-SU  
Unique Doc. Reference : SUBIN-GJGJ1320640451646712548193S  
Purchased by : KRBC DIVISION SURAT  
Description of Document : Article 5(h) Agreement (not otherwise provided for)  
Description : WATER AGREEMENT  
Consideration Price (Rs.) : 0  
(Zero)  
First Party : KRBC DIVISION SURAT  
Second Party : NTPC  
Stamp Duty Paid By : KRBC DIVISION SURAT  
Stamp Duty Amount(Rs.) : 300  
(Three Hundred only)



*[Handwritten Signature]*

0004805405

**Statutory Alert:**

1. The authenticity of this Stamp certificate should be verified at 'www.sholestamp.com' or using e-Stamp Mobile App of Stock Holding. Any discrepancy in the details on this Certificate and as available on the website / Mobile App renders it invalid.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

AGREEMENT

Agreement for supply of water to **National Thermal Power Corporation Limited**, at village **Kawas**, Ta. **Choryasi Dist. Surat** for drawal of 30.27 MLD 30276 Cubic meter water per day (6.66 MGD) i.e. (1,10,50,740 cubic meter per year) water from **Singapore Weir** for Industrial purpose.

This agreement made on this day of 04 - 11 - 2020 between **National Thermal Power Corporation Limited**, at village **Kawas**, Ta. **Choryasi Dist. Surat** through its Authorized Representative (hereinafter in this agreement called the "Licensee" Which expression shall, unless context otherwise requires and admits, be deemed to include its administrators, executors, successors and assigns) having its registered office at "**Kawas Gas Power Project, PO: Aditya Nagar, Dist.: Surat-394516**" of the one part and the Governor of the State of Gujarat through Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** in office (herein after called as "The Government" which expression shall, unless context otherwise requires . and admits, be deemed to include his successors in office and assigns) of the other part.

WHERE AS the Licencee has applied to the Government for permission to draw water from Singapore Weir of Ukai-Kakarapar Command for **National Thermal Power Corporation Limited**, at village **Kawas**, Ta. **Choryasi Dist. Surat**



बिष्वरुप बसु / BISWARUP BASU  
मुख्य महासंचालक (कवास एवं एवाकसी-व.अ.-1)  
Chief General Manger (Kawas & SSC-WR-1)  
एन.टी.पी.सी. लिमिटेड / NTPC Limited  
इंधन गैस पावर प्रोजेक्ट / Kawas Gas Power Project  
कार्यालय : सुदियानगर, सुरत / P.O. Adityanagar, Surat



*[Signature]* 04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.

AND WHEREAS the Government has, under its sanction letter No. WTR/1090/8/Part-2/P, dated 29-09-2020, agreed to grant such permission on the terms and conditions here-in-after appearing and as mentioned in the Government of Gujarat; Narmada, Water Resources, Water Supply & Kalpsar Department Resolution No.WTR/2005/41/P, dated 03/02/2007,

**NOW THIS INDENTURE WITNESS** and the parties here to hereby agree as follows:

(1) The Government hereby grants the permission to the Licensee to draw water from **Singapore Weir** on the terms and conditions hereafter appearing. The licensee shall construct and maintain the head works for drawing water from **Singapore Weir** and other required structures at suitable places as approved by the Government or its authorised officer at their risk & cost and shall provide all ancillary arrangements that may be required in connection with the drawing and conveying the water required for the use of Licensee. The intake structures shall be open to inspection by the Government and the Government shall exercise necessary control.

(2) The licensee shall install and maintain at its own cost, the pipeline and other requirements required for conveying water from the source of supply to the place of actual use. The expenditure towards the drawal of water i.e. installation of pumps, pipelines, meters and all other requirements in connection with the drawal of water, shall be borne by the Licensee.


(3) The licensee shall draw water directly from **Singapore Weir** to the extent of 30276 Cubic meters



विवरुप बसु / BISWARUP BASU  
मुख्य अभियंता (कला एवं संरचनात्मक-२.बी.-१)  
Chief General Manager (Kalkas & S.C. WR-1)  
एन.टी.पी. लिमिटेड / NTPC Limited  
बिजली एवं पर्यावरण विभाग / Power & Environment Division  
नर्मदा नदी परियोजना, ३८० / Narmada River Project, Surat





  
Executive Engineer  
K. R. B. C. Division  
Surat.

per day throughout the year for Industrial use as may be required for the optimum plant capacity under operation from time to time. It would be permissible for the Licencee to increase the intake up to 30276 Cubic meters per day for a period not exceeding one month with the approval of the Narmada, Water Resources, Water Supply & Kalpsar Department, to facilitate the filling of the Licencee reservoir before closure of the canal.

(4) (1) The licencee agrees to bear the cost herein below detailed that may be apportioned between the beneficiaries on prorata basis of their demands, on account of remodeling that may take place to meet the total requirements of the beneficiaries in case. Supply of water to him is from **Singapore Weir**. The cost of remodeling shall include cost of preparation of plans, estimates and scrutiny thereof, etc. as per Appendix-I to the Gujarat Public Works Department manual volume I & II. The total cost of strengthening and remodeling of canal is estimated to be Rupees Nil at present, out of which the share of the Licencee is estimated to be Rupees Nil. The licencee shall deposit this amount of Rupees Nil in advance to enable the Government to take up the entire work on priority basis. The licencee shall pay the balance amount on the basis of actual immediately after the work is completed.

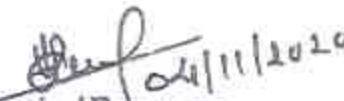
(4) (2) The licencee shall be allowed to draw the water only after he is paid up the apportioned cost referred to in sub-clause 4(1) above, in advance.

(5) The licencee shall pay a licence fee at the rate of Rs. 501/- per year or at as such rates as may be



बिष्वरुप बसु / BISWARUP BASU  
मुख्य अभियंता (कालसा एवं पलाशपी-व.मं.-1)  
Chief Canal Manager (Kalsar & SEG-W-1)  
खुशीदास लिमिटेड / KMP 344/00  
कक्षा-1, 11144, 11144, Kalsar & Seg Power Project  
अहमदाबाद, गुजरात / Ahmedabad, Gujarat



  
Executive Engineer  
K. R. B. C. Division  
Surat.


fixed by the Government from time to time in that behalf during the subsistence as the agreement.

(6) The licensee shall pay for the quantity of water drawn, as measured in the manner provided under clause-7 below, at the rates and terms given below.

- (i) The Licensee shall pay the water charges for the quantity of water actually drawn as per the rates mentioned in the Government of Gujarat, Narmada, Water Resources, Water supply & Kalpsar Department Resolution No. WTR/2005/41/P dated, 3-2-2007, effective from 01-01-2007 subject to fulfillment of conditions laid down in above mentioned resolution as well as conditions mentioned in sanction letter.
- (ii) The interest rates, penalty and all other charges/conditions mentioned in above mentioned Government of Gujarat, Narmada, Water Resources, Water Supply & Kalpsar Department, resolution No. WTR/2005/41/P, dated, 03-02-2007 shall be applicable and the licensee shall have to fulfill it.
- (iii) The above rates so fixed shall be subject to upward revision that may be made by the government in Narmada, Water Resources, Water Supply & Kalpsar Department from time to time in connection with water reserved and used for irrigation & non-irrigation purposes. The rates fixed by the government shall be exclusive of cost of pumping, conveying etc. of water from the source.
- (iv) The charges as mentioned in sub clause-(i), above, shall be paid in advance by the Licensee before 10th day of each month following the

  
बिष्वरुप बसु / BISWARUP BASU  
मुख्य अभियंता (काम) एवं सहायक (क. १)  
काम/कलसर/मोडर (काम) & (क. १/२/३/४/५/६/७/८/९/१०/११/१२/१३/१४/१५/१६/१७/१८/१९/२०/२१/२२/२३/२४/२५/२६/२७/२८/२९/३०/३१/३२/३३/३४/३५/३६/३७/३८/३९/४०/४१/४२/४३/४४/४५/४६/४७/४८/४९/५०/५१/५२/५३/५४/५५/५६/५७/५८/५९/६०/६१/६२/६३/६४/६५/६६/६७/६८/६९/७०/७१/७२/७३/७४/७५/७६/७७/७८/७९/८०/८१/८२/८३/८४/८५/८६/८७/८८/८९/९०/९१/९२/९३/९४/९५/९६/९७/९८/९९/१००/१०१/१०२/१०३/१०४/१०५/१०६/१०७/१०८/१०९/११०/१११/११२/११३/११४/११५/११६/११७/११८/११९/१२०/१२१/१२२/१२३/१२४/१२५/१२६/१२७/१२८/१२९/१३०/१३१/१३२/१३३/१३४/१३५/१३६/१३७/१३८/१३९/१४०/१४१/१४२/१४३/१४४/१४५/१४६/१४७/१४८/१४९/१५०/१५१/१५२/१५३/१५४/१५५/१५६/१५७/१५८/१५९/१६०/१६१/१६२/१६३/१६४/१६५/१६६/१६७/१६८/१६९/१७०/१७१/१७२/१७३/१७४/१७५/१७६/१७७/१७८/१७९/१८०/१८१/१८२/१८३/१८४/१८५/१८६/१८७/१८८/१८९/१९०/१९१/१९२/१९३/१९४/१९५/१९६/१९७/१९८/१९९/२००/२०१/२०२/२०३/२०४/२०५/२०६/२०७/२०८/२०९/२१०/२११/२१२/२१३/२१४/२१५/२१६/२१७/२१८/२१९/२२०/२२१/२२२/२२३/२२४/२२५/२२६/२२७/२२८/२२९/२३०/२३१/२३२/२३३/२३४/२३५/२३६/२३७/२३८/२३९/२४०/२४१/२४२/२४३/२४४/२४५/२४६/२४७/२४८/२४९/२५०/२५१/२५२/२५३/२५४/२५५/२५६/२५७/२५८/२५९/२६०/२६१/२६२/२६३/२६४/२६५/२६६/२६७/२६८/२६९/२७०/२७१/२७२/२७३/२७४/२७५/२७६/२७७/२७८/२७९/२८०/२८१/२८२/२८३/२८४/२८५/२८६/२८७/२८८/२८९/२९०/२९१/२९२/२९३/२९४/२९५/२९६/२९७/२९८/२९९/३००/३०१/३०२/३०३/३०४/३०५/३०६/३०७/३०८/३०९/३१०/३११/३१२/३१३/३१४/३१५/३१६/३१७/३१८/३१९/३२०/३२१/३२२/३२३/३२४/३२५/३२६/३२७/३२८/३२९/३३०/३३१/३३२/३३३/३३४/३३५/३३६/३३७/३३८/३३९/३४०/३४१/३४२/३४३/३४४/३४५/३४६/३४७/३४८/३४९/३५०/३५१/३५२/३५३/३५४/३५५/३५६/३५७/३५८/३५९/३६०/३६१/३६२/३६३/३६४/३६५/३६६/३६७/३६८/३६९/३७०/३७१/३७२/३७३/३७४/३७५/३७६/३७७/३७८/३७९/३८०/३८१/३८२/३८३/३८४/३८५/३८६/३८७/३८८/३८९/३९०/३९१/३९२/३९३/३९४/३९५/३९६/३९७/३९८/३९९/४००/४०१/४०२/४०३/४०४/४०५/४०६/४०७/४०८/४०९/४१०/४११/४१२/४१३/४१४/४१५/४१६/४१७/४१८/४१९/४२०/४२१/४२२/४२३/४२४/४२५/४२६/४२७/४२८/४२९/४३०/४३१/४३२/४३३/४३४/४३५/४३६/४३७/४३८/४३९/४४०/४४१/४४२/४४३/४४४/४४५/४४६/४४७/४४८/४४९/४५०/४५१/४५२/४५३/४५४/४५५/४५६/४५७/४५८/४५९/४६०/४६१/४६२/४६३/४६४/४६५/४६६/४६७/४६८/४६९/४७०/४७१/४७२/४७३/४७४/४७५/४७६/४७७/४७८/४७९/४८०/४८१/४८२/४८३/४८४/४८५/४८६/४८७/४८८/४८९/४९०/४९१/४९२/४९३/४९४/४९५/४९६/४९७/४९८/४९९/५००/५०१/५०२/५०३/५०४/५०५/५०६/५०७/५०८/५०९/५१०/५११/५१२/५१३/५१४/५१५/५१६/५१७/५१८/५१९/५२०/५२१/५२२/५२३/५२४/५२५/५२६/५२७/५२८/५२९/५३०/५३१/५३२/५३३/५३४/५३५/५३६/५३७/५३८/५३९/५४०/५४१/५४२/५४३/५४४/५४५/५४६/५४७/५४८/५४९/५५०/५५१/५५२/५५३/५५४/५५५/५५६/५५७/५५८/५५९/५६०/५६१/५६२/५६३/५६४/५६५/५६६/५६७/५६८/५६९/५७०/५७१/५७२/५७३/५७४/५७५/५७६/५७७/५७८/५७९/५८०/५८१/५८२/५८३/५८४/५८५/५८६/५८७/५८८/५८९/५९०/५९१/५९२/५९३/५९४/५९५/५९६/५९७/५९८/५९९/६००/६०१/६०२/६०३/६०४/६०५/६०६/६०७/६०८/६०९/६१०/६११/६१२/६१३/६१४/६१५/६१६/६१७/६१८/६१९/६२०/६२१/६२२/६२३/६२४/६२५/६२६/६२७/६२८/६२९/६३०/६३१/६३२/६३३/६३४/६३५/६३६/६३७/६३८/६३९/६४०/६४१/६४२/६४३/६४४/६४५/६४६/६४७/६४८/६४९/६५०/६५१/६५२/६५३/६५४/६५५/६५६/६५७/६५८/६५९/६६०/६६१/६६२/६६३/६६४/६६५/६६६/६६७/६६८/६६९/६७०/६७१/६७२/६७३/६७४/६७५/६७६/६७७/६७८/६७९/६८०/६८१/६८२/६८३/६८४/६८५/६८६/६८७/६८८/६८९/६९०/६९१/६९२/६९३/६९४/६९५/६९६/६९७/६९८/६९९/७००/७०१/७०२/७०३/७०४/७०५/७०६/७०७/७०८/७०९/७१०/७११/७१२/७१३/७१४/७१५/७१६/७१७/७१८/७१९/७२०/७२१/७२२/७२३/७२४/७२५/७२६/७२७/७२८/७२९/७३०/७३१/७३२/७३३/७३४/७३५/७३६/७३७/७३८/७३९/७४०/७४१/७४२/७४३/७४४/७४५/७४६/७४७/७४८/७४९/७५०/७५१/७५२/७५३/७५४/७५५/७५६/७५७/७५८/७५९/७६०/७६१/७६२/७६३/७६४/७६५/७६६/७६७/७६८/७६९/७७०/७७१/७७२/७७३/७७४/७७५/७७६/७७७/७७८/७७९/७८०/७८१/७८२/७८३/७८४/७८५/७८६/७८७/७८८/७८९/७९०/७९१/७९२/७९३/७९४/७९५/७९६/७९७/७९८/७९९/८००/८०१/८०२/८०३/८०४/८०५/८०६/८०७/८०८/८०९/८१०/८११/८१२/८१३/८१४/८१५/८१६/८१७/८१८/८१९/८२०/८२१/८२२/८२३/८२४/८२५/८२६/८२७/८२८/८२९/८३०/८३१/८३२/८३३/८३४/८३५/८३६/८३७/८३८/८३९/८४०/८४१/८४२/८४३/८४४/८४५/८४६/८४७/८४८/८४९/८५०/८५१/८५२/८५३/८५४/८५५/८५६/८५७/८५८/८५९/८६०/८६१/८६२/८६३/८६४/८६५/८६६/८६७/८६८/८६९/८७०/८७१/८७२/८७३/८७४/८७५/८७६/८७७/८७८/८७९/८८०/८८१/८८२/८८३/८८४/८८५/८८६/८८७/८८८/८८९/८९०/८९१/८९२/८९३/८९४/८९५/८९६/८९७/८९८/८९९/९००/९०१/९०२/९०३/९०४/९०५/९०६/९०७/९०८/९०९/९१०/९११/९१२/९१३/९१४/९१५/९१६/९१७/९१८/९१९/९२०/९२१/९२२/९२३/९२४/९२५/९२६/९२७/९२८/९२९/९३०/९३१/९३२/९३३/९३४/९३५/९३६/९३७/९३८/९३९/९४०/९४१/९४२/९४३/९४४/९४५/९४६/९४७/९४८/९४९/९५०/९५१/९५२/९५३/९५४/९५५/९५६/९५७/९५८/९५९/९६०/९६१/९६२/९६३/९६४/९६५/९६६/९६७/९६८/९६९/९७०/९७१/९७२/९७३/९७४/९७५/९७६/९७७/९७८/९७९/९८०/९८१/९८२/९८३/९८४/९८५/९८६/९८७/९८८/९८९/९९०/९९१/९९२/९९३/९९४/९९५/९९६/९९७/९९८/९९९/१०००



  
04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.

month to which water charges pertains calculated as per the estimated requirement of water for the month. The bills as per actual payment of charges shall be prepared every month and served on the Licencee for payment thereof.

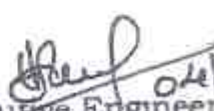
(v) If the arrears of water charges referred to above accumulate for more than six months, the Government shall be at liberty to ask the licencee to stop drawl of water from the source and it shall be incumbent on the licencee to do so and in case of default, Government may take action to stop entry into the intake without any notice at the risk and cost of the licencee.

(vi) If the measuring devices referred to in Clause-7 below, ceases to function or goes out of order in any month, the charges livable in respect of that month shall be calculated on the basis of the average quantity of water drawn in the preceding three months or the quantity of water drawn in the same month of preceding year whichever is higher, provided that there has been no increase in the capacity of the plant/plants and the corresponding water requirements thereof during such year. If the capacity of the Plant/Plants has increased during such year, the water drawn shall be correspondingly estimated on the prorata basis. For the purpose of such estimate, the licencee shall furnish necessary data to the Executive Engineer concerned whose decision in the matter shall be final and binding to the licensee.

(7) A suitable scientific measuring device shall be installed by the Licencee at suitable place in

  
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Manager (Water & Sewerage) - 1  
K.R.B. Division, NTPC Limited  
Surat  
KAMVAS GAS POWER PROJECT  
N.T.P.C. K.R.B. Division, Surat



  
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K. R. B. C. Division  
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consultation with and with the approval of the Executive Engineer, Kakarapar Right Bank Canal Division, Surat or his successor in office for measuring the quantity of water drawn by the Licencee.

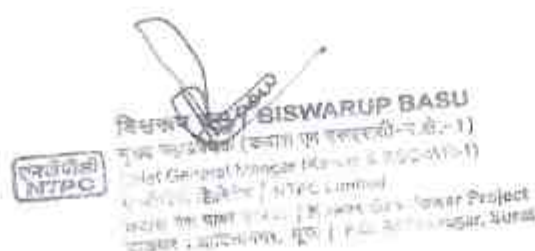
The cost of measuring device, its installation and maintenance shall be borne by the Licencee. The measurement of the quantity of water drawn shall be taken jointly by the representative of the Government and of the Licencee. The measuring device shall be open for inspection by the concerned authorities.

(8) If the measuring device referred to in the clause-7, ceases to function or goes out of order, the Licencee shall, as and when such occasion arises, get necessary repairs thereto carried out and restore the same to its original position or replace the same if so found necessary and as required by the Executive Engineer concerned within one month of its going out of order.

(9) The water drawn by the Licencee from **Singapore Weir** shall be used only for the purpose for which permission to use the same is granted to him and as such the use shall be confined to the legitimate requirements of the Licencee.

The Licencee shall not draw water from the above mentioned sources for sale or supply to any person, firm or Company or other body by whatever name called.

(10) (1) The grant of the permission to draw water under this agreement shall not mean any assurance to the Licencee regarding availability of quantity of water as per the requirements of the Licencee and



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04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.

regarding the quality of water. The Licencee shall not be entitled to any compensation for non availability of quantity of water on account of reasons beyond the control of the government/department. It shall be incumbent on the licensee to make its own arrangement to meet its requirement of water during the periods the canal is closed on account of repairs or accidental breach.

(10) (2) If the special measures for conserving the water and reducing the losses of evaporation and seepage are found necessary in scarcity years, the expenses on this account shall be borne by the Licensee.


(11) The permission granted in this agreement shall not in any manner prejudicially affect the existing water rights vested in the riparian owners nor shall it in any way prejudice the rights of government to launch or implement any new scheme or schemes in public interest in future in connection with the water from **Singapore Weir** from which Licensee is permitted to draw water.

(12) The drawal of water under this agreement by the licensee shall be subject to the provisions of the *Gujarat Irrigation and Drainage Act, 2013, Gujarat Irrigation and Drainage Rules, 2014* and other rules made there under as amended from time to time and orders that may be passed or issued in that behalf by the Government / Department from time to time.

(13) The Licencee shall at all reasonable times allow the officers of the government to inspect the work sites and records regarding quantity of water drawn, utilized and supplied to other parties, if any, and to take copy of the records.

  
बिष्वरुप बसु / BISWARUP BASU  
सहायक अभियंता (कृषि एवं सिंचन) ३३०-११  
कृषि विभाग, अहमदाबाद (३८००११)  
गुजरात  
KAMVAS GAS POWER PROJECT  
Surat



  
04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.



(14) An amount equivalent to three months prevailing water charges shall be initially deposited by the licensee with the Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** or his successor in the office as security deposit for the due performance of the terms of this agreement. The deposit shall be in the form of Bank Guarantee in any *Nationalized Bank/schedule bank* and shall be pledged by the licensee in favour of the Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** or his successor in office. The enhancement in amount of security deposit due to yearly increase in the rate of water charges shall also be deposited by the licensee. *Such Bank Guarantee must continue in force during entire period of this agreement without any break.*


(15) The Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** shall dispose of all matters pertaining to this agreement subject and falling within his purview subject to decision that may be taken in appeal before the Superintending Engineer, **Surat Irrigation Circle** in the matter and the decision of the Superintending Engineer in the matter shall be final.

(16) The licensee shall make its own arrangements for storing its water requirement of about 15 days. The Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** shall ordinarily inform licensee in advance about the period of closures of the canal for any reason.

(17) The licensee shall arrange at its own cost the discharge of the trade waste and effluents after due treatment as may be permitted from time to time by the State Water Pollution Control Board safely in

  
BISWARUP BASU  
Executive Engineer  
K. R. B. C. Division  
Surat



  
04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.

the place earmarked for the purpose in the vicinity in consultation and with the approval of Public Health Authority. In case where the Collector, Surat District finds that the arrangement of discharge is not suitable, it shall be the duty of Licencee to make other suitable arrangement as may be directed by him. If the discharge of trade waste and effluent proves to be a source of nuisance to the field and or the population in the neighborhoods, the Licencee shall treat the same further in such manner as may be directed by the Government.

(18) This agreement shall remain in force for a period of 5 **years** (Five Years) from dated 05/06/2019 thereof unless terminated earlier, by the Licencee by giving six calendar month's notice in writing to the Government for the purpose. The Licencee shall not be eligible for any compensation on account of such premature termination.


(19) The Government may allow the drawal of water according to the terms stated in this agreement after the expiry of the agreement on receipt of a request to that effect from the Licencee at least six month before the expiry of the period of this agreement.

(20) The Licencee shall bear all the legal charges, stamp duty, registration fees and translation charges and all other charges and expenses incurred in connection with this presents.

(21) The Government shall be entitled to terminate this agreement upon serving the Licencee with a notice of 1 month (One Month) for breach of any of the terms and conditions of this agreement or in the event the Licencee fails to pay any sum due to the

  
बिस्वरुप बसु / BISWARUP BASU  
मुख्य अभियंता (क) / Chief Engineer (K)  
क. र. ब. सी. विभाग / K. R. B. C. Division  
सुरत / Surat  
NTPC



  
Executive Engineer  
K. R. B. C. Division  
Surat  
04/11/2020

Government under this agreement. The Licencee shall not be eligible to claim any compensation from the Government on account of withdrawing the facility of drawal of water as a result of premature termination of the agreement or even otherwise. Without prejudice to any right of the Government to proceed in accordance with the relevant *clauses/rules* No.6(v) to recover such sums due from the Licencee, the security deposits shall be forfeited. Any drawal of water from the **Singapore Weir** after the expiry of the period of the notice shall be treated as an unauthorised act and shall be subject to such penal charges as may be determined by the Government.


(22) Except as otherwise herein provided, all notices to be given and other actions to be taken on behalf of the Licencee shall be given or taken by the Director of **National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat** or any other official authorized by the Licencee.

(23) All sums and amount due and payable under this agreement shall be recoverable as arrears of land revenue under the Gujarat Land Revenue Code, 1879 without prejudice to any other rights or remedies available to the Government under any other case.

(24) As per Gujarat state policy for promotion of waste water Recycle and Reuse dated 15<sup>th</sup> June, 2017 of Urban Development and Urban Housing Development, whenever treated Waste Water is available from any source, in such case, the present permission of drawing Water will be treated as cancelled.

  
Biswarup Basu / BISWARUP BASU  
मुख्य अभियंता (कवास) एन.टी.पी.सी. (गुजरात)  
Chief Engineer (Kawas) N.T.P.C. (Gujarat)  
Kawas, Choryasi Taluka, Surat District, Gujarat  
National Thermal Power Corporation  
New Delhi - 110028



  
04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.

IN WITNESS WHERE OF Mr. Biswarup Basu duly authorized by the Board of Directors of the Licencee for and on behalf of the Licencee and Shri H.D. Patel, Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** for and on behalf of the Governor of Gujarat have signed there presents and herein set their respective seals on the day and year first above written.

Signed, Sealed and delivered by [Signature] 04/11/2020  
 Mr. H.D. Patel  
 Executive Engineer,  
 K.R.B.C. Division, SURAT  
 For and on behalf of the  
 Governor of Gujarat

in presence of  
 Witness (I) [Signature]  
 (Akruti Desai)  
 Witness (II) [Signature]  
 (S. Z. Patel)

Signed, Sealed and delivered by [Signature]  
 Mr. Biswarup Basu  
 National Thermal Power Corporation Limited, at  
 village Kawas, Ta.  
 Choryasi Dist. Surat for  
 and on behalf of the  
 Licensee.

in Presence of  
 Witness (I) [Signature]  
 Madam Vais hnav  
 Sr. MGR (EEMG)  
 NTPC Ltd.  
 Witness (II) [Signature]  
 Jaspal Singh  
 DGM (O&M)  
 NTPC Limited.

बिस्वरुप बसु / BISWARUP BASU  
 मुख्य महासंचालक (कवास एवं एसएससी-प.सं.-1)  
 Chief General Manager (Kawas & SSC-WR-1)  
 बिस्वरुप बसु / NTPC Limited  
 कवास गैस पावर कॉरपोरेशन / Kawas Gas Power Corporation  
 काकरापार : अहमदाबाद, गुजरात / Kakarapar : Ahmedabad, Gujarat





सत्यमेव जयते

INDIA NON JUDICIAL  
Government of Gujarat  
Certificate of Stamp Duty

Certificate No. : IN-GJ56965899034398S  
Certificate Issued Date : 21-Oct-2020 12:03 PM  
Account Reference : IMPACC (SV)/ gj13206404/ NANPURA/ GJ-SU  
Unique Doc. Reference : SUBIN-GJGJ1320640451675305379032S  
Purchased by : KRBC DIVISION SURAT  
Description of Document : Article 5(h) Agreement (not otherwise provided for)  
Description : WATER AGREEMENT  
Consideration Price (Rs.) : 0  
(Zero)  
First Party : KRBC DIVISION SURAT  
Second Party : NTPC  
Stamp Duty Paid By : KRBC DIVISION SURAT  
Stamp Duty Amount(Rs.) : 300  
(Three Hundred only)



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2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

AGREEMENT

Agreement for supply of water to **National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat** for drawal of 0.21 MLD 210.57 Cubic meter water per day (0.046 MGD) i.e. (76860 cubic meter per year) water from **Singapore Weir** for Drinking purpose.

This agreement made on this day of 04-11-2020 between **National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat** through its Authorized Representative (hereinafter in this agreement called the "Licensee" which expression shall, unless context otherwise requires and admits, be deemed to include its administrators, executors, successors and assigns) having its registered office at "**Kawas Gas Power Project, PO: Aditya Nagar, Dist.: Surat-394516**" of the one part and the Governor of the State of Gujarat through Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** in office (herein after called as "The Government" which expression shall, unless context otherwise requires and admits, be deemed to include his successors in office and assigns) of the other part.

WHERE AS the Licencee has applied to the Government for permission to draw water from Singapore Weir of Ukai-Kakarapar Command for **National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat**



**बिष्वरुप बसु / BISWARUP BASU**  
मुख्य प्रशासक (कवास गाँव परियोजना) (प. 11-1)  
Chief Executive Manager (Kawas A. Power Project)  
Kawas Gas Power Project, Aditya Nagar, Surat-394516  
Kawas Gas Power Project, Aditya Nagar, Surat-394516



*[Handwritten Signature]* 11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.

AND WHEREAS the Government has, under its sanction letter No. WTR/1090/8/Part-2/P, dated 29-09-2020, agreed to grant such permission on the terms and conditions here-in-after appearing and as mentioned in the Government of Gujarat; Narmada, Water Resources, Water Supply & Kalpsar Department Resolution No.WTR/2005/41/P, dated 03/02/2007,


**NOW THIS INDENTURE WITNESS** and the parties here to hereby agree as follows:

(1) The Government hereby grants the permission to the Licencee to draw water from **Singapore Weir** on the terms and conditions hereafter appearing. The licensee shall construct and maintain the head works for drawing water from **Singapore Weir** and other required structures at suitable places as approved by the Government or its authorised officer at their risk & cost and shall provide all ancillary arrangements that may be required in connection with the drawing and conveying the water required for the use of Licensee. The intake structures shall be open to inspection by the Government and the Government shall exercise necessary control.

(2) The licensee shall install and maintain at its own cost, the pipeline and other requirements required for conveying water from the source of supply to the place of actual use. The expenditure towards the drawal of water i.e. installation of pumps, pipelines, meters and all other requirements in connection with the drawal of water, shall be borne by the Licensee.

  
BISWARUP EASU  
જુજી નદીપ્રકાશ (કલ્યાણ) ની સંસ્થા (પા.સં.)  
Unit Central Gujarat, Ahmedabad - 380 015  
સુરત ઓફિસ : ૧૬, આજી  
સુરત - ૩૯૫૦૦૧



  
Executive Engineer  
K. R. B. C. Division  
Surat.

(3) The licensee shall draw water directly from **Singapore Weir** to the extent of 210.57 Cubic meters per day throughout the year for Drinking use as may be required for the optimum plant capacity under operation from time to time.

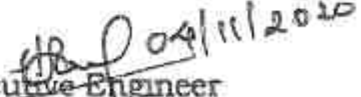
(4) (1) The licensee agrees to bear the cost herein below detailed that may be apportioned between the beneficiaries on prorata basis of their demands, on account of remodeling that may take place to meet the total requirements of the beneficiaries in case. Supply of water to him is from **Singapore Weir**. The cost of remodeling shall include cost of preparation of plans, estimates and scrutiny thereof, etc. as per Appendix-I to the Gujarat Public Works Department manual volume I & II. The total cost of strengthening and remodeling of canal is estimated to be Rupees Nil at present, out of which the share of the Licencee is estimated to be Rupees Nil. The licensee shall deposit this amount of Rupees Nil in advance to enable the Government to take up the entire work on priority basis. The licensee shall pay the balance amount on the basis of actual immediately after the work is completed.

(4) (2) The licensee shall be allowed to draw the water only after he is paid up the apportioned cost referred to in sub-clause 4(1) above, in advance.

(5) The licensee shall pay a licence fee at the rate of Rs. 501/- per year or at as such rates as may be fixed by the Government from time to time in that behalf during the subsistence as the agreement.

  
BISWARUP BASU  
Executive Engineer  
K. R. B. C. Division  
Surat



  
Executive Engineer  
K. R. B. C. Division  
Surat.



(6) The licensee shall pay for the quantity of water drawn, as measured in the manner provided under clause-7 below, at the rates and terms given below.

(i) The Licensee shall pay the water charges for the quantity of water actually drawn as per the rates mentioned in the Government of Gujarat, Narmada, Water Resources, Water supply & Kalpsar Department Resolution No. WTR/2005/41/P dated, 3-2-2007, effective from 01-01-2007 subject to fulfillment of conditions laid down in above mentioned resolution as well as conditions mentioned in sanction letter.


(ii) The interest rates, penalty and all other charges/conditions mentioned in above mentioned Government of Gujarat, Narmada, Water Resources, Water Supply & Kalpsar Department, resolution No. WTR/2005/41/P, dated, 03-02-2007 shall be applicable and the licensee shall have to fulfill it.

(iii) The above rates so fixed shall be subject to upward revision that may be made by the government in Narmada, Water Resources, Water Supply & Kalpsar Department from time to time in connection with water reserved and used for irrigation & non-irrigation purposes. The rates fixed by the government shall be exclusive of cost of pumping, conveying etc. of water from the source.

(iv) The charges as mentioned in sub clause-(i), above, shall be paid in advance by the Licensee before 10th day of each month following the month to which water charges pertains calculated

  
BISWARUP BASU  
Executive Engineer  
K. R. B. C. Division  
Surat.



  
04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.

as per the estimated requirement of water for the month. The bills as per actual payment of charges shall be prepared every month and served on the Licencee for payment thereof.

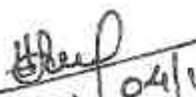
(v) If the arrears of water charges referred to above accumulate for more than six months, the Government shall be at liberty to ask the licencee to stop drawl of water from the source and it shall be incumbent on the licencee to do so and in case of default, Government may take action to stop entry into the intake without any notice at the risk and cost of the licencee.

(vi) If the measuring devices referred to in Clause-7 below, ceases to function or goes out of order in any month, the charges livable in respect of that month shall be calculated on the basis of the average quantity of water drawn in the preceding three months or the quantity of water drawn in the same month of preceding year whichever is higher, provided that there has been no increase in the capacity of the plant/plants and the corresponding water requirements thereof during such year. If the capacity of the Plant/Plants has increased during such year, the water drawn shall be correspondingly estimated on the prorata basis. For the purpose of such estimate, the licencee shall furnish necessary data to the Executive Engineer concerned whose decision in the matter shall be final and binding to the licensee.

(7) A suitable scientific measuring device shall be installed by the Licencee at suitable place in

  
BISWAJIT DASU  
Executive Engineer  
K. R. B. C. Division  
Surat



  
04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.

consultation with and with the approval of the Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** or his successor in office for measuring the quantity of water drawn by the Licencee.

The cost of measuring device, its installation and maintenance shall be borne by the Licencee. The measurement of the quantity of water drawn shall be taken jointly by the representative of the Government and of the Licencee. The measuring device shall be open for inspection by the concerned authorities.


(8) If the measuring device referred to in the clause-7, ceases to function or goes out of order, the Licencee shall, as and when such occasion arises, get necessary repairs thereto carried out and restore the same to its original position or replace the same if so found necessary and as required by the Executive Engineer concerned within one month of its going out of order.

(9) The water drawn by the Licencee from **Singapore Weir** shall be used only for the purpose for which permission to use the same is granted to him and as such the use shall be confined to the legitimate requirements of the Licencee.

The Licencee shall not draw water from the above mentioned sources for sale or supply to any person, firm or Company or other body by whatever name called.

  
BISWARUP BASU  
K. R. B. C. Division  
Surat



  
Executive Engineer  
K. R. B. C. Division  
Surat.  
04/11/2020



in that behalf by the Government / Department from time to time.


(13) The Licencee shall at all reasonable times allow the officers of the government to inspect the work sites and records regarding quantity of water drawn, utilized and supplied to other parties, if any, and to take copy of the records.

(14) An amount equivalent to three months prevailing water charges shall be initially deposited by the licensee with the Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** or his successor in the office as security deposit for the due performance of the terms of this agreement. The deposit shall be in the form of Bank Guarantee in any *Nationalized Bank/schedule bank* and shall be pledged by the licensee in favour of the Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** or his successor in office. The enhancement in amount of security deposit due to yearly increase in the rate of water charges shall also be deposited by the Licencee. *Such Bank Guarantee must continue in force during entire period of this agreement without any break.*

(15) The Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** shall dispose of all matters pertaining to this agreement subject and falling within his purview subject to decision that may be taken in appeal before the Superintending Engineer, **Surat Irrigation Circle** in the matter and the decision of the Superintending Engineer in the matter shall be final.

  
Biswajit Basu / BISWAJIT BASU  
अधीनकारी (अधीनकारी १६-१)  
K.R.B.C. Division, Surat  
04/11/2020



  
Executive Engineer  
K. R. B. C. Division  
Surat.

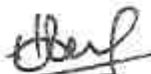
(16) The Licencee shall make its own arrangements for storing its water requirement of about 15 days. The Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** shall ordinarily inform licencee in advance about the period of closures of the canal for any reason.

(17) The Licencee shall arrange at its own cost the discharge of the trade waste and effluents after due treatment as may be permitted from time to time by the State Water Pollution Control Board safely in the place earmarked for the purpose in the vicinity in consultation and with the approval of Public Health Authority. In case where the Collector, Surat District finds that the arrangement of discharge is not suitable, it shall be the duty of Licencee to make other suitable arrangement as may be directed by him. If the discharge of trade waste and effluent proves to be a source of nuisance to the field and or the population in the neighborhoods, the Licencee shall treat the same further in such manner as may be directed by the Government.

(18) This agreement shall remain in force for a period of **5 years (Five Years)** from dated **05/06/2019** thereof unless terminated earlier, by the Licencee by giving six calendar month's notice in writing to the Government for the purpose. The Licencee shall not be eligible for any compensation on account of such premature termination.

  
Biswarup Basu / BISWARUP BASU  
मुख्य अभियंता (कृषि) काठियावाड़-2 (अ-1)  
Chief Engineer (Agriculture) K.R.B.C. Div. (A-1)  
K.R.B.C. Division, Karmas Gas Power Project  
અભિયાંતક : કાઠિયાવાડ, સુરત, ગુજરાત, ભારત



  
04/11/2019  
Executive Engineer  
K. R. B. C. Division  
Surat.

(19) The Government may allow the drawal of water according to the terms stated in this agreement after the expiry of the agreement on receipt of a request to that effect from the Licencee at least six month before the expiry of the period of this agreement.


(20) The Licencee shall bear all the legal charges, stamp duty, registration fees and translation charges and all other charges and expenses incurred in connection with this presents.

(21) The Government shall be entitled to terminate this agreement upon serving the Licencee with a notice of 1 month (One Month) for breach of any of the terms and conditions of this agreement or in the event the Licencee fails to pay any sum due to the Government under this agreement. The Licencee shall not be eligible to claim any compensation from the Government on account of withdrawing the facility of drawal of water as a result of premature termination of the agreement or even otherwise. Without prejudice to any right of the Government to proceed in accordance with the relevant clauses/rules No.6(v) to recover such sums due from the Licencee, the security deposits shall be forfeited. Any drawl of water from the **Singapore Weir** after the expiry of the period of the notice shall be treated as an unauthorised act and shall be subject to such penal charges as may be determined by the Government.

(22) Except as otherwise herein provided, all notices to be given and other actions to be taken on behalf

  
BISWARUP BASU / BISWARUP BASU  
मुख्य अभियंता (कक्षा १) सुरत (कक्षा १) - १)  
Chief Engineer (Class 1) Surat (Class 1) - 1)  
K.R.B.C. Division / K.R.B.C. Division  
Surat / Surat  
Karnataka Gas Power Project  
Karnataka Gas Power Project

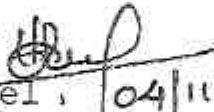



 04/11/2020  
Executive Engineer  
K. R. B. C. Division  
Surat.


of the Licencee shall be given or taken by the Director of National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat or any other official authorized by the Licencee.

(23) All sums and amount due and payable under this agreement shall be recoverable as arrears of land revenue under the Gujarat Land Revenue Code, 1879 without prejudice to any other rights or remedies available to the Government under any other case.


IN WITNESS WHERE OF Mr. Biswarup Basu duly authorized by the Board of Directors of the Licencee for and on behalf of the Licencee and Shri H.D. Patel, Executive Engineer, Kakarapar Right Bank Canal Division, Surat for and on behalf of the Governor of Gujarat have signed there presents and herein set their respective seals on the day and year first above written.

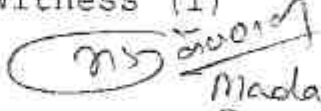

Signed, Sealed and delivered by   
Mr. H.D. Patel, 04/11/2020  
Executive Engineer,  
K.R.B.C. Division, SURAT  
For and on behalf of the  
Governor of Gujarat

In presence of  
Witness (I)   
(Akhilesh Desai)

Witness (II)   
(Satish. 2 Patel)

Signed, Sealed and delivered by  
Mr. Biswarup Basu

  
National Thermal Power Corporation Limited at  
village Kawas, Ta. Choryasi Dist. Surat for  
and on behalf of the  
Licensee.

In Presence of  
Witness (I)   
Madan Vaishnav  
Sr. MGR (EEM) NTPC Ltd.  
Witness (II)   
JASPAL SINGH  
DGM (GEM)  
NTPC Limited.





सत्यमेव जयते

**INDIA NON JUDICIAL**  
**Government of Gujarat**  
**Certificate of Stamp Duty**

Certificate No. : IN-GJ56985899034398S  
Certificate Issued Date : 21-Oct-2020 12:03 PM  
Account Reference : IMPACC (SV)/ gj13206404/ NANPURA/ GJ-SU  
Unique Doc. Reference : SUBIN-GJGJ1320640451675305379032S  
Purchased by : KRBC DIVISION SURAT  
Description of Document : Article 5(h) Agreement (not otherwise provided for)  
Description : WATER AGREEMENT  
Consideration Price (Rs.) : 0  
(Zero)  
First Party : KRBC DIVISION SURAT  
Second Party : NTPC  
Stamp Duty Paid By : KRBC DIVISION SURAT  
Stamp Duty Amount(Rs.) : 300  
(Three Hundred only)



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2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

AGREEMENT

Agreement for supply of water to **National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat** for drawal of 0.21 MLD 210.57 Cubic meter water per day (0.046 MGD) i.e. (76860 cubic meter per year) water from **Singapore Weir** for Drinking purpose.

This agreement made on this day of \_\_\_\_\_ 2020 between **National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat** through its Authorized Representative (hereinafter in this agreement called the "Licensee" Which expression shall, unless context otherwise requires and admits, be deemed to include its administrators, executors, successors and assigns) having its registered office at "**Kawas Gas Power Project, PO: Aditya Nagar, Dist.: Surat-394516**" of the one part and the Governor of the State of Gujarat through Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** in office (herein after called as "The Government" which expression shall, unless context otherwise requires and admits, be deemed to include his successors in office and assigns) of the other part.

WHERE AS the Licencee has applied to the Government for permission to draw water from Singapore Weir of Ukai-Kakarapar Command for **National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat**

**Executive Engineer  
K. R. B. C. Division  
Surat.**

AND WHEREAS the Government has, under its sanction letter No. WTR/1090/8/Part-2/P, dated 29-09-2020, agreed to grant such permission on the terms and conditions here-in-after appearing and as mentioned in the Government of Gujarat; Narmada, Water Resources, Water Supply & Kalpsar Department Resolution No.WTR/2005/41/P, dated 03/02/2007,

**NOW THIS INDENTURE WITNESS** and the parties here to hereby agree as follows:

(1) The Government hereby grants the permission to the Licencee to draw water from **Singapore Weir** on the terms and conditions hereafter appearing. The licensee shall construct and maintain the head works for drawing water from **Singapore Weir** and other required structures at suitable places as approved by the Government or its authorised officer at their risk & cost and shall provide all ancillary arrangements that may be required in connection with the drawing and conveying the water required for the use of Licensee. The intake structures shall be open to inspection by the Government and the Government shall exercise necessary control.

(2) The licensee shall install and maintain at its own cost, the pipeline and other requirements required for conveying water from the source of supply to the place of actual use. The expenditure towards the drawal of water i.e. installation of pumps, pipelines, meters and all other requirements in connection with the drawal of water, shall be borne by the Licensee.

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(3) The licensee shall draw water directly from **Singapore Weir** to the extent of 210.57 Cubic meters per day throughout the year for Drinking use as may be required for the optimum plant capacity under operation from time to time.

(4) (1) The licensee agrees to bear the cost herein below detailed that may be apportioned between the beneficiaries on prorata basis of their demands, on account of remodeling that may take place to meet the total requirements of the beneficiaries in case. Supply of water to him is from **Singapore Weir**. The cost of remodeling shall include cost of preparation of plans, estimates and scrutiny thereof, etc. as per Appendix-I to the Gujarat Public Works Department manual volume I & II. The total cost of strengthening and remodeling of canal is estimated to be Rupees Nil at present, out of which the share of the Licensee is estimated to be Rupees Nil. The licensee shall deposit this amount of Rupees Nil in advance to enable the Government to take up the entire work on priority basis. The licensee shall pay the balance amount on the basis of actual immediately after the work is completed.

(4) (2) The licensee shall be allowed to draw the water only after he is paid up the apportioned cost referred to in sub-clause 4(1) above, in advance.

(5) The licensee shall pay a licence fee at the rate of Rs. 501/- per year or at as such rates as may be fixed by the Government from time to time in that behalf during the subsistence as the agreement.

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- (6) The licensee shall pay for the quantity of water drawn, as measured in the manner provided under clause-7 below, at the rates and terms given below.
- (i) The Licensee shall pay the water charges for the quantity of water actually drawn as per the rates mentioned in the Government of Gujarat, Narmada, Water Resources, Water supply & Kalpsar Department Resolution No. WTR/2005/41/P dated, 3-2-2007, effective from 01-01-2007 subject to fulfillment of conditions laid down in above mentioned resolution as well as conditions mentioned in sanction letter.
- (ii) The interest rates, penalty and all other charges/conditions mentioned in above mentioned Government of Gujarat, Narmada, Water Resources, Water Supply & Kalpsar Department, resolution No. WTR/2005/41/P, dated, 03-02-2007 shall be applicable and the licensee shall have to fulfill it.
- (iii) The above rates so fixed shall be subject to upward revision that may be made by the government in Narmada, Water Resources, Water Supply & Kalpsar Department from time to time in connection with water reserved and used for irrigation & non-irrigation purposes. The rates fixed by the government shall be exclusive of cost of pumping, conveying etc. of water from the source.
- (iv) The charges as mentioned in sub clause-(i), above, shall be paid in advance by the Licensee before 10th day of each month following the month to which water charges pertains calculated

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as per the estimated requirement of water for the month. The bills as per actual payment of charges shall be prepared every month and served on the Licencee for payment thereof.

(v) If the arrears of water charges referred to above accumulate for more than six months, the Government shall be at liberty to ask the licencee to stop drawl of water from the source and it shall be incumbent on the licencee to do so and in case of default, Government may take action to stop entry into the intake without any notice at the risk and cost of the licencee.

(vi) If the measuring devices referred to in Clause-7 below, ceases to function or goes out of order in any month, the charges livable in respect of that month shall be calculated on the basis of the average quantity of water drawn in the preceding three months or the quantity of water drawn in the same month of preceding year whichever is higher, provided that there has been no increase in the capacity of the plant/plants and the corresponding water requirements thereof during such year. If the capacity of the Plant/Plants has increased during such year, the water drawn shall be correspondingly estimated on the prorata basis. For the purpose of such estimate, the licencee shall furnish necessary data to the Executive Engineer concerned whose decision in the matter shall be final and binding to the licensee.

(7) A suitable scientific measuring device shall be installed by the Licencee at suitable place in

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consultation with and with the approval of the Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** or his successor in office for measuring the quantity of water drawn by the Licencee.

The cost of measuring device, its installation and maintenance shall be borne by the Licencee. The measurement of the quantity of water drawn shall be taken jointly by the representative of the Government and of the Licencee. The measuring device shall be open for inspection by the concerned authorities.

(8) If the measuring device referred to in the clause-7, ceases to function or goes out of order, the Licencee shall, as and when such occasion arises, get necessary repairs thereto carried out and restore the same to its original position or replace the same if so found necessary and as required by the Executive Engineer concerned within one month of its going out of order.

(9) The water drawn by the Licencee from **Singapore Weir** shall be used only for the purpose for which permission to use the same is granted to him and as such the use shall be confined to the legitimate requirements of the Licencee.

The Licencee shall not draw water from the above mentioned sources for sale or supply to any person, firm or Company or other body by whatever name called.

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(10) (1) The grant of the permission to draw water under this agreement shall not mean any assurance to the Licencee regarding availability of quantity of water as per the requirements of the Licencee and regarding the quality of water. The Licencee shall not be entitled to any compensation for non availability of quantity of water on account of reasons beyond the control of the government/department. It shall be incumbent on the licensee to make its own arrangement to meet its requirement of water during the periods the canal is closed on account of repairs or accidental breach.

(10) (2) If the special measures for conserving the water and reducing the losses of evaporation and seepage are found necessary in scarcity years, the expenses on this account shall be borne by the Licensee.

(11) The permission granted in this agreement shall not in any manner prejudicially affect the existing water rights vested in the riparian owners nor shall it any way prejudice the rights of government to launch or implement any new scheme or schemes in public interest in future in connection with the water from **Singapore Weir** from which Licensee is permitted to draw water.

(12) The drawal of water under this agreement by the licencee shall be subject to the provisions of the *Gujarat Irrigation and Drainage Act, 2013, Gujarat Irrigation and Drainage Rules, 2014* and other rules made there under as amended from time to time and orders that may be passed or issued

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in that behalf by the Government / Department from time to time.

(13) The Licencee shall at all reasonable times allow the officers of the government to inspect the work sites and records regarding quantity of water drawn, utilized and supplied to other parties, if any, and to take copy of the records.

(14) An amount equivalent to three months prevailing water charges shall be initially deposited by the licencee with the Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** or his successor in the office as security deposit for the due performance of the terms of this agreement. The deposit shall be in the form of Bank Guarantee in any *Nationalized Bank/schedule bank* and shall be pledged by the licencee in favour of the Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** or his successor in office. The enhancement in amount of security deposit due to yearly increase in the rate of water charges shall also be deposited by the Licencee. *Such Bank Guarantee must continue in force during entire period of this agreement without any break.*

(15) The Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** shall dispose of all matters pertaining to this agreement subject and falling within his purview subject to decision that may be taken in appeal before the Superintending Engineer, **Surat Irrigation Circle** in the matter and the decision of the Superintending Engineer in the matter shall be final.

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(16) The Licencee shall make its own arrangements for storing its water requirement of about 15 days. The Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** shall ordinarily inform licencee in advance about the period of closures of the canal for any reason.

(17) The Licencee shall arrange at its own cost the discharge of the trade waste and effluents after due treatment as may be permitted from time to time by the State Water Pollution Control Board safely in the place earmarked for the purpose in the vicinity in consultation and with the approval of Public Health Authority. In case where the Collector, Surat District finds that the arrangement of discharge is not suitable, it shall be the duty of Licencee to make other suitable arrangement as may be directed by him. If the discharge of trade waste and effluent proves to be a source of nuisance to the field and or the population in the neighborhoods, the Licencee shall treat the same further in such manner as may be directed by the Government.

(18) This agreement shall remain in force for a period of 5 **years** (Five Years) from dated 05/06/2019 thereof unless terminated earlier, by the Licencee by giving six calendar month's notice in writing to the Government for the purpose. The Licencee shall not be eligible for any compensation on account of such premature termination.

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(19) The Government may allow the drawal of water according to the terms stated in this agreement after the expiry of the agreement on receipt of a request to that effect from the Licencee at least six month before the expiry of the period of this agreement.

(20) The Licencee shall bear all the legal charges, stamp duty, registration fees and translation charges and all other charges and expenses incurred in connection with this presents.

(21) The Government shall be entitled to terminate this agreement upon serving the Licencee with a notice of 1 month (One Month) for breach of any of the terms and conditions of this agreement or in the event the Licencee fails to pay any sum due to the Government under this agreement. The Licencee shall not be eligible to claim any compensation from the Government on account of withdrawing the facility of drawal of water as a result of premature termination of the agreement or even otherwise. Without prejudice to any right of the Government to proceed in accordance with the relevant *clauses/rules* No.6(v) to recover such sums due from the Licencee, the security deposits shall be forfeited. Any drawl of water from the **Singapore Weir** after the expiry of the period of the notice shall be treated as an unauthorised act and shall be subject to such penal charges as may be determined by the Government.

(22) Except as otherwise herein provided, all notices to be given and other actions to be taken on behalf

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of the Licencee shall be given or taken by the Director of **National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat** or any other official authorized by the Licencee.

(23) All sums and amount due and payable under this agreement shall be recoverable as arrears of land revenue under the Gujarat Land Revenue Code, 1879 without prejudice to any other rights or remedies available to the Government under any other case.

IN WITNESS WHERE OF Mr. \_\_\_\_\_ duly authorized by the Board of Directors of the Licencee for and on behalf of the Licencee and Shri H.D. Patel, Executive Engineer, **Kakarapar Right Bank Canal Division, Surat** for and on behalf of the Governor of Gujarat have signed there presents and herein set their respective seals on the day and year first above written.

Signed, Sealed and  
delivered by  
Mr. H.D. Patel  
Executive Engineer,  
**K.R.B.C. Division, SURAT**  
For and on behalf of the  
Governor of Gujarat

in presence of  
Witness (I)

Witness (II)

Signed, Sealed and  
delivered by  
Mr.  
**National Thermal Power Corporation Limited, at village Kawas, Ta. Choryasi Dist. Surat** for and on behalf of the Licensee.

in Presence of  
Witness (I)

Witness (II)