

Owner:

Adhunik Power & Natural Resources Limited

Title of Work to Be Awarded:

"Supply of Biomass Pellets to Adhunik Power & Natural Resources Limited at Padampur in Saralkela-Kharsawan district, Jharkhand"

Document Reference No.:APNRL/BIOMASS/2

Tender Reference No.: FY25-TENDER-BIOMASS-30 March'25



Lansdowne Towers, 5th Floor, 2/1A, Sarat Bose Road, Kolkata – 700020 033-66384700 CIN-U40101WB2005PLC102935

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NOTICE INVITING TENDER (EOI)-

SUPPLY OF BIOMASS PELLETS TO ADHUNIK POWER & NATURAL RESOURCES LIMITED AT PADAMPUR IN SARALKELA-KHARSAWAN DISTRICT, JHARKHAND

Enquiry reference no.: FY25-TENDER-BIOMASS-30-March'25

Title of Work: "SUPPLY OF BIOMASS PELLETS TO ADHUNIK POWER & NATURAL RESOURCES LIMITED AT PADAMPUR IN SARALKELA-KHARSAWAN DISTRICT, JHARKHAND"

Type of Bidding: E-tendering / Two Part

Guidelines for EOI submission: EOI (TENDER) shall be submitted strictly as per instructions given herein under Point no. 3 (a), (b), (c), (d) by sending Email EOI to Email IDs specified thereunder.

EOI submission mail must bear proper subject/title mentioning "EOI for SUPPLY OF BIOMASS PELLETS TO ADHUNIK POWER & NATURAL RESOURCES LIMITED AT PADAMPUR IN SARALKELA-KHARSAWAN DISTRICT, JHARKHAND"

(Tender Ref: FY25-TENDER-BIOMASS-30-March'25)

All communication regarding this tender shall be addressed to following officer/s:

Sr. No.	Contact Person	Contact No.
01	Prosanta Chakraborty	8585078431
02	Vishnu Bhattacharya	9810854367

Website: www.adhunikpower.com | tenders@adhunikpower.co.in

Adhunik Power & Natural Resources Limited Invites Tender (EOI) from interested parties for the e-Tendering Process of following Relevant Work Package:



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Table1

Plant Details	Estimated Quantity	Tender Fee	Bid Security/EMD
Adhunik Thermal PowerStation, 540 MW, Village:	Total Qty for trial (This tender) in MT = 500 MT	INR 2000/- (INR Two Thousand Only)	For trial order: INR 2 Lakhs (To be submitted either as Bank Guarantee/DD, at the BID stage and not with EOI)
Padampur,Behind: P.G.C.I.L. Substation, Saraikela – Kharswan, Jharkhand -832402	 Post Successful Trial, Total Qty for 1 Year (365 days) in MT = 500000 MT 	(To be paid along with EOI through Bank transfer which	
	 Maximum Quantity of Biomass in TPD basis = 750 TPD and Minimum Quantity of 400 TPD. 	will be Non- refundable)	



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1. INTRODUCTION:

Ministry of Power (MoP) issued revised policy dated 8th Oct 2021 with notification number 11/86/2017-Th. II, for Power generation through Co-firing of Biomass in Coal Based Power Plants. The Policy mandates use of 5% to 10 % blend of Biomass pellets made, primarily agro residue along with Coal. In order to meet the said requirement, APNRL is hereby inviting TENDER (EOI) from interested and eligible parties for " SUPPLY OF BIOMASS PELLETS TO ADHUNIK POWER & NATURAL RESOURCES LIMITED AT PADAMPUR IN SARALKELA-KHARSAWAN DISTRICT, JHARKHAND"

Adhunik Thermal Power Station presently operates coal based thermal power generation units of2x270 MW capacity operating on Domestic coal, located at Padampur, in state of Jharkhand, India.

The tendering/procurement activities for this Project are being managed from Adhunik Power's following Office: ADHUNIK POWER AND NATURAL RESOURCES LIMITED

Lansdowne Towers, 5th Floor, 2/1A, Sarat Bose Road, Kolkata – 700020

033-66384700

2. SCOPE OF WORK:

The details of the estimated Biomass quantity required under proposed contract period is as under:

Table2

Power Station/	Owner of	Estimated Quantity	Biomass	Period of
Location	Plant	Requirement	Delivery	Supply
Adhunik Power & Natural Resources Ltd. Village: Padampur,Behind: P.G.C.I.L. Substation. Saraikela – Kharswan, Jharkhand -832402	Adhunik Power & Natural Resource s Ltd.	 Total Qty for trial (this tender) in MT = 500 MT Post Successful Trial, Total Qty for 1Year (365 days) more than 500000 MT Maximum Quantity of Biomass in TPD basis = 750 TPD and Minimum Quantity of 400 TPD 	as per schedule specifiedin the Annex- 1	as per schedule specified in the Annex-1



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Note: -

Bidders should clearly mention in the EOI regarding the supply capability for trial order quantity aswell as long-term quantity. Same may be tendered / ordered in to two separate RFQ's.

The brief Scope of Work under this tender shall be to deliver of biomass at the designated delivery point of the respective Power Station/s inline to detailed scope of work/ T&C/Technical specification via truck mode logistics.

The scope of bidder/ Supplier shall include- Supply of biomass in self tippling truck including unloading, entire logistics arrangement, transportation, and other associated work for the contracted quantity of biomass on consistent and continuous basis over the stipulated contract period.

Detailed Scope of work/ Terms & Conditions/Technical Specifications requirement is mentioned in Annexure – 1 of this document.

Detailed Scope of Work for this Contract shall be confirmed in the Tender/RFQ document to all bidders submitting the valid EOI with due tender fees.

3. TENDER FEE & EOI SUBMISSION GUIDELINES AND TIMELINES:

- a) Interested parties meeting the "Bidder pre-qualification criteria" specified under point no. 4 in thisdocument can request tender document and participate in the bidding process by submitting the TENDER (EOI) along with the Tender Fee Payment Details to the contact details mentioned below not later than deadline specified below. Request for Bid Document will be not be entertained beyond this deadline.
- b) Interested bidders should submit the TENDER (EOI) letter and tender fee payment details to below mentioned email address as follows:
 - <u>tenders@adhunikpower.co.in</u>

Tender documents without complete information and communication as above within deadline shall be liable to be rejected and will not be considered further.

c) Tender Fee, as indicated in the Table1 above may be paid through **NEFT/Electronic Transfer** as per details for payment of Tender Fee given in Table 3 below:

Table 3

Details for payment of Tender Fee & EMD/Bid Security:			
Bank details for submitting fees through bank transfer/NEFT/DD/BG:	Beneficiary Name: Adhunik Power & Natural Resources Limited Name: State Bank of India		
	Branch Name: SME Park Street Branch		
	Beneficiary A/c no: 32706141411		
	IFSC Code: SBIN0070248		



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Deadline for tender fee payment and submission of Tender:	20 days from Publication.
Tender Fee Amount:	Rs 2000/- (Non-refundable)

d) TENDER letter to be submitted along with tender fee payment details shouldinclude the following details:

- A covering letter duly stamped and signed by an authorized signatory clearly indicating the Tender Reference number.
- Tender fee payment details / reference no (ensure that tender fee is received by us within specified deadline)
- Bidder to indicate authorized person name, contact number and e-mail id (mandatory) of the person to whom RFQ/ tender and all other communications to be addressed for this tender.
- Last Email/ Letter received within Deadlines shall be considered as final and would be taken ahead for evaluation.
- Bidder to confirm their capability to supply trial quantity as well as long term two years quantity. Bidder may submit supporting credentials.
- All other details indicated in the Annexure-1 will be required at the stage of RFQ / bidding including price. Annexure -1 is shared for reference purpose only and shall be finalize during RFQ stage.
- e) Detailed Bid Document (also referred as RFQ) shall be issued through Adhunik Power e-tender portal only

4. BIDDER PRE-QUALIFICATION CRITERIA:

Interested parties to note that Bidder shall be required to fulfill the following bidder pre-qualification criteria in order to qualify for the subject work. Bidder will be required to submit relevant supporting documents to demonstrate their qualification during the bid submission stage against Tender document/RFQ.

4.1 TECHNICAL REQUIREMENT:

- a) Bidders should have Minimum supply capacity of 100 TPD. Bidder to submit credential (POs / certificates / customers letters etc.) demonstrating 100 TPD supply of biomass pellets contract/executed or under execution in the last 1 years. New supplier having no past experience may submit supporting credential of production capacity to supply 100 TPD.
- b) Bidder should have executed at-least one contract including scope of supply including transportation / logistics responsibility. New supplier having no past experience of logistics may submit supporting credential of logistics capability through their own / tie-up's.
- c) Bidder shall confirm to meet the detailed technical requirement as mentioned under Annexure –1 of this document and submit the test report of their product from the accredited Lab.



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4.2 FINANCIAL REQUIREMENT:

- a) Bidder should have annual average turnover of last three financial years an Average Annual Turn Over of not less than INR 5 Crores.
- b) Bidder should confirm the adequacy of working capital for INR 1 Crore for sustaining operations and submit supporting credit limit / bank solvency letter.
- c) Bidder should have net worth of last financial year atleast equal to or more than paid up sharecapital.

4.3 NOTES FOR TECHNICAL AND FINANCIAL REQUIREMENTS:

Bidder will be required to submit copies of their profit and loss account and audited Balance sheet for the last three preceding financial years along with the Bid Document. In cases, where audited results for the last preceding financial year are not available, certification of financial statements from a practicing Chartered Accountant shall also be considered acceptable.

5. BID SECURITY/EMD:

Interested parties to note that Bidder is required to furnish a Bid Security along with their Bid during bidding stage. Bid securitymay be submitted in form of Bank guarantee in the format prescribed in Bid Document or as Demand Draft for an amount as defined in the covering page of this notice document (Table-1). Bids not accompanied by an acceptable Bid Security shall be rejected by the Owner as being non-responsive and returned to the bidder without being opened. Bid security of unsuccessful bidders shall be returnable after conclusion of tender process while Bid security of successful bidders shall be returnable after submission of necessary contract performance bank guarantee/ performance security deposit.

6. BIDDING PROCESS:

Bidder to note that bidding for the procurement of Biomass as per above tender may be conducted based on the Minimum Supply Quantity Commitment and Price (Landed at Plant) of Biomass quoted by bidder/s. Detailed bidding and auction process (as applicable) shall be detailed in the RFQ document.



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ANNEXURE-1

NOTICE INVITING TENDER (NIT-EOI) FOR SUPPLY OF BIOMASS PELLETS TO ADHUNIK POWER & NATURAL RESOURCES LIMITED AT PADAMPUR IN SARALKELA-KHARSAWAN DISTRICT, JHARKHAND

Doc. No: APNRL/BIOMASS/2

Adhunik Power & Natural Resources Ltd

Regd. & Corp. office:-Lansdowne Towers, 5th Floor, 2/1A, Sarat Bose Road, Kolkata – 700020

Plant:-

Village: Padampur, Behind: P.G.C.I.L., Substation, Saraikela – Kharswan, Jharkhand - 832402

Davidai au	B. A. B. Sandadian		Approvals		
Revision	Date	Description	Prepared By	Checked By	Approved By
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SECTION-A
EXECUTIVE SUMMARY



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1.0 INTRODUCTION

Adhunik Power & Natural Resources (APNRL) is an Independent Power Producer (IPP) owning and operating a 2x270 MW coal based thermal power plant in Padampur, Saraikela-Kharsawan, Jharkhand State. APNRL inaugurated its first unit of 2x270 MW coal fired thermal power plant on 16th October 2012. This power plant is operating for about 12 years. The Project is 2x270 MW (Gross) coal fired power plant located in Padampur in Saralkela-Kharsawan district and is about 20 kms from Jamshedpur. The power from the project is being evacuated through CTU substation (PGCIL) located very near to the power plant site. APNRL signed Long Term Power Purchase Agreement (PPA) directly with Jharkhand State Electricity Board (JBVNL), through PTC India Ltd. to WBSEDCL, TANGEDCO and HPPC

To reduce greenhouse gas (GHG) emission from its coal-based power plants, APNRL intends to utilize agro residue-based pellets/ torrefied pellets along with coal for power generation through biomass co-firing. Ministry of Power (MoP) issued revised policy dated 8th Oct 2021 with notification number 11/86/2017-Th. II, for Power generation through Co- firing of Biomass in Coal Based Power Plants. The Policy mandates use of 5% to 10 % blendof Biomass pellets made, primarily agro residue along with Coal.

Adhunik Power & Natural Resources (APNRL) (Referred as "Owner" elsewhere in the document), invites applications from agencies, to register for supply of Biomass Pellets at Padampur, Saraikela-Kharsawan, Jharkhand State (Referred as "Project site" elsewhere in the document).

2.0 BRIEF SCOPE OF WORK

- 2.1 The scope of work under this package shall include supply, loading, transport, and deliveryof agro residue-based biomass dry pellets at Project site.
- 2.2 The pellets supplied shall adhere to the technical specification given in this document. Detailed scope and methodology are as specified in this Document.



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SECTION-B

TECHNICAL SPECIFICATIONS FOR AGRO RESIDUE BASED BIOMASS PELLETS



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3 INTENT OF SPECIFICATION

- 3.1 APNRL is operating pulverized coal based Thermal Power stations at Saraikela-Kharsawan, Jharkhand. In order to reduce carbon emission of coal fired power plant and also to reduce air pollution by discouraging stubble burning, Owner intend to procure agro residue-based biomass pellets for co-firing in pulverized coal fired units.
- 3.2 The scope of work under this package shall include supply, loading, transport, and delivery of agro residue-based biomass pellet at Project Site.
- 3.3 Supervision of Unloading shall be in the scope of Owner. Pellets shall be loose filled in the carriage vehicle. Carriage vehicle should be fully covered and water-proof during transportation to prevent the material from rain, sunlight and to prevent dusting. Carriage vehicle should be self-tippling type.
- 3.4 If supplier, supplies the material packed in bags or in non-tippling type consignment, it shall not be accepted, or supplier shall unload the material at his own cost at APNRL. In that case, for any extra halt of carriage vehicle, demurrage shall not be payable by Owner.
- 3.5 The pellets supplied shall adhere to the technical specification given in this document.
- 3.6 Demurrage, if any, on the carriage vehicle for reasons attributable to the Supplier shall be borne by the Supplier.

4 SUPPLY LOCATION

4.1 The consignment of pellets shall be delivered to following address:

Adhunik Power & Natural Resources Ltd

Village: Padampur, Behind: P.G.C.I.L. Substation, Saraikela – Kharswan. Jharkhand -832402

5. DELIVERY SCHEDULE

- 5.1 The bidder should ensure an Initial Supply of 500 MT to conduct the pilot test (Trial of Biomass) in the Boiler. The supplier shall deliver the material within 15 days from the issue of purchase order.
- 5.2 Owner can also give reduced delivery schedule to supplier by giving one-week advance notice through official e-mail ID of SPOC (Single Point of Contact) or e-mail ID of any otherperson authorized by him and supplier shall dispatch the consignment accordingly.

4.0 TECHNICAL SPECIFICATION OF BIOMASS PELLETS

4.1 Bidder can supply only one type or combination of both Torrefied and Non-Torrefied as per the specification. The bidder shall quote the price for pellets and its GCV (ARB*). The pellets shall adhere to the technical specification given in following table and bidder shall submit declaration as per the Annexure – 1.



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4.2 However, any variation in GCV or Percentage of fines beyond the limit specified in technical specification shall be rationalized as per Price and Quantity Adjustment formula as given in the following clauses of this specification.

Table: 1 Technical specification for Biomass pellets (Non-torrefied/ torrefied).

Serial	Technical Data	Unit	Specifications of Pallet
No			
1	Base material		Agro residue / Crop residue
			(Wood based pellets will not be
			acceptable)
2	Diameter**	Mm	Not more than 25 mm
			No other dimension should exceed 35mm
3	Bulk density	kg/m3	Not less than 600 kg/m3
4	Fines % (Length <	Weight %	Fines ≤ 5%
	3 mm) (ARB*)		
5	Gross calorific	kcal/kg	Non- torrefied pellets: Not less than 3000
	value (ARB*)		Torrefied pellets: Not less than 3400
6	Moisture (ARB*)	Weight %	9 % - 14 %
7	Ash (ARB*)	Weight %	Not more than 20%
8	Hard grove		50 or more
	Grindability Index\$		
	(HGI)		
9	Particle size	Weight %	Passing proportion from 2 mm mesh size
	distribution\$\$ (After		sieve: ≥ 75% Passing proportion from 3 mm
	crushing and		mesh size sieve: =100%
	pulverizing in		
	site lab pulverizer)		
10	Chlorine	Weight %	Not more than 0.5
11	Sulphur	Weight %	Not more than 0.2

^{*}ARB - As Received Basis

Note: During contract period, diameter of pellets may be revised/modified based on result oftest firing on mutual consent basis without any financial/cost implication to either Owner or supplier.

^{\$} Applicable for torrefied pellets.

^{\$\$} Applicable for non- torrefied pellets.



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- 4.3 Base material for pellet manufacturing shall be agro residue which means the leftover portion of the agriculture produce such as stubble/straw/stalk/husk of those agro residue which are surplus and not being used as animal fodder such as paddy, soya, arhar, gwar, cotton, gram, jawar, bajara, moong, mustard, seasam, til, maize, sunflower, jute, coffee etc., groundnut shell, coconut shell, castor seed shell etc., pine needle, elephant grass, sarkanda (Munj Grass craft) and horticulture waste such as dry leaves and trimmings generated during the maintenance and pruning of trees and plants.
- 4.4 Agro residue-based biomass pellets can be manufactured by mixing single or multiple basematerial together.
- 4.5 Mixing material such as byproduct of woodwork factory such as wood chips, saw dust, furniture waste etc., bagasse, press mud, molasses, bamboo dust or natural additives/binder such as lignin, starch, and animal dung may also be used with agro residuein limited proportion to enhance material properties and same shall be explicitly mentioned by supplier in consignment details.
- 4.6 Wood obtained from tree cutting shall not be treated as agro residue and shall be not to be used as base material or mixing purpose whatsoever.
- 4.7 Owner reserve the right to exclude any Base material/ Mixing material/additive/ binder or modify their proportion, if any adverse impact of the Base material/ Mixing material/additive/binder is found on boiler in long run.

4.8 Price Variation

Bidder shall quote proposed Biomass pricing on basis of "INR/Mkcal" (GCV on ARB Basis) including Biomass cost, applicable taxes/duties/cess GST etc.

Actual payment shall be made based on Basic Biomass Price "INR/MT" (Considering GCV) calculated based on the actual quantity of Biomass received at Unloading Point and Unloading Point GCV as measured in line with the specified provision.

Bidder shall in his quote give clear break-up of the Basic Price of Biomass, GST and all other taxes, duties, cess etc. as applicable and also indicated the total landed cost of Biomass including all taxes and freight etc. Any taxes, duties, cess etc. not mentioned in the bid shall be deemed to be included in the basic price of Biomass.

4.8.1 Non-torrefied Biomass

a) Price Variation for Quoted GCV

Based on the Base material and Mixing material as per technical specification, Bidder is required to quote GCV value of biomass in Kcal/Kg for non-torrefied pellet within the range as mentioned below

Minimum Limit- 3000 Kcal/Kg

Supplier shall supply the agro residue based non torrefied biomass pellets of GCV not less than 2800 kcal/kg. Price shall be adjusted for GCV variation of supplied material as below:

For GCV (ARB) >= 3000 Kcal/Kg [For GCV more than or equal to 3000 Kcal/Kg]

Upward pro-rata price adjustment shall be done for GCV variation of supplied material as per following formula: -



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$$Adjusted \ FOR \ price = \frac{[Quoted \ FOR \ price *\times Actual \ GCV \ (ARB) \]}{Quoted \ GCV \ (ARB)}$$

Note: FOR (Freight on Road shall be referred as FOR) Price: FOR Destination Price

The downward GCV variation from Minimum limit, pro-rata price adjustment shall be done for GCV variation of supplied material as per following formula:

For GCV 3000 Kcal/Kg> GCV=>2800 Kcal/Kg [For GCV less than 3000 Kcal/Kg AND more than or equal to 2800 Kcal/Kg]

$$Adjusted\ FOR\ price = 0.75x \frac{[Quoted\ FOR\ price \times Actual\ GCV(ARB)\]}{Quoted\ GCV\ (ARB)}$$

In case of GCV (ARB) is less than 2800kcal/Kg, No payment shall be made for already delivered and consumed material of GCV less than 2800 Kcal/kg.

Note: In case, supplier is found to frequently supply the material of GCV less than 3000 Kcal/Kg or found to take deviations in other technical parameters, warning letter shall be issued to supplier.

However, if material is supplied below 3000 Kcal/Kg in more than 3 (Three) instances during the contract even after issuing warning letter then Contract shall be liable for cancellation. Material supplied of GCV less than 2800 Kcal/Kg is liable for rejection and no payment shall be made for already delivered and consumed.

b) Weight Correction for Quoted Moisture

If consignment of biomass pellets does not meet the guaranteed parameter for moisture (ARB) but is within the acceptance limit as given in Table above, the consignment shall be accepted but with pro rata quantity adjustment (weight correction) as calculated using following formula:

Weight correction factor on account of moisture (M):

$$M = \frac{\{100 + X - \% Moisture(ARB)\}}{100}$$

Where X is the lower moisture percentage limit as per specification = 9%. Weight correction on account of moisture (ARB) shall be done only if it lies in range of 9 % < Moisture (ARB) ≤ 14%.

For moisture (ARB) less than or equal to 9%, no weight correction shall be done.

For moisture (ARB) more than 14%, the consignment of biomass pellets shall be rejected.



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c) Quantity Adjustment for Ash

If consignment of biomass pellets does not meet the guaranteed parameter for moisture (ARB) but is within the acceptance limit as given in Table above, the consignment shall be accepted but with pro rata quantity adjustment (weight correction) as calculated using following formula:

Weight correction factor on account of ash (A):

$$A = \frac{\{100 + Y - \% Ash content(ARB)\}}{100}$$

Where Y is the Ash percentage as per specification (Not more than 20%.)

Weight correction on account of ash content will be done only when ash content (ARB) of biomass pellets is more than 20%. For ash content (ARB) less than or equal to 20%, no weight correction shall be done.

d) Corrected Weight of the Consignment

If W is the weight of consignment supplied, then final corrected weight on account of both moisture and ash corrections shall be calculated as below:

$$W_{corrected} = W \times M \times A$$

Where.

M= Weight correction factor on account of moisture (M)A =

Weight correction factor on account of ash (A)

The corrected weight ($W_{corrected}$) of the consignment and adjusted price for GCV of the biomass pellets as worked out above shall be considered for the payment to be made to the supplier.

e) Recovery on Account of Excess Fines in Consignment

Biomass dust, crushed/ broken/ damaged pellets of length less than 3 mm in consignment as received at owner's power plant shall be treated as fines and there shall be recovery on account of excess fines (ARB) if it is beyond 5%. The recovery on account of excess fines shall be worked out as per the following formula:

Recovery =
$$\frac{1}{4}$$
 × (adjusted price of biomass pellets) × $W_{corrected}$
× Excess weight % of fines

This amount shall be recovered from the payment of that consignment.

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4.8.2 Torrefied Biomass

a) Price Variation for Quoted GC

Based on the Base material and Mixing material as per technical specification, Bidder is required to quote GCV value of biomass in Kcal/Kg for torrefied pellet within the range as mentioned below

Minimum Limit- 3600 Kcal/Kg

Supplier shall supply the agro residue based on torrefied biomass pellets of GCV not less than 3400 kcal/kg. Price shall be adjusted for GCV variation of supplied material as below:

For GCV(ARB)>=3600Kcal/Kg [For GCV more than or equal to 3600 Kcal/Kg]

Upward pro-rata price-

$$Adjusted\ FOR\ price = \frac{[Quoted\ FOR\ price *\times Actual\ GCV\ (ARB)\]}{Quoted\ GCV\ (ARB)}$$

FOR Price: FOR Destination Price

For Torrefied Biomass the downward GCV variation from Minimum limit, pro-rata price adjustment shall be done for GCV variation of supplied material as per following formula:

For GCV 3600 Kcal/Kg > GCV = > 3400 Kcal/Kg [For GCV less than 3600 Kcal/Kg ${\tt AND}$ more than or equal to 3400 Kcal/Kg]

$$Adjusted\ FOR\ price = 0.75x \frac{[Quoted\ FOR\ price \times Actual\ GCV(ARB)\]}{Quoted\ GCV\ (ARB)}$$

Note: In case, supplier is found to frequently supply the material of GCV less than 3600 Kcal/Kg or found to take deviations in other technical parameters, warning letter shall be issued to supplier.

However, if material is supplied below 3600 Kcal/Kg in more than 3 (Three) instances during the contract even after issuing warning letter then Contract shall be liable for cancellation.

Material supplied of GCV less than 3400 Kcal/Kg is liable for rejection and no payment shall be made for already delivered and consumed.



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b) Weight Correction for Quoted Moisture

If consignment of biomass pellets does not meet the guaranteed parameter for moisture (ARB) but is within the acceptance limit as given in Table above, the consignment shall be accepted but with pro rata quantity adjustment (weight correction) as calculated using following formula:

Weight correction factor on account of moisture (M):

$$M = \frac{\{100 + X - \% Moisture(ARB)\}}{100}$$

Where X is the lower moisture percentage limit as per specification = 9%.

Weight correction on account of moisture (ARB) shall be done only if it lies in range of 9% < Moisture (ARB) $\le 14\%$.

For moisture (ARB) less than or equal to 9%, no weight correction shall be done.

For moisture (ARB) more than 14%, the consignment of biomass pellets shall be rejected.

c) Quantity Adjustment for Ash

If consignment of biomass pellets does not meet the guaranteed parameter for moisture (ARB) but is within the acceptance limit as given in Table above, the consignment shall be accepted but with pro rata quantity adjustment (weight correction) as calculated using following formula:

Weight correction factor on account of ash (A):

$$A = \frac{\{100 + Y - \% Ash content(ARB)\}}{100}$$

Where Y is the Ash percentage as per specification (Not more than 20%.)

Weight correction on account of ash content will be done only when ash content (ARB) of biomass pellets is more than 20%. For ash content (ARB) less than or equal to 20%, no weight correction shall be done.

d) Corrected Weight of the Consignment

If W is the weight of consignment supplied, then final corrected weight on account ofboth moisture and ash corrections shall be calculated as below:

$$W_{corrected} = W \times M \times A$$

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Where.

M= Weight correction factor on account of moisture (M) A =

Weight correction factor on account of ash (A)

The corrected weight ($W_{corrected}$) of the consignment and adjusted price for GCV of the biomass pellets as worked out above shall be considered for the payment to be made to the supplier.

e) Recovery on Account of Excess Fines in Consignment

Biomass dust, crushed/ broken/ damaged pellets of length less than 3 mm in consignment as received at owner's power plant shall be treated as fines and there shall be recovery on account of excess fines (ARB) if it is beyond 5%. The recovery on account of excess fines shall be worked out as per the following formula:

Recovery =
$$\frac{1}{4}$$
 × (adjusted price of biomass pellets) × $W_{corrected}$
× Excess weight % of fines

This amount shall be recovered from the payment of that consignment.

4.9 Rejection of Consignment

The consignment of biomass pellets arrived at project site shall adhere to the technical specification. The Biomass Pellet's rejection criteria shall be as per the following Table -2. Moisture shall be tested at Owner's Lab at Project site before unloading. Other parameters shall be furnished by the supplier before unloading of the material at Owner's Project location and shall also be tested by Owner at their Lab.

Table: 2

Technical data	Unit	Rejection Level
Moisture	Weight %	>14%
Ash	Weight %	>20%
GCV (Torrefied Pellets)	Kcal/kg	< 3400 **
GCV (Non-Torrefied Pellets)	Kcal/Kg	< 2800*
HGI	-	<48
Chlorine	Weight %	>0.5
Sulphur	Weight %	> = 0.25

^{**} Material supplied of GCV less than 3400 Kcal/Kg is liable for rejection and no payment shall be made for already delivered and consumed.

^{*} Material supplied of GCV less than 2800 Kcal/Kg is liable for rejection and no payment shall be made for already delivered and consumed.



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5.0 TESTING STANDARD/ METHOD

5.1 Biomass pellets sample shall be tested in the Project site lab as per following equivalentstandard given in the Table no - 3 below.

Table: 3

Serial No	Technical data	Testing Standard/Method
1	Diameter	ISO 17829 or equivalent method may be referred. Note: ISO 17829 refers for the Solid Biofuels —For the determination of length and diameter of pellets
2	Fines % (< 3 mm) (ARB)	ISO 18846 or equivalent method may be referred. Note: ISO 18846:2016 specifies a method for determining the amount of material passing through a sieve with3,15 mm diameter round hole.
3	Gross Calorific Value (ARB)	IS 1350 or equivalent method may be referred. Note: Indian Standard methods of test for coal and coke
4	Moisture (ARB)	IS 1350 or equivalent method may be referred/ Handheld moisture meter may also be used.

ARB - As Received Basis

Before unloading, samples shall be tested for moisture. However, the HGI report shall besubmitted by the Supplier with each carriage vehicle/consignment at the time of supply.

5.2 Sampling methodology

- 5.2.1 The biomass sample should be representative sample, means it should have pellets of all sizes (small, medium, large) etc. The collected sample should represent the truck/ consignment. For the purpose of rejection test before clearance for unloading, each truck/consignment shall be tested for moisture by Owner.
- 5.2.2 For testing of GCV and other Technical parameters, single composite sample shall be prepared for all the consignments received in a day from a particular vendor. For avoidance of doubt, in case supply is from multiple vendors in a day, vendor-wise sample shall be prepared for all the consignment received in a day.
- 5.2.3 The sample quantity of approximately 30 Kg is to be collected from each truck/consignment from 4-5 randomly selected spots on the truck top after removing biomass pellet layer of approximately 25-30 cm depth from the top. Approximately 5-6 kg of sample is to be collected from each spot.



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5.2.4 Five spots shall be selected for sampling of biomass pallet shall be decided by the owner depending upon the biomass pattern. Spot selection is not in vendor's scope.

5.3 For testing of moisture for rejection test for unloading clearance

- 5.3.1 For purpose of rejection test before unloading, samples shall be tested for moisture by Owner.
- 5.3.2 After collection of samples from the truck as stated above, thoroughly mix the pellet samples and collect approximately 1 Kg of representative sample for carrying out rejection test, as per Table no 2 of section 4.9 rejection of Consignment.
- 5.3.3 If test result of sample collected from a truck/consignment meets Technical parameter criterion for moisture, then truck will be allowed for unloading, otherwise truck (Consignment) will be rejected if test result meets the rejection criterion as given in the rejection criteria section of this document and it shall be the supplier's responsibility to carry it back on his own cost.

5.4 For testing of GCV and other technical parameters

Do the conning and quartering of the rest of the sample, till the sample quantity is reduced to 4-5 Kg as explained below:

Example

Suppose one collects 30 Kg sample from One truck and total no of trucks received in a dayfrom a particular vendor is 'N' then the total pellet sample collected will be around '30N' Kg. 'N' can be 1,2,3 ...or so on.

Prepare a cone (heap) of '30N' Kg and divide the cone from top to bottom and remove the half portion (left or right). Further, prepare the cone for remaining '15N' Kg of pellet and divide the heap and remove the pellet of side opposite to the side of previous removal. Now,the balance available qty of pellet is '7.5N' Kg and continue this process till the pellet sample is reduced to '4-5' Kg. The final laboratory sample shall be distributed as mentioned in this document for determination of GCV and other technical parameters.

5.5 Sampling and analysis at receiving end (Project site)

- 5.5.1 Sampling shall be done by Owner preferably in the presence of representative of the pellet supplier. The samples shall be collected and prepared as per Sampling methodology.
- 5.5.2 The authorized representatives of Owner and pellet supplier shall jointly witness the process of sample collection and preparation of the laboratory samples. The representatives shall put their signature on the sample tags in evidence of the process of sampling. Both- consumer (Owner) and pellet supplier shall also sign on the samples register maintained by the Owner at the unloading end. In case representative of the pellet supplier is not present during sampling, then the sample tested by the Owner , will be final and no dispute in this regard will be entertained.
- 5.5.3 For recovery on account of excess fines, Owner shall arrange for analysis of fines at Ownersite and fines proportion of biomass pellets shall be analyzed at the receiving end. If fines percentage exceeds more than 5%, proportionate recovery shall be done for excess fine.

The final laboratory sample shall be divided into 3 (three) parts.



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- Part 1: This Part of the sample is for analysis of GCV and other technical parametersby Owner lab at site.
- Part 2: This Part of the sample is to be handed over to the pellet supplier for its own analysis.
- Part 3: This Part of the sample, called Referee sample, shall be sealed jointly, and shallbe kept with Owner under proper lock and key arrangement.
- 5.5.4 The Reference sample shall be preserved for a period of 15 days from the date of sample collection. Mere absence of or failure of participation by any representative of pellet supplier shall not be a ground to negate the sampling process undertaken. Owner shall communicate the Analysis Results of the sample within 7 Working-days of the sample collection to the pellet supplier. The pellet supplier may raise dispute, if any, within 07 (seven) days of the submission of the result by Owner.
- 5.5.5 In case of dispute is raised within the stipulated time, the Reference sample shall be analyzed in a NABL accredited laboratory as notified by OWNER time to time, expense of which shall be borne equally by both OWNER and pellet supplier. Expense borne on supplier part shall be adjusted against payment to the supplier. NABL accredited laboratory report of referee sample shall be final and binding on both the parties. Dispute raised beyond the stipulated time shall not be entertained.
- 5.5.6 To ascertain rejection parameter, OWNER test shall be sufficient and binding. Third party testing shall not be applicable for rejection of consignment.

5.6 Tagging of Consignment

Each consignment should be accompanied by general details (such as name of company/firm/agency, address, date of dispatch, batch number, vehicle type and number, weight of consignment etc.) and technical details as per Annexure – 2.



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SECTION-C



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Annexure: 1

Declaration by Bidder

(To be submitted on Companies letter head along with technical bid)

We, the undersigned, has read the technical specifications for agro residue-based biomass pellets, and declare the following:

- a) We have read and completely understood the technical specification document and have no reservations to it including amendment/ Clarification.
- b) We have quoted the price in price bid for the agro residue-based biomass pellets having technical specification as follows:

Serial	Technical Data	Unit	Specifications of Pallet
No			
1	Base material		Agro residue / Crop residue
2	Diameter**	Mm	 Not more than 25 mm No other dimension should exceed 35mm
3	Fines % (Length < 3 mm) (ARB*)	Weight %	Fines ≤ 5%
4	Gross calorific value (ARB*)	kcal/kg	(To be quoted by bidder)
5	Moisture (ARB*)	Weight %	Not more than 14%
6	Ash (ARB*)	Weight %	Not more than 20%
7	Chlorine	Weight %	Not more than 0.5
8	Sulphur	Weight %	< 0.2

- c) We understand that quantity and price adjustment shall be made for supplying the materialdeviating from technical specification but within acceptable range of technical specification.
- d) We understand that rejection of consignment shall be made for not meeting acceptancelimits of parameters.
- e) We declare that we have read the bid document and has no reservation to it and shall abide by its provision.

Name/ Designation:	Name of Company/firm/agencySignature:
Date:	Place



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Annexure: 2

Tag for Consignment

(To be tagged along with each consignment on Agency's letter head)

General Details			
1	Name of the Company/Firm		
2	Address of manufacturing location		
3	Date of Dispatch		
4	Batch No		
5	Carriage Vehicle Type/ No		
6	Weight	Kg	Gross Weight
			Tare Weight
			Material Weight
7	Other details (as Applicable)		
	Technica	al Details	
1	Diameter of Pellet in mm		
2	Name of Base Material and %		
3	Name of Mixing Material & %		
4	Name of Additives and %		

Name/ Designation:		Name of Company/firm/agency
Signature:	Date:	Place



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Annexure: 3

Pellet quantity requirement for APNRL

Serial No	Name of the Unit / Station	Maximum Quantity of Biomass in TPD basis	Total Qty for trial in MT	Post Successful Trial Total Qty for1 Year (365 days)in MT
1	APNRL, Padampur, Behind: P.G.C.I.L., Saraikela – Kharswan	<mark>750</mark>	<mark>500</mark>	<mark>176000</mark>



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Annexure - 4: Schedule of Price Biomass APNRL

Tender ReferenceNo.	Adhunik Power & Natural Resources Limited
FY25-TENDER-BIOMASS- 30-March'25	RFQ/Tender for- SUPPLY OF BIOMASS PELLETS (Tender Reference No. FY25-TENDER-BIOMASS-30-March'25)



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SCHEDULE OF PRICES

Bidder to submit the quote STRICTLY in the format below duly signed and stamped by Authorized Representative of bidding company

A Price Details

A. Price Details			
Sr. No.	Particulars	Unit of Measure (UOM)	Quote By Bidder
1	Quoted Price for supply of BIOMASS PALLETS on basis of Landed Energy Price in terms of "INR per Mkcal" (Considering GCV on ARB basis as delivered at Unloading Point)	INR/ Mkcal	
B. Details of proposed	coal to be supplied		
1	Proposed Quantity quoted	MT	500.00
2	Basic Price of Biomass Pallets	INR/MT	
3	Applicable Duties, Cess etc.	INR/MT	
4	Applicable GST	%	
5	Applicable GST Amount	INR/MT	
6	Price of Biomass Pallets Including Cess, Duties, GST etc.	INR/MT	
7	Price for logistics of coal from manufacturing plant to APNRL Thermal Power Station Delivery Point	INR/MT	
8	Total Landed Cost of Biomass Pallets including Logistics Cost up to delivery point and including all taxes& duties	INR/MT	
9	Guaranteed GCV of Coal to be supplied	kcal/kg	
10	Calculated Landed Energy Cost in"INR per Mkcal"	INR/Mkcal	

Note:

- 1. Bidder shall be confirming that they have read and understood terms and conditions of subjectRFQ and quoted above details including price accordingly.
- 2.Bid evaluation may be made based on above Quoted Landed Energy Cost (INR/ Mkcal). However, Actual Payment shall be made based on Coal Quantity delivered and Quoted/AgreedPrice of Biomass Pallets after deductions applicable as per contract based on Unloading Point GCV ARB and other parameters.
- 3. Any taxes, duties, cess not separately mentioned shall be considered in the Basic price of Biomass Pallets quoted by bidder.
- 4. Landed Cost specified under Sr. No. 8 shall include all associated costs including but not limitedto supply, loading, packing /forwarding, transportation/logistics, unloading up to specified Delivery Point. No other costs shall be payable separately other than same, and any other costs not specified shall be deemed to be into supplier's account.

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Company Seal:		Signature:
-		Name:
]	Designation:
Date: Place:		Doolg nation.
	I	Name & Addressof company:

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Annexure – 4: Query to be answered by Bidder: Below are

the questionnaires to be submitted by Bidder.

Name of the	Bidder: -				
Location of	Location of Bidder: -				
Serial No	Query to be answered by Bidder	Answer from Bidder			
1	Post successful trial of Biomass at APNRL, can bidder				
	supply biomass pallets on continuous basis for a period of 1				
	year?				
	Note: -For quantity refer to Annex-3				
2	Post successful trial of Biomass at APNRL, can bidder				
	supply biomass pallets on continuous basis for a period of 7				
	year?				
	Note: -For quantity refer to Annex-3				
3	Is bidder having Storage facility of Biomass near to				
	APNRL Plant.				
4	Is bidder having Storage facility of Biomass near to				
	APNRL.				
6	How much Maximum quantity of Biomass bidder can				
	supply per day at APNRL Plant				
7	How much Minimum quantity of Biomass bidder can				
	supply per day at APNRL Plant.				