



EOI FOR PROPOSED COAL TO
SYNTHETIC NATURAL GAS (SNG) PLANT,
AT BARDHAMAN, WEST BENGAL, INDIA

PC-217/EOI/E/001/2024

0

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On Behalf of Proposed JV of GAIL & CIL



EOI DOCUMENT NO.: PNMM/PC-217/EOI/E-001/2024
Dated 12.09.2024

**BOOKLET FOR
EXPRESSION OF INTEREST (EOI)
FOR
PRE-QUALIFICATION OF LICENSORS OF COAL
GASIFICATION TECHNOLOGY FOR PROPOSED COAL TO
SYNTHETIC NATURAL GAS (SNG)
PLANT, AT BARDHAMAN, WEST BENGAL, INDIA**

Prepared & Issued by:



Projects & Development India Limited
A-14, PDIL Bhawan, Sector-1, Noida-201301,
Uttar Pradesh, India



Date: 12.09.2024

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LIST OF ATTACHMENT

DESCRIPTION	NO. OF PAGES
ANNEXURE-I	4
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KEY INFORMATIONS

S. No	Information	Details
1.	EOI Notice release date	12.09.2024
2.	Last date (deadline) for submission of EOI	15.10.2024 at 15:00 Hrs (IST)
3.	Opening of bids	15.10.2024 at 16:00 Hrs (IST)
4.	Pre Bid Meeting (Through Video Conferencing)	24.09.2024 at 11:00 Hrs (IST) Join the meeting now
5.	Contact person for queries	Mr Amrendra Kumar Addl GM & HOD (Project Management) amarendra@pdilin.com ; sumit.kumar@pdilin.com Ms Anjali Thakur DGM & HOD (Materials Management) anjali@pdilin.com ; alam@pdilin.com
6.	Address at which proposal in response to EOI notice is to be submitted:	Mrs. Anjali Thakur Dy. General Manager (Materials Management) PDIL BhawanA-14, Sector – 1, Uttar Pradesh, Noida – 201 301, India Phone no: 0120-2529842 Ext-340



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SECTION-1

**INVITATION FOR
EXPRESSION OF INTEREST (EOI)**

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**INVITATION
FOR
EXPRESSION OF INTEREST (EOI) FOR SHORTLISTING OF LICENSORS OF COAL
GASIFICATION TECHNOLOGY FOR PROPOSED COAL BASED SYNTHETIC
NATURAL GAS PLANT AT, BARDHAMAN, WEST BENGAL, INDIA**

1.0 INTRODUCTION



M/s GAIL India Limited (GAIL), is a leading Natural Gas company with diversified interest across the Natural gas value chain of trading. Transmission, LPG production & transmission, LNG re-gasification, petrochemicals, City Gas, E&P, etc. GAIL owns & operates a network of around 15,583 km of Natural Gas pipeline spread across the length & breadth of Country.

Coal India Limited (CIL), a Maharatna central public sector enterprise ("CPSE"), was incorporated on 01st November 1975 with nationalization of private coal mines by Govt. of India. With a modest production of 79 MT at the year of its inception, CIL today is the single largest coal producer in the world having produced nearly 607 MT and in pursuance of initiatives towards the development of Clean Coal Technology and alternate use of coal, CIL is exploring the possibilities to venture into the coal-to-chemicals sector.

Eastern Coalfields Limited (ECL), fully owned subsidiaries of Coal India Limited was founded in 1975 after Nationalisation of Coal Mines in India. It operates Coal Mines in Jharkhand and West Bengal states of India. The company has its headquarters at Sanctoria, in West Bengal.

India has a reserve of 307 Billion tonnes of thermal coal and about 80% of coal produced is used in thermal power plants. With environment concerns and development of renewable energy, diversification of coal for its sustainable use is inevitable. Coal gasification is considered as cleaner option compared to burning of coal. Gasification facilitates utilization of the chemical properties of coal. Syn Gas produced from Coal gasification can be usable in producing Synthetic Natural Gas (SNG), energy fuel (methanol & ethanol), ammonia for fertilizers and petrochemicals. These products will help move towards self-sufficiency under 'Atmanirbhar Bharat Abhiyaan'. In line with the above objective, Ministry of Coal has taken initiative for utilizing coal through coal gasification and achieve 100 MT coal gasification by year 2030.

In order to implement various coal gasification projects, it has been planned to set up various gasification projects in phases. In phase I, the project based on low ash coal available in CIL will be taken up. CIL will take care of mining of coal and marketing of the product and the gasification and product conversion plant will be set up on BOO/BOM/LSTK contract basis. Considering the low availability of low ash

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coal, gasification plants will be set up based on high ash coal and with concessions given for commercial mining of coal it is expected to reach the goal of 100 MT gasification by 2030.

In view of above, under the directives of GOI, a Joint Venture is being proposed between, Proposed JV of GAIL & CIL for Setting Up of Coal Gasification Based Synthetic Natural Gas (SNG) Plant. JV intends to set-up 80,000Nm³/hr (Stream days:330) Synthetic Natural Gas Plant at Eastern Coalfields Ltd. (ECL), Sanctoria, West Bardhaman District in the state of West Bengal (India) through surface Coal Gasification route with the objective to use coal from Raniganj Coalfields for gasification to produce Syn gas for Production of Synthetic Natural Gas. The Effective Synthesis Gas (H₂ +CO) required is approximately 3,36,000 Nm³/hr and accordingly, engaged PDIL, a Government of India Undertaking with ISO 9001:2015 certification, as Consultant for preparation of DFR for the proposed surface Coal Gasification based 80,000/-NM³/hr SNG Plant.

Based on the shortlisted licensor(s) for coal gasification, bids will be invited for executing the project on LSTK basis. The Detailed Feasibility Report (DFR) will be finalized based on the price of the lowest LSTK bidder. Subsequently, a decision will be made to place the order with the lowest Lump Sum Turnkey (LSTK) bidder for the execution of the project.



2.0 BRIEF SCOPE OF WORK

- 2.1** Proposed JV of GAIL & CIL intends to set-up 80,000/- NM³/hr (stream days:330) Synthetic Natural Gas Plant at ECL Bardhaman, in the state of West Bengal (India) through surface Coal Gasification route. The Effective Synthesis Gas (H₂ +CO) required is approximately 3,36,000 Nm³/hr .
- 2.2** Proposed JV of GAIL & CIL invites “Expression of Interest” (EOI) from internationally reputed technology licensor having the requisite Coal Gasification Technology and willing to provide the technology for production of Synthetic Natural Gas on commercial basis.

3.0 PRE-QUALIFICATION CRITERIA

3.1 (A) Technology/Technical Criteria:

- 3.1.1** Licensor should be capable of providing Basic Design Package for Coal Gasification and associated equipment including Coal Preparation (without blending with other feedstocks like petcoke, biomass, etc.) for Gasifying coal from Raniganj Coalfields with 18% to 30%(ROM Basis) ash content on commercial basis. Approximate Coal Analysis of coal from Raniganj Coalfields is enclosed at **Annexure-1** for reference

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and considerations. Licensor shall submit the details of process in support of smooth operation of gasification plant with the subject coal.

3.1.2 The Coal Gasification technology of the Licensor shall have at least one proven operating plant having one or multiple coal Gasifiers operating successfully on commercial basis with ash content of minimum 24%(at 60% RH & 40°C) and producing effective Syn gas exiting each Gasifier equivalent to minimum quantity of **40,000 NM³/hr, of H₂+CO**. The Licensor shall provide details of at least one plant which has operated commercially, for a minimum period of **8000 hours** of continuous operation in 12 months period at not less than 60% of design capacity of the Gasifiers, in the last 7 (seven) years reckoned from final bid due date.

3.1.3 The reference unit shall be non-captive*.

** The unit will be considered as Captive Unit where the Licensor has equal to or more than 50% share capital in the company owning the unit. Pilot Plant, laboratory scale plant shall not be considered for qualification.*




3.1.4 Licensor shall submit documentary proof from their plant owner OR their own plant as operators in the form of plant logbooks and laboratory analysis OR any other documents to verify the quality and quantity of coal processed and the throughput achieved in Gasifier.

3.1.5 The pre-qualification of licensors is only for Coal Gasification and not for purification and Synthetic Natural Gas production technologies. However, technology compatible for gas purification like Sulphur removal, CO₂ removal and producing CO shift reaction should be mentioned.

3.1.6 Licensor to ensure that Coal Gasification technology offered during LSTK bidding stage shall be the same on the basis of which the Licensor is shortlisted in the EOI Process.

3.1.7 Licensor, from a country which shares land border with India has to comply with the Clearance/ registration with competent authority as per GOI order (public procurement No-1,2 & 3) for Restriction under Rule 144(xi) of GFR 2017 published as F.N06/18/2019-PPD dated 23rd July 2020. Refer Annexure-III for detailed compliance to this policy.

Note: Please be informed that any new notifications or updates related to "Provision of Land border sharing with India" will be implemented in accordance with directives issued by the Government of India (GOI)

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3.1 (B) Financial Criteria

Net worth of Licensor should be positive as per last audited financial year.

Note: In case the tenders having the bid closing date up to 30th September of the relevant financial year, and audited financial results of the immediate preceding financial year is not available, in such case the audited financial results of the year immediately prior to that year will be considered as last financial year for Net worth calculation. Wherever the closing date of the bid is after 30th September of the relevant financial year, bidder has to compulsorily submit the audited financial results for the immediate preceding financial years.

3.1 (C) Authentication of Documents

Technical Criteria

- (i) For Indian bidder: Duly certified/ attested by Chartered Engineer and notary public with legible stamp.
- (ii) For Foreign bidder: Duly certified/ attested by Chartered Engineer/ Licensed Professional Engineer/EurEta Registered Engineer/ Eur Ing or Equivalent Registered Engineer of bidder's country with legible stamp.

Further, supporting document pertaining to technical BEC should also be certified true copies, duly signed, dated and stamped by an official, authorized for this purpose in Indian Embassy/ High Commission in bidder's country. However, member countries of Hague Convention 1961, supporting document pertaining to technical BEC Apostille affixed by Competent Authorities designated by the government of bidder's country shall also be acceptable.

Financial Criteria

- (i) For Indian bidder: Bidder to submit Audited Financial Statement of immediate preceding financial years (as mentioned above) along with format F-4 for Net worth. Further Copy of audited annual financial statements submitted in bid shall be duly certified/ attested by Notary Public with legible stamp.
- (ii) For Foreign bidder: Bidder to submit Audited Financial Statement of immediate preceding financial years (as mentioned above) along with format F-4 for Net worth Further Copy of audited annual financial statements submitted in bid shall be certified true copies, duly signed, dated and stamped by an official, authorized for this purpose in Indian Embassy/ High Commission in bidder's country. However, member countries of Hague Convention 1961, supporting

document pertaining to financial BEC Apostille affixed by competent authorities designated by the government of bidder's country shall also be acceptable.

3.2 General

- 3.2.1 The Licensor must not have been debarred / blacklisted by any Govt. Department, Agency, PSUs / Institution / Agencies / Autonomous Organisations. The Licensor shall submit a self-certification by an authorized person to this effect.
- 3.2.2 Licensor should not be under liquidation, court receivership or similar proceedings.
- 3.2.3 Proposed JV of GAIL & CIL will not be responsible for any costs or expenses incurred by the Bidder in connection with preparation or delivery of EOI.
- 3.2.4 Prior to short-listing a presentation would be required before PDIL and Proposed JV of GAIL & CIL and clarifications would have to be provided.
- 3.2.5 EOI shall be submitted as specified in clause 2.4 (Submission of EOI) of Section -2 'Instruction to Licensor'.
- 3.2.6 Proposed JV of GAIL & CIL reserve the right to reject any or all EOI received without assigning any reason.
- 3.2.7 Licensor is to submit documentary evidence to support the references provided herein for fulfilling the Technology Criteria of EOI. The following are minimum documents required:
- Details of reference unit including the details of contact person(s).
 - Extract of License agreement or relevant document as proof of same.
 - End user certificate from the licensee (on licensee's letterhead) to detail out following:

i	Capacity of the unit in terms of:	
ii	Numbers of gasifiers (operating and standby) & Type	
iii	Gasifier operating Pressure & Temperature	
iv	Coal feed to each gasifier (MT/day) (full details of analysis of coal used would have to be provided)	
v	Total clean Syn gas produced exiting Gasifiers (H ₂ +CO), NM ³ /hr	
vi	Total Raw Syn gas produced exiting gasifiers, NM ³ /hr	

vii	End product and Capacity of end product.	
viii	Tentative analysis (Proximate Analysis, Ultimate Analysis, Ash Flow Temperatures) of Coal used in gasifier(s).	
ix	Raw syngas composition	
x	Coal Milling & Drying	

- d. Date of commissioning & commercial production.
- e. Technology involved highlighting the following:
 - i. Gasification process i.e. Moving Bed or Fluidised Bed or Entrained Bed Type.
 - ii. Raw gas pre-treatment process.
 - iii. Raw gas final treatment process and final gas composition.
- f. Commercial performance of the unit for at least one year indicating plant load (average & highest), major operation problems & remedial measures taken and reasons of shutdown if not operating presently (technical and / or commercial).
- g. Guarantee performance parameters and Confirmation on meeting guaranteed performance satisfactorily.

3.2.8 Licensor shall furnish details of the offered technology (Coal preparation to Clean Synthesis Gas) as per FORM-3.

3.2.9 Licensor shall also furnish complete audited annual financial year statements including Balance Sheet; Profit & Loss accounts statement and all other schedules of immediate preceding financial year, self-certification of being not under liquidation, court receivership or similar proceedings, in the first instance itself, in support of their fulfilling the Licensor's Qualification Criteria.

3.2.10 In case of Foreign Licensor, if any of the documents in support of meeting EOI are not in English language, then the original document along with English translation of the same duly certified, stamped and signed by Local Chamber of Commerce or respective Embassy shall be furnished.

3.2.11 SIGNATURE ON EOI DOCUMENT SUBMITTED

The Cover page of the EOI document submitted by the Licensor must contain the name, designation and place of business of the person or persons making the EOI documents and must be signed and sealed, on each page, by the Licensor with his usual signature. The names of all persons signing should also be typed or printed below the signature. The Licensor shall submit authority letter / power of attorney/ board resolution in favour of the authorized signatory(s) of the EOI document. The

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Licensor's name stated on the proposal shall be the exact legal name of the licensor/ technology provider

The authorized employee(s) of the Licensor shall be signing the EOI document and any consequence resulting due to such signing shall be binding on the Licensor.

3.2.12 Licensor to ensure availability of more than two vendors for all the proprietary item/equipment.

3.2.13 Licensor shall submit the Isometric & 3D modelling as part of the Technical package to Owner/LSTK bidder.

3.2.14 Shortlisted Licensor shall share the relevant technical information with LSTK bidders to submit the Bid to Owner.

3.3.1 Date & Time for Submission of Proposal (EOI):

The due date & time for submission of Proposal (EOI) by the Licensor is **15.10.2024 at 15:00 Hrs (IST)** (dd.mm. yyyy, hhhhrs, Indian Standard Time).

3.3.2 Pre-Bid Meeting shall be held on **24.09.2024 at 11:00 Hrs** through video conferencing. (Meeting link: [Join the meeting now](#))

3.3.3 Clarification, if any, can be obtained from Mr Amrendra Kumar -Addl GM & HOD(Project Management) (amarendra@pdilin.com), sumit.kumar@pdilin.com, Ms Anjali Thakur DGM & HOD (Materials Management) (anjali@pdilin.com), alam@pdilin.com.

Thanking You,
For and on behalf of
Proposed JV of GAIL & CIL



(Anjali Thakur)
Dy. General Manager (M.M)
Projects & Development India Limited



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SECTION-2

**INSTRUCTIONS TO LICENSORS
FOR
SUBMISSION OF
EXPRESSION OF INTEREST**

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1.0 INTRODUCTION

1.1 DEFINITIONS

1.1.1 'Owner' means Proposed JV of GAIL & CIL, a company incorporated in India.

1.1.2 'Consultant' means Projects & Development India Limited (PDIL), a company incorporated in India.

1.2 SCOPE OF WORK

The brief scope of work and pre-qualification criteria has been provided under Section – 1: Invitation for Expression of Interest.

1.3 OWNER'S RIGHT TO ACCEPT/ REJECT

Proposed JV of GAIL & CIL reserves the right to accept or reject any EOI and to annul the bidding process and reject all EOI at any time without thereby incurring any liability to the affected Licensor or any obligation to inform the affected Licensor of the grounds for the Proposed JV of GAIL & CIL's action.

2.0 PREPARATION / SUBMISSION OF EXPRESSION OF INTEREST

2.1 LANGUAGE OF EOI

The EOI and all correspondence incidental and related to EOI shall be in English language. Any printed literature and document submitted in any other language should be accompanied by authenticated English translation, in which case, for purpose of interpretation of the EOI, English translation shall govern. Responsibility for correctness in translation shall lie with the Licensor.




2.2 COST OF BIDDING

The Licensor shall bear all costs associated with the preparation or delivery of its EOI, participating in discussions etc. including costs and expenses related with visits to GAIL/CIL/PDILs office and the site(s). GAIL/CIL/PDIL will in no case be responsible or liable for those costs and expenses regardless of the outcome of the bidding process.

2.3 DOCUMENTS COMPRISING EOI

2.3.1 The EOI must be complete in all respect leaving no scope for ambiguity. It is in the interest of Licensor to submit complete and comprehensive proposal leaving no scope for proposed JV of GAIL & CIL to raise any further questionnaires. Proposed JV of GAIL & CIL may evaluate the Licensor on the basis of document submitted in the first instance in order to adhere with project schedule requirements.

2.3.2 Licensor is required to make a proposal in a format as outlined in the Checklist enclosed in this EOI document in order to achieve the objective of maintaining

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uniform proposal structure from all the Licensors. These requirements must be adhered by all the Licensors.

2.3.3 Licensor shall submit the following for expressing their interest:

- i) Cover letter giving brief introduction and expressing interest to participate in bidding process.
- ii) Information details as per FORM-1 and Pre-qualification criterion as per FORM-2 along with supporting documents such as copies of work order, contract agreement, completion certificate, logbook etc. Bidder to submit offer as stipulated at Clause No.3.1.1.
- iii) Technical details of offered technology as per FORM-3
- iv) Details of Net Worth of Licensor as per FORM-4.
- v) Audited Balance Sheet in support of Net worth of Licensor.




2.4 SUBMISSION OF EOI

Licensors are required to send the complete proposal / EOI document alongwith all supporting documents in hard copy duly signed & stamped on each page (in original +one copy) so as to reach at the following address within the due date & time:

Mrs. Anjali Thakur
Dy. General Manager (Materials Management)
PDIL BhawanA-14, Sector – 1,
Uttar Pradesh, Noida – 201 301, India
Phone no: 0120-2529842 Ext-340

2.5 OWNER'S RIGHT

- 2.5.1 Proposed JV of GAIL & CIL reserves its right to call for originals of the supporting document submitted for verification, if required and also to cross check any details as furnished by the Licensor from their previous Clients / Consultants, Visit of proven operating plant etc. Licensor shall have no objection whatsoever in this regard and shall facilitate GAIL /CIL to obtain the same.
- 2.5.2 Proposed JV of GAIL & CIL reserves the right to make use of available in-house data (their own or their Consultants) also for pre-qualification of Licensor(s) who have submitted EOI. The decision of proposed JV GAIL & CIL will be final and binding on the parties.
- 2.5.3 This EOI intends to short list the suitable technologies available for processing of coal from Raniganj Coalfields for gasification to produce Syn. gas for Synthetic Natural Gas production as per specification enclosed at Anexure-1. Owner reserves the right to further call for information to assess the suitability of the technology for the need. Owner reserves to go in for further evaluation methodologies to zero in on technology.

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2.6 CONTACTING GAIL/CIL

No Licensor shall contact Proposed JV of GAIL & CIL on any matter relating to its EOI from the time of submission of EOI unless requested so in writing. Any effort by a Licensor to influence proposed JV of GAIL & CIL in the decision making in respect of EOI will result in the rejection of that Licensor.

INFORMATION**LICENSOR IS REQUESTED TO COMPLETE THE FOLLOWING QUESTIONNAIRE**

SR. NO.	DESCRIPTION	LICENSOR'S RESPONSE	REMARKS
1	Willingness to provide the requisite proven license technology for commercial use to GAIL & CIL/LEPC/LSTK bidder (YES / NO) (Refer clause-2.2 of invitation for EOI)		
2	Complete reference list of all the units licensed (Refer clause-3.1.2 of invitation for EOI)		
3	Complete reference list of proven vendors for Coal Milling & Drying Unit (CMD) (Refer clause-3.2.7 of invitation for EOI)		

SPECIFIC EXPERIENCE FOR PRE-QUALIFICATION CRITERIA

Licensor shall furnish their experience details of the reference unit for pre-qualification:

S. NO.	DESCRIPTION	DETAILS
1.	Name of project and location (Refer clause-3.1.2 of invitation for EOI)	
2.	Project Details : Capacity of the project (units) (Refer clause-3.1.2 & 3.2.7 of invitation for EOI)	
3.	Name of Owner, Postal Address, Phone / Fax No./ E-mail Address (Refer clause-3.2.7 (a) of invitation for EOI)	

S. NO.	DESCRIPTION	DETAILS
4.	Supporting Document as above and as per clause 3.2.7 of Invitation for EoI	<ul style="list-style-type: none"> • Extract of License agreement as per clause 3.2.7 (b) Yes <input type="checkbox"/> No <input type="checkbox"/> Page No. of PQ Bid _____ • Whether copy of Work Order / Contract Agreement enclosed Yes <input type="checkbox"/> No <input type="checkbox"/> Page No. of PQ Bid _____ • Capacity of the unit as per clause 3.2.7 (c-I) Yes <input type="checkbox"/> No <input type="checkbox"/> Page No. of PQ Bid _____ • Certificate for successful commissioning with date of commissioning & commercial production enclosed Yes <input type="checkbox"/> No <input type="checkbox"/> Page No. of PQ Bid _____ • Certificate regarding satisfactory operation of plant for the last one year from EOI due date Yes <input type="checkbox"/> No <input type="checkbox"/> Page No. of PQ Bid _____ • Commercial performance of the unit as per clause 3.2.7 (f) Yes <input type="checkbox"/> No <input type="checkbox"/> Page No. of PQ Bid _____ • Coal gasification technology is compatible for gas purification like Sulphur removal, CO₂ removal and producing CO Shift reaction as per clause 3.1.7 Yes <input type="checkbox"/> No <input type="checkbox"/> Page No. of PQ Bid _____

TECHNICAL DETAILS OF OFFERED TECHNOLOGY

(Refer Clause-3.2.8of Invitation for EOI)

SL. NO.	ITEM	UNIT	QUANTITY	VALUE
1.	No. of Gasifiers Proposed	No. (Operating + Standby)		
2.	Coal Feed to each Gasifier with moisture content	MT/day		
3.	Oxygen Requirement,(%age O ₂ purity)	Nm ³ /hr, (%)		
4.	Steam Requirement, (Steam Temp., Steam Press.)	MT/hr, (degC, Kg/cm ² g)		
5.	Water Requirement	MT/hr		
6.	Power Requirement	MW/hr/hr		
7.	Total Raw Syn. Gas Generation at exit of Gasifiers	1000 Nm ³ /hr		
8.	Total clean syn. Gas (H ₂ +CO) generation after purification	1000 Nm ³ /hr		
9.	% Ash considered in gasifier feed for above estimation	%		
10.	The quantity of raw coal in consumption in Metric tonnes per day (MTPD)	MTPD		
11.	Quantity of ash produced by the process for production of the quantity of syn gas stated at Cl. No. 2.1 of section-1, in MTPD and the approximate chemical composition of the ash likely to be produced in their technology.	MTPD		
12.	Any other data			

COMMERCIAL DETAILS OF OFFERED TECHNOLOGY

(Refer Clause-3.1 (B) of Invitation for EOI)

FORMAT FOR CHARTERED ACCOUNTANT CERTIFICATE/ CERTIFIED PUBLIC ACCOUNTANT (CPA) FOR FINANCIAL CAPABILITY OF THE BIDDER

We have verified the Audited Financial Statements and other relevant records of M/s..... (Name of the Bidder/Licensor) and certify the following:

A. NETWORTH* AS PER AUDITED FINANCIAL STATEMENT OF PRECEDING FINANCIAL YEAR:

Description	Year.....
	Amount (Currency)
1. Net Worth	

Name of Audit Firm:
Chartered Accountant/CPA
Date:

[Signature of Authorized Signatory]
Name:
Designation:
Seal:
Membership No.:
UDIN _____

Instructions for Format:

1. The financial year would be the same as one normally followed by the bidder for its Annual Report.
2. For the purpose of this Tender document:
 - (i) **Net Worth** shall be Paid up share capital plus Free Reserves & Surplus less accumulated losses, deferred expenditure and miscellaneous expenditure not written off, if any.
3. **Above figures shall be calculated after considering the qualification, if any, made by the statutory auditor on the audited financial statements of the bidder including quantified financial implication.**
4. This certificate is to be submitted on the letter head of Chartered Accountant/CPA.

Coal Analysis (ECL)			
Proximate Analysis			
Description	Unit	Minimum value	Maximum Value
Moisture	%	4.40	10.20
Ash	%	10.20	38.80
Volatile Matter	%	23.00	38.70
Fixed Carbon	%	48.38	81.79
Fluidity Point	Deg.C		
GCV	Kcal/kg	3840	6476
Ultimate Analysis			
Description	Unit	Minimum value	Maximum Value
Carbon	%	48.38	81.79
Hydrogen	%	2.96	5.44
Nitrogen	%	1.27	2.56
Sulphur	%	0.24	1.07
Oxygen	%	10.13	13.79
Chloride	%		
UVM (DMMF)	%	33.30	41.80
P	%	0.013	0.310
Carbonate CO2	%	0.07	2.62
HGI	%	39.00	74.00
Ash Analysis			
Description	Unit	Minimum value	Maximum Value
SiO2	%	44.81	68.51
Al2O3	%	18.68	31.89
Fe2O3	%	2.00	23.55
TiO2	%	1.12	1.94
MGO	%	0.68	2.50
P2O5	%	0.14	2.29
SO3	%	0.02	1.18
CaO	%	0.51	3.78
MnO	%		
Mercury	%		
Na2O+K2O	%	0.14	2.75
Ash Fusion range (MRA)	Deg. C	Minimum value	Maximum Value
IDT		1010	1400
HT		1280	>1400
FT		1320	>1400

APPENDIX-I**Proximate Analysis (at 60% RH & 40° C)**

Coal seam	Proximate Analysis			GCV (kcal/kg)	Grade
	M%	Ash%	VM%		
R-VIII Top	5.8-8.7	15.2-25	27.3-38	5184-6275	G4-G8
R-VIII Bot	5.1-8.2	14.9-26	27.3-33.3	4970-6075	G7-G8
R-VII	5.7-9.2	13.3-28.9	26.4-38.7	4700-5968	G5-G9
R-VIIA	5.4-9.3	10.2-25.7	25.9-32.7	4910-6290	G4-G8
R-VIIB+C	6.8-8.5	20.2-31.6	24.7-27.8	4375-5607	G6-G10
R-VIIB	6.4-9.9	14.3-37.8	24-32.8	4069-6130	G4-G11
R-VIIC	5-10.2	15.7-38.8	23.4-30.7	3840-5699	G6-G11
R-VI Combined	5.9-8.9	12.4-27.5	26.1-32.6	4966-6169	G4-G8
R-V+IV Top	5.5-8	17-29.1	26.1-30.6	4684-5969	G5-G9
R-V Combined	4.3-8.9	14.2-35	24.8-32.6	4391-6137	G4-G10
R-V Top	5.8-9.3	14.5-24.3	25.8-31.3	5060-5981	G5-G8
R-V Bot	5.3-8.6	12-34	26-32.8	4570-6364	G4-G10
R-IV Top	4.7-9.3	14.5-27.4	25.1-33	4961-6121	G4-G8
R-IV Bot	4.7-9.4	10.7-27.5	26.4-32.5	5120-6500	G3-G8
R-IV Combined	4.4-9.2	14-24.6	26.6-32.5	5108-6476	G3-G8
R-III	4.4-9.1	12.8-25.6	24.6-32	4989-6194	G4-G8
R-II	4.8-9.6	11.6-32.4	23-32.3	4750-6435	G3-G9
R-III/II	6-9.4	14.2-32.2	24.8-32.1	4570-6280	G4-G10

**CLAUSE REGARDING PROVISION FOR PROCUREMENT FROM A BIDDER
WHICH SHARES A LAND BORDER WITH INDIA**

1. OM no. 7/10/2021-PPD(1) dated 23.02.2023, Department of Expenditure, Ministry of Finance, Govt. of India refers. The same are available at website <https://doe.gov.in/procurement-policy-divisions>.
2. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. For details of competent authority refer to Annexure I of Order (Public Procurement no. 4) dated 23.02.2023.

Further, any bidder (including bidder from India) having specified Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India, shall also require to be registered with the same competent authority.

Further the above will not apply to bidders from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects. Updated lists of countries to which lines of credit have been extended or in which development projects are undertaken are given in the website of the Ministry of External Affairs, Govt. of India

3. **"Bidder"** (including the term 'tenderer', 'consultant' 'vendor' or 'service provider' in certain contexts) **for purpose of this provision** means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.
4. **"Bidder from a country which shares a land border with India"** for the purpose of this:
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose beneficial owner is situated in such a country; or

- e. An Indian (or other) agent of such an entity; or
- f. A natural person who is a citizen of such a country; or
- g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

5. "Beneficial owner" for the purpose of above (4) will be as under:

- i. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.

Explanation—

- a) "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;
 - b) "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
- ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 - iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 - iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 - v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

6. **"Agent"** for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons

Note :

- (i) A person who procures and supplies finished goods from an entity from a country which shares a land border with India will, regardless of the nature of his legal or commercial relationship with the producer of the goods, be deemed to be an Agent for the purpose of this Order.
- (ii) However, a bidder who only procures raw material, components etc. from an entity from a country which shares a land border with India and then manufactures or converts them into other goods will not be treated as an Agent.]
7. **"Transfer of Technology"** means dissemination and transfer of all forms of commercially usable knowledge such as transfer of know-how, skills, technical expertise, designs, processes and procedures, trade secrets, which enables the acquirer of such technology to perform activities using the transferred technology independently. (Matters of interpretation of this term shall be referred to the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade, and the interpretation of the Committee shall be final.)
8. **"Specified Transfer of Technology"** means a transfer of technology in the sectors and/ or technologies, specified at Schedule-I, II & 3 of this order.

9. **SUBMISSION OF CERTIFICATE IN BIDS:**

Bidder shall submit a certificate in this regard as Form-I.

For cases falling under the category of Transfer of Technology, Bidder shall submit a certificate in this regard as Form-II.

If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate rejection of the bid/termination and further action as per "Procedure for Action in case of Corrupt/Fraudulent/ Collusive / Coercive Practices" of tender document.

10. The registration, wherever applicable, should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder

was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.

11. PROVISION TO BE IN WORKS CONTRACTS, INCLUDING TURNKEY CONTRACTS:

The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. The definition of "contractor from a country which shares a land border with India" shall be as in Para 4 herein above. A Certificate to this regard is to be submitted by bidder is placed at Form-I.

[Note: Procurement of raw material, components, etc. does not constitute sub- contracting]

UNDERTAKING ON LETTERHEAD
(Applicable in case of Transfer of Technology cases only)

To,

M/s

SUB:

TENDER NO:

Dear Sir

We have read the clause regarding Provisions for Procurement from a Bidder having Transfer of Technology (ToT) arrangement which shares a land border with India, we certify that, bidder M/s_____ (*Name of Bidder/Licensor*) is :

- (i) Does not have ToT with such a country []
- (ii) If having ToT from such a country, has been registered []
with the Competent Authority.
(Evidence of valid registration by the
Competent Authority shall be attached)

(Bidder is to tick appropriate option (✓) above).

We hereby certify that bidder M/s_____ (*Name of Bidder/ Licensor*) fulfills all requirements in this regard and is eligible to be considered against the tender.

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

Schedule I

List of Category-I Sensitive sectors:

Sr. No.	Sector
(i)	Atomic Energy
(ii)	Brocasting/ Print and Digital Media
(iii)	Defense
(iv)	Space
(v)	Telecommunications

Schedule II

List of Category-II Sensitive sectors:

Sr.No.	Sector
(i)	Power and Energy (including exploration/ generation/transmission/ distribution/ pipeline)
(ii)	Banking and Finance including Insurance
(iii)	Civil Aviation
(iv)	Construction of ports and dams & river valley projects
(v)	Electronics and Microelectronics
(vi)	Meteorology and Ocean Observation
(vii)	Mining and extraction (including deep sea projects)
(viii)	Railways
(ix)	Pharmaceuticals & Medical Devices
(x)	Agriculture
(xi)	Health
(xii)	Urban Transportation

Schedule III

List of Sensitive Technologies:

Sr.No.	Sensitive Technologies
(i)	Additive Manufacturing (e.g. 3D Printing)
(ii)	Any equipment having electronic programmable components or autonomous systems (e.g. SCADA systems)
(iii)	Any technology used for uploading and streaming of data including broadcasting, satellite communication etc.
(iv)	Chemical Technologies
(v)	Biotechnologies including Genetic Engineering and Biological Technologies
(vi)	Information and Communication Technologies
(vii)	Software