


ESP-001-2A Rev.00		<b>BHARAT HEAVY ELECTRICALS LIMITED</b> <b>PROJECT ENGINEERING &amp; SYSTEMS DIVISION</b> <b>HYDERABAD</b>		Doc No: PY54028	
				Rev. No.	00
				Page 1 of 15	

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	<h2 style="text-align: center;"><u>TECHNICAL CONDITIONS OF CONTRACT (TCC)</u>  <u>of Engineering Sub-contract for</u>  <u>Syngas Purification Unit of LSTK-2 Package</u></h2>				
	<p><b>PLANT : LSTK-2 PACKAGE</b></p> <p><b>UNIT : SYNGAS PURIFICATION UNIT</b></p> <p><b>OWNER : M/s BCGCL</b></p>				

<b>Revisions:</b> Refer to record of revisions	<b>Prepared by :</b>	<b>Checked by :</b>	<b>Approved by :</b>	<b>Date :</b>
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**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No.

**00**Page **2** of **15**

**TABLE OF CONTENTS**

1. INTRODUCTION
2. LEGEND
3. PROJECT DETAILS
4. SCOPE OF WORK OF ESC
5. BIDDER (ESC) QUALIFICATION CRITERIA
6. DOCUMENTATION FOR BIDDER QUALIFICATION CRITERIA
7. NON-DISCLOSURE AGREEMENT
8. BID EVALUATION CRITERIA
9. TERMS OF CONTRACT
10. ENGINEERING GUARANTEE
11. PERFORMANCE GUARANTEE
12. OTHER INSTRUCTIONS
13. DELIVERABLES TO BE SUBMITTED DURING PRE-BID AND POST BID STAGE
14. PAYMENT TERMS & COMMERCIAL CONDITIONS

**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. 00

Page 3 of 15

**1.0 INTRODUCTION**

- 1.1 BHEL is looking for a competent Engineering Sub-Contractor (ESC) qualified as per the requirements specified under clause no 5.0 of this TCC, to assist BHEL by providing Engineering Services for **Residual Process Design Engineering during Pre-bid stage of the tender and Detailed Engineering during Post order stage (if BHEL bags the order as LSTK) for LSTK-2 PACKAGE OF SYNGAS PURIFICATION UNIT owned by Bharat Coal Gasification and Chemicals Limited (BCGCL), Lakhanpur, District- Jharsuguda, Odisha (India),** for which BHEL intends to bid as the EPC contractor.
- 1.2 **Process License (s) and the transfer of Technical Information for CO Shift, Rectisol, Liquid Nitrogen Wash Systems & SRU, Preparation of BEDP, and License proprietary equipment shall be provided by BHEL through License sub-contractor.**
- 1.3 The intent of this TCC is to specify the minimum requirements of ESC to be eligible to associate with BHEL for the subject job both for Pre-Bid Engineering and Post-Order detailed Engineering (if BHEL gets the order from BCGCL in above referred LSTK-2 Tender). This document provides details to be used as input by the bidders for submitting their competitive offer.

**2.0 LEGEND**

BCGCL	Bharat Coal Gasification and Chemicals Limited ( <b>OWNER</b> )
BHEL	Bharat Heavy Electricals Limited (EPC Contractor)
PE&SD	Project Engineering & Systems Division, Hyderabad (unit of BHEL)
PMC	Project Management Consultant
ESC	Engineering Sub contractor
BQC	Bidder Qualification Criteria
WO	Work Order
LOI	Letter of Intent
LSTK	Lumpsum Turnkey
ESC	Engineering Sub-Contractor (ESC)
BEDP	Basic Engineering & Design Procedure

**3.0 PROJECT DETAILS**

- 3.1 Coal India Limited (CIL) and Bharat Heavy Electricals Limited (BHEL) have formed a Joint Venture Company in the name of BHARAT COAL GASIFICATION AND CHEMICALS LIMITED, hereinafter also referred to as "OWNER" with its registered office at Bandhabahal Old PO Belpah, BIT Colony, MCL (In front, Bandhbahal Colony, Lakhanpur, Jharsuguda- 768211, Orissa.
- 3.2 Projects & Development India Ltd. (PDIL) has been appointed by OWNER for the Preparation of Detailed Feasibility Report (DFR) for setting up of High Ash coal-to-Ammonium Nitrate Plant at Lakhanpur area of Mahanadi Coalfields Limited, Jharsuguda district, Odisha.
- 3.3 Projects and Development India Limited (PDIL) on behalf of the OWNER has invited eligible bidders to submit Bid for "Syngas Purification Plant" for Setting up of High Ash Coal to Ammonium Nitrate Plant at Lakhanpur area of Mahanadi Coalfields Limited, Jharsuguda district, Odisha on a Lumpsum Turnkey (LSTK) basis on single point responsibility as per the Technical Specifications, Commercial Conditions and details laid down in the NIT.
- 3.4 **BRIEF SCOPE OF LSTK CONTRACTOR'S WORK:** The Scope of work of the LSTK Contractor shall include Basic and detailed engineering, Procurement, Supply, Fabrication, Inspection by Third Party Inspection Agency (TPI) as applicable, Expediting, Route survey for Over Dimensional Consignments (ODCs), Insurance, Transportation

**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**Page **4** of **15**

of equipment / materials to work site, Storage, construction and erection of all civil, mechanical, electrical and instrumentation works, assembly and Installation, obtaining all necessary statutory approvals, Testing, Mechanical Completion, Pre-Commissioning, Commissioning, Sustained Load Test Run, Operator Training, Performance Guarantee Test Run (PGTR) including Total Project Management and handing over of the plants and facilities under contractor's scope of work duly completed on single point responsibility basis.

**4.0 SCOPE OF WORK OF ESC**

- 4.1** Scope of the Engineering Sub-Contractor (ESC) is to provide Residual Process Design Engineering during Pre-bid stage of the tender and Detailed Engineering during Post order stage (if BHEL bags the order as LSTK) for subject package.
- 4.2** Wherever the term CONTRACTOR is mentioned for / in the context of the Residual Process Engineering and Detailed Engineering related activities and responsibilities in the BCGCL Bidding **Document Reference: PC0288/E/001/P-II/ SEC-3.0**, same shall be the scope and responsibilities of Engineering Sub Contractor (ESC). *Accordingly, the bidder shall interpret their scope as per the BCGCL Bid Document and submit their offer.*
- 4.3 ESC shall execute and be solely responsible for, broadly, the following activities of the subject tender/project:**
- 4.3.1** Scope of **Residual Design Engineering and Detailed Engineering** shall be as per Cl. 6.0 & 7.0 of SECTION-3.0 CONTRACTORS SCOPE OF WORK Bidding Document Reference: **PC0288/E/001/P-II/ SEC-3.0** for the subject Package.
- 4.3.2** All the applicable sections of the tender documents listed in Bidding Document Reference: **PC0288/E/001** (Technical specification) to be complied with while designing the Syngas Purification Package and other facilities that are included as part of the NIT.
- 4.3.3** Submission of signed MOUs as Engineering Sub Contractor (ESC) with BHEL.
- 4.3.4** Pre-bid engineering support required for submitting the offer to M/s BCGCL during Pre-Bid Stage.
- 4.3.5** Residual Process Engineering & Detailed Engineering
- 4.3.6** Detailed Design/ Sizing/ Engineering Documentation for Procurement (Equipment/ Packages/ Bulk Items), BOQ for Mechanical, Electrical, C&I, Civil disciplines.
- 4.3.7** Preparation of Material Requisitions of all Equipment and Package items as defined in tender elsewhere.
- 4.3.8** Technical evaluation of Sub vendor offers, Vendor drawing review and approval.
- 4.3.9** HAZOP, HAZID, SIL Study & Other Safety Studies
- 4.3.10** Plant 3D Modelling and 30%, 60% & 90% Model Reviews of the 3D model developed
- 4.3.11** Technical Support in Technical & Construction Audits
- 4.3.12** Documentation for Statutory Approvals
- 4.3.13** Technical Support in Mechanical Completion, Pre-commissioning, Commissioning and PGTR.
- 4.3.14 Review of all sub-vendor drawings and furnish observations to BHEL, approval of these documents shall be in scope of BHEL.**



#### 4.4 ESC shall execute both

##### 4.4.1 Pre-Bid Engineering

Order for Pre-bid engineering shall be placed by BHEL on L-1 Bidder after reverse auction and /or price negotiation on the terms & conditions as per NIT. The following documents shall form part of the contract:

- i. Notice Inviting Tender
- ii. This Technical Specification (relevant part for Pre-Bid Engineering order)
- iii. General Conditions of Contract
- iv. Special Conditions of Contract
- v. Price Bid for Pre-Bid Engineering

##### 4.4.2 Post-Order Engineering, if BHEL were to be successful in getting the Order.

Memorandum of Understanding (MoU) will be signed on non-judicial stamp paper of Rs. 200/- by BHEL for Post-bid engineering with L-1 Bidder after reverse auction and /or price negotiation after submission of Bid Bond for 1% value of the finalized price as per **attached draft (Annexure-4)**. The MoU shall be converted into contract after BHEL wins the order from M/s BCGCL. BHEL will intimate the MoU partner for entering into the contract once the order is received from the customer. The following documents (As per the details mentioned in draft MoU at **Annexure- 4**) shall form part of the contract:

- a. Notice Inviting Tender
- b. This Technical Specification (relevant part for Post-Bid Engineering order)
- c. General Conditions of Contract
- d. Special Conditions of Contract
- e. Forms & Procedure
- f. Price Bid pertaining to **Post-Bid Engineering**

#### 4.5 Pre-Bid Engineering:

ESC shall support BHEL comprehensively during pre-bid stage and enable BHEL to submit a competitive bid. The following shall be submitted **as a minimum** during pre-bid stage:

- (i) Provide required minimum inputs/documentation indicated in **Annexure-1** to enable BHEL to quote for the tender.
- (ii) Technical inputs for the preparation of BHEL's Offer and inputs for various FORMs/ Data to be submitted as part of Bidding Document Reference **PC0288/E/001/P-II/ SEC-13.0**.
- (iii) Detailed study of Owner's tender documents. Preparation of Pre-Bid Queries/ Questionnaire for seeking clarifications from Owner/PMC on tender documents.
- (iv) Support for the Preparation of comprehensive consolidated Technical Offer inclusive of Scope of Supply & Services/ Terminal Points/ Exclusions, Technical Deviations & Clarifications on tender specifications, Filled-up Technical Schedules etc. as required.
- (v) Process/Thermal Design for BHEL In-house Manufactured Equipment
- (vi) Finalizing the optimized Performance Guarantees of the project considering bid evaluation criteria of tender specification.
- (vii) Provide broad specifications/ technical data sheets of applicable equipment / systems etc. and suggest suitable/ probable sub-vendors/ agencies for obtaining the budgetary quotations during proposal stage.
- (viii) Support during proposal stage activities for the technical closure and acceptance of the bid including providing technical clarifications to Owner's queries, participation in pre-bid/ post bid-meetings as required.

**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**Page **6** of **15**

- (ix) Re-Engineering in case of change in specifications or amendments issued by customer shall be carried out by ESC at any stage during execution of pre-bid or Post order activities.
- (x) Participation & Support in Cost Estimation by BHEL for the Tender. ESC shall also furnish the suggested Price to be quoted for the subject tender considering expected Market Level Prices. However, the final decision and responsibility of pricing will be by BHEL.
- (xi) Support BHEL w.r.t. technical queries, participation in meetings if required etc. up to price bid opening by BCGCL.
- (xii) ESC to submit the broad L1 schedule for the scope of work along with bid to include the draw down schedule to be submitted by BHEL to the Project owner.
- (xiii) Bidding ESC shall submit the comprehensive list of deliverables in his offer.

**4.6 Post-Order Engineering:**

For deliverables in the scope of ESC in Post-Order Stage, ESC shall carry out detailed engineering as per "Drawings and documents" of Bidding Document Reference: **PC-288/E001/Sec-9**. The roles, responsibilities and scope of work of ESC shall include the following, as a minimum, for the Detailed Engineering Stage:

1. Comprehensive study of Owner's Tender documents and Preparation of Detailed Scope of Supply, including scheduling/ planning of the design activities, identifying and defining the detailed engineering deliverables during contract stage execution.
2. Carry out the detailed residual process design including process design calculations, sizing of various equipment and systems, finalizing process flow diagrams, detailed P&IDs/Process Schematics, control and operation write-ups, process and electrical utility requirements, chemicals consumption requirements, O&M consumable requirements etc.
3. Preparation of Mechanical and Electrical layouts (Plant/ Buildings/ Equipment/ Area/ Piping etc.)
4. Detailed Electrical and C&I engineering.
5. Detailed Civil, Architectural and Structural engineering.
6. Procurement engineering including identifying all the bought outs, identifying probable suppliers in the market, preparation of suitable technical material purchase specifications (MR) for RFQs, evaluation of technical offers from the vendors in all sub-systems (Electrical/ Mechanical/ C&I) and review/ approval of vendor drawings/ documents.
7. Provide Quality support in getting the Quality documentation approved by Owner/PMC, including Participation in technical/Quality discussions with them as required.
8. Provide engineering support in getting the engineering documentation approved by Owner/ PMC, including participating in technical discussions with them as required.
9. Assisting BHEL in review and approvals of engineering/technical, Quality related documentation of Sub-vendors/Suppliers, as applicable.
10. Assistance in Preparation of Plant Performance Guarantee Test Procedure and in conducting the Plant Performance Guarantee Tests.
11. Finalize the requirements of O&M consumables & chemicals along with the BOM and technical specifications.
12. Preparation of Plant Operations and Maintenance Manuals, Plant operation procedures for effective and efficient operation of plant.
13. Deputation of Engineering Experts to project site for resolving engineering and technical issues, as required during execution of the project.
14. Identifying the vendors/suppliers, floating of enquiries, receipt of offers, Techno-commercial evaluation, placement of PO, expediting, change orders, closure of PO/order, etc. shall be in scope of BHEL.
15. Wherever the term CONTRACTOR is mentioned for / in the context of the Detailed Engineering related activities and responsibilities in the Owner's Bidding Document, same shall be the scope and responsibilities of Engineering Sub Contractor (ESC). Accordingly, the bidder shall interpret their scope as per the Owner's Bid Document while submitting their offer against Project Specific Tender for finalization of ESC.
16. HAZAN & HAZOP Study as defined in Tender specification.
17. Plant 3D Modelling and 30%, 60% & 90% Model Reviews of the 3D model developed
18. Technical Support in Technical & Construction Audits



**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**

Page 7 of 15

19. Documentation for Statutory Approvals.  
20. Technical Support in Mechanical Completion, Pre-commissioning, Commissioning and PGTR.

**NOTE:**

- a) The above is a typical minimum activity to be carried out by "Engineering Sub-Contractor (ESC)" as part of the Post Order Detailed Engineering. However, ESC shall carry out detailed engineering as per "Drawings and documents" of Bidding Document Reference: PC-288/E001/Sec-9.
- b) In general, it is expected that the ESC shall maintain high standards of engineering, quality in deliverables submitted and accuracy in documentation submitted meeting the intended contractual requirements.
- c) If the Bidder is in JV/corporation with the principal firm, all the drawings submitted by the bidder/ESC shall be vetted by the competent person in principal firm before submitting the deliverables to BHEL.
- d) The deliverables of ESC shall be submitted to BHEL only, unless instructed otherwise.
- e) ESC shall clarify, with all supporting details on any queries raised by BHEL on their deliverables.
- f) **Retendering of contract by End Customer:**

In the event of retendering of Tender by end customer, the following methodology will be adopted:

**Case-1: Retendering with change in scope of work:**

ESC to provide the man hours applicable for all disciplines for the execution of tender. The man hour rate shall be decided by the formula = Final negotiated Price of L1 bidder/ 5600. In case of retendering of Tender by customer, the man hours furnished shall be used to finalize the additional price required for the execution of the change order / additional scope during pre-bid stage and post order stage. A new MOU shall be signed by BHEL & ESC as per the procedure specified in clause no.4.4.2 in line with the new tender references.

**Case-2: Retendering without any change in scope of Work:**

If there is no change in the scope of work during re-tendering, there will not be any change in the MoU except for extension of the validity period as per new timelines of the retender by customer.

**5.0 BIDDER (ESC) QUALIFICATION CRITERIA****5.1 Technical Criteria**

- 5.1.1 The Engineering Sub-contractor should have carried out detail Engineering of complete or respective sections of syngas purification Unit in the past.
- 5.1.2 Bidder shall submit the documentary evidence of the Engineering Sub-contractor meeting the said criteria.

**5.2 Financial Criteria**

- 5.2.1 The average annual financial Turnover of ESC during any of the preceding five financial years i.e., 2022-2023, 2021-2022, 2020-2021, 2019-2020 & 2018-19 shall be equal to or more than INR **18.0 Crs.**
- 5.2.2 Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C1' above should be positive. Net worth = Paid up share capital\* + Reserves. (\*Share Capital OR Partnership Capital OR Proprietor Capital as the case may be)
- 5.2.3 Bidder must have earned cash profit in any one of the five Financial Years as applicable in the last five years defined in 'C1' above based on latest Audited Accounts. NET cash profit= (PAT + Non cash expenditure viz depreciation).



**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**Page **8** of **15**

5.2.4 Audited financial statement have to be submitted for all the five years as indicated against clause above. If financial statements are not required to be audited statutorily, then instead of audited financial statements, financial statements are required to be certified by chartered accountant. Published Annual Report available in the public domain shall also be acceptable.

5.2.5 In case audited Financial statements have not been submitted for any of five years as indicated above, then the applicable audited statements submitted by bidders against the requisite five years, will be averaged for five years i.e. total divided by five.

5.3 For evaluation of PQR, in case Bidder alone does not meet the pre-qualifying technical criteria- B above, bidder may utilize the experience of its Parent/ Subsidiary Company along with its own experience, subject to following:

The parent company shall have a controlling stake of  $\geq 50\%$  in the subsidiary company (as per Annexure-V).

- i) The Parent Company/ Subsidiary Company of which experience is being utilized for bidding shall submit Security Deposit(SD) equivalent to 1% of the total contract value.
- ii) The parent/ subsidiary company and bidder shall provide an undertaking that they are jointly or severally responsible for successful performance of the contract (as per Annexure-V).

5.4 The bidder can be a company under Companies Act, 1956 or Partnership firm or Proprietor firm. Bidder to submit the document for same.

5.5 ESC shall not be under not been banned or blacklisted or de-listed or put on Holiday by any Government / Quasi-Government / Public Sector Undertaking / Private Firm / Financial Institutions on due date of submission of bid.

**6.0 DOCUMENTATION FOR BIDDER QUALIFICATION CRITERIA:**

The bidder shall submit the supporting documents as per the followings:

- a) Copy of Work Order/ relevant Extract of Work Order/Contract Agreement/relevant Extract of Contract Agreement shall clearly indicate the LOA/Work Order/Contract/Agreement number, Name of Project, Scope of Work, Contract/Investment Value, Contract Period etc.
- b) The Completion / Acceptance Certificate shall clearly indicate the LOA/Work Order/Contract/Agreement No., Name of Project, Scope of Work, Contract Value, Contract Period, Executed/Investment Value, Actual date of completion.

**7.0 NON-DISCLOSURE AGREEMENT & CONFIDENTIALITY AGREEMENT**

- 7.1 Prospective Bidders, willing to work with BHEL and meeting the BQC as per clause 5.0 indicated above are required to sign a Non-Disclosure Agreement (NDA).
- 7.2 This shall be applicable as per Licensor's NDA clause.

**8.0 BID EVALUATION CRITERIA**

- 8.1 The bid evaluation shall be on Lumpsum L1 basis as per the Lumpsum Price in the attached Price Bid Format. Quotations submitted in partial will be summarily rejected. BHEL will not entertain any other expenses/ assumptions written separately elsewhere other than those specified in the price bid format.



**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**Page **9** of **15**

- 8.2 To facilitate evaluation and comparison of prices, the OWNER will convert all bid prices expressed in foreign currency into Indian rupees at reference rate of the concerned foreign currency, available on RBI website, on the date of opening of price bids. If the bid opening date happens to be a bank holiday then the rate of previous working day would be considered.
- 8.3 Price Factors shall be binding on the Bidders as provided in the Price Bid Format. **No deviation shall be permitted.**
- 8.4 Successful Bidder shall be awarded the PO/LOA for execution of work during Pre-Bid Stage engineering. Memorandum of Understanding (MoU) will be signed on non-judicial stamp paper of Rs. 200/- by BHEL for Post-bid engineering with L-1 Bidder after reverse auction and /or price negotiation after submission of Bid Bond for 1% value of the finalized price as per attached draft (**Annexure-4**). The MoU shall be converted into contract after BHEL wins the order from M/s BCGCL. BHEL will intimate the MoU partner for entering into the contract once the order is received from the customer.
- 8.5 ESC shall not have any claim whatsoever on the Post-Order Engineering component, if BHEL is not successful in winning the Contract.

**9.0 TERMS OF CONTRACT**

- 9.1 BHEL reserves the right of cancellation of this NIT and ordering of either Pre Bid Engineering work or Post Bid Engineering work or both at its discretion, based on the status of Tender or time available for submitting BHEL's offer to BCGCL or as per business decision.
- 9.2 The MoU shall be valid for at least **365 days from the last date of opening of Unpriced Technical and Commercial bid by Customer (BCGCL)** or date of signing of contract agreement post issue of work order in case BHEL gets the order from BCGCL, whichever is earlier. Further extension of the validity of MoU shall be on mutual agreement.
- 9.3 BHEL shall at its discretion may depute its personnel at the design center of the ESC - to control, monitor and approve the Engineering design work/ deliverables of the ESC prior to their issuance for review/ approval by Owner/ Consultant.
- 9.4 ESC shall not sublet the work without prior written permission of BHEL.

**10.0 ENGINEERING GUARANTEE**

- a) Since Residual Process Design and Detailed Engineering is within ESC's scope and the work shall be executed and UNIT established based on the Engineering performed, it shall be the prime responsibility of ESC to carry out such design and engineering in accordance with good and sound engineering practices using Indian/ International Standards and Indian Codes & Regulations wherever applicable to such design and/or engineering.
- b) In case any error or omission in design or engineering within ESC's scope i.e. the residual process design or detailed engineering requires re-engineering, which results in any new requirements for equipment/ materials, the same shall be re-engineered by the ESC within the scope of relative work and within the contractual period without extra cost to the BHEL or entitlement of extension of time.
- c) ESC shall guarantee that the system design for the Unit / Plant shall meet and comply with the Licensor's package, if so applicable, and;
- the equipment selected
  - the site criteria
  - the Engineering specifications, standard and design guides

**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**Page **10** of **15**

- the Front-end engineering data as mentioned in Bidding document.
- d) ESC shall check and satisfy themselves with Process Package, Front End Engineering Data for its accuracy, correctness and completeness to meet the agreed guarantees and in case of deficiency, ESC shall inform BHEL/ OWNER/ PMC the modifications proposed to be carried out to overcome the deficiency and rectify the same at no extra cost. ESC, if required, shall carry out corrective technical studies and engineering as may be required without any extra cost to the BHEL/ OWNER.

**11.0 PERFORMANCE GUARANTEE**

- a) **ESC is not responsible for the process guarantees of the LICENSOR.** ESC However guarantees its Engineering as set forth in this specification. If the UNIT does not achieve the results set forth in the LICENSOR's process guarantees due to defect(s) or deficiency(ies) in ESC's Engineering, ESC shall within scope of their work and responsibilities, carry out re-engineering without extra cost to the BHEL or entitlement of extension of time.
- b) ESC shall provide a list of laboratory test procedures and frequencies thereof required for validating Performance Guarantees.
- c) Performance tests shall be started when the operation of the UNIT is stabilized under design conditions. The UNIT shall be operated and controlled in accordance with procedures set up beforehand. One or more performance test shall be carried out under the technical direction of OWNER/ LICENSOR and/or their designated representatives after successfully commissioning the UNIT in accordance with the procedures and conditions detailed in the Bid documents.
- d) ESC shall be fully responsible for the accuracy and adequacy of engineering services rendered by him. Any modifications / rectification, if required in engineering and design shall be carried at / expeditiously by ESC at his own cost. Losses / damages if any due to wrong engineering shall be compensated by ESC.
- e) ESC's liabilities on account of not meeting the above said Engineering Guarantees, Performance Guarantees and Wrong engineering (because of Engineering related issues), **shall be limited to 2.5% (Two point Five percent only)** of the Post Order Engineering Work Contract value between BHEL and ESC, payment of which is reserved against issue of Commissioning and Performance Test Certificate by OWNER.
- f) ESC will be responsible for the quality of the engineering and shall guarantee the same for a period of **twelve months** from the date of commencement of guarantee period as defined in Technical Conditions of Contract, for good engineering practice and shall rectify free of cost all defective engineering detected during the guarantee period. In the event of the ESC failing to repair the defective engineering within the time specified, BHEL may proceed to undertake the corrective measures of such defective engineering at the ESC's risk and cost, without prejudice to any other rights and recover the same from the Guarantee money.

**12.0 OTHER INSTRUCTIONS**

- 12.1 Since speedy completion of project is essential for a tight project schedule, it shall be responsibility of ESC to ensure timely delivery of all milestones.
- 12.2 ESC shall familiarize fully with the standard/ procedures/ practice of BHEL/OWNER, to avoid any dispute at later date and after order placement.
- 12.3 BHEL shall not pay any amount, other than the fee specifically agreed, towards any cost incurred by ESC by way of salaries to their employees (income and taxes), insurance of any nature, benefits/ bonus to the employees, etc. BHEL's liability is limited to the amount contracted for the services to be rendered under the scope of work defined.
- 12.4 ESC shall bear all expenses/ fee penalties if it infringes on patents/ licenses of any persons/ organizations or in case of suits, court proceedings, damage claims etc., due to any reason whatsoever.



- 12.5 ESC shall ensure that it possesses the latest revisions of various national and international standards, codes of practices, statutory & environmental regulations etc. as applicable, for execution of the work. BHEL shall not provide any such documents to ESC. Engineers of ESC assigned for this project shall have familiarity on relevant documents as mentioned above for their use and applications.
- 12.6 ESC shall maintain at their own cost the personal accidents policy, life insurance and / or any such insurance required in respect of their personnel deputed to outstation visits for the given contract.
- 12.7 ESC shall keep all information/data/drawings etc. related to the work as confidential information and shall not divulge or use the information indirectly or directly in any way detrimental to the interest of BHEL. All drawings, documents, manuals, design calculations including all originals prepared or obtained during the work shall remain the property of BHEL and shall be handed over to BHEL on demand.

**13.0 DELIVERABLES TO BE SUBMITTED DURING PRE-BID AND POST BID STAGE**

- 13.1 For minimum deliverables in the scope of ESC in Pre-Bid Stage, refer **Annexure-1** of this TCC.
- 13.2 For deliverables in the scope of ESC in Post-Order Stage, ESC shall carry out detailed engineering as per "Drawings and documents" of Bidding Document Reference: **PC-288/E001/Sec-9**.
- 13.3 In general, it is expected that the ESC shall maintain high standards of engineering, quality in deliverables submitted and accuracy in documentation submitted meeting the intended contractual requirements.
- 13.4 The detailed list of deliverables during the Pre-bid stage and during detailed engineering to be submitted along with offer.
- 13.5 The deliverables of ESC shall be submitted to BHEL only, unless instructed otherwise.
- 13.6 BHEL will review the deliverables and furnish its observations, comments, if any to ESC for their incorporation and resubmission to BHEL.
- 13.7 ESC shall clarify, with all supporting details on any queries raised by BHEL on their deliverables.

**14.0 PAYMENT TERMS & COMMERCIAL CONDITIONS**

- 14.1 **No Advance payment shall be done.**

14.2 **Payment Schedule:**

14.2.1 **Payment for Pre-bid Engineering work:**

**80%** of the gross value of work order shall be paid on submission of complete Purchase Specifications, BOQs, Technical Offer for OWNER Tender, filled-in formats applicable to ESC as required in OWNER Tender, etc. as mentioned in this specification, upon certification by BHEL as per the customer's Tender requirement for BHEL's technical offer.

**20%** of the gross value of work order shall be paid after price bid opening by BCGCL or in case of cancellation of BCGCL Tender or deemed cancellation of BCGCL Tender, upon certification by BHEL.

**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**Page **12** of **15****14.2.2 Bid Bond, Price Discount & Payment Schedule for Post-Order Engineering Work:**

- a) The successful ESC on whom LOI will be placed for Post-Order Engineering Works, shall deposit to BHEL within 30 days of signing the MOU, 1% of Final agreed Price of Post-Order Engineering Works, towards Bid Bond (in the form of Bank Guarantee or any other mode as specified in GCC for Security Deposit), for continued commitment during the validity period of MOU.
- b) In the event of price reduction during negotiation by BHEL with end Customer, corresponding reduction will be passed on to the successful ESC (on finalized Post-Order price).

**14.2.3 Post-Order detail engineering payments shall be done as per the following:**

- a) **85% (Eighty-Five Percent)** of the gross value of work order shall be paid on pro-rata basis against progress of Engineering Services duly certified by the BHEL for the quantum of engineering works completed.
- b) **5% (five percent)** on issue of MECHANICAL COMPLETION Certificate against **CONTRACTOR's certified running Accounts Bill(s)**.
- c) **8% (Eight percent)** on issue of **PRELIMINARY ACCEPTANCE CERTIFICATE** against the CONTRACTOR's certified Running Account Bills.
- d) **2% (Two percent)** on completion of balance jobs, if any, against the CONTRACTOR's Certified Final Bill.

*Completion of all the above milestones will be considered for payment only if, concerned deliverables are acceptable to BHEL and BCGCL.*

*BHEL will release running account bill payments to ESC, preferably within **30 days** of submission of invoice along with all requisite documents complete in all respect as per contract. However, Bidder to note that delay in payment cannot be a plea by Bidder for delay in discharge of execution of work as per the Contract.*

**14.3 Delivery Schedule & Contract Period:****14.3.1 Pre-bid Engineering**

Contract Period for Pre-Bid Engineering shall be **Two (2) weeks** from the date of commencement. Date of commencement shall be a mutually agreed date between BHEL & ESC after issue of work order.

ESC to submit the documents as per **Annexure-1** progressively to enable BHEL to prepare cost estimates and complete proposal activities in time.

**14.3.2 Post Bid Engineering**

Delivery schedule for **Post-Order Detail Engineering** Work shall be mutually agreed between BHEL and ESC to meet the L2 network for project execution, after receipt of order by BHEL.

- 14.3.2.1 BHEL will review the deliverables and furnish its observations, comments, if any within 14 working days to ESC for their incorporation and resubmission to BHEL.

- 14.3.2.2 ESC shall revise and resubmit the revised documents within 7 working days of receipt of comments from BHEL/ end customer. **Vendor is responsible for completion of approval cycle and minimizing number of revisions.**

- 14.3.2.3 Project Delivery Schedule is 42 (Forty-Two) Months) including Commissioning]



**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**Page **13** of **15**

Project Milestones shall be as per the clause 6.0, Part I: Commercial Section-1.0, Instructions to Bidders of BCGCL's bidding document PC288/E/001/P-I/1.0.

14.3.2.4 Contract Period for Post-bid Engineering works shall be 42 (Forty-Two) Months) from the date of commencement. Date of commencement shall be a mutually agreed date between BHEL & ESC after issue of work order.

14.3.2.5 Project Milestones:

Sl. No.	Milestones for completion of	Duration
1.	Process and Basic Engineering documents like P&IDs, Preliminary Plot plan, Operation and Control philosophy, Electrical load list, SLDs, Design basis etc.	Six (6) Months from commencement of Work.
2.	Layout and Detailed engineering	Twelve (12) Months from commencement of Work.
3.	Specification for Bought out items	Fifteen (15) Months from commencement of Work.
4.	Sub-vendor Documents review	Twenty one (24) Months from commencement of Work.
5.	Hazop, Hazid, SIL study & other safety studies as applicable	Twenty four (27) from commencement of Work.
6.	Review of 3D Modelling	Twenty eight (30) from commencement of Work.
7.	RFC drawings and erection documents	Thirty six (33) from commencement of Work.
8.	As-built documents	Forty two (42) from commencement of Work.

#### 14.4 Penalty Clause

##### 14.4.1 Pre-Bid Engineering Work

- BHEL will reserve the right of accepting the delayed deliverables by ESC, if suitable time period is available to it for submitting its offer to BCGCL, by imposing the Penalty at the rate of **2%** of the order value per week of delay or part thereof subject to a maximum of **10%** of Pre-bid Engg work order value.
- ESC shall seek prior permission from BHEL to submit the deliverables with delay.
- Beyond the permitted delivery period, deliverables shall be accepted by BHEL at its discretion.

##### 14.4.2 Post-Order Engineering Work

If the ESC fails to maintain the required progress of engineering works which results in delay in achieving/completing the Milestones defined in this "Delivery schedule", if any,



**BHARAT HEAVY ELECTRICALS LIMITED  
PROJECT ENGINEERING & SYSTEMS DIVISION  
HYDERABAD**

Doc. No: PY54028

Rev. No. **00**

Page **14** of **15**

BHEL shall have the right to impose Liquidated Damage/Penalty at the rate of 0.2 % of the contract value, per week of delay or part thereof, for each delayed Milestone.

In addition to the above, if the ESC fails to maintain the required progress of engineering works, which results in delay in the overall completion of the work beyond the contractual completion period, BHEL shall have the right to impose Liquidated Damage/Penalty at the rate of 0.5% of the contract value, per week of delay or part thereof.

However, the ceiling for the total Liquidated Damage/Penalty will be maximum of 10% of the contract value. For this purpose, the period of delay shall be the delay attributable to the ESC for the completion of work/achievement of milestone as per contract.

ESP-001-2A  
Rev.00



**BHARAT HEAVY ELECTRICALS LIMITED**  
**PROJECT ENGINEERING & SYSTEMS DIVISION**  
**HYDERABAD**

Doc. No: PY54028

Rev. No. **00**

Page **15** of **15**

**RECORD OF REVISIONS**

Rev	Date	Revision Details	Revised By	Approved By
00	23-07-2024	First issue	AM	MSPB