BIDDING DOCUMENTS

Package number:	**8EPC-XLKTUB-2026**
Package name:	**Engineering, Procurement, Supply, Construction and Installation of Equipment and Materials associated with Upgrade and Retrofit for Flue Gas Treatment System of 300MW and 330MW Units – Uong Bi Thermal Power Plant (including Erection All Risks Insurance)**
Project	**Upgrade and Retrofit for Flue gas treatment System of 300MW & 330MW Units - Uong Bi Thermal Power Plant**
Issued on:	_____
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ABBREVIATIONS

EPC	Engineering, Procurement and Construction
ITB	Instructions to Bidders
BDS	Bid Data Sheet
BD	Bidding documents
GCC	General Conditions of Contract
PCC	Particular Condition of Contract
Law on Bidding	Law on bidding No. 22/2023/QH15 dated June 23, 2023 of the National Assembly Vietnam, as amended and supplemented by Law No. 57/2024/QH15, Law No. 90/2025/QH15
Decree 214/CP	Government's Decree No. 214/2025/ND-CP dated August 04, 2012 on guidelines for the Law on Bidding in terms of selection of contractors
VND	Vietnamese Dong
USD	US Dollar

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Part 1. BIDDING PROCEDURES

Chapter I. INSTRUCTIONS TO BIDDERS (ITB)

1. Scope of the Bidding Package	1.1. The Employer specified in the **BDS** issues this Bidding Document to select the Bidder for the execution of the Engineering, Procurement and Construction (EPC) package under the single-stage, two-envelope bidding procedure. 1.2. The name of the bidding package and the project/procurement cost estimate are specified in the **BDS**. 1.3. The contract execution period is specified in the **BDS**.
2. Definitions and Interpretation in Bidding	2.1. The bid closing time is the deadline for receipt of Bid and is specified in the Invitation for Bids (IFB). 2.2. "Day" means a calendar day, including weekends, public holidays, and Tet holidays in accordance with the labor laws. 2.3. The Vietnam National E-Procurement System (VNEPS) is an information technology system established and managed by the state authority in charge of construction bidding activities, for the purpose of centralized management of bidding information and implementation of e-bidding. 2.4. The time and date on the Vietnam National E-procurement System are the time and date displayed on the Vietnam National E-procurement System (GMT+7).
3. Source of Funds	The source of funds for the bidding package is specified in the **BDS**.
4. Prohibited acts in bidding	4.1. Offering, giving, receiving, or taking a bribe 4.2. Abusing positions or entrusted power to illegally influence or intervene in the bidding process in any form. 4.3. Bid rigging includes the following acts: a) Arranging, agreeing, or forcing so that one or more parties prepare Bid Proposal(s) or withdraw Bid Proposal(s) for one party to win the bid; b) Reaching an arrangement or agreement to refuse to supply goods or services, refuse to sign subcontract, or make other agreements to limit competition so that one party will win the bid; c) A Bidder with appropriate qualifications and experience submits a Bid Proposal and meets the Bidding Document's requirements but intentionally does not provide documents to prove qualification and experience when requested by the

	Employer, Employer's Representative for bid clarification or the submitted documents' verification, with the aim of facilitating one party to win the bid. 4.4. Fraud includes the following acts: a) Forging or falsifying information, dossiers, and/or documents in the bidding process; b) Deliberately providing information and documents that are inaccurate or not objective in the bid proposal to falsify the bidder selection result. 4.5. Obstruction includes the following acts: a) Destroying, deceiving, altering, or concealing evidence, or making false statements/reports; threatening or making suggestions to any party to prevent the clarification of acts of offering, receiving or acting as an intermediary for bribes, fraud, or collusion with competent authorities responsible for supervision, inspection, examination, or audit; b) Obstructing the competent person, the Employer, or Bidders in the course of bidder selection; c) Obstructing competent authorities from supervision, inspection, examining, or audit of bidding activities; d) Deliberately making false complaints, denunciations, or petitions to impede the bidding process.. 4.6. Failure to ensure fairness and transparency includes the following acts: a) Participating in bidding as a Bidder for a bidding package for which it is also the Employer, or performing the Employer's duties in contravention of the provisions of the Law of Bidding. b) Formulating and engaging in the appraisal of Bidding Document for the same bidding package; c) Engaging in the evaluation of the Bid and appraising bidder selection results for the same bidding package; d) Any individual of the Employer directly participating in the Bidder selection process, or acts as a member of the Bid Evaluation Committee or appraisal team in charge of appraising the bidder selection result, or is a competent person or head of the Employer, Employer's Representative, for bidding packages bid by people with family relations according to the provisions of the Law on Enterprises, or is the legal representative of the bidder participating in the bid;

	dd) Being named as a Bidder for a bidding package under a project of the Employer which is the agency/organization where such person previously worked and held the executive or managerial position within 12 months from the date of his/her resignation; e) Specific requirements on trademarks and origin of goods are imposed in the Bidding Document, except for the provisions of Point e Clause 3 Article 10, Clause 2 Article 44, and Clause 1 Article 56 of the Law on Bidding; g) A Bidder shall not participate in an EPC package for which it has previously provided consulting services. 4.7. Disclosing documents and information relating to the Bidder selection , except for the cases specified in Point b, Clause 8, Article 77; Clause 11, Article 78; Clause 4, Article 80; Clause 4, Article 81; and Clause 2, Article 82 of the Law on Bidding, including: a) Contents of Bidding Document before the issuance time according to regulations; b) Contents of the Bid(s); contents of clarification requests of Bid(s) by the Employer and the Bidder's responses during the evaluation of the Bid(s); reports of the Employer, reports of the evaluation Bid Evaluation Committee, appraisal reports, reports of the consulting Bidder, and reports of relevant specialized authorities during the Bidder selection process; notes/records, minutes of Bid evaluation meetings, and comments and evalutions for each Bid before the announcement according to regulations; c) The Bidder selection results before it is disclosed as prescribed; d) Other documents during the Bidder selection process that are certified to contain state secrets as prescribed by law. 4.8. Contract transfer, including the following acts: a) A bidder transfers to another bidder a volume of tasks of the bidding package in addition to the maximum value of tasks to be subcontracted and those tasks to be undertaken by special subcontractors under the signed contract. b) The bidder transfers to another bidder a volume of tasks of the bidding package with value not exceeding the maximum value of tasks to be subcontracted under the signed contract but beyond the scope of tasks to be subcontracted specified in the bid without the approval of the Employer or supervision consultant.

	c) The Employer and supervision consultant approve the bidder's transfer of tasks as prescribed in Point a of this Clause. d) The Employer and supervision consultant approve the bidder's transfer of work specified in Point b of this Clause that exceeds the maximum value of work for subcontractors stated in the contract.
5. Eligibility of the Bidder, and Documentation Proving the Conformity of Goods, Materials and Equipment, and Documentation Proving the Suitability of the Works	5.1 Eligibility of the Bidder The Bidder shall be considered eligible if it satisfies all of the following conditions: a) For domestic Bidders: enterprises, cooperatives, unions of cooperatives, cooperative groups, public non-business units, foreign-invested economic organizations, and other organizations that are registered for establishment and operation in accordance with the laws of Viet Nam. For foreign Bidders: entities that are registered for establishment and operation in accordance with the laws of a foreign country. The bidder shall provide Decision of establishment or Certificate of business registration or other equivalent documents as evidence. b) Be independent financial accounting; c) Be not undergoing dissolution process or be revoked the business registration certificate, certificate of cooperatives registration, cooperative unions, cooperative groups; be not falling into insolvency according to the provisions of bankruptcy law; d) Ensures competitiveness in bidding as prescribled in the **BDS**; dd) Be not banned from bidding as prescribed in Law on Bidding; e) Be not currently under criminal prosecution; g) Be registered on the National E-Procurement System prior to the approval of the Bidder selection result; h) Has a member in the Consortium/Joint venture or a subcontractor that is a Vietnamese Bidder as specified in the **BDS**. 5.2 Bidder being a Household Business A Bidder being a household business shall satisfy all of the following conditions: a) Possesses a household business registration certificate in accordance with the law;

	b) Is not in the process of termination of operation or subject to revocation of the household business registration certificate; and the household business Employer is not being prosecuted for criminal liability; c) Satisfies the conditions specified in Points (c) and (d) of ITB 5.1. 5.3 Eligibility of Goods, Materials and Equipment a) All goods, materials and equipment supplied under the Contract shall have an obvious and lawful origin. The Bidder shall specify the symbols, codes, labels/trademarks (if any) and origin of the primary major goods, materials and equipment. The Employer may request the Bidder to provide evidence for origin of such goods, materials and equipment. For other goods, materials and equipment, the Bidder shall specified their origin during the performance of the Contract; b) "Origin of goods, materials and equipment" means the country or territory where such goods, materials and equipment are manufactured, produced or processed in that country or territory, through a process of manufacturing, processing or assembly to form a commercially recognized product which differs substantially in its basic characteristics from its original constituent elements; c) The Bidder shall be responsible for providing documentation to prove the origin of goods, materials and equipment in accordance with the Bid; d) Requirements on the origin of goods shall be implemented in accordance with Section 3 – Chapter VII. In case the Employer requires origin from a group of countries/territories in accordance with Clause 2, Article 44 of the Law on Bidding, the Bidder shall offer goods strictly meeting the required origin or goods of Vietnamese origin, even if Vietnam is not included in the group of countries/territories required by the Employer; any Bidder offering goods that do not meet the origin requirements of the Bidding Documents or are not of Vietnamese origin shall be rejected. In case the Employer requires the Bidder to offer goods of Vietnamese origin in accordance with Point (e), Clause 3, Article 10 of the Law on Bidding, any Bidder offering goods that are not of Vietnamese origin shall be rejected; dd) The Bidder shall declare the manufacturer of the goods in Section 3 – Chapter VII. In case the Bidder offers goods from multiple manufacturers for more than one unit of measurement of the goods (two pieces, two items, etc.) at the same unit price,

	the Employer shall request the Bidder to clarify in order to determine the quantity corresponding to each manufacturer. In case the Bidder offers goods from multiple manufacturers for one unit of measurement of the goods (one piece, one item, etc.), the Bid Proposal(s) of the Bidder shall not be considered and/or evaluated; e) The Bidder shall specifically propose the model/code brand name, origin and manufacturer (as required in Chapter VII). In case the Bidder fails to specifically propose the model/code (if any), brand name, origin and manufacturer as required, the Bid Proposal shall not be considered and/or evaluated (the Bidder is not allowed to make reference to other contents of the Bid Proposal and must provide such information specifically in Section 4 - Chapter VII). In case of discrepancies between the information declared in Section 4 - Chapter VII and the attached supporting documents, the information declared in Section 4 - Chapter VII shall be the basis for consideration and evaluation, except where the model/code (if any), brand name or manufacturer declared in Section 4 - Chapter VII does not exist in the market; g) Standards for manufacturing and production processes of goods, materials and equipment, as well as any references to brand names, trademarks, materials, equipment or catalogue numbers specified by the Employer in Part 2 - Chapter VII are for descriptive purposes only and are not intended to restrict the Bidder. The Bidder may propose alternative quality standards, brands, trademarks or catalogues provided that the Bidder demonstrates to the Employer and the Bid Evaluation Committee that such alternatives ensure a substantial equivalence or a higher level compared to the requirements specified in Part 2 - Chapter VII. 5.4 Documentation proving the Suitability of the Works a) The Bid shall include documentation proving that the works proposed by the Bidder in terms of design and construction comply with the requirements of the Bidding Documents. b) Documentation proving the suitability of the works may include dossiers, drawings and data, and shall include: - The documents specified in Chapter IV; - A detailed description of the main technical characteristics and the main features/functions of the works proposed by the Bidder as required by the Bidding Documents; - Documentation proving that the works basically meet the requirements of the Bidding Documents. The standards for

	workmanship, materials and equipment specified in the Bidding Documents (for the purpose of determining quality and performance standards) are for descriptive purposes only and are not intended to restrict bidder participation. The Bidder may propose other standards in its technical proposal, but shall demonstrate that such standards are equivalent to or higher than the technical standards specified by the Employer in the Bidding Documents. c) The Bidder shall ensure that the parts of the works performed by subcontractors complying with the requirements of the Bidding Documents .
6. Contents of the Bidding Documents	6. Contents of the Bidding Documents 6.1.The Bidding Documents consists of the Invitation for Bids (IFB) and Part 1, Part 2 and Part 3, in conjunction with any amendment, clarification document in accordance with ITB 7 (if any), including the following contents: **Part 1. Bidding Procedures:** - Chapter I. Instructions to Bidders (ITB); - Chapter II. Bid Data Sheet (BDS); - Chapter III. Evaluation Criteria for the Bid; - Chapter IV. Bidding Forms. **Part 2. Requirements of Bidding Package** Chapter V. Project Information and Package Requirements Chapter VI. Time Schedule Requirements Chapter VII. Technical Specification Chapter VIII. Drawings **Part 3. Conditions of Contract and Contract Forms:** - Chapter IX. General Conditions of Contract; - Chapter X. Particular Conditions of Contract; - Chapter XI. Contract Forms. 6.2 The Employer shall not be responsible for the accuracy and completeness of the Bidding Documents, any documents on clarification to Bidding Documents, or any amendments to the Bidding Documents in accordance with ITB 7 if such documents were not provided by the Employer on the Vietnam National E-procurement System. The Bidding Documents issued by the Employer on the Vietnam National E-procurement System shall be the basis for consideration and evaluation.

	6.3. The Bidder shall carefully examine all information in the IFB and the Bidding Documents, including any amendments and clarifications to the Bidding Documents, and the minutes of the pre-bid meeting (if any), in order to prepare the Bid in compliance with the requirements of the Bidding Documents.
7. Amendment and Clarification of the Bidding Documents; Site Visit; Pre-Bid Meeting	7.1. Should the Bidding Document be necessary to be amended after issuance, the Employer shall publish a decision on amendment enclosed with all the amended contents and the amended Bidding Documents accordingly on the Vietnam National E-procurement System. The amendment to the Bidding Documents shall be made at least ten (10) days prior to the Bid Closing Date; for a bidding package with an estimated package price not exceeding VND 20 billion, the amendment to the Bidding Documents shall be made at least three (03) working days prior to the Bid Closing Time and shall ensure sufficient time for bidders to finalize their Bids. Where the above timeframe cannot be ensured, the Bid Closing Time shall be extended. 7.2. Where clarification of the Bidding Documents is required, the Bidder shall submit a written request for clarification to the Employer's Representative via the Vietnam National E-procurement System at least five (05) working days prior to the Bid Closing Date for the Employer's consideration and handling, The Employer's Representative shall receive and review the clarification content to clarify at the request of the bidder(s) and post the clarification document on the Vietnam National E-procurement System at least two (02) working days prior to the Bid Closing Date, in which the clarification contents shall be described but the name of the requesting bidder shall not be disclosed/mentioned. Where the clarification results in an amendment to the Bidding Documents, the Employer shall amend the Bidding Documents in accordance with ITB 7.1. 7.3. The Employer shall be responsible for monitoring information on the VNEPS in order to promptly clarify the Bidding Documents upon bidders' requests. 7.4. The Bidder shall be responsible for monitoring information on the VNEPS to update amendments to the Bidding Documents and changes to the Bid Closing Time (if any) as the basis for preparation of its Bid. If any error occurs due to failure to monitor and update information on the VNEPS, causing disadvantages to the

	Bidder during the bidding process, including but not limited to amendments to the Bidding Documents, changes to the Bid Closing Time, the contract negotiation time (if any), and other relevant matters, the Bidder itself must take responsibility and bear disadvantages during Bidding process. 7.5. The Bidder is encouraged to conduct a site visit of the project site and other relevant areas and shall be solely responsible for obtaining all information that may be necessary for preparing the Bid and performing Contract in case of winning the bid. All risks and costs of the site visit shall be borne by the Bidder. 7.6. The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof. The Bidder, its personnel, and agents will be responsible for accidents, loss or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection. In necessary circumstances, the Employer shall provide the Bidder with guidelines for Site Visit as specified in **BDS**. 7.7. In necessary case, the Employer shall hold a pre-bid meeting to discuss any matters/unclear contents in the Bidding Documents that Bidders have not clearly understood, in accordance with the **BDS**. The Employer shall release a notice of the pre-bid meeting on the VNEPS; all interested bidders are allowed to attend the pre-bid meeting without prior notification to the Employer. To facilitate the Employer's responses to clarification requests, bidders are advised to submit their clarification requests to the Employer prior to the pre-bid meeting date. The discussions/exchange contents between the Employer and Bidders shall be recorded in minutes and made in writing to clarify the Bidding Document released on VNEPS within a maximum period of 02 working days from the end of pre-bid meeting. 7.8. Should the Employer deem it necessary to amend the Bidding Documents after the pre-bid meeting, the Employer shall amend the Bidding Documents in accordance with ITB 7.1. Minutes of pre-bid meeting is not the amendment of Bidding Documents.

	7.9. Bidder's absence on site survey or pre-bid meeting or lack of site survey certificate or pre-bidding meeting attendance certificate is not a reason for disqualifying the Bidder's Bid.
8. Cost of Bidding	The Bidder shall bear all costs associated with the preparation and submission of its Bid. In any event, the Employer shall not be responsible for, nor liable in any manner for, any costs incurred by the Bidder in connection with its participation in the bidding process.
9. Language of the Bid	The Bid, as well as all correspondence and documents related to the Bid exchanged between the Bidder and the Employer's Representative, shall be written in the language specified in the **BDS**.
10. Documents comprising the Bid	The Bid shall comprise the Technical Proposal and the Financial Proposal as follows: 10.1. The Technical Proposal shall include: a) Letter of Bid in the Technical Proposal in accordance with ITB 11; b) The Consortium/Joint Venture Agreement, using the form provided in Form No. 03, Chapter IV (for Joint Venture Bidder); c) The Bid Security, in accordance with ITB 18; d) The Bidder's statement of qualifications and experience, in accordance with ITB 16 ; dd) The Technical Proposal and supporting documents in accordance with ITB 5.3, ITB 5.4, and ITB 15; e) The Alternative Technical Proposal (if any), in accordance with ITB 12. The Technical Proposal shall not contain any financial information. If the Technical Proposal contains any important financial information, the Bidder shall bear any adverse consequences during the evaluation of the Bid. 10.2. The Financial Proposal shall include: a) Letter of Bid in the Financial Proposal, in accordance with ITB 11; b) The Financial Proposal and completed schedules/forms, fully filled in as required under ITB 11 and ITB 13. 10.3. Other contents/documents as specified in the **BDS**.
11. Letter of Bid and Schedules	The Letter of Bid included in the Technical Proposal, the Letter of Bid in the Financial Proposal, and the relevant

	schedules shall be prepared in accordance with the forms provided in Chapter IV – Bidding Forms.
12. Alternative Technical Proposal in the Bid	12.1. Unless otherwise indicated in the **BDS**, alternative bids shall not be considered. 12.2. An Alternative Technical Proposal shall only be considered where the main Bid is evaluated as responsive and the Bidder is ranked the first. In such case, the Bidder shall provide all information necessary for the Bid Evaluation Committee to evaluate the Alternative Technical Proposal, including: explanations, drawings, technical specifications, construction organization plan, construction schedule, costs, and other relevant information. The evaluation of the Alternative Technical Proposal in the Bid shall comply with Clause 5, Chapter III - Evaluation and Qualification Criteria.
13. Bid Prices and Discounts	13.1. The Bid Price is the price quoted by the Bidder in the Letter of Bid (Financial Proposal), including all costs (excluding any discount offered) to perform the package in accordance with Part 2 – Requirements of the Bidding Package. 13.2. The Bidder shall submit the Bid, including all lots and item specified in ITB 1.1 and the Bid unit price and amount of all lots and items shall be stated in columns "Description" in Price Schedules for each item or component prescribed in Forms No. 21 Chapter IV - Bidding Forms. In case the Bidder insert no value or insert “0” in the columns “Unit Price” and “Total Price”, the Bidder shall be considered allocating the price of this work item to another work item of the package, the Bidder shall be responsible for performing these work items in conformity with the Bidding Documents’ requirements without any payment from the Employer during the contract performance, except for total price quoted by item or component. No adjustment of deviations shall be made in cases where the work item(s) added by the Bidder (if any) differ from the work item(s) specified in the Bidding Documents, except where such work item(s) are in excess of the requirements of the Bidding Documents for the execution of the bidding package. Where the work item(s) offered by the Bidder are redundant and not necessary for the execution of the bidding package, such items shall be deemed surplus and shall be subject to correction as excess deviation. 13.3. Discount offered by the Bidder shall be written directly on the Letter of Financial Bid or on a separate Letter of

	Discount. The Bidder shall specify the discounting method and discounted items mentioned in Columns "Description". If discounting method is not specified, it will be understood all items mentioned in the columns "Description" receive equal discounts. The Letter of Discount may be submitted separately or together with the Financial Proposal as long as it is received by the Employer before the deadline for submission of Bid. Any Letter of Discount separately submitted shall comply with ITB Sections 20.2 and 20.3. The Letter of Discount shall be preserved as part of the Financial Proposal and opened together with the Bid. 13.4. The Bidder shall be held accountable for their unit price to perform task as required by the Bidding Document, if the unit price is unusual, affecting the quality of the bid package, the Employer may request the Bidder to clarify the feasibility of that unusual unit price according to the provisions of Clause 12, Article 140 of the Decree No. 214/2025/ND-CP and in accordance with ITB 27. The Bid Price quoted by the Bidder shall include all taxes, fees and charges (if any) determined at 28 days prior to the Bid closing date. In case the Bid Price is not inclusive of taxes, fees and charges (if any), the Bid Proposal of the Bidder shall be rejected. 13.5. The Bid Price shall be fixed. Price adjustment is not permitted during the contract execution time. If price adjustment is permitted during the contract execution time as specified in Conditions of Contract, the Bidder shall propose the price adjustment using the Form No. 23 – Chapter IV – Bidding Forms, for the purpose of applying the price adjustment formula specified in Chapter X – Particular Conditions of Contract.
14. Bid Currency and Payment Currency	The Bid currency and Payment currency are prescribed in the **BDS**.
15. Technical Proposal	The Bidder shall submit a Technical Proposal including a detailed description of the methodology for performing the Works, equipment, personnel, implementation schedule, and any other information as required under Chapter IV and Chapter V. The Technical Proposal shall be described in sufficient detail to demonstrate the adequacy of the Bidder's proposal to meet the work requirement and the completion time.

16. Documents Establishing the Bidder's Qualifications and Experience	16.1. The Bidder shall fill essential information in the forms mentioned in Chapter IV – Bidding Forms to substantiate its qualifications and experience in accordance with the requirements specified in Chapter III. 16.2. In case of application of the prequalification, if there is any change to the information about the Bidder's qualification and experience between the Bid and the application for prequalification, the new information shall be updated.. 16.3. The requirements for documents evidencing the Bidder's qualification to perform the Contract, if awarded, shall be as specified in the **BDS**.
17. Bid's Validity Period	17.1. The Bid (including the Technical Proposal and the Financial Proposal) shall remain valid for a period which is not shorter than the period specified in the **BDS**. The Bid which is valid for a shorter period shall be rejected as non-reponsive. 17.2. In exceptional circumstances, prior to the expiration of the Bid 's validity period, the Employer may request bidders to extend the validity period of their bid (including the validity period of Technical Proposal and Financial Proposal). If a Bid Security is requested, it shall also be extended for a corresponding period (equivalent to the extended validity period plus 30 days). If the Bidder refuses the request, its Bid shall not be kept considering and the Bid Security shall be returned. The Bidder accepting the request shall not change any content of the Bid, except for extending the validity period of the Bid Security. The request and the responses shall be made in writing.
18. Bid Security	18.1. When participating in the bidding, the Bidder shall provide the bid security prior to the bid closing time in one or more forms of Bank guarantee letter issued by legal representative of a bank or credit institution lawfully operating in Vietnam or reputable foreign bank having branch lawfully operating in Vietnam or a surety insurance certificate issued by a domestic non-life insurance enterprise or a branch of a foreign non-life insurance enterprise established under the laws of Viet Nam in accordance with Form No. 04 in Chapter IV – Bidding Forms, or in another form provided that it contains fully contents subject to Employer's approval. In case the Bid security value is less than VND 50 million, it shall be implemented in accordance with ITB 18.6. In the event that the validity period of the Bid is extended as prescribed in ITB 17.2, the Bid Security shall also be extended with the same validity period.

	If a Consortium/Joint venture make a Bid, it shall perform the Bid Security following one of two methods below: a) Every Consortium/Joint venture's partner may perform separate Bid Security provided that total value of the Bid Security is not lower than that mentioned in ITB 18.2; if any Bid Security is not valid, the Bid of the Consortium/Joint venture shall be rejected as non-responsive. If any Consortium/Joint venture's partner violates Law leading its Bid Security to be revoked as prescribed in ITB 18.5, the Bid Security(s) of all member in the Consortium/Joint venture shall be revoked. b) All Consortium/Joint venture's partners conclude an agreement in which one partner will be responsible for its Bid Security and for Bid Security of other partners in the Consortium/Joint venture. The Bid Security shall be in the name of the Consortium/Joint venture or the partner in charge provided that the total value is not lower than that mentioned in ITB 18.2. If any Consortium/Joint venture's partner violates Law leading its Bid Security is revoked as prescribed in ITB 18.5, the Bid Security(s) of all member in the Consortium/Joint venture shall be revoked 18.2. The value, currency and validity period of the Bid Security shall be specified in the **BDS**. The validity period of the Bid Security is calculated from the date of bid closing time to the last date of Bid Security validity (deadline of Bid Security is the last date of Bid Security validity without necessarily until the end of 24 hours of that day). 18.3. A Bid Security shall not be considered valid in one of the following cases: it has lower value, shorter validity period as required in ITB 18.2, inaccurate name of the Beneficiary and name of the Bidder, non-original paper, invalid signature, signature before Bidding Document issuance, accompanied by disadvantaged conditions to the Employer (including failure to fully comply with the undertakings as required under Form No. 04 in Chapter IV). Where a guarantee letter or a surety insurance certificate is applied, such guarantee letter or surety insurance certificate must be signed and stamped (if any) by the lawful representative of the domestic credit institution or the branch of foreign bank established under the laws of Viet Nam, the domestic non-life insurance enterprise or the branch of foreign non-life insurance enterprise established under the laws of Viet Nam.

	18.4.The unsuccessful Bidder shall be either returned or released the Bid Security within the period as prescribed in the **BDS**. For the successful Bidder, the Bid Security shall be returned or released when the Contract becomes effective. 18.5. Bidder violate the Bidding Law, leading to non-return of the Bid Security in one of the following cases: - The Bidder withdraws its Bid or gives a written refusal of performing one or some tasks proposed in the Bid under the requirements in Bidding Document after the bid closing time and during the bid validity period; - The Bidder violates any of the prohibited acts specified in Article 16 of the Law on Bidding or commits violations of the Law on Bidding leading to bid cancellation; - The Bidder fails to furnish the required performance security as prescribed in Article 68 of the Law on Bidding; - The Bidder fails to or refuses to negotiate a contract (if any) within 10 days from the receipt date of the contract negotiation notification or has negotiated a contract but refused to complete and sign the contract negotiation minutes, except force majeure events; - The Bidder fails or refuses to finalize the contract, framework agreement within 20 days from the notification receipt of Contract Award sent by the Employer except for the case specified in Clause 4 Article 34 of Decree No. 214/2025/ND-CP or force majeure cases; - The Bidder fails or refuse to sign the contract, framework agreement withn 20 days from the date of contract finalization, framework agreement, except force majeure events. 18.6. For a package where the bid security value specified in ITB 18.2 is less than VND 50 million, at the bid closing time, the Bidder is not required to attach the letter of guarantee or surety insurance certificate as specified in ITB 18.1, but must undertake in the Letter of Bid (no separate written undertaking is required) that if invited for document verification or if it violates ITB 18.5, it shall submit a cash amount, or a certified cheque (provided that the validity period of such certified cheque meets the Investor's requirements), or a bid guarantee letter, or a surety insurance certificate with the value specified in ITB 18.2 (the validity period of the bid guarantee letter or surety insurance certificate required by the Employer shall be the number of days specified in the Invitation for Document Verification and shall be calculated from the document verification date). Where the Bidder chooses to submit a bid

	guarantee letter or surety insurance certificate for document verification but such bid guarantee letter or surety insurance certificate does not comply with ITB18.3, the Bidder must submit a cash amount or a certified cheque (provided that the validity period of such certified cheque meets the Investor's requirements) with the value specified in ITB 18.2. If the Bidder fails to comply with the above undertaking, the Bidder shall be handled in accordance with its undertaking stated in the Letter of Bid (being assessed as not reputable in bidding participation in accordance with Clause 1 Article 20 of Decree No. 214/2025/ND-CP, being named on VNEPS and having its account locked for 06 months from the date the Employer publishes the Bidder's name on the National E-Procurement System, except for force majeure). If the Bidder violates ITB 18.5, it shall not be entitled to the return of this Bid Security amount.
19. Format and Signing of Bid Proposal(s)	19.1. The Bidder shall prepare the documents comprising the Bid consisting of: 1 original of Technical Proposal and 1 original of Financial Proposal as described in ITB Section 10 and a number of photocopies of the Technical Proposal, Financial Proposal as prescribed in the **BDS**. The cover of the documents comprising the Bid shall be clearly marked "TECHNICAL PROPOSAL ORIGINAL", "FINANCIAL PROPOSAL ORIGINAL", "TECHNICAL PROPOSAL PHOTOCOPY", "FINANCIAL PROPOSAL PHOTOCOPY". If there are any amendments to or replacement for Technical Proposal or Financial Proposal, the Bidder shall prepare one original and a number of photocopies of the Bid as prescribed in the **BDS**. The cover of documents shall be clearly marked "MODIFIED TECHNICAL PROPOSAL ORIGINAL", "MODIFIED TECHNICAL PROPOSAL PHOTOCOPY", "MODIFIED FINANCIAL PROPOSAL ORIGINAL", "MODIFIED FINANCIAL PROPOSAL PHOTOCOPY", "SUBSTITUED TECHNICAL PROPOSAL ORIGINAL", "SUBSTITUTED TECHNICAL PROPOSAL PHOTOCOPY", "SUBSTITUTE FINANCIAL PROPOSAL ORIGINAL", "SUBSTITUED FINANCIAL PROPOSAL PHOTOCOPY". If there is an Alternative Bid as prescribed in ITB Section 12, the Bidder shall prepare one original and a number of photocopies of documents as prescribed in the **BDS**. The cover of documents shall be clearly marked "ORIGINAL OF ALTERNATIVE BID", "PHOTOCOPY OF ALTERNATIVE BID".

	19.2. The Bidder shall be responsible for the discrepancy between the original and the photocopies. In the event of any discrepancy between the original and the photocopies that does not lead to any change to the rank of the Bidder, the original shall prevail. In the event of any discrepancy between the original and the photocopies leading change to the rank of the Bidder, the Bid shall be rejected. 19.3. The original of Technical Proposal and Financial Proposal shall be typed or written in indelible ink and have page numbers. Letter of Bid, Letter of Discount (if any), additional documents, clarifying documents, Price Schedule and other forms prescribed in Chapter IV - Bidding Forms must bear the signature and seal of the Bidder's legal representative or authorized representative (if any). The authorized representative must obtain a Power of Attorney using form 02 of Chapter IV – Bidding Forms or a copy of the Company Charter, a certified Decision on Establishment of branch or other documents proving the competence of the authorized representative, and it shall be submitted together with the Bid. 19.4. If the Bidder is a consortium/joint venture, the Bid must bear the signatures of legal representatives or all Consortium/Joint evnture's Parties or the Party that represents the Consortium/Joint venture according to the Consortium/Joint venture agreement. In order to ensure that all Consortium/Joint venture's Parties are legally bound, the Consortium/Joint venture agreement must bear the signatures of legal representatives of all Consortium/Joint venture's Parties. 19.5. Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.
20. Sealing and Marking of the Bid	20.1. The Technical Proposal envelope contains the original and the photocopies and clearly marks it "TECHNICAL PROPOSAL". The Financial Proposal envelope contains the original and the photocopies and clearly marks it "FINANCIAL PROPOSAL". If there is any revision or replacement of Technical Proposal or Financial Proposal, the modified or alternative documents (including the original and the copies) shall be put into separate envelopes and clearly mark it "MODIFIED TECHNICAL PROPOSAL", "SUBSTITUTE TECHNICAL PROPOSAL", "MODIFIED FINANCIAL PROPOSAL", "SUBSTITUTE FINANCIAL PROPOSAL".

	If the Bidder has an Alternative Bid which concludes Technical Proposal and Financial Proposal, it shall be put into a separate envelope and clearly mark it "ALTERNATIVE TECHINICAL PROPOSAL". These envelopes: including Technical Proposal, Financial Proposal, Modified Technical Proposal, Modified Financial Proposal, Substitute Technical Proposal, Substitute Financial Proposal (if any); Alternative Bid (if any), shall be sealed. The sealing of envelopes shall comply with regulations provided by the Bidder. 20.2. The outer envelopes shall: a) bear the name and address of the Bidder; b) be addressed to the Employer's repressentative in accordance with ITB Section 21.1; c) bear the name of the procurement in accordance with ITB Section 1.2; and d) bear a warning: "not to open before the time and date for Technical Proposal opening" regarding envelopes of Technical Proposal, Modified Technical Proposal, or Substitute Technical Proposal (if any); bear a warning "Do not to open before the time and date of Financial Proposal opening" regarding envelopes of Financial Proposal, Modified Financial Proposal, or Substitute Financial Proposal (if any). 20.3. If the envelopes are not sealed or the seals thereof are lost during the process they are transferred to the Employer' representative, or they are not marked as required in ITB Sections 20.1. and 20.2, the Bidder shall be responsible for those violations. The Employer' representative will assume no responsibility for the confidentiality of the bid if the Bidder fails to comply with above regulations.
21. Bid Closing Time	21.1. The Bidder shall submit its Bid directly or send its Bid to the address of the Employer's Representative as specified in ITB 1.1, provided that the Employer's Representative receives the Bid before the bid closing time as specified in the **BDS**. The Employer's Representative shall receive the Bid of all Bidders submitted before the bid closing time and shall keep them as confidential documents until the bid evaluation result is publicly disclosed. Under no circumstances shall any information contained in one Bidder's Bid be disclosed to another Bidder, except for the information disclosed during the bid opening.

	In case the Bidder has not purchased the Bidding Documents, the Bidder shall pay the Employer's Representative an amount equal to the selling price of the Bidding Documents as stated in the **BDS** before the Bid are received. 21.2. The Employer may extend the bid closing time in the event of an amendment to the Bidding Documents in accordance with ITB 7. Upon extension of the Bid Closing Time, all responsibilities of the Employer and the Bidder subject to the previous deadline shall thereafter be subject to the deadline as extended. 21.3. When extending the bid submission deadline, the Employer shall post a notice of extension together with the approval decision on the VEPS. The notice of extension shall clearly state the reason for the extension and the new bid submission deadline. During the extended period, any Bidder that has submitted its Bid may withdraw its Bid for amendment and supplementation. If the Bidder does not withdraw its Bid, the Employer shall keep such Bid in accordance with the confidentiality regime applicable to "confidential documents".
22. Late Bid Proposal(s)	The Employer shall not consider any bid that submits after the bid closing time. Any Bid received by the Employer after the bid closing time shall be declared late, rejected and returned unopened to the Bidder.
23 Submission, Withdrawal and Modification of Bid Proposal(s)	23.1. Submission of Bid: Each Bidder shall submit only one set of Bid for one Invitation for Bid when participating in the bidding process. In case of a Consortium/Joint Venture, the leading member of the Consortium/Joint Venture (as agreed in the Consortium/Joint Venture Agreement) shall submit the Bid Proposal(s) after obtaining the consent of all Consortium/Joint Venture members. 23.2. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice duly signed by a legal representative or an authorized representative with a copy of the Power of Attorney in accordance with ITB 19.3. The corresponding substitution or modification of the Bid shall accompany the respective written notice. All notices shall be: a) Prepared and submitted to the Employer in accordance with ITB 19 and ITB 20, and the envelope containing the notice shall be clearly marked "MODIFY OF TECHNICAL PROPOSAL" or "MODIFYOF FINANCIAL PROPOSAL" or "SUBSTITUTE OF TECHNICAL PROPOSAL" or

	"SUBSTITUTE OF FINANCIAL PROPOSAL" or "WITHDRAWAL OF BID"; b) Received by the Employer's Representative before the Bid Closing Time in accordance with ITB 21. In case the Bidder has submitted its Bid before the Employer issues an amendment to the Bidding Documents (if any), the Bidder shall resubmit a new Bid to comply with the amended Bidding Documents. If the Bidder fails to resubmit its Bid, the Bidsubmitted before the amendment to the Bidding Documents shall not be opened, considered, or evaluated. 23.3. Withdrawal of the Bid: The Bidder may withdraw its Bid before the Bid Closing Time in accordance with ITB 21 by submitting a written notice signed by the Bidder's legal representative; where authorization is granted, a power of attorney shall be enclosed in accordance with ITB 19.3. Any Bid withdrawn pursuant to ITB 23.3 shall be returned to the Bidder unopened and in its original condition. If the Bid is withdrawn after the Bid Closing Time and during the Bid validity period, the Bidder shall not be entitled to the return of the Bid Security, shall be assessed as not reputable in bidding participation, and the Bid shall not be further evaluated. 23.4. The Bidder may only withdraw, amend, or resubmit its Bid prior to the Bid Closing Time. After the Bid Closing Time, all submitted Bid shall be opened for evaluation.
24. Opening of Technical Proposal	24.1. Except for cases prescribed in ITB 22 and ITB23, the Employer's Representative shall open and read out information prescribed in ITB 24.3 for all Technical Proposals contained in the Bid received before the bid closing time. The Technical Proposals opening shall be held in public at the time and the location specified in the **BDS** in the witness of participants being Bidders' representatives and relevant agencies and organizations. The Technical Proposals opening shall be conducted regardless of the absence of any Bidder's representative. 24.2. In case the bidder requests to withdraw or replace its Bid, first the Employer's Representative shall open and read out the information in the envelope containing the written notice marked on the outside "WITHDRAWAL OF BID"; the envelope containing the Bid of the bidder requesting withdrawal shall remain seal and shall be returned to the bidder in its original condition. The Employer's Representative shall not accept the bidder's request for withdrawal of the Bid and shall still proceed to open the corresponding Technical

	Proposal if the "WITHDRAWAL OF BID" written notice is not accompanied by documents evidencing that the signatory of such written notice is the bidder's legal representative. Subsequently, the Employer's Representative shall open and read out the information in the envelope containing the written notice marked on the outside "SUBSTITUTE OF TECHNICAL PROPOSAL"; The Technical Proposal shall be replaced by the corresponding alternative/substitute Technical Proposal; the envelope containing the original Technical Proposal shall remain seal and shall be returned to the bidder in its original condition. The Technical Proposal shall not be replaced/substitute if the written notice of replacement of the Technical Proposal is not accompanied by documents evidencing that the signatory of such written notice is the bidder's legal representative. For the envelopes containing the written notice of "MODIFICATION OF TECHNICAL PROPOSAL", the accompanying written notice shall be opened and read out together with the corresponding amended/modified Technical Proposals. The Employer's Representative shall not accept the bidder's amendment/modification to the Technical Proposal if the written notice of amendment/modification of the Technical Proposal is not accompanied by documents evidencing that the signatory of such written notice is the bidder's legal representative. Only the Technical Proposals that are opened and read out at the Technical Proposal opening ceremony shall be further considered and evaluated. 24.3. The opening of Technical Proposals shall be conducted to every Technical Proposal or substituted Technical Proposal (if any) according to alphabetical order of the Bidders' names and in the following procedures: a) The seals shall be checked and the envelopes marked "TECHNICAL PROPOSAL" "MODIFIED TECHNICAL PROPOSAL" (if any), or SUBSTITUTE TECHNICAL PROPOSAL" (if any) shall be opened. b) All original of Bid, modified Bid (if any) or substituted Bid (if any) shall be opened and read out: the bidder's name, the validity period of the Technical Proposal, the contract duration stated in the bid application included in the Technical Proposal, the value of the bid security, the validity period of the bid security and other details as the Employer may consider appropriate;

	c) Number of originals and copies of Bid and relevant information, including Alternative Bid (if any) shall be read out; d) The Employer's Representative shall countersign the original of Letter of Bid, Power of attorney (if any), Consortium/Joint Venture Agreement (if any) and Bid Security. No Bid shall be rejected at Bid opening except for late Bid in accordance with ITB 22; dd) The Employer's Representative and the Bidders attending the Technical Proposal opening shall seal the outer envelopes marked "FINANCIAL PROPOSAL" "MODIFIED FINANCIAL PROPOSAL" and "SUBSTITUTE FINANCIAL PROPOSAL"; the sealing method shall be agreed upon by the Employer's Representative and the Bidders. After sealing, the Employer's Representative shall be responsible for safeguarding the above-mentioned envelopes under the confidential document management regulations until the opening of the Financial Proposal as stipulated in ITB 26. 24.4. The Employer's Representative shall prepare the minutes of the Technical Proposal opening that shall include the information specified in ITB 24.3. The minutes of Bid opening shall be signed by the Employer's Representative and the representative of the Bidders participating in the Bid opening. Absence of any signature of the Bidder in the record will not make the record invalid. A copy of the minutes shall be distributed to all Bidders who participate in the package and published on VNEPS within 24 hours since the deadline of Bid submission.
25. Evaluation of Technical Proposal	25.1. The Bid Evaluation Committee shall apply the evaluation method specified in the **BDS** to evaluate the Technical Proposal. 25.2. The process for evaluating the Technical Proposal is as follows: a) Step 1: The inspection and evaluation of the validity of the Bid shall comply with Section 1, Chapter III; + Eligibility of the Bidder; + Within the three (03) years period prior to the bid closing time, the Bidder does not have any personnel (who had signed labor contracts with the bidder at the time the personnel committed the violation) that have been convicted by the Court for acts violating bidding regulations causing serious consequences under criminal law with the aim of ensuring that bidder win the bid.

	In the event that the Bid Evaluation Committee discovers that the Bidder has made dishonest commitments resulting in the distortion of the bidder selection results, the Bidder shall be considered to have committed fraud in the bidding. - The Bid Evaluation Committee assesses the validity of the bid security, the Consortium/Joint venture agreement (in the case of a Consortium/Joint venture). - The Bidder that is evaluated as compliant in all aspects of validity shall be proceeded to the evaluation of qualification and experience. b) Step 2: The evaluation of Bidder's qualification and experience shall comply with Section 2, Chapter III; - The Bid Evaluation Committee evaluates the following contents: history of contract non-performance, fulfillment of tax declaration and payment obligations, financial performance results, and average annual revenue based on information declared and the supporting documents enclosed in the Bid. - For financial resource requirements: the Bid Evaluation Committee shall evaluate based on the information declared by the Bidder in the Bid. In case the Bidding Document requires a credit commitment, and the bidder uses this commitment to demonstrate financial resources, the Bid Evaluation Committee shall evaluate based on the attached documents. Additional credit commitments provided after the Bid Closing Time shall not be considered or evaluated. - For the evaluation of similar contracts and production capacity, the Bid Evaluation Committee shall base its assessment on the information declared by the Bidder in the forms and the enclosed documents. - For key personnel (for personnel involved in the consulting part of the bidding package, the evaluation shall be conducted at the technical evaluation stage) and major construction equipment, the Bid Evaluation Committee shall evaluate based on the information declared by the bidder. - The bidder that is evaluated as compliant in all aspects of qualification and experience shall be proceeded to the technical evaluation. c) Step 3: Technical evaluation: a) The technical evaluation shall comply with Section 3, Chapter III – Evaluation Criteria of Bid;

	b) The Bidders that meet the technical requirements shall be proceeded to the consideration and evaluation of their Financial Proposals in accordance with Section 4, Chapter III – Evaluation Criteria of Bid. 25.3. List of bidders satisfying the technical requirements shall be approved in writing. The Employer's Representative shall send the List of bidders satisfying and not satisfying technical requirements to all bidders, stating the reasons for not satisfying and send invitations to bidders satisfying technical requirements to open Financial Proposal, together with time and location of opening Financial Proposal. The Employer shall publish the List of Bidder satisfying technical requirements on VNEPS within 05 working days since the approval date of the decision of List of Bidder satisfying technical requirements.
26. Opening of Financial Proposal	26.1. The Financial Proposal opening shall be held in public at the time and address stated in the written Notification of list of bidders satisfy the technical requirements, in the witness of participants being Bidders' representatives and relevant agencies and organizations. The Financial Proposal opening shall be conducted regardless of the absence of any Bidder's representative. 26.2. At the Financial Proposal opening, the Employer's Representative shall publicly disclose the written approval of the list of bidders that meet the technical requirements and shall then check the seals of the outer envelopes marked "FINANCIAL PROPOSAL", "MODIFY FINANCIAL PROPOSAL" or "SUBSTITUTE FINANCIAL PROPOSAL". 26.3. In case the bidder requests to replace its Financial Proposal, the Employer's Representative shall open and read out the information in the envelope containing the written notice marked on the outside "SUBSTITUTE OF FINANCIAL PROPOSAL"; the Financial Proposal shall be replaced by the corresponding substitute Financial Proposal; the envelope containing the original Financial Proposal shall remain seal and shall be returned to the bidder in its original condition. The Financial Proposal shall not be replaced if the written notice of replacement of Financial Proposal is not accompanied by documents evidencing that the signatory of such written notice is the bidder's legal representative. For the envelopes containing the written notice of MODIFICATION OF FINANCIAL PROPOSAL", the accompanying written notice shall be opened and read out ~~read~~ together with the corresponding modified Financial Proposals.

	The Employer's Representative shall not accept the bidder's modification to the Financial Proposal if the written notice of modification of the Financial Proposal is not accompanied by documents evidencing that the signatory of such written notice is the bidder's legal representative. Only the Financial Proposals that are opened and read out at the Financial Proposal opening ceremony shall be further considered and evaluated. 26.4. The Financial Proposals opening shall be conducted for every Financial Proposal in alphabetical acccording to the Bidders' names included in the list of bidders satify technical requirements and in the following procedures: a) Open the original Financial Proposal, the modified Financial Proposal (if any), or the substitute Financial Proposal (if any) and read out the following information: the bidder's name, the validity period of the Financial Proposal, Bid Prices of Letter of Financial Bid, the bid price specified in the summary table of the bid prices, the value of discount (if any), and other details as the Employer may consider appropriate. Only the discount information read out at the Financial Proposal opening ceremony shall be further considered and evaluated. b) Clearly and loudly read the number of copies of the Financial Proposal and other related information; c) The Employer's representative shall countersign original copy of Financial Proposal and Letter of Discount (if any). No Financial Proposal of a bidder whose name mentioned in the List of bidders satisfying technical requirements shall be rejected at Financial Proposal opening. 26.5. The Employer's Representative shall prepare the minutes of the Financial Proposal opening, which shall include the information specified in ITB 26.2, ITB 26.3 and ITB 26.4. The minutes of Financial Proposal opening shall be countersigned by the Employer's Representative and the representative of the Bidders participating in the Financial Proposal opening. A copy of the minutes shall be distributed to all Bidders who satisfy technical requirements and published on VNEPS within 24 hours since date the Financial Proposal opening.
27. Evaluation of Financial Proposal and ranking of bidders	27.1. Evaluate the Financial Proposal in accordance with the provisions of Section 4, Chapter III and implement as prescribed in the **BDS**. 27.2. Review and evaluate the eligibility of the Financial Proposal:

	a) The review and evaluation of the eligibility of the Financial Proposal shall be conducted in accordance with Section 4.1, Chapter III – Evaluation Criteria of Bid; b) The bidders having eligible Financial Proposals shall be considered further and ranked. 27.3. Detailed evaluation of the Financial Proposal and ranking of the bidders: a) The detailed evaluation of the Financial Proposal shall be carried out in compliance with Section 4.2, Chapter III – Evaluation Criteria of Bid; b) After the evaluation of the Financial Proposal, the ranking of the bidders shall be carried out in compliance with the **BDS**.
28. Confidentiality	28.1. Information relating to the evaluation of Bid, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until publication of Bidder Selection Result. No information mentioned in the Bid of any Bidder is disclosed to other bidders, except for information disclosed at the Technical Proposal and Financial Proposal opening. 28.2. Except for case of the Bid clarification prescribed in ITB Section 25 and the negotiation of contract, the Bidder is not permitted to contact to the Employer, member of Bid Evaluation Committee on any matter related to its Bid and the package from the bid opening time until the publication of Bidder Selection Result.
29. Clarification of the Bid	29.1. After the Bid opening, the Bidder is responsible for clarifying the Bid as requested by the Employer, including clarification of eligibility, qualification, experience, tax declaration and tax payment obligations, and specific personnel documents proposed in the Bid. Clarifications regarding eligibility must not alter the nature of the participating bidder. For the contents of the validity of the Bid Proposal (excluding eligibility), the Technical and Financial proposals, the clarification must ensure no changes to the basic content of the submitted Bid and the Bid price. The Bidder shall notify the Employer of the receipt of the written request for clarification of the Bid by one of the following means: direct written submission, postal mail, fax, or e-mail. 29.2. The clarification of the Bid between the Bidders and the Employer shall be in writing (official letter). 29.3. The clarification of the Bid shall only be made between the Employer and the Bidders whose Bid require the

	clarification. For clarifications that directly affect the evaluation of legal eligibility, qualification and experience and the technical and financial requirements, if the Bidder fails to provide clarification within the specified time limit, or provides clarification but fails to meet the Employer's requirements, the Employer shall evaluate the bidder's Bid based on the Bid submitted before the bid closing time. The Employer must allow the Bidder a reasonable period of time, but not less than three (03) working days to clarify the Bid . 29.4. After bid closing time, the Bidder discovers that the Bid is missing documents evidencing legal eligibility, qualification and experience, the bidder may submit such documents to the Employer for clarification of its legal eligibility, qualification and experience. The Employer shall be responsible for receiving the bidder's clarification documents for review and evaluation; the clarification documents regarding legal eligibility, qualification and experience shall be considered an integral part of the Bid. 29.5. In case of any inconsistency in the contents of the Bid or unclear content, the Employer shall request the bidder to clarify in accordance with the provisions of ITB 29.1. 29.6. In case of any doubt regarding the authenticity of the documents provided by the bidders, the Employer is entitled to verify such documents with organizations or individuals related to the contents of the documents. 29.7. In case the Bidding Document requires commitments, principal contracts for equipment rental, supply of main materials, warranty, maintenance, repair or servicing, but the Bid does not attach these documents, the Employer shall request the bidders to clarify the Bid and supplement the documents within a suitable period of time, but not less than three (03) working days, as a basis for evaluating the Bid. 29.8. In case of necessity, the Employer shall request possibly successful Bidders to clarify their Bid in person. The Clarification of Bid shall be kept record. The Clarification of Bid shall be provided objectively and transparently.
30. Deviations, Reservation and Omissions	30.1. "Deviation" means a discrepancies from the requirements specified in the Bidding Documents; 30.2. "Reservation" means setting restrictive conditions or expressing incomplete acceptance of the requirements stated in the Bidding Documents; 30.3. "Omissions" means the failure to submit part or all of the information or documentation required in the Bidding Documents.

31. Determination of the responsiveness of the Bids	31.1. The Bid Evaluation Committee shall determine a Bid's responsiveness based on content of Bid as prescribed in ITB 10. 31.2. A substantially responsive Bid means one that meets all the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is ones in Bid that: a) if accepted, would affect in any substantial way the scope, quality, or performance of the work; or limit in any substantial way, inconsistent with the Bidding Document, the Owner's rights or the Bidder's obligations under the proposed Contracts; or b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bid. 31.3. The Bid Evaluation Committee shall examine all technical aspects of the Bid submitted in accordance with ITB 15 and ITB 16, in particular, to confirm that all requirements in Bidding Document have been met without any material deviation, reservation or omission. 31.4. If a Bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected and shall not subsequently be made responsive by correction of the material deviation, reservation, or omission to be substantially responsive to the Bidding Document.
32. Nonmaterial Nonconformities	32.1. Provided that a Bid is substantially responsive to the requirements of the Bidding Document, the Employer and the Bid Evaluation Committee may waive nonconformities in the Bid that do not constitute a material deviation, reservation or omission. 32.2. Provided that a Bid is substantially responsive to the requirements of the Bidding Document, the Employer or the Bid Evaluation Committee may request the bidder to provide necessary information or documents within a reasonable period of time to rectify nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information and documentation on such nonconformities shall not be related to any aspect of the Bid price. Failure of the Bidder to comply with the request may result in the rejection of its Bid. 32.3. Provided that a Bid is substantially responsive to the requirements of the Bidding Document, the Employer or the Bid Evaluation Committee shall rectify nonmaterial and quantifiable nonconformities related to the Bid Price. To this

	effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or nonconforming item or component.
33. Subcontractor	33.1. Subcontractor is an organization or individual signing contract with bidder to participate in partial performance of work in the summary of bid price, excluding organizations and individuals providing raw materials, fuel, materials, supplies, semi-finished components, equipment, and construction equipment rental. Bidder's hiring workers to carry out bidding package is not the use of subcontractors. Except for the work items that are not permitted to be subcontracted as specified in the **BDS**, Bidder shall declare a list of subcontractors and work items for Subcontractors as prescribed in Form 13 of Chapter IV – Bidding Forms. Should Subcontractor have not been identified at bidding time, the expected work items for Subcontractor must be listed. 33.2. There is no change to the responsibilities of the Bidder in spite of employment of any subcontractor. The Bidder shall be responsible for quantity, quality, schedule and other responsibilities performed by the subcontractor. The subcontractor's qualifications and experience shall not be considered during the Bidder's Bid evaluation, except in the case stipulated in ITB 33.5. The bidder itself must meet the qualification and experience criteria (without taking into account the qualification and experience of the subcontracter). The Bidder may sign contracts with the Subcontractor listed in the Bid or with the subcontractor approved by the Employer to participate in performing the work of the Bidding package. 33.3. The Bidder may only use Subcontractor to perform the work that the total value of the work allocated to the Subcontractor does not exceed the percentage (%) of the bid price as stipulated in the **BDS.** In the case of a Consortium/Joint venture, each member of the Consortium/Joint venture may only use subcontractor in proportion not exceeding the percentage specified in this Section for the value of the work performed by the Consortium/Joint venture according to the–Consortium/Joint venture agreement. 33.4. A Bidder who commits acts of contract transfer according to provisions of Clause 8, Article 16 of Bidding Law shall be handled according to Point b, Clause 1, Article 133 of Decree No. 214/2025/ND-CP. 33.5. The Employer may permit the Bidder to use Special Subcontractor as prescribed in the **BDS** and to use the Special

	Subcontractor for the work portion E of the bidding package as stipulated in Section 4, Table No.01, Chapter III. In case the Bidder uses special subcontractor, the Bidder shall make a list of special subcontractors with qualifications and work experience according to Form No.14 of Chapter IV. The Bid Evaluation Committee shall evaluate the Special Suncontractor's qualifications and experience according to the evaluation criteria specified in Section 2.3, Chapter III. If the Special Subcontractor do not meet the requirements of the Bidding Document (or the use of special subbidders is not proposed) and the Bidder's qualification and experience do not meet the requirements for performing the work portion allocated to the special subcontractor, the Bidder's Bid shall be evaluated as non-responsive. When using special subcontractor, the bidder shall not be required to meet the qualification and experience requirements for the portion of work assigned to the special subcontractor. 33.6. The Bidder is not permitted to use subcontractor that have participated in providing consulting services for the bidding package that the Bidder has been awarded, and such consulting services include: preparation and appraisal of FEED design; price appraisal; contract performance supervision and inspection; preparation and appraisal of the Bidding Documents; evaluation of the Bid; appraisal of pre-qualification results (if any), Bid selection results; project management consulting, contract management consulting, and other consulting services where such consulting services include the portion of work directly related to the bidding package.
34. Incentives in Bidder Selection	34.1. Rules for incentives: a) Bidders eligible for multiple incentives in the capacity and experience or financial assessments will receive only the most advantageous incentive per evaluation item. b) If all bidders receive the same incentives or none qualify, incentive calculations for comparison and ranking are not necessary. c) The calculation of incentives is based on all proposals of the bidders in the consulting work, supply of goods, and construction. Bidders qualify for incentives if they propose domestic costs (costs of consulting, non-consulting, Vietnamese - origin goods, construction/erection, and installation) of at least 25% of the work value of the package.

	d) The bidder must prove that the goods and services offered by the bidder are eligible for incentives as prescribed in Clause 1, Article 10 of the Law on Bidding. 34.2. Entities eligible for incentives and determination of incentives are set out in **BDS.** 34.3. In case the goods offered by the Bidders are not eligible for the incentive, no evaluation or determination of the incentive value shall be conducted. 34.4. In the event that, after evaluation, there are multiple Bidders evaluated as the best and ranked equally, the following order of priority shall be applied until the successfull Bidder is selected: a) Awarding the contracts to small and medium-sized enterprises owned by women in accordance with the law on support for small and medium-sized enterprises (if any); b) Awarding the contract to the Bidder with the higher technical score or with fewer acceptable technical evaluation criteria in the case of the bidding package applying the lowest price method; awarding the contract to the bidder with the lower bid price after correction of the excess deviations and deduction of any discounts (if any) in the case of the bidding packages applying the evaluated price method or the combined technical and price method; c) Awarding the contract to the Bidder whose head office is located in the locality where the bidding package is implemented; d) Awarding the contract to the Bidder that employs a greater number of war invalids and disabled persons who have the labor contracts with a duration of three (03) months or more, and which remain more valid as of the bid closing time; dd) Awarding the contract to the Bidder that employing at least 25% ethnic minority workers under labor contracts valid for at least three (03) months and still effective at the bid closing time; e) Awarding the contract to the bidder that employing at least 25% female workers under labor contracts valid for at least three (03) months and still effective at the bid closing date; g) Allowing these bidders to resubmit their bid price to select the Bidder offering the lowest price. The Bidder shall not be allowed to submit a price higher than the Bidder's price after correction of the excess deviations and deduction of any discount (if any). The resubmission of the bid price shall be

	carried out in accordance with the provisions of Point a, Clause 8, Article 140 of Decree No.214/2025/ND-CP; 34.5. In case the Bidder is eligible for the incentive as stated in ITB 34.1, the Bidder shall attach supporting documents in the Bid.
35. Contract negotiation	35.1. The Employer shall invite the first-ranked Bidder to enter into contract negotiation. The contract negotiation shall be conducted in accordance with the provisions of the **BDS**. 35.2. In case the contract negotiation is applied, the document verification shall be conducted in conjunction with the contract negotiation (if any) and shall be based on the followings: a) The Bid evaluation report; b) The Bid and clarifications to the Bid (if any) from the Bidder; c) The Bidding Document includes the General Conditions and the Particular Conditions of the Contract, and any clarifications or amendments to the Bidding Document (if any). 35.3. Principles of contract negotiation: a) No allowed negotiation on content that the bidder has quoted in accordance with requirements of Bidding Document; b) No allowed changes of the unit price determined at the financial evaluation step. 35.4. Contents of contract negotiation: a) Any contents that are insufficiently detailed, unclear, or inconsistent between the Bidding Documents and the Bid, or among different contents of the Bid, which may lead to arises, disputes, or affect the responsibilities of the parties during the contract performance. b) Any proposed changes or alternative technical solutions proposed by the bidder, if the Bidding Document permits the bidder to submit the alternative technical solutions under ITB 12.1; c) Negotiation on personnel: During the contract negotiation process, the Bidder shall not replace the key personnel (personnel proposed in the Bid or personnel who have been replaced once prior to the contract negotiation), except the case the evaluation period of the Bid is longer than expected in the bidder selection plan or in cases of force majeure where the key personnel proposed by the Bidder are unable to participate in the contract performance. In that cases, the Bidder has the right to replace personnel, provided

	that the proposed replacement personnel have qualifications, experience and capacity equivalent to or higher than those of the originally proposed personnel, and the bidder shall not be allowed to change the bid price; d) Negotiation on any issues arising during the bidder selection process (if any) to complete the detailed contents of the package; dd) Negotiation on minor deviations as stipulated in ITB 32; e) Negotiation on other necessary contents. 35.5. During the contract negotiations, both parties shall make a draft contract; terms and conditions, and contract appendices, including detailed lists of Scope of Works, Price Schedule and Performance Schedule. 35.6. If the negotiation is not successful, the Employer shall consider and decide to invite the next-ranked Bidder to enter into negotiations; if negotiations with the next-ranked Bidders is not successful, the Employer shall consider and decide to cancel the bidding in accordance with point a, ITB 37.1. 35.7. In the event that, due to objective reasons or force majeure, the Bidder is unable to conduct the direct contract negotiations with the Employer, the Employer may consider conducting the negotiations online.
36. Conditions for bid award	A Bidder shall be proposed for successful Bidder when following conditions are satisfied: 36.1. Possess the valid Bid and the proposal documents; 36.2. Possess the qualification and experience that meet the requirements of the Bidding Document; 36.3. Possess technical proposals that meet the requirements of the Bidding Document; 36.4. The Bidder meets requirements as prescribedin the **BDS**; 36.5. The sucessful Bid price does not exceed the approved bidding package price. In case the approved cost estimate of the bidding package is lower or higher than the approved bidding package price, such cost estimate shall replace the bidding package price as the basis for bid award consideration.
37. Bid cancellation	37.1. The cases of bid cancellation include: a) All Bid fail to meet requirements mentioned in the Bidding Document; b) Changes to the investment objectives and scope in the approved investment decision for the project, or changes to the

	procurement objectives and scope in the procurement estimation due to administrative unit restructuring, state apparatus organization, and other force majeure events that alter the volume of work and evaluation criteria stated in the Bidding Documents; c) The Bidding Document does not comply with the provisions of the Law on Bidding and other relevant laws, leading the successful Bidder does not meet requirements for performance of package, project; d) Other organizations or individuals other than sucessful bidder perform prohibited acts as specified in Article 16 of the Law on Bidding leading to falsify Bidder selection results; 37.2. Any organization or individual violating Law on Bidding resulting in bidding cancellation as stipulated in points c and d of ITB 37.1, shall compensate expenses to relevant contracting parties and shall be handled as prescribed. 37.3. Regarding bidding cancellation prescribed in this Section, within five (05) working days, the Employer shall return or release the bid security to the bidder who submitted the original Bid Security, excluding the Bidder violating as prescribed in Clause 9, Article 14 of the Law on Bidding.
38. Publising of bidder selection results	38.1. The Employer shall send the written notice of the bidder selection results to all participating bidder, and publish the bidder selection results on the VNEPS within five (05) working days from the date of approval of the bidder selection results. The written notice of the bidder selection results shall include the following contents: a) Information about the bidding package: - Invitation for Bid; - Bidding package name; - Approved bidding packagge price or estimated cost (if any); - Name of the Employer; - Method of bidder selection; - Type of contract; - Bidding package performance time; b) Information about the sucessful Bidder: - Tax identification number (if any); - Bidder's name; - Bid price;

	- Bid price after correction of the excess deviations (if any), discount (if any); - Technical score (if any); - Evaluated price (if any); - Winning bid price; - Bidding package performance time; - Contract duration time; c) List of unsuccessful Bidders and brief explanation for each of them. 38.2. In the event that a specific reason for the Bidder's failure to win the bid is required, the Bidder shall submit a request via VNEPS or meet directly with the Employer. The Employer is responsible for responding to the Bidder's request within two (02) working days from the date of receipt of such request from the bidder. 38.3. In the event of bid cancellation as stipulated in point a, ITB 37.1, the reason for cancellation shall be clearly stated in the notice of bidder selection results and on the VNEPS .
39. Notice of acceptance of the Bid Proposal and the contract award	After the Employer publishes the notice of the bidder selection results, the Employer shall send a notice of acceptance of the Bid Proposal and Contract award to the succesful bidder, including requirements on the Contract Performance Security, completion time, and contract signing time as stipulated in Form No.26, Chapter VIII. The notice of acceptance of the Bid and contract award is a part of the contract documents. In case the succesful bidder fails to complete and sign the contract, or fails to submit the contract performance security within the time limit stated in the notice of acceptance of the Bid and contract award, the Bidder shall be disqualified and shall not be reimbursed the value of the bid security as stipulated in ITB 18.5. The time limit stated in the notice of acceptance of the Bid and contract award shall be calculated from the date on which the Employer sends this notice of acceptance to the aboved succesful Bidder.
40. Conditions for contract signing	40.1. The Bid of the Bidder shall remain valid at the time of signing of contract. 40.2. At the time of signing of contract, the successful Bidder shall be determined to have technical and financial qualification to perform the contract. In case the Bidder is no longer qualified as prescribed in the Bidding Documents, the Employer shall refuse to conclude the contract with the Bidder. Then, the Employer shall cancel the decision on approval for

	bidder selection result, Letter of Acceptance and Contract Award and invite the next ranked bidder for contract negotiation. 40.3. The Employer shall ensure condition related to advance and payment capital, site and other essential conditions to perform the contract on schedule.
41. Performance security	41.1. The succesful Bidder shall furnish the Performance Security prior to or at the time the contract takes effect as stipulated in General Conditions of Chapter VI. The Bidder shall, if applicable, use the Bank Guarantee form prescribed in Form 28 of Chapter VIII - Contract Forms or another form which is approved by the Employer. 41.2. The Bidder shall not be returned the Performance Security in the following cases: a) Refuse to perform the contract when the contract is effective; b) Violate terms and conditions of the contract; c) Perform the contract behind the schedule due to the Bidder's fault and refuse to extend the validity period of the Performance Security.
42. Resolving of bidding complaints	42.1. For bidding packages falling within the scope of regulation of the Law on Bidding. a) When their legitimate rights and interests are affected, bidders, agencies, and organizations are entitled to petition the Employer to review the issues arising during the bidder selection process and the bidder selection results in accordance with Article 89 of the Law on Bidding and Articles 137, 138 and 139 of Decree No.214/2025/ND-CP; b) In case a petition is submitted to the Employer, the Bidder, agency or organization shall send the petition directly in writing. 42.2. For bidder selection activities stipulated in point d, clause 7, Article 3 of the Law on Bidding or Bidder selection activities that do not fall within the scope of regulation of the Law on Bidding, the resolution of complaints shall be carried out in accordance with the provisions of the **BDS**.
43. Monitoring and supervising the bidder seletion process	When any act or content unaccordant with law on bidding is detected, the Bidder shall notify organizations or individuals of monitoring bidder selection progress as prescribed in the **BDS**

Chapter II. BID DATA SHEET (BDS)

ITB 1.1	Name of Employer: Power Generation Corporation 1 – EVNGENCO1. Representative of the Employer: EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1 (EVNGENCO1-PMB).
ITB 1.2	Name of Package: Engineering, Procurement, Supply, Construction and Installation of Equipment and Materials associated with Upgrade And Retrofit for Flue Gas Treatment System of 300MW and 330MW Units – Uong Bi Thermal Power Plant (Including Erection All Risks Insurance). Name of Project: Upgrade and Retrofit for Flue Gas Treatment System of 300MW and 330MW Units – Uong Bi Thermal Power Plant.
ITB 1.3	Contract execution period: 260 days
ITB 3	Source of Funds: EVNGENCO1's construction investment
ITB 5.1 (d)	Assurance of competitiveness in bidding shall be prescribed as follows: The Bidder who is an enterprise does not have shares or contributed capital of more than 30% with: - Employer: POWER GENERATION CORPORATION 1. Employer's Address: No. 22 Duong Dinh Nghệ Street, Cau Giay Ward, Hanoi, Vietnam.Representative of the Employer: EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1. Address of the Employer's Representative: No. 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam. - In case the Bidder, the Employer are parent company, subsidiary, member company of state-owned economic group or state-owned corporation, the Bidder is allowed to participate in bidding package of the Employer provided that products and services in biddding package belong to main business production of that state-owned economic group, state-owned corporation.

	- In cases where the Bidder is a public non-business unit, the Bidder shall not belong to the same agency or organization directly managing the Employer/Employer's representative, unless the bidder is a public non-business unit under state management agency assigned functions and tasks consistent with nature of the bid package of that state management agency; public non-business units belong to same organization directly managing. - Public non-business units and enterprises belonging to the same organization directly managing and capital contributor, are not required to meet the requirements on legal and financial independence between the bidder and the Owner when participating in each other's bid packages. Bidders participating in bidding neither hold shares or capital contributions with consulting contractors; nor have shares or capital contribution of over 20% of another organization or individual with each party, specifically as follows: - Consultant Contractor of FEED design, feasibility study report (where FEED design is not prepared), economic-technical report (where feasibility study report and FEED design are not prepared under construction law): - Consultant Contractor of feasibility study report: Institute of Energy, No. 6 Ton That Tung Street, Kim Lien Ward, Hanoi City; - Feasibility Study Inspection Consultant: Vietnam Energy Consultancy Centre, No. 20 Lang Ha Street, Lang District, Ha Noi City. - Consultant Contractor of Bidding Documents preparation: Institute of Energy, No. 6 Ton That Tung Street, Kim Lien Ward, Hanoi City; - Consultant Contractor of Bid evaluation: Institute of Energy, No. 6 Ton That Tung Street, Kim Lien Ward, Hanoi City. For mixed bid packages where a state-owned economic group or its parent company, subsidiaries, member companies act as the owner, the Bidder and the consulting contractor responsible for preparing or reviewing the front-end engineering design, the feasibility study report (in case the front-end engineering design is not prepared), or the technical-economic report (in cases where neither feasibility study

	report nor front-end engineering design is not prepared in accordance with construction law), shall not hold shares or capital contributions in each other, nor jointly have shares or capital contribution of more than 30% of another organization or individual. Bidder participating in bidding shall not belong to same agency or organization directly managing with the consulting contractor (mentioned above). The ratio of shares and capital contribution between parties is determined at the bid closing time according to ratio stated in the business registration certificate, establishment decision, and other documents of equivalent value. In case Bidder participates in bidding as a Consortium/Joint venture or the consulting Bidder selected is a Consortium/Joint venture, the capital ownership ratio of other organizations and individuals of the consortium is determined as following formula: $$\text{Capital Ownership Ratio} = \sum_{i=1}^{n} X_i \times Y_i$$ Where: Xi: Capital ownership ratio of other organization or individual in Consortium/Joint venture member i. Yi: Workload Percentage (%) of Consortium/Joint venture member i in the Consortium/Joint venture agreement. n: Number of members participating in the Consortium/Joint venture. Local bidders under the provisions of Point g, Clause 1, Article 10 of the Law on Bidding, when bidding for products manufactured by themselves, are not required to comply with the competition assurance requirements specified in this ITB.
ITB 5.1 (h)	For Foreign Bidders: If a foreign Bidder wishes to make a bid, it is required to enter into a Consortium/Joint venture with a domestic bidder or employ a domestic subcontractor. If the Bidder decides to employ subcontractors, the proposed scope and volume of task with subcontractors' names may be specified in the Bid or only the expected scope and volume of tasks may be specified in the Bid without the subcontractors' names; the Bidder shall submit a commitment to

	employ Vietnamese subcontractors in case of successful bidding together with the Bid.
ITB 7.2	Address of the Employer's Representative (contact only for clarification of the Bidding Documents): - Recipient: EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1 - Contact Person: Mr. The Thong – Deputy Director, EVNGENCO1 Projects Management Board - Address: No. 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam - Telephone: +84 28 62907101.
ITB 7.6	The Employer's Representative shall not conduct a site visit. In case, Interested Bidders who wish to conduct a site visit shall notify the Employer's Representative at least five (05) days in advance so that arrangements can be made for the site visit. - Notification party: EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1 - Address: No. 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam - Telephone: +84 28 62907101.
ITB 7.7	A Pre-Bid meeting will be taken place at Uong Bi Thermal Power Plant within expected 10 days from the date of issuance of Bidding Documents.
ITB 9	The Bid, as well as all correspondence and documents related to the Bid exchanged between the Bidder and the Employer, shall be written in one (01) language: English. Supporting documents and printed literature that are part of the Bid may be in another language provided that they are accompanied by an accurate translation of the relevant passages into English notarized by authorized competent agencies. For Bidder Consortium/Joint venture's member being domestic bidder, qualification documents, experience of company and legal documents may be in Vietnamese.

	In case of absence of the translation, the Employer's Representative may request the Bidder to supplement when necessary.
ITB 10.3	The Bidder shall submit together with the Bid the following documents: - A Concept Design, which is used for deployment of Detail Design as required in Section 3 - Chapter VII – Part 2 – Employer's Requirements of the Biding Documents, shall include but not be limited to followings: + General information on the project: name (type and classification of the project), the Employer, EPC Contractor, location; + Regulations, codes and standards that are applied; + Design solutions to work items; + Technology and equipment descriptions. - A progress chart over time and critical path, which indicates the time and implementation sequence or required activities to complete the various items of the Project until Acceptance, the on-time completion plan. - Performance Guarantee, which is in accordance with requirements as regulated in Item 3.3.6 – Section 3, Chapter VII, Part II – Employer's Requirements of Bidding Document. - Providing list of main equipment and manufacturers as required in ITB 5.3. - Other documents, which seems to be helpful for the Employer during bid evaluation process.
ITB 12	The Bidder shall not be permitted to submit alternative technical proposals.
ITB 14	- The bidding currencies are: VND and USD. Principles: • A specific work item must be quoted in one single currency. • Domestic costs must be quoted in VND. • Foreign costs related to the bidding package must be quoted in USD. The Bidder must provide justification for the work items

	requiring foreign currency, accompanied by a detailed list of such work items and the corresponding foreign currency values. - The payment currency for each work item must correspond to the bidding currency used for that item. Domestic costs shall only be paid in VND. - Currency used for evaluation and comparison of Bids: When evaluating and comparing Bids, the bid currency in USD shall be converted into VND for evaluation and comparison of Bids. The exchange rate of VND/USD is the selling rate announced by Bank for Foreign Trade of Vietnam (Vietcombank) on portal.vietcombank.com.vn, at the time of the closing date.
ITB 16.3	Requirement for documents to prove the Bidder's qualification to perform the contract: No requirement for a sales license, sales authorization from the manufacturer or distributor, partnership certificate, technical support or warranty commitment from the manufacturer or distributor, or any other equivalent document.
ITB 17.1	The bid validity period (Technical Proposal and Financial Proposal) shall be ≥ 180 days, from the deadline for submission of Bid.
ITB 18.2	Contents of the Bid Security: - Value and currency of the Bid Security: 36,000,000,000 VND. - For Bidders whose names appear on the list of contractors having committed acts specified in Clause 1, Article 20 of Decree No. 214/2025/NĐ-CP and published on the National E-procurement System, the Bid Security must be provided at a value equal to three (03) times the required amount above, for a period of two (02) years from the last occurrence of such acts. - In the case of a Consortium/Joint venture Bidder, if any member of the Consortium/Joint venture has committed acts specified in Clause 1, Article 20 of Decree No. 214/2025/NĐ-CP, that member must provide Bid Security at a value equal to three (03) times the Bid Security amount corresponding to the proportion of work undertaken by that member in the Consortium/Joint venture, for a period of two (02) years from the last occurrence of such acts. - The validity period of the Bid Security shall be ≥ 210 days, from the bid closing time.

ITB 18.4	The time limit for refunding or releasing the Bid Security for unsuccessful bidders is fourteen (14) days from the date on which the results of Bidder selection are appoved.
ITB 19.1	a. Presentation of Information on Bid Envelopes The Bidder shall place the Technical Proposal and the Financial Proposal in two separate sealed envelopes (or boxes). Each envelope shall clearly bear the following information: For the Technical Proposal Envelope: **TECHNICAL PROPOSAL** • Name of Bidder: …… • Address: …… • Telephone: …… • Fax: …… **Name of Employer:** POWER GENERATION CORPORATION 1 Employer's representative: EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1 • Address: No. 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam **Name of Package:** Engineering, Procurement, Supply, Construction and Installation of Equipment and Materials associated with Upgrade and Retrofit for Flue Gas Treatment System of 300MW and 330MW Units – Uong Bi Thermal Power Plant (Including Erection All Risks Insurance) **Project:** Upgrade and Retrofit for Flue gas treatment System of 300MW & 330MW Units - Uong Bi Thermal Power Plant **Do not open before … hours … minutes, date … month … year 2026 (as specified in ITB Clause 24.1).** **Notes:** • The Bidder must clearly state its address on the envelope so that, in case the Bid is returned, the envelope remains sealed.

	• In case of amendment to the Technical Proposal, in addition to the above information, the envelope shall also bear the words: **"Amended Technical Proposal."** • Any discount letter shall not be placed in the Technical Proposal envelope. For the Financial Proposal Envelope: **FINANCIAL PROPOSAL** • Name of Bidder: …… • Address: …… • Telephone: …… • Fax: …… **Name of Employer:** POWER GENERATION CORPORATION 1 Employer's representative: EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1 • Address: No. 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam **Name of Package:** Engineering, Procurement, Supply, Construction and Installation of Equipment and Materials associated with Upgrade and Retrofit for Flue Gas Treatment System of 300MW and 330MW Units – Uong Bi Thermal Power Plant (Including Erection All Risks Insurance) **Project:** Upgrade and Retrofit for Flue gas treatment System of 300MW & 330MW Units - Uong Bi Thermal Power Plant **Notes:** • The Bidder must clearly state its address on the envelope so that, in case the Bid is returned, the envelope remains sealed. • In case of amendment to the Financial Proposal, in addition to the above information, the envelope shall also bear the words: **"Amended Financial Proposal."** • Any discount letter must be placed in a position convenient for the opening of the Financial Proposal. b. Number of photocopies of the Bid

	The Bidder shall submit: - Six (06) photocopies of the Technical Proposal - Six (06) photocopies of the Financial Proposal and - Two (02) flash USB drives (one containing the Technical Proposal and one containing the Financial Proposal, each placed in the corresponding envelope). The electronic files shall be identical to the hard copies and in **.doc** or **.xls** format (except for legal documents, reference materials, etc., which may be in **.pdf** or **.img** format). In case of amendment or replacement of the Bid, the Bidder shall submit the amended/replacement Bid copies in the same quantity as the original Bid copies.
ITB 21.1	Price of one set of Bidding documents: 50,000,000 VND (In words: Fifty million Vietnamese Dong) Address of the Employer's Representative (for submission of Bids): Recipient: EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1 Address: No. 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam. **Bid closing time: 09:00 a.m., on xx [day] xx [month] 2026.**
ITB 24.1	The opening of the Technical Proposal shall be conducted publicly **at 10:00 a.m., on [day]…[month] 2026**, at the bid opening venue with the following address: • EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1 • Address: No. 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam.
ITB 25.1	The method of Bid evaluation shall be as follows: • Evaluation of qualification and experience: Pass/Fail. • Evaluation of technical proposal: Scoring.
ITB 27.1	Financial Evaluation: Lowest Evaluated Price Method.

ITB 27.3 (b)	The Bidder whose evaluated bid price, calculated as the bid price (excluding import-related taxes, duties and fees, special consumption tax (if any), and VAT) after correction of arithmetic errors (if any), minus discounts (if any), plus any applicable preference (if any), is the lowest, shall be ranked first. The comparison and ranking of Bids shall be determined on the basis of bid prices excluding taxes, duties, fees related to importation, excise tax (if applicable), and VAT.
ITB 33.1	Work items of the bidding package not permitted to be subcontracted: None
ITB 33.3	The maximum value allocated to subcontractors: **30% of** the Bidder's bid price.
ITB 33.5	Use of special subcontractors other than the special subcontractor performing part E: Applicable
ITB 34.2	a) Objects eligible for incentives are as follows: - Foreign contractors in Consortium/Joint venture with local contractor(s), where the local contractor(s) undertakes at least 25% of the work value of the package, as stipulated in Point d, Clause 1, Article 10 of the Law on Bidding No. 22/2023/QH15; or - Local Bidders participating independently or in a Consortium/Joint venture with other local bidders, as stipulated in Point dd, Clause 1, Article 10 of the Law on Bidding No. 22/2023/QH15; or - The Bidder proposes domestic costs (costs of consulting, nonconsulting, Vietnamese-origin goods, construction/erection, and installation) of at least 25% of the work value of the package, as stipulated in Clause 3, Article 5 of the Decree No. 214/2025/NDCP; or - Goods that have origin in Vietnam; or - Eco-friendly products and services as stipulated in the Law on environmental protection; or - Bidders being microenterprises or small enterprises as stipulated in the Law on assistance for small and medium-sized enterprises; or

	- Local bidders producing goods of Vietnamese-origin in accordance with the Bidding Document. b) Determining incentives: The Bidder who is not eligible for incentives shall be added an amount equivalent to 7.5% of the Bid Price after error correction and adjustment of deviation, then minus the discount (if any), to the bid price after error correction and adjustment of deviations, minus any discount value (if any) of the Bidder for the purposes of comparison and ranking. In compliance with the requirement under ITB 34.2, the Bidder shall declare the amount of domestic costs (costs of consulting, nonconsulting, Vietnamese-origin goods, construction, and erection/installation) by VND for determining incentives as specified in Form 21 of Chapter IV - Bidding Forms (Price Schedules). Besides, the Bidder shall fulfill Form No. 22 of Chapter IV - Bidding Forms (Domestic costs eligible for incentives) to prove and ensure the accuracy and consistency of declared figures with Form 21 of Chapter IV - Bidding Forms (Price Schedules). The Bidder shall provide detailed evident documents to demonstrate the proposed domestic costs are eligible for incentives. In case the proposed domestic costs are not accurate, the Employer's Representative will re-determine Bidder's domestic costs based on the regulations of competent authorities. c) Incentives for goods originating in Vietnam: according to Article 6 of Decree No. 214/2025/ND-CP. The Bidder shall provide the details of evident documents to demonstrate the proposed Vietnamese-origin goods are eligible for incentives. Otherwise, these goods are not considered as eligible for Incentives.
ITB 35.1	Contract negotiation: Applicable
ITB 36.4	The Bidder with the lowest evaluated price shall be ranked first.
ITB 42.1b	Authorized Person: Power Generation Corporation 1 (EVNGENCO1) Address: No. 22 Duong Dinh Nghe Street, Cau Giay District, Hanoi, Vietnam

	Email: bbt@evngenco1.vn;
ITB 42.2	When their lawful rights and interests are affected, the Bidder, agency, or organization may file a petition according to the following procedure: **A. Conditions for consideration and settlement of petitions** 1. To be eligible for consideration and settlement, a petition about matters arising before the notice of bidder or investor selection result is issued must fully satisfy the following conditions: a) For the petition related to the contents of the bidding document it must be made by an agency or organization interested in the bidding package; for the petition about other matters arising during the course of bidder selection, it must be made by a bidder participating in the bidding; b) The petition must be signed and sealed (if any) by the lawful representative of the petition-submitting bidder, agency or organization or digitally signed via its account and sent on the Vietnam National E-Procurement System; c) A bidder, agency, or organization must send the petition to the Employer within the time limit specified at Clause 1 of this 42.2(B) ITB. 2. To be eligible for consideration and settlement, a petition about the bidder selection result must fully satisfy the following conditions: a) The petition must be made by a bidder participating in the bidding; b) The petition must be signed and sealed (if any) by the lawful representative of the bidder participating in the bidding, or digitally signed via its account and sent on the Vietnam National E-Procurement System; c) The bidder concerned has not yet to initiate a lawsuit or file a complaint or denunciation on the same matter; d) The petition must be related to the result of evaluation of the bid document; e) The bidder must send the petition to the Employer within the time limit specified at Clause 2 of this 42.2(B) ITB. 3. In case a petition of a bidder, agency or organization does not satisfy

	the conditions specified in Clauses 1 and 2 of this 42.2(A) ITB, the person in charge of settlement of the petition shall notify in writing the refusal of consideration and settlement of the petition to the bidder, agency or organization. **B. Procedures for settlement of petitions** 1. A petition about matters arising before the notification of bidder selection result is issued shall be settled according to following processes: A Bidder, agency, or organization shall send a petition regarding the bidding document to the Employer before the bidding closing time, and a bidder participating in bidding shall send a petition regarding other contents of the bidder selection process to the Employer before the notification of the bidder selection results is issued. The content of the petition shall be publicized on the Vietnam National E-Procurement System. Information about the bidder, agency, or organization that sent the petition and the time the petition was sent shall be publicized by the Vietnam National E-Procurement System to the Employer. Within 07 working days from the date of receiving the petition from the bidder, agency, or organization, the Employer must send a document on petition settlement to the bidder, agency or organization, and post it on the Vietnam National E-Procurement System. 2. A petition about the bidder selection result shall be settled according to the following processes: The Bidder shall file the petition to the Employer within 10 days after the bidder selection result is published on the Vietnam National E-Procurement System. The content of the petition shall be publicized on the Vietnam National E-Procurement System. Information about the bidder that sent the petition and the time the petition was sent shall be publicized by the Vietnam National E-Procurement System to the Employer. Within 07 working days from the date of receiving the petition from the bidder, the Employer must send a document on petition settlement to the bidder and post it on the Vietnam National E-Procurement System. 3. A document on petition settlement must contain the conclusion on the contents of the bidder's petition; in case the petition is concluded to be correct, the document on petition settlement must clearly state

	the measures, methods and time limit to remedy consequences (if any); In case the bidder's petition is concluded to be incorrect, the written reply must clearly explain the reason. 4. In case of disagreement with the document on petition settlement by the Employer, competent person or petition settlement council, the bidder may initiate a lawsuit at court. **C. The Employer's Email, address:** Employer's representative: EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1. Address: No. 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam.
ITB 43	Power Generation Corporation 1 (EVNGENCO1) Address: No. 22 Duong Dinh Nghệ Street, Cau Giay Ward, Hanoi, Vietnam Email: bbt@evngenco1.vn.

Chapter III. EVALUATION AND QUALIFICATION CRITERIA (EQC)

Section 1. Inspecting and evaluating the validity of the Technical Proposal

1.1. Inspecting the Technical Proposal

a) Inspect the quantity of copies of the Technical Proposal;

b) Inspect the composition of the original of Technical Proposal, consisting of: Letter of Bid of Technical Proposal, Consortium/Joint venture Agreement (if any), Power of Attorney to sign the Letter of Bid (if any); Power of Attorney from bidder's legal representative (if any); Bid Security; documents proving the Bidder's eligibility and qualification; technical proposal;

c) Inspect the consistency between the original and copies to serve the detailed evaluation of the Technical Proposal.

1.2. Evaluating the validity of the Technical Proposal

A Technical Proposal is considered as substantial responsiveness when all of the following conditions (substantial requirements) are satisfied:

a) There is original of Technical Proposal;

b) There is original Letter of Bid signed and sealed (if any) by the legal representative of the Bidder as required by the Bidding Document; the time of signature shall be after Bidding Document issuance. For Consortium/Joint venture, Letter of Bid shall be signed and sealed (if any) by the legal representative of every Consortium/Joint venture's partner or the assigned Consortium/Joint venture's partner duly authorized to sign the Letter of Bid according to the Consortium/Joint venture agreement;

c) The duration of the Contract (Time for Completion) mentioned in the Letter of Bid shall conform to the technical proposal and the requirements in the Bidding Document;

d) The validity period of the Technical Proposal satisfies requirements as prescribed in ITB 17.1;

dd) There is a Bid Security of which value and validity period, the Employer's Representative's name (beneficiary) comply with ITB 18.2 and not violate regulations in ITB 18.3. In case the Bidding Document regulates the Bid Security in form of guarantee letter, the letter of guarantee shall not violate one of the followings: having lower value, shorter validity period as required in Bidding Document, inaccurate name of the beneficiary and the name of Bidder, invalid signature, signature before Bidding Document issuance, accompanied by disadvantaged conditions to the Employer/ Employer's Representative. The guarantee letter must be signed and sealed (if any) by legal representative of domestic credit institution or foreign bank branch established under Vietnamese law.

e) The Bidder shall not have its name included in multiple Technical Proposal as a single bidder or a Consortium/Joint venture's partner for the same package.

g) The Consortium/Joint venture agreement (in case of Consortium/Joint venture) shall be signed and sealed (if any) of the legal representative of each Consortium/Joint venture's partner and specify detailed tasks and estimated corresponding value thereof performed by each Consortium/Joint venture's partner using the Form 03 of Chapter IV – Bidding Forms; The division of work in the Consortium/Joint venture shall be based on the items prescribed in the grand summary table of bid price or the works in production process of the items prescribed in grand summary table of Form 21 Price Schedules of Chapter IV – Bidding Forms, do not divide works not belong to those items and not belong to production process of those items.

h) The Bidder's eligibility is valid as prescribed in ITB 5.1.

i) Within the last 03 years up to the deadline for submission of Technical Proposal, bidder does not have employee (signed labor contract with the bidder at the time the employee committed the violation) convicted by the Court of violating the regulations on bidding that lead to serious consequences according to criminal law in order to let this bidder win the bid.

Only those Bidders, whose Technical Proposals are considered as substantial responsiveness, will be evaluated further in next step – Section 2 below. For other Bidders, whose Technical Proposals are considered as substantial non-responsiveness, shall be rejected and not be evaluated further.

Section 2. Qualification criteria

2.1. Qualification criteria for financial capability and experiences

The criteria for evaluating capacity and experience shall be implemented in accordance with Table No. 01 of this Chapter. A Bidder shall be assessed as meeting the requirements on capacity and experience when it satisfies all evaluation criteria.

The capacity and experience of subcontractors (except specialized subcontractors) shall not be considered in the evaluation of the Bid. The Bidder itself must meet the criteria for capacity and experience.

In case the currency stated in similar contracts, payment confirmations by the Employer for similar contracts already performed, tax declarations, or other documents evidencing the Bidder's capacity and experience is not VND, the Bidder shall convert such amounts into VND when preparing the Bid to serve as the basis for evaluation. The conversion shall be made using the selling exchange rate of the Joint Stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank) on the date of signing the similar contract.

In case the Bidder is a parent company (e.g., Corporation) mobilizing its subsidiaries or member companies to perform part of the contract package, the Bidder must declare in detail the portion of work assigned to each subsidiary or member company in accordance with Form No. 15, Chapter IV. The evaluation of experience in performing similar contracts shall be based on the value and volume of work undertaken by the parent company,

subsidiaries, or member companies in the contract package.

Table of Financial Capability and Experience Qualification Criteria

Financial and experience qualification criteria			Compliance Requirements applicable to the Bidder			Required documents[10]
No.	Description	Requirements	Single bidder	Consortium/Joint venture		
				All Members combined	Each member	
1	Previous Contract Non-fulfillment Records	From January 01, 2023 to the deadline for Bid, the Bidder did not have two or more contracts (consulting, goods, construction, EPC, EC, EP, PC, turnkey) that are not completed due to contractor's fault [1].	Must meet requirement	Not applicable	Must meet requirement	Form 09
2	Obligation of tax declaration and tax payment	Have performed the obligation of tax declaration and tax payment [2] of the latest fiscal year (2025).	Must meet requirement	Not applicable	Must meet requirement	Commitment in the Letter of Bid
3	Financial capacity requirements					
3.1	Historical Financial Performance	Submission of separated (non-consolidated) financial statements[11] for the 3 latest fiscal years (2023, 2024 and 2025) to demonstrate the current soundness of the Bidder's financial position. The financial statements shall be in accordance with accounting standards of the country where the Bidder's headquarters is registered. As a minimum: - The Bidder's net asset value for the latest fiscal year (2025) shall be positive; (Net asset = Total assets – Total liabilities);	Must meet requirement	Not applicable	Must meet requirement	Form 10A1

Financial and experience qualification criteria			Compliance Requirements applicable to the Bidder			Required documents[10]
No.	Description	Requirements	Single bidder	Consortium/Joint venture		
				All Members combined	Each member	
		- Net profit for the latest fiscal year (2025) shall be positive; and - The audit agency has not provided disclaimer opinion(s) and/or adverse opinion(s) on the financial statements of the Bidder for the 3 latest fiscal years (2023, 2024 and 2025).				
3.2	Average Annual Turnover (excluding VAT)	The average annual turnover shall be at least **2,540,000,000,000** VND or equivalent[3] within the last 03 fiscal years (2023, 2024 and 2025).	Must meet requirement	Must meet requirement	Not applicable	Form 10B
3.3	Financial Resources	The Bidder shall demonstrate access to, or availability of, financial resources such as liquid assets [4], lines of credit, and other financial means (other than any contractual advance payments) to meet financial resources of 550,000,000,000 VND or equivalent [5]. In case the Bidder uses Bank's confirmation letter, effective period of the credit provision commitment shall be valid in 12 months from the Contract Effective Date. The bank's confirmation letter shall be signed	Must meet requirement	Must meet requirement	Not applicable	Form 11 and 12

Financial and experience qualification criteria			Compliance Requirements applicable to the Bidder			Required documents[10]
No.	Description	Requirements	Single bidder	Consortium/Joint venture		
				All Members combined	Each member	
		and stamped by the legal representative of the domestic credit institution or the branch of a foreign bank established under Vietnamese law.				
4	Experience in performing similar package	**A- The Bidder (the single Bidder or the leader of the Consortium/Joint venture)** **1. From 01 January 2011** to the Bid Closing Time, the Bidder shall demonstrate that they have successfully[8] completed **one (01) EPC contract** (Design/Engineering, Procurement and Construction) for the coal-fired thermal power plant including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system with: - Unit capacity ≥ 300MW, and - Contract price ≥ 915,000,000,000 VND or equivalent [9] In the role of a Contractor (a single entity or a consortium member). **Or**	Must meet requirement	Not applicable	Must meet requirement (corresponding to the assigned work)	o Form 06A; o Documentary Evidence: The Bidder shall submit certified true copies of the Contract, together with one of the following documents as evidence of contract performance: • Taking-Over Certificate evidencing completion of the Works; or • Contract Completion Certificate and/or Contract

Financial and experience qualification criteria			Compliance Requirements applicable to the Bidder			Required documents[10]
No.	Description	Requirements	Single bidder	Consortium/Joint venture		
				All Members combined	Each member	
		2. From 01 January 2011 to the Bid Closing Time, the Bidder shall demonstrate that they have successfully[8] completed **one (01) EPC contract** for new installation/ upgrading SO_2 removal system using WFGD (limestone) technology, nox removal using SCR technology, and electrostatic precipitator (ESP) system for the coal-fired thermal power plant with: - Unit capacity ≥ 300MW, and - Contract price ≥ 915,000,000,000 VND or equivalent[9]. in the role of a contractor (a single entity or a consortium member). **Or** **3. From 01 January 2011** to the Bid Closing Time, the Bidder either as a main contractor or as a member of a Joint Venture shall demonstrate that they have successfully[8] completed **multiple EPC contracts** for new installation/ upgrading SO_2 removal system using **WFGD** (limestone) technology, Nox removal using **SCR** technology, and electrostatic precipitator (**ESP**) system **for the coal-fired thermal power plant** with				Closure/Final Settlement.

Financial and experience qualification criteria			Compliance Requirements applicable to the Bidder			Required documents[10]
No.	Description	Requirements	Single bidder	Consortium/Joint venture		
				All Members combined	Each member	
		a unit capacity of **≥ 300 MW**, meeting the following requirements: **a)** For SO_2 Removal System (WFGD – limestone technology) The Bidder shall have successfully[8] completed EPC contract(s) for new installation/upgrading SO_2 removal system using WFGD (limestone) technology, satisfying one of the following conditions: 0 Having one (01) contract with a value[6] of ≥ **VND 352,000,000,000**[*] (or equivalent[9]); **or** 0 Having multiple contracts, in which: ▪ At least one (01) contract has a value[6] of ≥ **VND 176,000,000,000** (or equivalent[9]); and ▪ The **total value**[6] of such contracts is ≥ **VND 352,000,000,000** (or equivalent[9]). **b)** For NOx Removal System (SCR technology) **The Bidder shall have successfully[8] completed EPC contract(s) for new installation/upgrading NOx removal using SCR technology, satisfying one of the**				

Financial and experience qualification criteria			Compliance Requirements applicable to the Bidder			Required documents(10)
No.	Description	Requirements	Single bidder	Consortium/Joint venture		
				All Members combined	Each member	
		following conditions: Having one (01) contract with a value(6) of ≥ **VND 386,000,000,000(*)** (or equivalent(9)); o **or** o Having multiple contracts, in which: ▪ At least one (01) contract has a value(6) of ≥ **VND 193,000,000,000** (or equivalent(9)); and The **total value**(6) of such contracts is ≥ **VND 386,000,000,000** (or equivalent(9)). **c)** For Electrostatic Precipitator (ESP) System **The Bidder shall have successfully(8) completed EPC contract(s) for new installation/upgrading electrostatic precipitator (ESP) system, satisfying one of the following conditions:** Having one (01) contract with a value(6) of ≥ **VND 177,000,000,000(*)** (or equivalent(9)); o **or** (Having multiple contracts, in which:				

Financial and experience qualification criteria			Compliance Requirements applicable to the Bidder			Required documents[10]
No.	Description	Requirements	Single bidder	Consortium/Joint venture		
				All Members combined	Each member	
		▪ At least one (01) contract has a value[6] of ≥ **VND 88,500,000,000** (or equivalent[9]); and ▪ The total **value**[6] of such contracts is ≥ **VND 177,000,000,000** (or equivalent[9]). ***Note:*** **For combined scope contracts (multiple systems):** In case the Bidder provides EPC contract(s) covering two (02) systems (e.g., WFGD + ESP; SCR + ESP; WFGD + SCR), together with EPC contract(s) covering the remaining system (e.g., SCR; WFGD; ESP), all of the following conditions must be satisfied: - There is at least one (01) contract covering two (02) systems having a contract value of **not less than 50% of the total minimum required value** for such two systems; - There is at least one (01) contract covering the remaining system having a contract value of **not less than 50% of the minimum required value** for such system;				

Financial and experience qualification criteria			Compliance Requirements applicable to the Bidder			Required documents[10]
No.	Description	Requirements	Single bidder	Consortium/Joint venture		
				All Members combined	Each member	
		- The total value of the above contracts must be ≥ **915,000,000,000 VND** or equivalent[9]. ***In which:*** *Minimum required value for each system is as follows:* *+ For SO_2 Removal System (WFGD – limestone technology): VND 352,000,000,000 (or equivalent[9]);* *+ For NOx Removal System (SCR technology): VND 386,000,000,000 (or equivalent[9]);* *+ For Electrostatic Precipitator (ESP) System: VND 177,000,000,000 (or equivalent[9]).* **B - Other member(s) of the Consortium/Joint venture (if any):** Every other member(s) of the Consortium/Joint venture shall demonstrate that they have successfully [8] completed the works as same as their tasks assigned in the consortium, in one (01) Contract in the role of a Contractor (a single entity or a Consortium/Joint venture member) or subcontractor.				

Notes:

(1) Consulting, goods, construction, EPC, EP, EC, PC, turnkey contracts that are not completed due to bidder's fault include:

- Contracts that are considered as non-fulfilled by the Employer without objection of the Bidder;

- Contracts that are considered non-fulfilled by the Employer with objection of the Bidder but the litigation is treated as resolved against the Bidder by the arbitrator or the court.

Unfulfilled contracts do not include the contracts for which the Employer's decision has been overturned by the dispute resolution mechanism. The determination of an unfulfilled contract shall be based on all information relating to disputes or litigation resolved under the dispute resolution mechanism of the respective contract, and only after the bidder has exhausted all opportunities for appeal. For contracts delayed due to the bidder's fault but still completed shall not be considered the unfulfilled contracts.

For a Consortium/Joint venture, where only one or several Consortium/Joint venture members commit violations and are prohibited from participating in bidding activities as stipulated in Clause 1, Article 133 of Decree No.214/2025/ND-CP, the remaining Consortium/Joint venture members shall not be considered as having failed to complete the contract due to the bidder's fault. In cases where one or several Consortium/Joint venture members violate the contract, and no longer have the capacity to continue performing the contract, and seriously affect the progress, quality, and effectiveness of the bidding package, only one or several Consortium/Joint venture members violating the contract shall be considered as having failed to complete the contract, the remaining members shall not be considered as having failed to complete the contract due to the bidder's fault .

(2) Confirmation letter with supporting documents shall be enclosed in the Bid:

The Bidder shall submit i) CIT return and payment receipt with confirmation from tax authority printed from the eTax System or ii) CIT return and confirmation of fulfilling tax liability from competent agency or equivalent documents.

(3) For evaluation and comparison of Bids, the Bidder shall submit audited financial statements, informative data extracted from audited financial statements shall be converted into VND. The exchange rate shall be the selling rate issued by Vietcombank’s head quarter and announced on portal.vietcombank.com.vn at the time of the end of the financial statement’s fiscal year.

(4) Liquid assets mean cash and equivalent, short-term financial instruments, available-for-sale securities, marketable securities, trade receivables, short-term financial receivables and other assets that can easily be changed into cash within 1 year.

(5) The exchange rate shall be the selling rate issued by Vietcombank’s head quarter and announced on portal.vietcombank.com.vn at the time of the Bid opening indicated in ITB 24.1.

(6) For similar contracts in which the bidder has participated as a member of Consortium/Joint venture or as a Subcontractor(s), only the value of the work performed by the bidder shall be calculated.

Contracts that the bidder has executed as a Subcontractor(s) due to illegal subcontracting, violating the provisions of Clause 8, Article 16 of the Law on Bidding, shall not be considered or evaluated.

(7) The managing bidder is a bidder who does not directly perform part or all of the work of the bidding package but signs contracts with other bidders to perform the work, however, the bidder remains responsible for managing the performance of the contracted bidders, and bears full responsibility and risks related to the cost, progress, quality and other contents of the bidding package.

(8) "Successfully completed" means the contract has already been completed and have been commercially operated. Employer/Owner's Certificates shall be enclosed in the Bid for evaluation. The time of confirmation of contract completion to determine similar contracts shall be the contract acceptance date, not based on the contract signing date.

(9) The contract values shall be converted into VND. The exchange rate shall be the selling rate issued by Vietcombank's head quarter and announced on portal.vietcombank.com.vn on the date of signing the similar contract.

(10) Documentary evidences establishing shall be in original or copy versions notarized by authorized competent agency.

(11) For foreign bidders, financial statements must be audited. For domestic bidders, financial statements must correspond to accounting periods already completed, attached are certified true copies of one of the following documents:

- Inspection record of tax declaration;
- Tax statement (VAT and enterprise income tax) whose time of submitting certified by tax authority;
- Documentary evidence on electronic tax declaration by the Bidder;
- Certification of tax liability issued by the tax authority (certifying amount paid in the whole year);
- Auditor's report (if any);
- Other documents.

2.2. Qualification criteria for technical capability (1)

a) Personnel for Key Positions

The Bidder shall provide detailed information on the proposed Key Personnel and their experience records in accordance with Forms 07A, 07B and 07C of Chapter IV.

Key personnel can be employees of the Bidder or be mobilized by the Bidder. In case the key personnel proposed by the Bidder in the Technical Proposal do not meet the requirements or cannot demonstrate the ability to mobilize personnel (including cases that have been mobilized for the other contracts with the working period coinciding with the implementation time of this bidding package), the Employer's Representative shall allow the Bidder to supplement or replace. The Bidder shall be allowed to add or replace each of key personnel position once within an appropriate period of time but not less than 03 working days (in accordance with Clause 2, Article 29, Decree 214/2025/ND-CP). In case the Bidder does not have the replacement personnel that meets the requirements of the Bidding Document, the Bidder shall be disqualified. In all cases, if the Bidder declares personnel untruthfully, the Bidder shall not allowed to replace the other personnel. The Technical Proposal of the Bidder shall be rejected and the Bidder shall be considered as fraudulent according to the provisions of Clause 4, Article 16 of the Law on Bidding and shall be handled according to the provisions of Clause 1, Article 133 of Decree No.214/2025/ND-CP.

The Bidder must demonstrate that the Bidder has sufficient personnel for the key positions that meets the following requirements:

No.	Position	Min. Qty	Experience in similar work	Certificates, professional qualifications
I	**Project Manager (Director)** Has been in position of Project Manager (Director) of EPC or EP or EC or PC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 15 years, or At least 02 similar contracts	- Having university degree or higher. - Having name in the similar contracts or the end user's confirmation that he/she had been Project Manager. - Curriculum vitae is verified by the Bidder.
II	**Design Manager** Has been in position of Design Manager of EPC or EP or EC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 15 years, or At least 02 similar contracts	- Having university degree or higher. - Having name in the similar contracts or the end user's confirmation that he/she had been Design Manager. - Curriculum vitae is verified by the Bidder.

No.	Position	Min. Qty	Experience in similar work	Certificates, professional qualifications
III	**Site Manager** Has been in position of Site Manager of EPC or EP or EC or PC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 15 years, or At least 02 similar contracts	- Having university degree or higher. - Having name in the similar contracts or the end user's confirmation that he/she had been Site Manager. - Curriculum vitae is verified by the Bidder.
IV	**Design team**			
1	**Technology/Mechanics Design Team Leader** Has been in position of Technology/Mechanics Design Team Leader of EPC or EP or EC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology and NOx removal using SCR technology and electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥ 300MW. note: • The Bidder may assign more than one personnel to the "Technology team leader" position to ensure full competency requirements The evaluation/scoring of personnel requirements shall be conducted for each individual as in the case where only one person is assigned to one position. The evaluation/scoring for that position shall be determined based on the individual with the lowest evaluation result/score among those assigned to	1	At least 10 years, or At least 01 similar contract	- Having university degree or higher of major disciplines: technology, mechanic. - Having name in the similar contracts or the end user's confirmation that he/she had been Technology/Mechanics Design Team Leader. - Curriculum vitae is verified by the Bidder.

No.	Position	Min. Qty	Experience in similar work	Certificates, professional qualifications
	that position (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)			
2	**Electrical Design Team Leader** Has been in position of Electrical Design Team Leader of EPC or EP or EC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 10 years, or At least 01 similar contract	- Having university degree or higher of major disciplines: electricity. - Having name in the similar contracts or the end user's confirmation that he/she had been Electrical Design Team Leader. - Curriculum vitae is verified by the Bidder.

No.	Position	Min. Qty	Experience in similar work	Certificates, professional qualifications
3	**C&I Design Team Leader** Has been in position of C&I Design Team Leader of EPC or EP or EC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 10 years, or At least 01 similar contract	- Having university degree or higher of major disciplines: C&I. - Having name in the similar contracts or the end user's confirmation that he/she had been C&I Design Team Leader. - Curriculum vitae is verified by the Bidder.
4	**Construction Design Team Leader** Has been in position of Construction Design Team Leader of EPC or EP or EC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 10 years, or At least 01 similar contract	- Having university degree or higher of major disciplines: construction. - Having name in the similar contracts or the end user's confirmation that he/she had been Construction Design Team Leader. - Curriculum vitae is verified by the Bidder.

No.	Position	Min. Qty	Experience in similar work	Certificates, professional qualifications
5	**Boiler Design Engineer** Has been in position of Boiler Design Engineer of EPC or EP or EC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥300MW. (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project).	1	At least 15 years, or At least 02 similar contracts	- Having university degree or higher of major disciplines: technology/ mechanic. - Having name in the similar contracts or the end user's confirmation that he/she had been Boiler Design Engineer. - Curriculum vitae is verified by the Bidder.
V	**Field team**			
1	**Technology/Mechanics Engineer** Has been in position of Technology/Mechanics Engineer of EPC or EP or EC or PC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology and NOx removal using SCR technology and electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥ 300MW. note: • The Bidder may assign more than one personnel to the "Technology/Mechanics Engineer" position to ensure full competency requirements The evaluation/scoring of personnel requirements shall be conducted for each individual as in the case where only one person is assigned to one position. The evaluation/scoring for that position shall be determined based on the individual with the lowest evaluation result/score among those assigned to that position (The number of years of experience in similar position shall be determined	1	At least 5 years, or At least 01 similar contract	- Having university degree or higher of major disciplines: technology, mechanic. - Having name in the similar contracts or the end user's confirmation that he/she had been Technology/Mechanics Engineer. - Curriculum vitae is verified by the Bidder.

No.	Position	Min. Qty	Experience in similar work	Certificates, professional qualifications
	from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)			
2	**Electrical Engineer** Has been in position of Electrical Engineer of EPC or EP or EC or PC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 5 years, or At least 01 similar contract	- Having university degree or higher of major disciplines: electricity. - Having name in the similar contracts or the end user's confirmation that he/she had been Electrical Engineer. - Curriculum vitae is verified by the Bidder.
3	**C&I Engineer** Has been in position of C&I Engineer of EPC or EP or EC or PC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 5 years, or At least 01 similar contract	- Having university degree or higher of major disciplines: C&I. - Having name in the similar contracts or the end user's confirmation that he/she had been C&I Engineer. - Curriculum vitae is verified by the Bidder.

No.	Position	Min. Qty	Experience in similar work	Certificates, professional qualifications
4	**Construction Engineer** Has been in position of Construction Engineer of EPC or EP or EC or PC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW. (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 5 years, or At least 01 similar contract	- Having university degree or higher of major disciplines: construction. - Having name in the similar contracts or the end user's confirmation that he/she had been Construction Engineer. - Curriculum vitae is verified by the Bidder.
5	**HSE Engineer** Has been in position of HSE Engineer of EPC or EP or EC or PC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW. (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 5 years, or At least 01 similar contract	- Having university degree or higher of major disciplines. - Having name in the similar contracts or the end user's confirmation that he/she had been HSE Engineer. - Curriculum vitae is verified by the Bidder.

No.	Position	Min. Qty	Experience in similar work	Certificates, professional qualifications
6	**Commissioning Team Leader** Has been in position of Commissioning Team Leader of EPC or EP or EC or PC package of similar project/contract as follows: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW. (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 15 years, or At least 02 similar contracts	- Having university degree or higher of major disciplines: technology/ mechanic/ electricity/ C&I. - Having name in the similar contracts or the end user's confirmation that he/she had been Commissioning Team Leader. - Curriculum vitae is verified by the Bidder.
7	**Boiler Tunning Engineer** Has been in position of Boiler Tunning Engineer of EPC or EP or PC package of similar project (*): + The coal-fired thermal power plant with a unit's capacity ≥300MW; or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system or Boiler of the coal-fired thermal power plant with a unit's capacity ≥300MW. (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)	1	At least 15 years, or At least 02 similar contracts	- Having university degree or higher of major disciplines: technology/ mechanic/ electricity/ C&I. - Having name in the similar contracts or the end user's confirmation that he/she had been Boiler Tunning Engineer. - Curriculum vitae is verified by the Bidder.

The Bidder shall demonstrate that it has sufficient personnel for the key positions that meet the above requirements by providing details of the proposed key personnel and their experience records using Forms No. 07A, 07B and 07C of Chapter IV: Bidding Forms.

b) Equipment to perform the package

Bidder shall demonstrate clearly that Bidder has the minimum capability to meet the requirements of the package. In case the key equipment proposed by the Bidder in the Technical Proposal do not meet the requirements or cannot demonstrate the ability to mobilize equipment (including cases that have been mobilized for the other contracts with the working period coinciding with the implementation time of this bidding package), the Employer's Representative shall allow the Bidder to supplement or replace. The Bidder shall be allowed to add or replace each of key equipment once within an appropriate period of time but not less than 03 working days (in accordance with Clause 2, Article 29, Decree 214/2025/ND-CP). In case the Bidder does not have the replacement equipment that meets the requirements of the Bidding Document, the Bidder shall be disqualified. In all cases, if the Bidder declares equipment untruthfully, the Bidder shall not allowed to replace the other equipment. The Technical Proposal of the Bidder shall be rejected and the Bidder shall be considered as fraudulent according to the provisions of Clause 4, Article 16 of the Law on Bidding and shall be handled according to the provisions of Clause 1, Article 133 of Decree No.214/2025/ND-CP.

Key equipment to perform the package are listed hereafter:

No.	Type of equipment and equipment characteristics	Minimum quantity required
1		
2		
3		
…		

The Bidder shall provide further details of proposed items of equipment to perform the package using the Form 08 of Chapter IV - Bidding Forms.

In case the Bidder wins the bid and signs the contract, the bidder is obliged to mobilize the key personnel and major construction equipment as initially proposed or modified proposed according to the provisions of this Section. In case the bidder cannot mobilize the key personnel and major construction equipment, the bidder shall be fined in compliance with the contract and the bidder's reputation shall be assessed when participating in the other bid package.

Notes:

(1) If the Bidder is a parent company (namely a corporation), he shall declare specific tasks assigned to subsidiary companies using the Form 15 of Chapter IV - Bidding Forms. The qualification of the Bidder shall be evaluated according to the value and volume of work performed by the parent company and subsidiary companies.

2.3. Qualification criteria for the Bidder(s) or Specialist sub-contractor(s)

2.3.1 Qualification criteria for the Specialist sub-contractor(s) performing Detail design:

The Employer shall consider and evaluate qualification of a special subcontractor performing Detail design .

In case the Bidder uses the special Subcontractor(s) for the part of work E, the Bidder must clearly state the use of the special Subcontractor(s), the name of the special Subcontractor(s), and the experience of the special Subcontractor(s) according to Form 14, Chapter IV. If it is not clearly stated as a special Subcontractor(s), only the bidder's capacity and experience shall be evaluated.

Specific experience and financial resources of special subcontractors shall not be included in the experience and financial resource of the Contractor. Proposed special subcontractors must have adequate experience and technical qualification to perform work items. The Bid shall be rejected if do not meet the criteria as specified in Section 3 - Technical evaluation criteria, Table 1- Engineering.

2.3.2 Qualification criteria for the Specialist sub-contractor(s) performing Construction:

2.3.2.1 The eligibility of the Specialist sub-contracator(s):

- Having the Enterprise registration certificate, Establishment decision or equivalent document issued by the competent authority of the country in which the Contractor is working;

- Be independent financial accounting;

- Be not undergoing dissolution process or be revoked the business registration certificate, certificate of cooperatives registration, cooperative unions, cooperative groups; be not falling into insolvency according to the provisions of bankruptcy law;

- Be not banned from bidding as prescribed in Law on Bidding;

- Be registered on the National E-Procurement System prior to the approval of the Bidder selection result.

- Having Certificate of Construction activity capability for Energy field, grade II or equivalent documents (for foreign special subcontractor).

2.3.2.2 Financial Capability and Experience Qualification Criteria:

No.	Description	Requirements		Required documents
1	Previous Contract Non-fulfillment Records	From January 01, 2023 to the deadline for Bid, the Bidder did not have two or more contracts (consulting, goods, construction, EPC, EC, EP, PC, turnkey) that are not completed due to contractor's fault.	Must meet requirement	Form 09B
2	Obligation of tax declaration and tax payment	Have performed the obligation of tax declaration and tax payment of the latest fiscal year (2025).	Must meet requirement	The Bidder shall submit i) CIT return and payment receipt with confirmation from tax authority printed from the eTax System or ii) CIT return and confirmation of fulfilling tax liability from competent agency or equivalent documents.
3	Historical Financial Performance	Submission of separated (non-consolidated) audited financial statements (1) for the latest fiscal year (2025) to demonstrate the current soundness of the Bidder's financial position. The financial statements shall be in accordance with accounting standards of the country where the Bidder's headquarters is registered. As a minimum: - The Bidder's net asset value for the latest fiscal year (2025) shall be positive (Net asset = Total assets – Total liabilities);	Must meet requirement	Form 10A2
4	Experience in performing	From 01 January 2011 to the Bid Closing Time, the Contractor shall have performed Similar Contract(s) in the capacity of a main	Must meet requirement	o Form 06B; o Documentary Evidence: The Bidder shall submit

No.	Description	Requirements		Required documents
	similar package	contractor (independently or as a member of a Consortium/Joint Venture(4)), a management contractor(2), or a subcontractor, have one (01) contract including portion C successfully completed (3) and of similar nature (construction works including: inspection and assessment of load-bearing capacity of existing structures; strengthening of foundations; fabrication/installation of supporting steel structures and frames of the Boiler or FGD or SCR or ESP systems for The coal-fired thermal power plant with a unit capacity of ≥ 300 MW) corresponding to portion C of the package under consideration, in which portion C of this contract has fully completed or substantially completed with a minimum value is: 123,000,000,000 VND or equivalent(5).		certified true copies of the Contract, together with one of the following documents as evidence of contract performance: • Taking-Over Certificate evidencing completion of the Works; or • Contract Completion Certificate and/or Contract Closure/Final Settlement;

Note:

(1) For evaluation and comparison of Bids, the Bidder shall submit audited financial statements, informative data extracted from audited financial statements shall be converted into VND. The exchange rate shall be the selling rate issued by Vietcombank's head quarter and announced on portal.vietcombank.com.vn at the time of the end of the financial statement's fiscal year.

(2) The managing bidder is a bidder who does not directly perform part or all of the work of the bidding package but signs contracts with other bidders to perform the work, however, the bidder remains responsible for managing the performance of the contracted bidders, and bears full responsibility and risks related to the cost, progress, quality and other contents of the bidding package.

(3) "Successfully completed" means the contract has already been completed and have been commercially operated. Employer/Owner's Certificates shall be enclosed in the Bid for evaluation. The time of confirmation of contract completion to determine similar contracts shall be the contract acceptance date, not based on the contract signing date.

(4) With regard to contract(s) in which the Bidder has participated as a consortium member, only the value of the performed part of

work by the Bidder is calculate.

(5) The contract values shall be converted into VND. The exchange rate shall be the selling rate issued by Vietcombank's head quarter and announced on portal.vietcombank.com.vn on the date of signing the similar contract.

For work items specified in the Bidding Documents to be performed by a specialized subcontractor, the Bidder may either propose a specialized subcontractor or assign a member of the Consortium/Joint venture to undertake such work items.

In case the Bidder proposes a specialized subcontractor, the assessment of the capacity and experience of such specialized subcontractor shall be carried out in accordance with the criteria specified in Part 1, Chapter III, Section 2.3 of the Bidding Documents.

Where a Consortium/Joint venture member is assigned to perform the work items as mentioned in Part 1, Chapter III, Section 2.3, such member shall meet, at a minimum, the capacity and experience requirements applicable to a specialized subcontractor as specified in Part 1, Chapter III, Section 2.3 of the Bidding Documents, and shall be evaluated against these criteria.

The Bidder shall be responsible for:

a) Clearly specifying in the Bid the scope of work to be performed by each joint venture member or specialized subcontractor (if any);

b) Providing sufficient documentation to demonstrate the capacity and experience of the entity performing such work in accordance with the requirements of the Bidding Documents.

In the event that the Bidder does not propose a specialized subcontractor but assigns a Consortium/Joint venture member to perform the work, and such member fails to meet the corresponding requirements applicable to a specialized subcontractor, the Bid shall be considered non-responsive with respect to capacity and experience requirements.

Section 3. Technical evaluation criteria

Technical evaluation criteria shall be responsive/nonresponsive methods and weighted scoring methods.

A Bid is considered to meet the technical requirements and will be further considered in the next steps if:

(i) all criteria in point 3.1 are assessed as responsive,

(ii) total score of the bid as well as the score of some general criteria and basic detailed criteria within the general criteria caculated according to point 3.2 equal to or exceeding the corresponding minimum technical qualifying score.

3.1 Performance Guarantee

This general technical evaluation shall be established on responsive/nonresponsive method. The Bidders are required to fully comply substantially technical requirements as following:

a. Performance Guarantee of SCR System

No.	Guaranteed Parameter at BMCR Condition	Requirement	
		300MW	**330MW**
1	NOx concentration in flue gas measured at the stack outlet (at 6% O_2)	<120 mg/Nm^3	<120 mg/Nm^3
2	NOx removal efficiency (with two catalyst layers in operation)	≥90%	≥88%
3	Ammonia slip in flue gas downstream of the SCR (upstream of the air preheater)	≤3 ppm	≤3 ppm
4	Consumption of NOx reducing agent (anhydrous ammonia solution, NH_3 concentration 99.5%)	<625,27 (kg/h)	<544,57 (kg/h)
5	Auxiliary power consumption of the DeNOx system, including reagent handling and dosing equipment	<215,5kW	<212,6 kW
6	Degree of SO_2 conversion to SO_3 in flue gas	<1%	<1%

b. Performance Guarantee for FGD System Upgrade

No.	Guaranteed Parameter at BMCR Condition	Requirement	
		300MW	**330MW**

1	SO_2 concentration in flue gas measured at the stack outlet (at 6% O_2)	<120 mg/Nm^3	<120 mg/Nm^3
2	SO_2 removal efficiency	>97%	>97,12%

c. Performance Guarantee for ESP System Upgrade

No.	Guaranteed Parameter at BMCR Condition	Requirement	
		300MW	**330MW**
1	Dust concentration in flue gas measured at the ESP outlet (at 6% O_2)	<40 mg/Nm^3	<40 mg/Nm^3
2	Dust concentration in flue gas measured at the stack outlet (at 6% O_2)	<20 mg/Nm^3	<20 mg/Nm^3
3	Dust collection efficiency	>99,91%	>99,92%
4	Auxiliary power consumption of the ESP system	<1383,4kW	<1222 kW

d. Other Performance Guarantee

No.	Guaranteed Parameter at BMCR Condition	Requirement	
		300MW	**330MW**
I	**Air preheater**		
1	Air leakage rate	≤6 %	
2	Flue gas outlet temperature	≤150^{o}C	
II	**FGD System**		
1	Limestone grinding system capacity	≥5 t/h	≥8 t/h

Performance tests shall be conducted using coal, oil and limestone with characteristics as specified in Section 1, Chapter VII of the Bidding Documents.

Failure to comply any substantially technical requirement(s) by the Bidder will result in the rejection of Bid, and that Bid will not be further evaluated in next steps.

3.2 Technically Criteria Evaluation

Specific technical evaluation shall be established on weighted scoring method.

If there is any discrepancy between the information of goods, equipments and materials (e.g. model/code, brand name, origin, manufacturer, specification, etc.) declared by the Bidder and the attached supporting documents, the information declared by the Bidder shall be the basis for consideration and evaluation.

- For Engineering: The Technical Proposal shall be evaluated to requirements as stated in the Table 1;
- For Procurement: The Technical Proposal shall be evaluated to requirements as stated in the Table 2;
- For Construction: The Technical Proposal shall be evaluated to requirements as stated in the Table 3;
- For prestige of Bidder: The Technical Proposal shall be evaluated to requirements as stated in the Table 4.

Determine the technical score for each Technical Proposal via given weights as follows

No.	Evaluation Criteria	Total technical score	Total minimum technical qualifying score
1	Engineering	1000	800
2	Procurement	1000	800
3	Construction	1000	800
4	Prestige of Bidder	50	
	Total	**3.050**	**2400**

Table 1- EQC for Engineering (abbreviated as E in EPC package)

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
1	**Capacity of Detail design contractor**	**200**		**200**
	- Total work experience: 15 years; and - Experienced in the Detail design contractor at least 02 similar projects in term: Design for the coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or the new installation/upgrading SO_2 removal system using WFGD (limestone) technology and NOx removal using SCR technology and electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥ 300M. (Copy of experience contract and Minutes of contract liquidation or confirmation of Contract completion made by the Owner (specifying the work volume and completion value) or Minutes of payment acceptance) ; - Copy of the Engineering Organization's capacity Profile (using the bidder's capacity or special subcontractor), including: + Copies of the Enterprise registration certificate or Establishment decision or equivalent document issued by the competent authority of the country in which the Contractor is working. + Copies of Documentary evidence of independent accounting (for special subcontractor only). + Copies of Construction eligibility certificate for design activity or relevant licenses and certificates of relevant operations upon requests.			
	+ Fully responsiveness of the above requirements: 100% maximum score of item		200	
	+ Unsatisfactory any requirements: 0%		0	
2	**Engineering proposal**	**600**		
	Scoring Criteria:			

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	- Fully responsiveness: The Contractor's Proposal/Descriptions that are complete, detail, suitable/feasible and are evaluated to meet fully requirements: 100% maximum score of item			
	- Substantial responsiveness: The Contractor's Proposal/Descriptions that are not yet complete but are evaluated to be detail, suitable/acceptable and to meet substantial requirements: 80% maximum score of item			
	- Poorly responsiveness: The Contractor's Proposal/Descriptions and the contents are presented poorly and not yet complete, detail but are evaluated to be acceptable as requirements: 50% maximum score of item			
	- Unsatisfactory: The Contractors do not have any Proposal/Description, or Proposal/Description are inappropriate and unsatisfactory to requirements: 0% maximum score of item			
2.1	**Technical approach**	**300**		**240**
2.1.1	**Understanding and Description of Existing Conditions and Project Objectives as per the Bidding Documents:**	**30**		
	The Contractor shall demonstrate a clear understanding of the existing conditions of the systems to be retrofitted and upgraded (ESP, FGD, ID fans, air preheaters, booster fans, etc.), as well as the current operating conditions of the plant; Demonstrate a clear understanding of the retrofit and upgrade objectives.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.1.2	**Design Approach and Methodology for the Project:**	**30**		
	This includes the design stages, survey methods, data collection, design calculations, preparation of drawings, design review and verification, and coordination among stakeholders, to ensure design quality, schedule compliance, and overall project integration.			

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.1.3	**Applicable Design and Manufacturing Standards:**	**30**		
	This includes all applicable standards and codes for design, manufacturing, installation, testing, and acceptance for the entire Project, covering mechanical systems, steel structures, civil works, foundations, piping, equipment, electrical, control systems, environmental protection, and fire protection. All applicable standards shall comply with the requirements of the Bidding Documents. 1. Civil and Structural Design Standards: Design load standards; Wind load standards; Seismic load standards; Steel structure design standards; Concrete and foundation design standards; Industrial building and civil works design standards; Geotechnical investigation and foundation design standards. 2. Mechanical and Process Design Standards: Equipment design standards (ESP, FGD, SCR, APH, Fans, etc.); Piping, vessels, and material design standards; Corrosion protection, erosion resistance, and coating standards. 3. Electrical and Control Design Standards: Electrical system design standards; Control and instrumentation (I&C) design standards. 4. Manufacturing, Installation, Testing, and Acceptance Standards: Equipment manufacturing standards; Welding and NDT standards; Installation standards; Testing and acceptance standards. 5. Compliance with Vietnamese and International Standards: Compliance with QCVN (Vietnam National Technical Regulation) and TCVN (Vietnam Standards); Equivalency between international standards and QCVN/TCVN.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
2.1.4	**Design Calculations:**	**210**		**168**
	This includes design reports and calculations for all systems within the scope of the Contract, covering the design basis, input parameters, calculation methods, and calculation results to demonstrate that the systems comply with the technical requirements and guaranteed performance parameters specified in the Bidding Documents.			
2.1.4.1	**Heat balance and flue gas/air balance calculations**	**30**		
	Heat balance and flue gas/air balance calculations for the entire system after retrofit, including the boiler, air preheater, flue gas treatment systems (ESP, SCR, FGD), fan systems, and flue gas ducts.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.1.4.2	**Design calculations for the ESP system:**	**30**		
	- Dust collection efficiency calculations to ensure that the required collection efficiency and outlet dust concentration comply with the requirements of the Bidding Documents; - Flue gas flow distribution calculations and design of gas distribution plates; - Calculation and selection of transformer sets, collecting and discharge electrodes, and the rapping system.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.1.4.3	**Design calculations for the FGD system:**	**30**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	- SO_2 removal efficiency calculations; - Absorber sizing calculations; - Calculation of circulation pump capacity and flow rate; - Calculation of limestone, water, and power consumption.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.1.4.4	**Design calculations for the SCR system:**	**30**		
	- Calculation of catalyst volume and number of catalyst layers; - Calculation of NH_3 consumption; - NOx removal efficiency calculations.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.1.4.5	**Design calculations for the air preheater of the Unit 300 MW:**	**30**		
	- Thermal calculations (efficiency, heat transfer area); - Pressure drop calculations on the flue gas side and air side; - Air leakage calculations and sealing solutions; - Selection of materials and heat transfer elements.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	+ Unsatisfactory		0	
2.1.4.6	**Design calculations for the ID fans of the Unit 300 MW:**	**30**		
	Calculation of the required flow rate, static pressure, fan power, and motor power of the ID fans after retrofit, based on heat balance calculations, flow balance calculations, and total system pressure loss calculations.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.1.4.7	**Structural and foundation calculations:**	**30**		
	Preliminary structural steel and foundation design scheme and calculations for retrofit works and installation of new equipment, including assessment of existing structures, equipment loads, supporting steel structure and foundation arrangements, design calculation notes, and layout drawings.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.2	**Technology Solution and Equipment Selection**	**300**		**240**
2.2.1	**Technology Solution and Equipment Selection for the ESP System:**	**60**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Technology solution and equipment selection for retrofit and upgrade of the ESP system to ensure that dust collection efficiency and emission concentration comply with the requirements of the Bidding Documents, including: 1. ESP efficiency improvement solution: increase of ESP height, modification of electrical fields, replacement of electrodes, replacement of high-frequency / pulse transformer-rectifier sets, etc. 2. Flue gas distribution solution: design and arrangement of gas distribution plates; measures to ensure uniform flue gas distribution into the ESP; measures to reduce vortex formation and minimize dust re-entrainment. 3. Electrode system: selection of collecting electrodes and discharge electrodes. 4. Rapping system: selection of rapping systems for collecting electrodes and discharge electrodes; measures to ensure effective dust removal and minimize dust re-entrainment. 5. Fly ash collection and conveying system: retrofit and upgrade solution for the ash collection system, ensuring compatibility with the capacity and efficiency of the ESP after retrofit.			
	+ Fully		60	
	+ Substantial		48	
	+ Poorly		30	
	+ Unsatisfactory		0	
2.2.2	**Technology Solution and Equipment Selection for the FGD System:**	**60**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Technology solution and equipment selection for retrofit and upgrade of the SO_2 removal system (FGD) to ensure that SO_2 removal efficiency and emission concentration comply with the requirements of the Bidding Documents, including: 1. Absorber design solution: tower configuration, number of spray levels, nozzle type, oxidation system, mist eliminator, corrosion-resistant materials, and measures to prevent scaling and nozzle clogging. 2. Absorber circulation pump solution: determination of required flow rate and head; number of operating and standby pumps; selection of pump type suitable for slurry service (erosion and corrosion resistance); motor power and energy consumption; flexible operation under varying load conditions; measures to prevent wear, clogging, and to ensure pump service life. 3. Limestone system solution: limestone receiving system; grinding and slurry preparation system; slurry feeding system; measures to prevent sedimentation and clogging. 4. Gypsum slurry and FGD wastewater treatment solution, including gypsum collection and disposal. 5. Operability, maintainability, spare parts replacement, and overall integration with the post-retrofit system.			
	+ Fully		60	
	+ Substantial		48	
	+ Poorly		30	
	+ Unsatisfactory		0	
2.2.3	**Technology Solution and Equipment Selection for the SCR System:**	**60**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Technology solution and equipment selection for the SCR system to ensure that NOx removal efficiency and emission concentration comply with the requirements of the Bidding Documents, including: 1. Catalyst selection: selection of catalyst type; catalyst technical characteristics; catalyst lifetime; number of catalyst layers; replaceability of catalyst; ammonia slip. 2. SCR reactor location: arrangement of SCR within the system (high-dust / tail-end, etc.); reactor layout and supporting structure; flue gas distribution into the reactor; impact on pressure drop and boiler operation.** 3. Ammonia supply and injection system: ammonia storage and supply system; vaporization system (if applicable); ammonia distribution and injection grid (AIG); NH_3/NOx control system. 4. Catalyst cleaning system (soot blowers): selection of soot blower type; arrangement of soot blowers; measures to ensure effective catalyst cleaning and prevention of clogging. 5. Integration, operation, and maintenance: capability for operation under various load conditions; compatibility with existing systems.			
	+ Fully		60	
	+ Substantial		48	
	+ Poorly		30	
	+ Unsatisfactory		0	
2.2.4	**Technology Solution and Equipment Selection for the Rotary Air Preheater (Unit 300 MW):**	**30**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Technology solution and equipment selection for the rotary air preheater (RAPH) to replace the existing tubular air preheater, ensuring compliance with the requirements of the Bidding Documents, including: 1. Technology solution and configuration of the air preheater: selection of rotary air preheater type; arrangement layout; capability for heat recovery and improvement of boiler efficiency; suitability with existing plant layout. 2. Heating elements: type of heat transfer elements; material selection (corrosion-resistant); arrangement of temperature zones (hot end, cold end). 3. Sealing system: sealing solutions to minimize air leakage; guaranteed air leakage rate; seal configuration and seal materials. 4. Pressure drop and air leakage: pressure drop on the flue gas side; pressure drop on the air side; impact on ID/FD fans. 5. Drive system and operation: rotor drive system; motor power; lubrication system; capability for operation under various load conditions. 6. Cleaning and fouling prevention system: soot blowers; measures to prevent fouling and clogging. 7. Operation and maintenance: replaceability of heating elements; maintenance space requirements; integration with existing systems.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.2.5	**Technology Solution and Equipment Selection for ID Fans (Unit 300 MW):**	**30**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Technology solution and equipment selection for ID fans (IDF) replacement for the Unit 300 MW, based on the aerodynamic characteristics of the post-retrofit system, ensuring compliance with the requirements of the Bidding Documents, including: 1. Fan type selection, fan configuration, and replacement scheme for existing fans. 2. Capability to meet required flow rate, static pressure, and operational margins under various load conditions after retrofit. 3. Fan efficiency, motor power, speed/flow control methods, and power consumption. 4. Arrangement and tie-in solutions with the existing flue gas ducting, including expansion joints, dampers, fan inlet/outlet connections, and supporting structures. 5. Material selection and solutions for erosion resistance, vibration control, noise control, bearings, cooling, lubrication, and reliable continuous operation. 6. Control, protection, monitoring solutions, and integration with the existing electrical system and DCS. 7. Operability, maintainability, spare parts replacement, and overall integration with the post-retrofit system.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.2.6	**Technology Solution for Electrical and Instrumentation & Control Systems:**	**30**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Design solution for the electrical and control systems for the entire flue gas treatment system, including power supply, MCC panels, control systems, integration with the existing DCS, instrumentation and analyzers, and CEMS, ensuring safe, reliable, and integrated operation with the existing unit, including: 1. Power supply solution: power supply for the entire system; power distribution scheme; transformers and distribution boards; redundancy and reliability of power supply; electrical load calculations. 2. MCC and motor power distribution system: MCC configuration; power supply to motors (FGD pumps, fans, APH, limestone grinding system, SCR system, etc.); motor starting methods; motor protection systems. 3. Control system (PLC/DCS): control system architecture; PLC systems for ESP, FGD, SCR, APH, ID fans, limestone system, ammonia system, etc.; control philosophy; automatic control system and interlocks for protection. 4. Integration with existing DCS: interface with the plant DCS; communication protocols; allocation of control responsibilities between PLC and DCS; HMI operator interface. 5. Instrumentation, analyzers, and CEMS: measurement systems for SO_2, NOx, O_2, and dust; analyzers for FGD and SCR systems; integration of data into DCS and environmental monitoring systems. 6. Reliability, safety, and operation: UPS and backup power supply; grounding and lightning protection systems; protection coordination; operability and maintainability.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
2.2.7	**Civil and Structural Design Solution:**	**30**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Design solution for civil works within the Project scope, including new construction and retrofit/strengthening of existing structures to support equipment installation, ensuring compatibility with the existing layout and compliance with the requirements of the Bidding Documents, including: 1. General layout and civil arrangement: overall layout of civil works and structures; compatibility with the existing plant layout and available space for equipment installation. 2. New installation, retrofit, and strengthening of existing structures: solutions for new installation, retrofit, and structural strengthening of existing buildings, floors, and equipment foundations; structural solutions for ESP height increase, SCR installation, APH replacement, and ID fan replacement; measures to ensure structural safety during construction and operation. 3. Design of new civil works: equipment buildings, NH_3 station, water tanks, etc.; equipment foundations and slabs; indoor and outdoor drainage systems. 4. Construction methods and safety: construction safety measures for existing equipment and structures. 5. Operation, maintenance, and safety: access routes for operation; platforms; emergency exits.			
	+ Fully		30	
	+ Substantial		24	
	+ Poorly		15	
	+ Unsatisfactory		0	
3	**Qualification of key Positions**	**200**		
3.1	**Project Manager**	**45**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	a) Has been in position of Project manager of EPC or EP or EC or PC package of similar project : + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW	**30**		**24**
	≥ 3 projects: 100% maximum score of item		30	
	= 2 project or 15 years experience in similar work: 80% maximum score of item		24	
	< 2 project or < 15 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam in Project Manager position (Power project)	**15**		
	≥ 2 project: 100% maximum score of item		15	
	= 1 project: 80% maximum score of item		12	
	= 0 project: 0% maximum score of item		0	
3.2	**Design manager**	**30**		
	a) Has been in position of Design manager of EPC or EP or EC package of similar project : + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW	**22**		**17.6**
	≥ 3 projects: 100% maximum score of item		22	
	= 2 project or 15 years experience in similar work: 80% maximum score of item		17.6	
	< 2 project or < 15 years experience in similar work: 0% maximum score of item		0	

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	b) Experience in Vietnam	**8**		
	≥ 2 project: 100% maximum score of item		8	
	= 1 project: 80% maximum score of item		6.4	
	= 0 project: 0% maximum score of item		0	
3.3	**Technology Design team leader**	**20**		
	a) Has been in position of Technology/Mechanics Design Team Leader of EPC or EP or EC package of similar project : + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology and NOx removal using SCR technology and electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥ 300MW. *note:* • The Bidder may assign more than one personnel to the "Technology team leader" position to ensure full competency requirements • The evaluation/scoring of personnel requirements shall be conducted for each individual as in the case where only one person is assigned to one position. The evaluation/scoring for that position shall be determined based on the individual with the lowest evaluation result/score among those assigned to that position.	**16**		**12.8**
	≥ 2 project: 100% maximum score of item		16	
	= 1 project or 10 years experience in similar work: 80% maximum score of item		12.8	
	= 0 project or < 10 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam	**4**		
	≥ 2 project: 100% maximum score of item		4	
	= 1 project: 80% maximum score of item		3.2	

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	= 0 project: 0% maximum score of item		0	
3.4	**Electrical design team leader**	**20**		
	a) Has been in position of Electrical design team leader of EPC or EP or EC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW	**16**		**12.8**
	≥ 2 project: 100% maximum score of item		16	
	= 1 project or 10 years experience in similar work: 80% maximum score of item		12.8	
	= 0 project or < 10 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam	**4**		
	≥ 2 project: 100% maximum score of item		4	
	= 1 project: 80% maximum score of item		3.2	
	= 0 project: 0% maximum score of item		0	
3.5	**C&I design team leader**	**20**		
	a) Has been in position of C&I design team leader of EPC or EP or EC package of similar project : + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW	**16**		**12.8**

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	≥ 2 project: 100% maximum score of item		16	
	= 1 project or 10 years experience in similar work: 80% maximum score of item		12.8	
	= 0 project or < 10 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam	**4**		
	≥ 2 project: 100% maximum score of item		4	
	= 1 project: 80% maximum score of item		3.2	
	= 0 project: 0% maximum score of item		0	
3.6	**Construction design team leader**	**20**		**16**
	a) Has been in position of Construction design team leader of EPC or EP or EC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW			
	≥ 2 project: 100% maximum score of item		20	
	= 1 project or 10 years experience in similar work: 80% maximum score of item		16	
	= 0 project or < 10 years experience in similar work: 0% maximum score of item		0	
3.7	**Boiler Design Engineer**	**45**		**36**
	Has been in position of Boiler Design Engineer of EPC or EP or EC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥300MW. (The number of years of experience in similar position shall be determined from signing date of similar contracts and as evidenced by the Provisional Acceptance Certificate (PAC). The Bidder shall provide similar contracts and PAC has been issued for the project)			

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	≥ 3 projects: 100% maximum score of item		45	
	= 2 project or 15 years experience in similar work: 80% maximum score of item		36	
	< 2 project or < 15 years experience in similar work: 0% maximum score of item		0	
	Total	**1000**		**800**

Notes: For Engineering proposal, failure to meet the minimum points of every items above shall result in the rejection of the Bid and not be evaluated further.

Table 2- EQC for Procurement (abbreviated as P in EPC package)

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
		1000		**800**
	Scoring Criteria:			
	- Fully responsiveness: The Contractor's Proposal/Descriptions that are complete, detail, suitable/feasible and are evaluated to meet fully requirements: 100% maximum score of item			
	- Substantial responsiveness: The Contractor's Proposal/Descriptions that are not yet complete but are evaluated to be detail, suitable/acceptable and to meet substantial requirements: 80% maximum score of item			
	- Poorly responsiveness: The Contractor's Proposal/Descriptions and the contents are presented poorly and not yet complete, detail but are evaluated to be acceptable as requirements: 50% maximum score of item			
	- Unsatisfactory: The Contractors do not have any Proposal/Description, or Proposal/Description are inappropriate and unsatisfactory to requirements: 0% maximum score of item			
1	**Equipment Procurement Plan and Schedule**	**100**		**80**
	The Contractor shall describe the equipment procurement plan and schedule for the Project, including the list of major equipment, procurement schedule, manufacturing schedule, and delivery schedule, ensuring alignment with the construction, installation, and overall project schedule.			
	+ Fully		100	
	+ Substantial		80	
	+ Poorly		50	
	+ Unsatisfactory		0	
2	**For the list of Major Equipment (Part 2, Chapter VII, Section 4)**	**300**		**300**

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Information on manufacturers of major equipment of the Project (list refer to Part 2 **Chapter VII** Section 4), including applicable quality management system certifications and manufacturing standards for key equipment such as SCR, ESP, FGD, APH, IDF, booster fans, and other critical equipment. Evaluation Criteria: - Information on manufacturers of major equipment: SCR, ESP, FGD, APH, IDF, booster fans; - Quality management system certifications of the manufacturers; - Applicable design and manufacturing standards for the equipment; - Experience in manufacturing and supplying similar equipment: The manufacturer must have ≥ 10 (ten) years of experience in manufacturing, supplying for the equipment as listed in Part 2, Chapter VII Section 4 and providing supporting documents for evaluation. Supporting documents demonstrating the manufacturer's capability (catalogues, reference lists, similar contracts, etc.).			
3	**Remaining equipment and materials (Part 2, Chapter VII, Section 3, Item 3.3.1 and 3.3.2)**	**250**		
	In addition to the major equipment list, the Contractor shall prepare a complete list and detailed quantity breakdown of all remaining equipment and materials within the Project scope of supply, in accordance with the proposed technical solution and design in the Bid, ensuring complete and integrated supply of the entire system. - List of auxiliary equipment and materials of the system; - Quantities of equipment and materials: The Bidder may add items in this list of equipment as necessary to comply with the requirements specified in Part 2 - Chapter VII. For additional items, the Bidder shall specify from which part of this list of equipment they are extracted.. - Consistency between the equipment list and the proposed technical solution; - Completeness and integrity of the equipment list; - Scope of supply of the Contractor.			
	+ Fully		250	
	+ Substantial		200	
	+ Poorly		125	

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	+ Unsatisfactory		0	
4	**Quality Management System and Quality Control Procedures for Procured Equipment**	**100**		
	Quality management system and quality control procedures for procured equipment, including material control, in-process inspection, factory acceptance testing (FAT), and equipment quality documentation, to ensure that the supplied equipment complies with the technical requirements of the Project.			
	+ Fully		100	
	+ Substantial		80	
	+ Poorly		50	
	+ Unsatisfactory		0	
5	**Equipment Transportation, Storage, and Delivery Plan for the Project**	**100**		
	Transportation, storage, and delivery plan for project equipment, with particular consideration for oversized and heavy-lift equipment as well as equipment requiring special preservation, ensuring safe transportation without damage and compliance with the project supply and installation schedule.			
	+ Fully		100	
	+ Substantial		80	
	+ Poorly		50	
	+ Unsatisfactory		0	
6	**Spare Parts and Consumables During the Warranty Period**	**50**		
	The Contractor shall commit to supply spare parts and consumables for the equipment within the Project scope to support replacement and repair activities during the warranty period in case of equipment failure or when replacement is required..			
	+ Fully		50	
	+ Substantial		40	
	+ Poorly		25	
	+ Unsatisfactory		0	

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
7	**Commitment letter to supply warranty period**	**100**		**80**
a	> 12 months: 100% maximum score of item		100	
b	= 12 months: 80% maximum score of item		80	
c	< 12 months: 0% maximum score of item		0	
	TOTAL	**1000**		**800**

Notes: For Procurement proposal, failure to meet the minimum points of every items above shall result in the rejection of the Bid and not be evaluated further.

Table 3- EQC for Construction (abbreviated as P in EPC package)

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Scoring Criteria:			
	- Fully responsiveness: The Contractor's Proposal/Descriptions that are complete, detail, suitable/feasible and are evaluated to meet fully requirements: 100% maximum score of item			
	- Substantial responsiveness: The Contractor's Proposal/Descriptions that are not yet complete but are evaluated to be detail, suitable/acceptable and to meet substantial requirements: 80% maximum score of item			
	- Poorly responsiveness: The Contractor's Proposal/Descriptions and the contents are presented poorly and not yet complete, detail but are evaluated to be acceptable as requirements: 50% maximum score of item			
	- Unsatisfactory: The Contractors do not have any Proposal/Description, or Proposal/Description are inappropriate and unsatisfactory to requirements: 0% maximum score of item			
1	**Construction Preparation Works for the Project**	**80**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Construction Preparation Works for the Project: This includes site preparation, laydown areas, temporary construction power and water supply, access arrangements to the construction areas, preparation of construction equipment, manpower mobilization, and construction mobilization planning, ensuring compliance with the project schedule and suitability for execution within an operating plant. Evaluation Criteria: - Construction site preparation plan; - Plan for laydown areas and storage of equipment and materials; - Provision of temporary construction power and water supply; - Method for access and transportation of equipment to the construction areas; - Preparation of construction equipment (cranes, forklifts, scaffolding, welding machines, etc.); - Construction manpower mobilization plan; - Construction equipment mobilization plan; - Coordination plan with the Employer/Plant prior to construction.			
	+ Fully		80	
	+ Substantial		64	
	+ Poorly		40	
	+ Unsatisfactory		0	
2	**Construction and Installation Method Statements for Major Project Components**	**80**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Method Statement for Construction and Installation of Major Works: This includes construction methods, installation sequence, technical measures, and measures to ensure quality and safety during the construction and installation of all project systems. Evaluation Criteria: - Method statement for retrofit and upgrade of the ESP; - Method statement for installation of the SCR system; - Method statement for retrofit and installation of the FGD system; - Method statement for replacement of the rotary air preheater (APH); - Method statement for replacement of ID fans / booster fans; - Method statement for construction, installation, and retrofit of the fly ash collection and conveying system; - Method statement for construction and installation of the limestone preparation system (limestone unloading, crusher, wet ball mill, slurry tank, pumps, hydrocyclones, etc.); - Method statement for installation of limestone slurry piping, gypsum slurry piping, and FGD wastewater piping; - Method statement for construction of tanks, basins, sumps, and vessels of the FGD and wastewater systems; - Method statement for installation of flue gas ducts and air ducts; - Method statement for installation of mechanical equipment, piping, electrical, and control systems; - Method statement for steel structures, platforms, stairways, and handrails; - Method statement for drainage and wastewater systems; - Method statement for lighting, ventilation, and fire protection systems; - Construction and installation sequence for major works.			
	+ Fully		80	
	+ Substantial		64	
	+ Poorly		40	
	+ Unsatisfactory		0	
3	**Construction Method Statement for Works within under Operating Plant conditions**	**80**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Construction Method Statement for Works within under Operating Plant conditions: This includes construction methods in confined spaces, tie-in methods to existing systems, measures to ensure no impact on unit operation, and shutdown planning for tie-in and system retrofit works. Evaluation Criteria: - List of activities that can be executed while the unit is in operation; - Construction methods for confined spaces and operating areas; - Construction methods under live plant operating conditions; - Tie-in methods to existing systems (ducting, piping, electrical, control); - System isolation measures to ensure safety during tie-in works; - Measures to ensure no adverse impact on unit operation and safety; - Boiler shutdown plan for tie-in and major works execution; - Coordination plan with the Employer/Plant during construction.			
	+ Fully		80	
	+ Substantial		64	
	+ Poorly		40	
	+ Unsatisfactory		0	
4	**Overall Project Construction Schedule and Schedule for Major Work**	**80**		
	Overall Project Schedule and Detailed Schedule for Major Works: This includes the overall construction schedule and detailed schedules for each major work, including the boiler shutdown plan for tie-in, retrofit, and equipment installation works, as well as construction organization measures to ensure compliance with the overall project schedule and minimization of shutdown duration. Evaluation Criteria: - Overall project construction schedule; - Detailed construction schedules for major works: ESP, SCR, FGD, APH, ID fans, ducting, piping, electrical systems, etc.; - Boiler shutdown plan for tie-in and major equipment installation; - Shutdown duration and execution sequence during the shutdown period;			

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	+ Fully		80	
	+ Substantial		64	
	+ Poorly		40	
	+ Unsatisfactory		0	
5	**Site Construction Organization and Manpower Deployment for the Project**	**80**		
	Site Construction Organization and Manpower Deployment for the Project: This includes the site organization structure, management personnel, technical staff, supervision personnel, safety personnel, and construction workforce, ensuring compliance with the Project requirements for schedule, quality, and safety. Evaluation Criteria: - Construction site organization chart; - Construction workforce (labor);			
	+ Fully		80	
	+ Substantial		64	
	+ Poorly		40	
	+ Unsatisfactory		0	
6	**Quality Management System for Construction, Installation, Commissioning, and Handover**	**100**		-

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Quality Management System for Construction, Installation, Commissioning, and Handover: This includes the quality control methodology for construction, testing and commissioning plans, calibration and tuning procedures, and performance testing methods to ensure that the system meets the Project technical requirements and guaranteed performance parameters. - Evaluation Criteria (at planning/methodology level): - Construction quality management system (QA/QC system); - Inspection and acceptance methods for materials, equipment, and installation works; - Inspection and Test Plan (ITP) at an overall level; - Testing and Commissioning plan; - Calibration and operational optimization plan (boiler and system tuning); - Performance testing methodology; - Reliability run plan; - Quality documentation system, as-built documentation, and acceptance dossiers.			
	+ Fully		100	
	+ Substantial		80	
	+ Poorly		50	
	+ Unsatisfactory		0	
7	**HSE Plan and Measures for Construction, Installation, and Commissioning**	**50**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	HSE, Security, Fire Protection, and Environmental Protection Plan for Construction, Installation, and Commissioning: This includes safety, site security, fire protection, and environmental protection measures during construction, installation, and commissioning of the Works. Evaluation Criteria: - Safety measures for working at height, heavy lifting operations, welding and cutting, and confined space entry; - Safety measures for execution within an operating plant; - Site security measures; - Fire protection measures during construction; - Environmental protection measures during construction (dust, wastewater, waste, noise, etc.); - Organization of the HSE team at site; - Coordination procedures with the Employer/Plant for safety and fire protection.			
	+ Fully		50	
	+ Substantial		40	
	+ Poorly		25	
	+ Unsatisfactory		0	
8	**Training, Technology Transfer, and Warranty**	**50**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	Training, Technology Transfer, and Warranty: This includes the training program, technology transfer plan, provision of technical documentation, and warranty plan for all systems and equipment within the Project scope, ensuring that the Employer is capable of operating, maintaining, and repairing the system safely and efficiently after handover. Evaluation Criteria: - Maintenance and repair training plan for equipment; - Training plan for new systems (SCR, FGD, ESP, APH, ID Fan, DCS, etc.); - Technology transfer plan and operational guidance; - Post-handover technical support plan; - Support personnel during the warranty period; - Commitment to troubleshooting and defect rectification during the warranty period.			
	+ Fully		50	
	+ Substantial		40	
	+ Poorly		25	
	+ Unsatisfactory		0	
9	**Manpower**	**400**		
9.1	**Site Manager** (01 person)	**70**		
	a) Has been in position of Site Manager of EPC or EP or EC or PC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW.	50		**40**
	- ≥ 3 projects: 100% maximum score of item		50	
	- = 2 project or 15 years experience in similar work: 80% maximum score of item		40	
	- < 2 project or < 15 years experience in similar work: 0% maximum score of item		0	

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	b) Experience in Vietnam in Site Manager position (Power Project)	20		
	≥ 2 project: 100% maximum score of item		20	
	= 1 project: 80% maximum score of item		16	
	= 0 project: 0% maximum score of item		0	
9.2	**Technology/Mechanics Engineer**	**40**		
	a) Has been in position of Technology/Mechanics Engineer of EPC or EP or EC or PC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥ 300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology and NOx removal using SCR technology and electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥ 300MW. *note:* • The Bidder may assign more than one personnel to the "Technology/Mechanics Engineer" position to ensure full competency requirements • The evaluation/scoring of personnel requirements shall be conducted for each individual as in the case where only one person is assigned to one position. The evaluation/scoring for that position shall be determined based on the individual with the lowest evaluation result/score among those assigned to that position	30		**24**
	≥ 2 project: 100% maximum score of item		30	
	= 1 project or 5 years experience in similar work: 80% maximum score of item		24	
	= 0 project or < 5 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam in Installation Engineer Manager position (Power Project)	10		
	≥ 2 project: 100% maximum score of item		10	
	= 1 project: 80% maximum score of item		8	

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	= 0 project: 0% maximum score of item		0	
9.3	**Electrical Engineer**	**40**		
	a) Has been in position of Electrical Engineer of EPC or EP or EC or PC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW.	30		**24**
	≥ 2 project: 100% maximum score of item		30	
	= 1 project or 5 years experience in similar work: 80% maximum score of item		24	
	= 0 project or < 5 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam in Installation Engineer Manager position (Power Project)	10		
	≥ 2 project: 100% maximum score of item		10	
	= 1 project: 80% maximum score of item		8	
	= 0 project: 0% maximum score of item		0	
9.4	**C&I Engineer**	**40**		
	a) Has been in position of C&I Engineer of EPC or EP or EC or PC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW.	30		**24**

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	≥ 2 project: 100% maximum score of item		30	
	= 1 project or 5 years experience in similar work: 80% maximum score of item		24	
	= 0 project or < 5 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam in Installation Engineer Manager position (Power Project)	10		
	≥ 2 project: 100% maximum score of item		10	
	= 1 project: 80% maximum score of item		8	
	= 0 project: 0% maximum score of item		0	
9.5	**Construction Engineer**	**40**		
	a) Has been in position of Construction Engineer of EPC or EP or EC or PC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW.	30		**24**
	≥ 2 project: 100% maximum score of item		30	
	= 1 project or 5 years experience in similar work: 80% maximum score of item		24	
	= 0 project or < 5 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam in Installation Engineer Manager position (Power Project)	10		
	≥ 2 project: 100% maximum score of item		10	
	= 1 project: 80% maximum score of item		8	
	= 0 project: 0% maximum score of item		0	
9.6	**Commissioning team leader**	**65**		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	a) Has been in position of Commissioning team leader of EPC or EP or EC or PC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW.	45		**36**
	- ≥ 3 projects: 100% maximum score of item		45	
	- = 2 project or 15 years experience in similar work: 80% maximum score of item		36	
	- < 2 project or < 15 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam in commissioning team leader position (Power Project)	20		
	≥ 2 project: 100% maximum score of item		20	
	= 1 project: 80% maximum score of item		16	
	= 0 project: 0% maximum score of item		0	
9.7	**Boiler Tunning Engineer** (01 person)	**65**		
	a) Has been in position of Boiler Tunning Engineer of EPC or EP or PC package of similar project + The coal-fired thermal power plant with a unit's capacity ≥300MW; or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system or Boiler of the coal-fired thermal power plant with a unit's capacity ≥300MW.	45		**36**
	- ≥ 3 projects: 100% maximum score of item		45	
	- = 2 project or 15 years experience in similar work: 80% maximum score of item		36	
	- < 2 project or < 15 years experience in similar work: 0% maximum score of item		0	
	b) Experience in Vietnam in commissioning team leader position (Power Project)	20		

No.	Evaluation Criteria	Maximum scores	Detailed scores	Minimum scores
	≥ 2 project: 100% maximum score of item		20	
	= 1 project: 80% maximum score of item		16	
	= 0 project: 0% maximum score of item		0	
9.8	**HSE Engineer** (01 person)	**40**		**32**
	a) Has been in position of HSE Engineer of EPC or EP or EC or PC package of similar project: + The coal-fired thermal power plant with a unit's capacity ≥300MW including SO_2 removal system using WFGD (limestone) technology, NOx removal using SCR technology, and electrostatic precipitator (ESP) system or + The new installation/upgrading SO_2 removal system using WFGD (limestone) technology/NOx removal using SCR technology/electrostatic precipitator (ESP) system of the coal-fired thermal power plant with a unit's capacity ≥300MW.			
	≥ 2 project: 100% maximum score of item		40	
	= 1 project or 5 years experience in similar work: 80% maximum score of item		32	
	= 0 project or < 5 years experience in similar work: 0% maximum score of item		0	
	Total	**1000**		**800**

Notes: For construction proposal, failure to meet the minimum points of every items above shall result in the rejection of the Bid and not be evaluated further.

Table 4 – EVALUATION CRITERIA OF PRESTIGE OF BIDDER

The Prestige of Bidder shall be evaluated as follows:

No.	Evaluation Criteria	Maximum scores	Detailed Scores	Minimum scores
1	**Prestige of Bidder:**	50		
	- Within the last 3 years, the contractor has no case of: non-negotiation of the contract; a winning decision but not completing, signing the contract; not completing the contract due to the contractor's fault. - In case the Contractor participates as a Joint Venture: The scoring of the Contractor's Reputation requirement in table 4 is scored for each member of the JV as in the case of an independent contractor. The evaluation score of the Joint Venture Contractor will be the score of the member with the lowest score.			
	- Meet the requirements for Contractor's prestige (100%) equivalent to 50 points		50	
	- Failing to meet the requirements of Contractor Reputation (0%) equivalent to 0 points		0	
	Total	**50**		

3.3. Final technical evaluation

- The total minimum technical qualifying score is 2400.
- Given the conditions in point 3.2 are satisfied, the Bid having total score to be equal or higher than total minimum technical qualifying score shall be determined as responsive in technical aspect and shall be further evaluated in financial aspect in Section 4 below

Section 4. Inspecting and evaluating the validity of the Financial Proposal

4.1. Inspecting the Financial Proposal

a) Inspect quantity of copies of Financial Proposal;

b) Inspect the composition of the original of Financial Proposal, consisting of: Letter of Bid of Financial Proposal, Price Schedule (Grand Total, Bill of Quantities);

c) Inspect the consistency of contents between original and copies to serve the detailed evaluation of Financial Proposal.

4.2. Evaluating the validity of the Financial Proposal

A Financial Proposal is considered as substantial responsiveness when all of the following conditions (substantial requirements) are satisfied:

a) There is an original of Financial Proposal;

b) There is an original Letter of Bid signed and sealed (if any) by the legal representative of the Bidder as required by the Bidding Document; the time of signature shall be after Bidding Document issuance. For Consortium/Joint venture, Letter of Bid shall be signed and sealed (if any) by the legal representative of every Consortium/Joint venture's partner or the assigned Consortium/Joint venture's partner duly authorized to sign the Letter of Bid according to the regarding Consortium/Joint venture agreement;

c) The Bid Price mentioned in the Letter of Bid shall be detailed, specified in both number and words, and in conformity with the total Bid Price mentioned in the Price Schedule. There are no different bid prices or accompanied disadvantaged conditions to the Employer;

d) The validity period of Financial Proposal satisfies requirements as prescribed in ITB 17.1.

e) Following requirements of Price Schedules shall be fulfilled by Bidders:

- Price Schedules as regulated in Form 21 are enclosed in Financial Proposal.

- When being submitted as part of Financial Proposal or after clarification as required in ITB 29, in the Price Schedules, Bidders shall give the required details and a breakdown of their prices in the manner and detail called for.

Only those Bidders, whose Financial Proposals are considered as substantial responsiveness, will be evaluated further in next step – Section 5 below. For other Bidders, whose Financial Proposals are considered as substantial non-responsiveness, will be rejected and not be evaluated further.

Section 5. Financial evaluation criteria

Financial evaluation shall be applied Lowest Evaluated Price Method.

The lowest evaluated price shall be determined in accordance with the following steps:

Step 1. Determine the bid price excluding import-related taxes, duties and fees, special

consumption tax (if any), and value-added tax (VAT) applicable to the goods.

Step 2: Adjustment of redundancy deviations.

Step 3. Determine the Bid price (excluding import-related taxes, duties and fees, special consumption tax (if any), and VAT) after correction of arithmetic errors (if any), adjustment of redundancy deviations (if any), minus any discounts offered by the Bidder (if any) and converting the bid price to a single currency (if any).

Step 4. Apply domestic preference (if any) in accordance with Clause 32 of the Instructions to Bidders (ITB).

Step 5. Ranking of Bidders: The Bidder whose evaluated bid price is the lowest, shall be ranked first.

In case the Employer includes provisional sums, the costs for such provisional sums, including daywork costs, shall be separately identified and excluded from the evaluation of Bids for the purpose of comparison and ranking of Bids.

Notes:

(1) Error correction:

Provided that the Bid is substantially responsive, the arithmetical errors and other errors shall be corrected on the following basis:

a) Arithmetical errors include errors due to incorrect addition, subtraction, multiplication and division when calculating bid price. If there is a discrepancy between the unit price and the total price, the unit price shall prevail and the total price shall be corrected; if there is an obvious misplacement of the decimal point in the unit price (10 times, 100 times, 1,000 times), the total price shall prevail and the unit price shall be corrected. In case the Bidder insert no value or insert "0" in the columns "unit price" and "total price", the Bidder shall be deemed allocating the price of this work item to another work item of the package, the Bidder shall be responsible for performing these work items in conformity with the requirements of Bidding Document without any payment from the Employer during the contract performance.

b) In case the total value of items is incorrect due to errors in adding or subtracting the value of items, the value of items shall be prevail and the total value of items shall be corrected.

c) In case there is a discrepancy between the bid price written in numbers and the bid price written in words, the bid price written in words shall be prevail and the bid price written in numbers shall be corrected, except when the bid price written in words is no meaning; in case the bid price written in words contains arithmetical errors, the bid price written in numbers after being accurate (if any) according to point a and b of this Clause shall be prevail and the bid price written in words shall be corrected.

d) Other errors:

- If a total price is fully filled but the equivalent unit price is leaved blank, the unit

price shall be determined by dividing the total price by the quantity; if a unit price is fully filled but the equivalent total price is leaved blank, the total price shall be determined by multiplying the unit price and the quantity; if a unit price and the equivalent total are fully filled but the equivalent quantity is leaved blank, the quantity shall be determined by dividing the total price by the unit price. If the additional quantity determined above is different from the equivalent quantity mentioned in the Bidding Document, such discrepancy shall be the deviation related to Scope of Works which shall be adjusted as prescribed in the Step 3;

- Physical unit errors: correct units in conformity with the requirements of Bidding Document;

- Unit errors: replace "." (stop) with ","(comma) and vice versa in conformity with the English unit. If the Employer's Representative believes that the stops and commas in the unit price are put in wrong position, the total price shall prevail and the unit price shall be corrected;

- If there is an error in a total corresponding to the addition of subtotals, the subtotals shall prevail and the total shall be corrected;

- If there is a discrepancy between words and figures, the amount in words shall prevail, and the amount in figures shall be corrected. If the amount in words is related to arithmetic error, the amount in figures prescribed in this Section shall prevail.

- Nonmaterial Nonconformities: provided that a Bid is substantially responsive, the Employer/ Employer's Representative may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Bid related to documentation requirements (but not related to any of aspects of bid price). These nonconformities may be negotiated in the Negotiation of Contract phase if necessary.

(2) Adjustment of deviation(s):

a) Adjustment of redundancy deviations for lump sum basis contract in accordance with Decree 214/2025/ND-CP:

Bidder's bid price is determined as including all necessary cost to implement the Bid package in accordance with design, technical requirements prescribed in Bidding Document, and shall not be adjusted in case the proposed scope of work in the Bid is different from the requirements in Bidding Document, except when this different proposed work is not required in the requirements of Bidding Document (other than the volume to be completed in accordance with the design). In this case, the portion of work excluded in the scope of work required in the Bidding Document will be determined as redundancy and the work value of the redundancy shall be subtracted.

b) If the Bidder has a Letter of Discount, the discount percentage (%) shall apply on the Bid Price after adjustment of redundancy deviations.

c) After error correction and deviation adjustment, the Employer's Representative

shall give the bidder a written notification of error correction and deviation adjustment. Within 03 working days from the date of receiving the notification from the Employer's Representative, the bidder shall give the Employer's Representative a written notification of agreeing with error correction and redundancy deviation adjustment. If the bidder does not agree with error correction and redundancy deviation adjustment, the bidder's Bid shall be rejected, except when the error correction and redundancy deviation adjustment from the Employer's Representative are not correct and reasonable.

(3) Bid Price during comparison and evaluation:

- The Bid Price of the Bidder shall include total expenses incurred to perform the package, including taxes, fees, and charges (if any). The taxes, fees and charges shall be determined at 28 days prior the deadline for submission of Bid.

- The taxes, fees and charges as stipulated Taxes and Duties of Form 21 shall not be considered during the comparison and ranking of the Bidder. In case the Bidder is ranked first, taxes, fees, and charges (if any) are specifically determined in the negotiation phase of Contract. The successful Bid Price and Contract Price shall include taxes, fees, and charges (if any).

Section 6. Alternative Bid (Not Applicable)

Chapter IV. BIDDING FORMS

No.	Forms
I	**TECHNICAL PORPOSAL**
1	Form 01. Letter of Bid (Technical Proposal)
2	Form 02. Power of Attorney
3	Form 03. Consortium/Joint Venture Agreement
4	Form 04. Bid Security
5	Form 05(a). Bidder Information
6	Form 05(b). Consortium/Joint venture party information form
7	Form 06A. Similar EPC, EC, EP, PC Contract performed by the Bidder
9	Form 06B. Similar Construction Contract performed by the Special subcontractor.
12	Form 07A. Table of Proposed personal for Key person
13	Form 07B. Cirriculum Vitae of Personel for Key Person
14	Form 07C. Professional Qualification of Personel for Key Person
15	Form 08. List of main construction equipment
16	Form 09A. Previous consulting, procurement, construction, EPC, EP, EC, PC, Turnkey non-fulfilment due to Bidder's fault
17	Form 09B. Previous Construction, EPC, EC, PC, Turnkey non-fulfilment due to special sub-contractor's fault
18	Form 10A1. Financial Situation of Bidder
19	Form 10A2. Financial Situation of Special Sub-contractor
20	Form 10B. Average Anual Revenue
21	Form 11. Financial Resources

22	Form 12. Monthly Financial resources contracts in progress
23	Form 13. Works item performed by Subcontractors
24	Form 14. List of Special subcontractors
25	Form 15. List of subsidiary company, Associated company in charge of Packages works
26	Form 16. Time Schedule of Project
27	Form 17. Employer/End User's Certificate
28	Form 18A. Techinical Deviation Declaration Form
29	Form 18B. Commercial Deviation Declaration Form
II	**FINANCIAL PROPOSAL**
30	Form 19(a). Letter of Bid (Financial Proposal)
31	Form 19(b). Letter of Bid (Financial Proposal)
32	Form 20. Grand summary
33	Form 21. Price Schedules
34	Form 22. Domestic Costs eligible incentives
35	Form 23. Schedule of Adjustment Data

Form No. 01

LETTER OF BID [(1)]

(Technical proposal)

Date: ___ *[insert date of signing of Letter of Bid]*

The Package Name: ___ *[insert the package's name specified in BDS 1.2]*

Project's name: [insert the project's name specified in BDS 1.2]

To: ___ [*insert the complete and accurate name of the Employer's Representative as specified in ITB 1.1. of Chapter II. Bid Data Sheet]*

After carefully examining the Bidding Documents and Addendum No. ___[*insert the number of the Addendum (if any)*], we, ___[*insert the Bidder's name*], pledge ourselves to perform _____[*insert the package's name*] in accordance with the Bidding Documents with the contract duration of ____[*insert the total performance duration of all the work as required by the package*] [(2)]. Our Bid includes Technical Proposal and Financial Proposal separately sealed.

Validity of the bid: within ____ [(3)] days, from _____ [date] [(4).]

Bid security: ___*[State the value of the Bid security in numbers, words, and currency]*

Validity of the Bid Security[(5)]: ____ *[Indicate the validity period from the Bid closing date]*

We hereby declare that:

1. We only participate in this Bid as the Contractor.

2. Not currently undergoing dissolution procedures or having its business registration certificate, cooperative registration certificate, cooperative union registration certificate, or cooperative group registration certificate revoked; not subject to insolvency as defined by bankruptcy law (not currently in the process of ceasing operations or having its household business registration certificate revoked for contractors who are household businesses).

3. We do commit no violations against regulations on assurance of competitiveness in bidding.

3. We commit that have fulfilled of the obligation of tax declaration and tax payment of the latest fiscal year.

4. We are not banned from bidding as prescribed in Law of Bidding;

5. We are not currently under criminal prosecution;

6. Within 03 years before the bidding deadline, the contractor does not have personnel (signed labor contracts with the contractor at the time the personnel committed the violation) who were convicted by the Court of violating regulations on bidding causing serious consequences according to the provisions of criminal law for the purpose of giving that contractor the bid (6).

7. We are not involved in corruption, bribery, bid rigging, obstruction, and other violations against Law on Bidding while participating in this bidding package.

8. Every information provided herein is truthful to be the best of our knowledge.

9. In case of winning the Bid, the Bidder's Bid and additional and clarification documents of the Bid shall constitute a binding agreement between the two parties until the contract is signed.

10. If our bid is accepted, we shall provide the Performance Security as prescribed in ITB 41 - Instructions to Bidders of the Bidding Documents.

Legal representative of Bidder (7)
[Full name, position, signature and seal (8)]

Note:

(1) Bidder must provide sufficient and accurate information including names of the Employer's Representative and the Bidder, effective period of the Bid, which bears the signature and seal (if any) and of the bidder's legal representative.

(2) The contract duration mentioned in the Letter of Bid must conform to the Technical Proposal and Schedule of Construction in the Bid.

(3) Insert number of validity days as prescribed in Section 17.1 of the BDS. Effective period of the Bid is from the deadline for submission of Bid to its expiration date as prescribed in the Bidding Documents. The period of time from the deadline for submission of Bid to 24:00 of the bid closing date is considered 01 day.

(4) Insert the bid closing date as prescribed in Section 21.1 of the BDS.

(5) The validity period of the Bid Security shall be specified in Section 18.2 of the BDS (Bid Data Sheet).

(6) The Bidding Documents shall not require the Bidder to submit judicial records of personnel as evidence for this evaluation criteria.

(7) If the Bidder's legal representative authorizes his/her subordinate to sign the

Letter of Bid, a Power of Attorney (Form 02 provided in this Chapter) must be enclosed. If the company's charter or another document permits such subordinate to sign the Letter of Bid, such document shall be enclosed (In this case, the Power of Attorney is not required). Regarding Joint venture, the Letter of Bid shall be signed by legal representative of every Consortium/Joint venture's member, unless the head of the Joint venture may sign the Letter of Bid according to the Joint venture agreement as mentioned in Form 03 of this Chapter. Each Consortium/Joint venture's member may give authorization similarly to an independent Bidder. If the successful bidder must present certified true copies of these documents to the Employer before contract conclusion. If information provided is found inaccurate, the Bidder will be considered fraudulent as prescribed in ITB Section 3.

(8) If a foreign Bidder has no seal, a Competent organization's Certificate must be provided in which certify that the signature in the Letter of Bid and other documents in the Bid are of the Bidder's legal representative.

Form No. 02: POWER OF ATTORNEY [(1)]

[*Location and date*] _____

I am _____*[insert name, ID/passport number, position of bidder's legal representative],* the legal representative of _____ *[insert name of bidder]* at _____ *[insert address of bidder]* hereby authorizes _____ *[insert name, ID/passport number, position of authorized person]* to perform the following tasks during the participation in the process of bidding for _____ [*insert name of the package*] of _____ [*insert name of the project*] held by _____ *[insert name of the Employer's Representative]:*

[*-Sign the Letter of Technical Proposal and Letter of Financial Proposal;*

- Sign the Consortium/Joint venture agreement (if any);

- Sign documents with the Employer's Representative during the Bid selection, including the request for Clarification of Bidding Documents and Bids; sign requests for withdrawal, modification or substitutions of Technical Proposal and Financial Proposal;

- Participate in contract negotiation and finalization;

- Sign complaint letter (if any);

- Sign contract with the Employer if it is successful] [(2)]

The authorized person only performs the tasks within the area of competence of a legal representative of _____ *[insert name of bidder].* _____ *[insert name of bidder's legal representative]* is totally responsible for the tasks performed by _____ *[insert name of authorized person]* within the authorization scope.

The Power of Attorney is effective from _____ [date] to _____ [date][(3)] and is made into _____ copies with equal value. _____ copies are kept by the authorizer, and _____ copies are kept by the authorized person.

Authorized person	**Authorizer**
[Full name, position, signature and seal]	[Full name, position, signature and seal of the legal representative]

Notes:

(1) The original copy of the Power of Attorney shall be sent to the Employer's Representative in conjunction with the Letter of Bid as prescribed in ITB Section 19.3. The Bidder's legal representative may authorize their deputies, subordinates, directors of branches, heads of representative offices of the Bidder to perform the tasks on behalf of the Bidder. The authorized person may use the seal of the Bidder or their seal. The authorized person may not authorize another person.
(2) Area of authorization includes one or multiple tasks above.

(3) Insert the effective date and expiration date of the Power of Attorney in conformity with the bidding process.

Form No. 03

CONSORTIUM/JOINT VENTURE AGREEMENT

[Location and date]_____

Package: [*insert name of the package*]

Project's name: _____ [*insert the project's name*]

Pursuant to [(2)] ____ [*Law on bidding No. 22/2023/QH15 dated June 23, 2023 of the National Assembly Vietnam, as amended and supplemented by Law No. 57/2024/QH15, Law No. 90/2025/QH15*];

Pursuant to [(2)]____ [*Government's Decree No. 214/2025/ND-CP dated August 04, 2012 on guidelines for the Law on Bidding in terms of selection of contractors*];

In response to Bidding Documents for _____ *[insert name of* package*]* dated _____ *[insert date written on the Bidding Documents];*

Representatives signatories to the Consortium/Joint venture agreement include:

Name of Consortium/Joint venture's member____ *[insert name of each Consortium/Joint venture's member]*

Mr./Ms. _____

Position: _____

Address: _____

Phone number: _____

Fax: _____

Email: _____

Account: _____

TIN: _____

Power of Attorney No. _____ dated _____[(5)] (in case of authorization).

The members have reached a consensus on entering into a Consortium/Joint venture Agreement with the following contents:

Article 1. General Principles

1. Members voluntarily establish this Consortium/Joint venture to participate in the process of bidding for _____ *[insert name of* package*]* of _____ *[insert name of project]*

2. Official name of the Consortium/Joint venture used in every transaction related to the package with the consent of all Members: _____ *[insert the agreed name of the Consortium/Joint venture]*.

3.Every Consortium/Joint venture's member is committed not to unilaterally participate or establish a Consortium/Joint venture with another Consortium/Joint venture's member to participate in this package. If awarded the contract, no Consortium/Joint venture's member is entitled to refuse to fulfill the duties and obligations prescribed in the contract except for a written consent of other members. Any Consortium/Joint venture's member of the Consortium/Joint venture that refuses to perform their duties as agreed must:

- *Pay damages to other members in the Joint venture;*

- *Pay damages to the Employer as prescribed by the contract;*

- *Incur other disciplinary actions _____ [specify the action].*

Article 2. Assignment of duties

All members unanimously to undertake joint and separate responsibility to execute _____ *[insert name of* package*]* of _____ *[insert name of project]* as follows:

1. Leading Consortium/Joint venture's member of the Consortium/Joint venture:

All members unanimously authorize _____ *[insert name of a member]* as the leading Consortium/Joint venture's member of the Consortium/Joint venture who represents the Joint venture to perform the following tasks [(3)]:

[- Sign the Letter of Technical Proposal and Letter of Financial Proposal].

- Sign documents with the Employer's Representative during the Bid selection , including the request for Clarification of Bidding Documents and Bids; sign requests for bid withdrawal, modification or substitutions;

- Provide Bid Security for the Consortium/Joint venture;

- Participate in contract negotiation and finalization;

- Sign complaint letter (if any);

- Perform other tasks except for contract conclusion: _____ [specify other tasks (if any)].

2. Tasks of Consortium/Joint venture's member with the consent of all members are specified in the table below[(4)]:

No.	Names of members in the Consortium/Joint Venture	Tasks	Proportion of value to bid price
1	Name of the leading member of the Consortium/Joint Venture	- ___ - ___	- ___% - ___%
2	Second member's name	- ___ - ___	- ___% - ___%
....	....	....	10
Total		**All tasks of the package**	**100%**

Article 3. Effect of Consortium/Joint venture agreement

1. The Consortium/Joint venture agreement takes effect from the day on which it is signed.

2. The Consortium/Joint venture agreement expires in the following cases:

- All members have fulfiled their duties and finalize the contract;

- The agreement is unanimously terminated by all members;

- The Consortium/Joint venture is not awarded the contract;

- The bidding for _____ *[insert name of the package]* of _____ *[insert name of the project]* is cancelled as notified by the Employer's Representative.

The Consortium/Joint venture agreement is made into _____ copies with equal legal value, each member keeps _____ copies.

LEGAL REPRESENTATIVE OF LEADING CONSORTIUM/JOINT VENTURE'S MEMBER

[Full name, position, signature and seal]

LEGAL REPRESENTATIVE OF CONSORTIUM/JOINT VENTURE'S MEMBER

[Full name, position, signature and seal of each Joint venture's member]

Notes:

(1) According to the scope and nature of the package, this Consortium/Joint venture agreement may be amended. The project's name and package's name must be clarified accurately and sufficiently as prescribed in **BDS** Section 1.2.
(2) Update legislative documents in force.
(3) Area of authorization includes one or multiple tasks above.

(4) The Bidder shall specify detailed tasks and estimate equivalent value of tasks performed by every Consortium/Joint venture's Party, common and private responsibilities of Consortium/Joint venture's Party, including the leading Consortium/Joint venture's Party.

The division of tasks within the Consortium/Joint venture must be based on the items listed in the Grand summary table specified in Form No. 21 Chapter IV; the tasks not belonging to these items or not part of the production process of these items may not be divided.

Form 04

BID SECURITY (1)

Beneficiary: Power Generation Corporation 1 (EVNGENCO1);

EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1;

Address: 32 Ngo Thoi Nhiem, Xuan Hoa Ward, Ho Chi Minh City, S.R. Vietnam.

Date of issuance of security: ___ *[enter date of issuance of security]*

BID SECURITY No.: ___ *[specify the number of the Bid Security]*

Guarantor: *[insert name and address of issuing bank, if it is not written in the title]*

We have been informed that _____ *[name of the Bidder]* (hereinafter referred to as "Bidder" has submitted to participate in the bid for the execution of _____ *[name of package]* of _____ *[name of project]* under Invitation to Bid.No. _____ *[Summary number of Invitation to Bid/Tender Notice]*.

We hereby pledge to the Beneficiary that we guarantee the Bidder with an amount of ____ *[amount in figures, in words, and currency]* .

This Security take effect within ___ (2) days, from _____ (3) .

At the request of the Bidder, we, as the Guarantor, undertake (4) to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *[amount in figures]* (_____) *[amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s), because the Bidder:

1. has withdraws the bid in writing or refuses to perform one or more of the proposed works in the bid as required by the Bidding documents after the bid closing time and during the validity period of the bid;

2. commits acts that violate the provisions of Article 16 of the Law on Bidding or violate the law on bidding, leading to Bid cancellation ;

3. fails to provide a performance guarantee as required by Article 68 of the Law on Bidding;

4. fails or refuses to negotiate the contract (if any) within 10 days from the date of receiving the notice to negotiate the contract or has negotiated the contract but refuses or does not sign the minutes of negotiation meeting, excluding force majeure events.

5. fails or refuses to complete the contract within 20 days, from the date on which the notification of bid acceptance sent by the Employer's Representative is received, or refuses to conclude the contract after the contract completion excluding in cases stipulated in Clause 4, Article 34 of Decree No. 214 /2025/ND-CP or force majeure events;

6. fails or refuses to sign the contract within 20 days from the date of contract completion, excluding force majeure events.

If any Consortium/Joint venture's Party _____ [insert the Consortium/Joint venture's name] violates regulations of law leading ineligible for Bid Security return as prescribed in Section 18.5 –Instructions to Bidder, the Bid Security of all Consortium/Joint venture's Parties shall not be returned (applicable for Consortium/Joint venture Bidder only).

If the Bidder wins the Bid, this Guarantee shall expire when the Bidder conclude the contract and furnish the Performance Security to the beneficiary as agreed.

If the bidder fails to wins the Bid, this Guarantee shall expire when the Bidder receives the photocopy of notification of bidder selection result sent by the Beneficiary orwithin 30 days after the expiration date of the Bid, whichever comes first.

Any claim under this guarantee must be submitted to our office on or before the last day of this guarantee's validity. We undertake to unconditionally and irrevocably pay the Employer any amount within the limits of the aforementioned guarantee upon the Employer's request for compensation.

Legal representative of the bank

[Full Name, position, signature, and seal]

Note:

(1) In case the Bid security violates one of the regulations such as: having a lower value, a shorter validity period than required in Section 18.2 of the Bid Data Sheet, not the correct name of the beneficiary, not being the original, not having a valid signature, signed before the Employer issues the Bid Data Sheet, or having conditions that are unfavorable to the Employer, the Bid Secueiry shall be considered invalid.

(2) In case of Consortium/Joint venture, The Bidder's name may be one of the following cases:

- The name of the entire Consortium/Joint venture of Bidder, for example, if Consortium/Joint venture A + B participates in the bidding, the Bidder's name should be recorded as "Consortium/Joint venture A + B";

- The name of the member responsible for providing the bid security for the entire

Consortium/Joint venture or for another member within the Consortium/Joint venture. For example, if the Consortium/Joint venture A + B + C is participating in the bidding, and the Consortium/Joint venture agreement designates contractor A to provide the bid security for the entire Consortium/Joint venture, then the Bidder's name should be recorded as "Bidder A (on behalf of the Consortium/Joint venture A + B + C)". If the Consortium/Joint venture agreement designates contractor B to provide the bid security for Bidders B and C, then the Bidder's name should be recorded as "Bidder B (on behalf of Bidders B + C)".

- Name of the Consortium/Joint venture member that separately provides the bid guarantee;

- In cases where the Consortium/Joint venture agreement does not specifically assign responsibility for bid security to each member, but the total value of bid security provided by all members and attached to the bid meets the requirements of the Bidding documents, it will still be considered as meeting the bid security value requirement.

(3)Record according to the regulations on validity period in Section 18.2 of the BDS.

(4) Record the date of the bid closing time as stipulated in the tender notice. The validity period of the bid security is calculated from the date of the bid closing time to the last day of the bid security's validity (the end time of the bid security's validity is on the last day of the bid security's validity, and it is not necessary to reach the end of 24 hours of that day).

(5) If the bid security lacks one or more commitments in the above-mentioned commitment contents, it will be considered a condition that is detrimental to the Employer as stipulated in Section 18.3 of the Bidding Documents and the security letter will be considered invalid.

Form 05(a)

BIDDER INFORMATION

Date:_____

Number and name of package: _____

Bidder's name: _____
Place of business registration and operation: ____*[insert province/city where the Bidder registers and operate business]*
Year of establishment:
Bidder's legal address: ____[insert the registered address]
Bidder's legal representative information Name _____ Address: _____ Phone number/Fax: _____ Email address: _____
1. Attached are photocopies of one of the following documents: The Bidder has been granted a Certificate of Enterprise registration, a Establishment Decision or equivalent document issued by a competent authority of the country in which the Bidder is operating. 2. Diagram of organizational structure of the Bidder.

Form 05(b)

CONSORTIUM/JOINT VENTURE PARTY INFORMATION FORM(1)

Date:_____

Number and name of package: _____ _____

Bidder's name:
Consortium/Joint venture's Party name:
Consortium/Joint venture's Party Country of Registration:
Consortium/Joint venture's Party Year of Establishment:
Consortium/Joint venture's Party Legal Address in Country of Registration:
Consortium/Joint venture's legal representative information: Name: _____ Address: _____ Phone number/Fax: _____ Email address: _____
1. Attached are photocopies of one of the following documents: The Bidder has been granted a Certificate of Enterprise registration, a Establishment Decision or equivalent document issued by a competent authority of the country in which the Bidder is operating. 2. Diagram of organizational structure.

Notes:

(1) Regarding Consortium/Joint venture, each Consortium/Joint venture member shall declare information using this Form.

Form No. 06A

SIMILAR EPC, EC, EP, PC CONTRACTS PERFORMED BY THE BIDDER (1)

Bidder's name: _____[enter the full name of the Bidder].

Information for each contract, each contract must include the following information:

Name and contract number	*[Fill in the full name of the contract, and the contract number]*		
Contract signing date	*[insert [day , month , year]*		
Completion date	*[insert [Day , Month , Year]*		
Total Contract Price	*[insert total contract price in figures and currency]*		Equivelent to ____ VND
For Consortium/Joint venture's member or subcontractor, briefly state his portion of tasks and the Contract value undertaken in the Consortium/Joint Venture	*[summary of the tasks undertaken in the Consortium/Joint venture]*	*[Specify the percentage of the contract value of the tasks undertaken within the total contract price; the amount and currency signed]*	Equivelent to ____ VND
Name of the project:	*[Fill in full name of projects for which the contract is being declared]*		
Employer's name	*[Fill in full name of Employer as stated in the contract being declared]*		
Address : Phone No./Fax: Email:	*[Fill in the full current address of the Employer]* *[Include telephone and fax numbers, including country and area codes]* *[Fill in email address]*		
Describe the similarity			
1. Contract information	*[Fill in appropriate information]*		

2. Similarity **(2)**	*Specify the similarity of contract*
3. Value of contract(3)	*[declare the actual contract value performed based on the contract acceptance and settlement value]*
4. Regarding the scale of implementation	*[Specify the scope as per the contract]*
Description of the field	
1. Contract information	*[Fill in appropriate information]*
2. The field of contract	*Specify the field of contract*
3. The contract value has performed (3)	*[declare the actual contract value performed based on the contract acceptance and settlement value]*
4. Regarding the scale of implementation	*[Specify the scope as per the contract]*

Notes:

The Bidder is requested to carefully study the Bidding Document and propose similar contracts to meet the Bidding Document's requirements.

(1) In case Consortium or Joint venture, each member shall declare information under this Form. In case the Bidder has many similar contracts, each contract shall be declared according to this Form.

(2) The Bidder only specify similarity of the similar Contracts to demonstrate their responsiveness.

(3) In case the contract value is not in VND, it shall be converted into VND at the exchange rate specified in Section 2.1 Chapter III for the purpose of the Bid evaluation.

Form No. 06B

SIMILAR CONSTRUCTION CONTRACT (C) PERFORMED BY THE SPECIAL SUB-CONTRACTOR (1)

Special Sub-contractor's name: _____[enter the full name of the Contractor].

Information for each contract, each contract must include the following information:

Name and contract number	*[Fill in the full name of the contract, and the contract number]*		
Contract signing date	*[insert [day , month , year]*		
Completion date	*[insert [Day , Month , Year]*		
Total Contract Price	*[insert total contract price in figures and currency]*		Equivelent to ____ VND
For Consortium/Joint venture's member or subcontractor, briefly state his portion of tasks and the Contract value undertaken in the Consortium/Joint Venture	*[summary of the tasks undertaken in the Consortium/Joint venture*	For Consortium/Joint venture's member or subcontractor, briefly state his portion of tasks and the Contract value undertaken in the consortium/joint venture	*[summary of the tasks undertaken in the Consortium/Joint venture]*
Name of the project:	*[Fill in full name of projects for which the contract is being declared]*		
Employer's name	*[Fill in full name of Employer as stated in the contract being declared]*		
Address : Phone No./Fax: Email:	*[Fill in the full current address of the Employer]* *[Include telephone and fax numbers, including country and area codes]* *[Fill in email address]*		

Describe the similar characteristics for construction (2)	
1. Type of structure, building class	*[Information recorded in the contract]*
2. Value of performed contract(3)	*[declare the actual contract value performed based on the contract acceptance and settlement value]*
3. Main work items of the contract that have been completed	*[Record the main tasks performed as per the contract]*
4. Methods and technologies	*[Information recorded in the contract]*
5. Other contents	*[Record information (if any)]*

Note:

The special subcontractor is requested to carefully study the Bidding Document and propose similar contracts to meet the Bidding Document's requirements.

(1) In case the special sub-contractor has many similar contracts, each contract shall be declared according to this Form.
(2) The special sub-contractor only specify similarity of the similar Contracts to demonstrate their responsiveness.
(3) In case the contract value is not in VND, it shall be converted into VND at the exchange rate specified in Section 2.1 Chapter III for the purpose of the Bid evaluation.

Form No. 07A

TABLE OF PROPOSED PERSONEL FOR KEY PERSON

The Bidder must declare key personnel as stipulated in point a, Section 2.2, Chapter III, and must demonstrate the ability to mobilize these personnel to participate in the execution of the contract. Key personnel may be on the Bidder's payroll or mobilized by the Bidder. If the key personnel (excluding key personnel performing the consulting work) proposed by the Bidder in the bid do not meet the requirements or the contractor cannot demonstrate the ability to mobilize personnel (including cases where key personnel have already been mobilized for another contract with overlapping working time with this contract), the Employer allows the Bidder to supplement or replace them. The Bidder is only allowed to supplement or replace one key personnel position within a suitable period but not less than 3 working days. If the Bidder does not have replacement personnel that meet the requirements of the Bidding documents, the Bidder will be disqualified. If a Bidder intentionally makes false declarations about key personnel in their bid to distort the results of the Bid selection process, the Bidder will not be allowed to replace the personnel, their bid will be disqualified, and the contractor will be considered fraudulent according to the provisions of point b, clause 4, Article 16 of the Law on Bidding and will be handled according to the provisions of clause 1, Article 133 of Decree No. 214 /2025 / ND-CP .

No.	Name	Position in charge
1	*[Insert the Employee's name for key person]*	*[Insert detailed position in charge]*
2	……	
...		

Form No. 07B

CIRRICULUM VITAE OF PERSONEL FOR KEY PERSON

Personnel Information						Present work					
No.	**Name**	**ID No.**	**position incharge**	**Date of birth**	**Professional qualifications**	**The Employer's name**	**The Employer's address**	**Job title**	**Number of years of service for the current employer**	**Contact person (Manager/ Personnel officer)**	**Phone /Fax/E mail**
1	[Fill in name of key person No.1]										
2	[Fill in name of key person No.2]										
...											
n	[Fill in name of key person No. n]										

Note: The Bidder shall provide adequate information required above and enclosed certified true photocopies of relevant degress certificate….

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Form No. 07C

PROFESSIONAL QUALIFICATION OF PERSONEL FOR KEY PERSON

No.	Name of Key person	From	To	Company / Project / Position / Agreemen/Contract/ Relevant professional and management experience
1	[Fill in Name of Key person No.1]	...	...	...
2				
...	...			

Summarize professional experience in reverse chronological order. Indicate particular professional and managerial experience relevant to the package.

The Bidder shall provide adequate information required above and enclosed certified true photocopies of relevant degree and certificate….

.

Form No. 08

LIST OF MAIN CONSTRUCTION EQUIPMENT

The Bidder must declare the main construction equipment as stipulated in point b, Section 2.2, Chapter III, and must demonstrate the ability to mobilize this equipment to participate in the execution of the contract. The main construction equipment may be owned by the Bidder or mobilized by the Bidder. If the main construction equipment proposed by the Bidder in the bid does not meet the requirements, the Employer allows the Bidder to supplement or replace it. The Bidder is only allowed to supplement or replace each piece of equipment once within a suitable period, but not less than 3 working days. If the Bidder does not have replacement main construction equipment that meets the requirements of the Bidding documents, the Bidder will be disqualified. If a Bidder intentionally makes false declarations about the main equipment in their bid to mislead the bid selection results, they are not allowed to replace the main construction equipment with other equipment. The Bidder's proposal will be disqualified, and the Bidder will be considered fraudulent according to the provisions of point b, clause 4, Article 16 of the Law on Bidding and will be handled according to the provisions of clause 1, Article 133 of Decree No. 214/2025/ND-CP.

No.	Equipment's Information							Current Status		
	Name of	Name of	Mode	Capacit	Year of	Functio	Origi	Current	Information	Source of

	euipment	**manufacture**	**l**	**y**	**Manufacture**	**n**	**n**	**location of the equipment**	**on Current Mobilization and Utilization of the Equipment**	**the Equipment (Owned by the Bidder / Leased / Rented Out / Specially Fabricated)**
1										
2										
...										

Add the following information for the equipment not owned by the Bidder:

Owner							**Agreement**
No.	**Name of euipment**	**Name of Owner**	**Owner's address**	**Telephone**	**Fax Number**	**Telex**	**Detailed information on the arrangement for leasing/Renting or**

							Specially Fabricated
1							
...							

Form No. 09A

PREVIOUS CONSULTING, PROCUREMENT, CONSTRUCTION, EPC, EP, EC, PC, TURNKEY NON-FULFILMENT DUE TO BIDDER'S FAULT (1)

Bidder's Name: _____

Date: _____

Consortium/Joint venture's member name (if any):_____

Consulting, procurement, construction, EPC, EP, EC, PC, and Turnkey contracts that were not completed due to Bidder's fault as stipulated in Section 2.1, Chapter III.			
☐ There is no or at least one contract (**Consulting, goods, construction, EPC, EP, EC, PC, turnkey)** that was not completed due to the Bidder's fault as of January 1st, 2023 as stipulated in evaluation criterion 1 in the Table of Evaluation Standards on Capacity and Experience under Section 2.1, Chapter III. ☐ Having two or more contracts **(Consulting, goods, construction, EPC, EP, EC, PC, turnkey)** that were not completed due to the Bidderr's fault as of January 1st, 2023 as stipulated in evaluation criterion 1 in the Table of Evaluation Standards on Capacity and Experience under Section 2.1, Chapter III.			
Year	**Unfinished tasks in the contract**	**Description of contract**	**Total value of contract (current value, currency unit, exchange rate, equivalent value in VND)**
		Description of contract Employer's name: Address: Reasons for contract non-fulfillment:	

Note:

(1) The Bidder must accurately and truthfully declare consulting, procurement, construction, EPC, EP, EC, PC, and turnkey contracts that were not completed due to the Bidder's past fault; if the Employer or the Expert Team discovers that the Bidder has consulting, procurement, construction, EPC, EP, EC, PC, or

turnkey contracts that were not completed due to the Bidder's past fault but has not declared them, the Bidder will be considered to have committed fraud and the Bidder's Bid will be disqualified. In the case of a joint venture Bidder, each member of the joint venture must declare according to this Form.

Form No. 09B

PREVIOUS CONSTRUCTION, EPC, EC, PC, TURNKEY NON-FULFILMENT DUE TO SPECICAL SUB-CONTRACTOR'S FAULT (1)

Special subcontractor's Name: _____
Date: _____

Construction, EPC, EC, PC, and Turnkey contracts that were not completed due to Contractor's fault as stipulated in Section 2.3, Chapter III.			
☐ There is no or at least one contract (**Construction, EPC, EC, PC, turnkey)** that was not completed due to the Bidder's fault as of January 01, 2023 as stipulated in evaluation criterion 1 in the Table of Evaluation Standards on Capacity and Experience under Section 2.3, Chapter III. ☐ Having two or more contracts **(Construction, EPC, EC, PC, turnkey)** that were not completed due to the Bidderr's fault as of January 01, 2023 as stipulated in evaluation criterion 1 in the Table of Evaluation Standards on Capacity and Experience under Section 2.3, Chapter III.			
Year	**Unfinished tasks in the contract**	**Description of contract**	**Total value of contract (current value, currency unit, exchange rate, equivalent value in VND)**
		Description of contract Employer's name: Address: Reasons for contract non-fulfillment:	

Note:

(1) The Specical sub-contractor must accurately and truthfully declare Construction, EPC, EC, PC, and turnkey contracts that were not completed due to the Specical sub-contractor's past fault; if the Employer or the Bid Evaluation Committee discovers that the Contractor has Construction, EPC, EC, PC, or turnkey contracts that were not completed due to the Specical sub-contractor's

past fault but has not declared them, the Specical sub-contractor will be considered to have committed fraud and the Bidder's Bid will be disqualified.

Form No. 10A1

FINANCICAL SITUATION OF BIDDER (1)

Bidder's name: _____

Date:_____ _____

Consortium/Joint venture's Party name (if any) : _____

	Bidder's financial year **from ___ day of ___ month to ___ day of ____ month**		
	Financial Data for previous _____ years as required by Bidding Document		
	Year 1:	Year 2:	Year 3:
Total Assets			
Total Liabilities			
Net Worth			
Annual revenue (excluding VAT)			
Average Annual Revenue (excluding VAT) (2)			
Profits Before Taxes			
Profits After Taxes			

* Note:

(1) Regarding Consortium/Joint venture, each Consortium/Joint venture's Party shall declare information using this Form.

(2) To determine the average annual revenue (excluding VAT), the Bidder shall divides the total revenue of the years (excluding VAT) by the number of years based on the information provided.

Annual turnover is calculated as the total revenue in the financial statements of that year (excluding VAT).

Average annual revenue (excluding VAT) = total annual revenue (excluding VAT) as required by the Bidding Documents/number of years.

In case a Bidder is newly established bidder and does not meet the required number of years as specified in the Bidding Documents, the average annual revenue (excluding VAT) shall be calculated based on the number of years for which the bidder has available financial data.

Attached are copies of financial statements (balance sheets including all related notes, and income statements) for last years, as indicated above, complying with the following conditions:

1. Showing financial status of the Bidder itself or of each member of a Consortium/Joint Venture (in case the Bidder participates as a Consortium/Joint Venture), and shall not include the financial capacity of any affiliated entities, such as parent companies associated with its subsidiaries, or associated companies of the Bidder or any Consortium/Joint Venture member.

2. Historic financial statements must be complete, including all notes to the financial statements as prescribed.

3. For foreign bidders, financial statements must be audited. For domestic bidders, financial statements must correspond to accounting periods already completed, attached are certified true copies of one of the following documents:

- Inspection record of tax declaration;

- Tax statement (VAT and enterprise income tax) whose time of submitting certified by tax authority;

- Documentary evidence on electronic tax declaration by the Bidder;

- Certification of tax liability issued by the tax authority (certifying amount paid in the whole year);

- Auditor's report (if any);

- Other documents.

Form No. 10A2

FINANCICAL SITUATION OF SPECIAL SUB-CONTRACTOR

Special Sub-contractor's name: _____

Date:_____ _____

	Special Sub-contractor's financial year **from ___ day of ___ month to ___ day of ____ month**
Total Assets	
Total Liabilities	
Net Assets	

Note

Attached are copies of financial statements (balance sheets including all related notes, and income statements) for last years, as indicated above, complying with the following conditions:

1. Showing financial status of the Bidder itself or of each member of a Consortium/Joint Venture (in case the Bidder participates as a Consortium/Joint Venture), and shall not include the financial capacity of any affiliated entities, such as parent companies associated with its subsidiaries, or associated companies of the Bidder or any Consortium/Joint Venture member.

2. Historic financial statements must be complete, including all notes to the financial statements as prescribed.

Form No. 10B

AVERAGE ANNUAL REVENUE(1)

Each Bidder or a Consortium/Joint Venture's member shall fill in this form. Information supplied should be the Annual Turnover of the Bidder or each consortium's member for each year for contracts in progress or completed.

Annual Turnover Data for the Last ___Years (2)	
Year	Amount
Average Annual Turnover (3)	

Notes:

(1) Regarding consortium, each consortium's member shall fill in this form.

(2) Refer to the period of time prescribed in criterion 3.2 Financial Qualification Criteria Section 2.1 Chapter III - Evaluation and Qualification Criteria.

(3) Average Annual Revenue shall be determined by dividing total turnover by number of years according the information provided.

Form No. 11

FINANCIAL RESOURCES (1)

Specify proposed sources of financing, such as liquid assets(2), available credit limit(*) and other financial means (other than advance payments of the contract), available to meet the financial resources requirements prescribed in Form No. 12 of this Chapter.

Financial Resources of Bidder		
No.	**Sources of financing**	**Amount (VND)**
1		
2		
3		
4		
5		
...		
Total financial resources of Bidder (TFR)		

Notes:

(1) Every Bidder or Consortium/Joint venture's Party shall provide information about their financial resources, enclosed with documentary evidence.

Expected financial resources shall be determined by the following formula:

PFR = TFR – MFR

Where:

- PFR is the proposed sources of financing to perform the contract:

- TFR is total financial resources of the Bidder (specified in this form);

- MFR is total monthly financial resources required for contracts in progress (specified in Form No. 12).

A Bidder shall be considered responsive to financial resources requirements if its

mobilized proposed financial resources are no less than the value of financial resources required prescribed criterion 3.3. Financial Qualification Criteria Section 2.1 of Chapter III.

If the Bidder encloses a credit commitment issued by a credit institution lawfully operating in Vietnam in the Bid, which promises to lend to the commitment holder (the Bidder) to perform the considered package with minimum amount equivalent to the required value prescribed in criterion 3.3 Financial Qualification Criteria Section 2.1. Chapter III – Evaluation and Qualification Criteria, the Bidder shall be considered satisfying financial requirements for the package. The credit commitment includes the conditions for the bank to grant credit in accordance with the provisions of the law on credit are still accepted; in addition although using the credit commitment, the Bidder must still declare information according to this Form and Form No. 12.

(2) Liquid assets mean cash and equivalent, short-term financial instruments, available-for-sale securities, marketable securities, trade receivables, short-term financial receivables and other assets that can easily be changed into cash within 1 year.

(*) Available credit limit is the total remaining credit limit in all credit facilities that the Bidder is entitled to utilize.

Form No. 12

MONTHLY FINANCIAL RESOURCES
CONTRACTS IN PROGRESS (1)

No.	Contract's name	Contact person of the Investor (address, phone number, fax)	Finish date of contract	Number of remaining months of contract (A) (2)	Unpaid contract value, including taxes (B) (3)	Monthly financial resources required (B/A)
1						
2						
3						
4						
...						
A. Total monthly financial resources required for contracts in progress (MFR)						

Notes:

(1) Each Bidder or Consortium's/Joint venture's Party shall provide information below to calculate all required financial resources, which is all value of: (i) current commitments of the Bidder (or each Consortium/Joint venture member) in all contracts being executed or to be executed; (ii) required financial resources of the Contract under consideration. In addition, the Bidder shall provide information about any other financial obligation likely substantially affecting the execution of the Contract under considerationif the Bidder is awarded the contract.

(2) Number of remaining months of contract at 28 days prior to the deadline for submission of Bid.

(3) Unpaid value of contract at 28 days prior to the deadline for submission of Bid.

Form No. 13

WORKS ITEM PERFORMED BY SUBCONTRACTORS (1)

No.	Subcontractor's name(2)	Work items(3)	Volume(4)	Estimated value(5)	Contract/agreement concluded with subcontractor(6)
1					
2					
3					
4					
...					

Notes:

(1) Incase of employment of subcontractors, then fill in this form.

For packages of projects in the fields of science, technology, innovation, and digital transformation organized domestically, local contractors are allowed to use foreign subcontractors for specific tasks that local contractors have not yet performed or require technology transfer as stipulated in Clause 4, Article 11 of the Bidding Law.

(2) Indicate name of Subcontractor(s). In case names of Subcontractors are not determined, this column may be left blank and only the column "Work items" is filled. If the Bidder is selected, it may employ Subcontractors with the work items as indicated in the table only with the consent of the Employer.

(3) Indicate name of work items for Subcontractor(s).

(4) Indicate volume of work items for subcontractor(s).

(5) Indicate value of work items performed by subcontractor(s) as percentage of the bid price.

(6) Indicate number of Contract/Agreement, enclosed with the original or notarized copy of such document. In case names of Subcontractors are not determined, this column may be left blank.

Form No. 014

LIST OF SPECIAL SUBCONTRACTORS (1)

The Bidder must provide adequate information to demonstrate clearly that it has the capacity to meet the requirements prescribed in Clause 2.3 Section 2 Chapter III - Evaluation and Qualification Criteria.

No.	Name of special subcontractor(2)	Work items(3)	Volume(4)	Estimated value(5)	Contract/agreement concluded with special subcontractor(6)
1					
2					
3					
4					
...					

Notes:

(1) In case of employment of special subcontractor, then fill in this form.

For packages of projects in the fields of science, technology, innovation, and digital transformation organized domestically, local contractors are allowed to use special foreign subcontractors for specific tasks that local contractors have not yet performed or require technology transfer as stipulated in Clause 4, Article 11 of the Bidding Law.

(2) Indicate name of special subcontractor(s).

(3) Indicate name of work items for special subcontractor(s).

(4) Indicate volume of work items for special subcontractor(s).

(5) Indicate value of work items performed by special subcontractor(s) as percentage of the bid price.

(6) Indicate number of Contract/Agreement, enclosed with the original or notarized copy of such document.

Form No. 15

LIST OF SUBSIDIARY COMPANY, ASSOCIATE COMPANY IN CHARGE OF PACKAGE WORKS (1)

No.	Name of subsidiary company, associate company (2)	Work performed in the package (3)	Proportion of value to bid price (4)	Notes
1				
2				
3				
4				
5				
...				

Notes:

(1) In case the Bidder is the parent company (namely a Corporation) mobilizing its subsidiary or associate companies to carry out part of the contract work, it must be specifically declared in this Form. The qualification of the Bidder shall be evaluated according to the value and volume of work performed by the parent company, subsidiary companies, and associate companies. If the Bidder is not a parent company, this Form shall not be used.

(2) Insert name of the subsidiary companies, associate companies.

(3) Insert work performed by the subsidiary companies,associate companies.

(4) Insert proportion of value of work performed by the subsidiary companies, associate companies to the Bid price.

Form No. 16

TIME SCHEDULE OF PROJECT

This section sets out the detailed requirements for the implementation schedule of the EPC Package, including the scope of schedule requirements and key milestones related to inspection, acceptance, handover, transition, and coordination with other works of the Project. These milestones shall be used as the basis for evaluating schedule performance and for determining the application of schedule-related incentives and penalties in accordance with the Contract.

Bidders are required to propose an implementation schedule that is in compliance with the requirements of the Bidding documents and consistent with the Bidder's technical proposals.

Table 1 - Bidder's proposed Time for Completion of the entire project.

(from the date the Contract comes into full effect until the completion of the entire project)

Name of Project (1)	Time for Completion (2)	Bidder's proposed time for completion (3)

(3): The Bidder is requested to propose, the deadline for completing the entire project proposed by the Bidder shall not exceed the deadline for completing the entire project as required by the Employer.

Table 2 - Specific Milestones and tasks

TT	Task (1)	Time to start (2)	Time to finish (3)
1			
2			
...			

Form No. 17 (a)

EMPLOYER/END USER'S CERTIFICATE

Date: ……..

To whom it may concern

We, ……*[Name and adress of company and country]* hereby certify that the *[insert system/equipment or etc.]* named and listed in the *[Name of Contract]*, ordered and purchased by us from …….. *[Name and Adress of manufacturer]* has *[successfully ben designed, manufactured, commissioned and tested]*, including the following information:

[(i) Type and capacity;

(ii) Main design parameters;

(iii) Hours of successful operation.]

Very truly yours;

Date and signature: …….

Name and title of the signatory: …….

Name of the company: …….

Seal/Stamp of the company …….

Note:

1. Signatory could be Employer's Project Manager or The Employer;

(documentaty proving the eligibility and compentence of signatory shall be enclosed)

Form No. 17 (b)

EMPLOYER/CONTRACTOR CERTIFICATE

Date: .....

To whom it may concern

We, ... *[Name and address of company and country]* hereby certify that the …….

[Name and address of subcontractor]

has successfully completed the *[name and identification of contract]* including the following information:

1. Employer: *[name and address of company and country]*

2. Contractor: *[name and address of company and country]*

3. Description of the Facilities or part thereof: *[description]*

4. Date of Taking-Over [(2)]: *[date]*

Very truly yours,

Date and signature: .....

Name and title of the signatory: .....

Name of the company: .....

Seal/stamp of the company: .....

Note:

1. Signatory could be Employer, contractor or their representative.

(documentary proving the eligibility and competence of signatory shall be enclosed).

2. The Bidder is required to attach the PAC or equivalent documents showing taking over date.

Form 18A

TECHNICAL DEVIATION DECLARATION FORM

Bidder is requested to carefully study the Bidding Document and declare deviations (if any) with price adjustment. If deviations occur with no price adjustment, Employer/ Employer's Representative reserves the rights to accept or ignore these deviations.

Deviation No.	Reference to Bidding Document		Deviations/Reservations	
	Clause, page	Description in Bidding Document	Clarification	Deviation/Reservation
Technical Deviations				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				

Name of Bidder:

Signature of Bidder:

Date:

Form 18B

COMMERCIAL DEVIATION DECLARATION FORM

Bidder is requested to carefully study the Bidding Document and declare deviations (if any) with price adjustment. If deviations occur with no price adjustment, Employer/ Employer's Representative reserves the rights to accept or ignore these deviations.

Deviation No.	Reference to Bidding Document		Deviations/Reservations	
	Clause, page	Description in Bidding Document	Clarification	Deviation/Reservation
Commercial Deviations				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				
[to be insert]				

Name of Bidder

Signature of Bidder

Date:

Form No. 19(a)

LETTER OF BID [(1)]
(FINANCIAL PROPOSAL)
(Applicable to the Bidder who has no discount offer or has a discount offer submitted in a separate Letter of Discount)

Date: _____ *[insert date of signing of Letter of Bid]*

The package's name: *[insert the package's name specified in **BDS** 1.2]*

Project's name: *[insert the project's name specified in **BDS** 1.2]*

To: *[insert the complete and accurate name of the Employer's Representative]*

After carefully studying the Bidding Documents and revisions thereof number ____[*insert the number of the revisions (if any)],* we, ____*[insert the Bidder's name],* pledge ourselves to perform _____*[insert the package's name]* in accordance with the Bidding Documents. In conjunction with Technical Proposal, we hereby enclose Financial Proposal with the total amount ____*[insert the amount in figures, in words, and currency]* [(2)] together with the Table of Bid Price.

This Bid takes effect within ____[(3)] days, from _____[date] [(4)].

Legal representative of bidder [(5)]
[Full name, position, signature and seal]
(6)

Notes:
(1) Bidder must provide sufficient and accurate information including names of the Employer's Representative and the Bidder, effective period of the Financial Proposal, which bears the signature and seal (if any) and of the bidder's legal representative.
(2) The Bid Price mentioned in the Letter of Bid must be detailed, specified in both number and words, and in conformity with the total Bid Price mentioned in the Grand Summary. There is must be only one Bid Price which does not cause any disadvantage condition to the Employer or the Employer's Representative. If permitted, the Bidder may offer the Bid price in other currencies and clarify the price in words and figures in respect of each currency.
(3) Insert number of validity days as prescribed in Section 17.1 of the **BDS**. Effective period of the Financial Proposal is from the deadline for submission of Bid to its expiration date as prescribed in the Bidding Documents. The period of

time from the deadline for submission of Bid to 24:00 of the bid closing date is considered 01 day.

(4) Insert the bid closing date as prescribed in Section 21.1 of the BDS.

(5) If the Bidder's legal representative authorizes his/her subordinate to sign the Letter of Bid, a Power of Attorney (Form No. 02 provided in this Chapter) must be enclosed. If the company's charter or another document permits such subordinate to sign the Letter of Bid, such document shall be enclosed (In this case, the Power of Attorney is not required). Regarding Consortium/Joint venture, the Letter of Bid shall be signed by legal representative of every Consortium/Joint venture's member, unless the leading member may sign the Letter of Bid according to the Consortium/Joint venture agreement as mentioned in Form 03 of this Chapter. Each Consortium/Joint venture's member may give authorization similarly to an independent bidder. If the successful bidder must present certified true copies of these documents to the Employer before contract conclusion. If information provided is found inaccurate, the Bidder will be considered fraudulent as prescribed in ITB Section 3.

(6) If a foreign Bidder has no seal, a Competent organization's Certificate must be provided in which certify that the signature in the Letter of Bid and other documents in the Bid are of the Bidder's legal representative.

Form No. 19 (b)

LETTER OF BID [(1)]

(FINANCIAL PROPOSAL)

(Applicable to the Bidder who has a discount offer in the Letter of Bid)

Date: _____ *[insert date of signing of Letter of Bid]*

The package's name: *[insert the package's name specified in **BDS** 1.2]*

Project's name: *[insert the project's name specified in **BDS** 1.2]*

Invitation to Bid No.: ___ *[insert the number of the Invitation to Bid regarding selective bidding] [(1)]*

To: *[insert the complete and accurate name of the Employer's Representative]*

After carefully studying the Bidding Documents and revisions thereof number ____*[insert the number of the revisions (if any)]*, we, ____*[insert the Bidder's name]*, pledge ourselves to perform _____*[insert the package's name]* in accordance with the Bidding Documents. In conjunction with Technical Proposal, we hereby enclose Financial Proposal with the total amount ____*[insert the amount in figures, in words, and currency]* [(2)] together with the Table of Bid Price. In addition, we voluntarily offer a discount of bid price with an amount ____*[insert the discount amount in figures, in words and in currency].*

The Bid price after deducting discount is: _____*[insert the amount in figures, in words and in currency].*This Financial Proposal takes effect within ____ [(4)] days, from _____[date] [(5)].

Legal representative of Bidder[(6)]

[Full name, position, signature and seal][(7)]

Notes:

(1) Bidder must provide sufficient and accurate information including names of the Employer's Representative and the Bidder, effective period of the Financial Proposal, which bears the signature and seal (if any) and of the bidder's legal representative.

(2) The Bid Price mentioned in the Letter of Bid must be detailed, specified in both number and words, and in conformity with the total Bid Price mentioned in the Grand Summary. There is must be only one Bid Price which does not cause any disadvantage condition to the Employer or the Employer's Representative. If

permitted, the Bidder may offer the Bid price in other currencies and clarify the price in words and figures in respect of each currency.
(3) The discount is whether applicable to the package or one or several work items (specifying the work items eligible for discounts).
(4) Insert number of validity days as prescribed in Section 17.1 of the **BDS**. Effective period of the Financial Proposal is from the deadline for submission of Bid to its expiration date as prescribed in the Bidding Documents. The period of time from the deadline for submission of Bid to 24:00 of the bid closing date is considered 01 day.
(5) Insert the bid closing date as prescribed in Section 21.1 of the **BDS**.
(6) If the Bidder's legal representative authorizes his/her subordinate to sign the Letter of Bid, a Power of Attorney (Form 02 provided in this Chapter) must be enclosed. If the company's charter or another document permits such subordinate to sign the Letter of Bid, such document shall be enclosed (In this case, the Power of Attorney is not required). Regarding Consortium/Joint venture, the Letter of Bid shall be signed by legal representative of every Consortium/Joint venture's member, unless the leading member may sign the Letter of Bid according to the Consortium/Joint venture agreement as mentioned in Form 03 of this Chapter. Each Consortium/Joint venture's member may give authorization similarly to an independent bidder. If the successful bidder must present certified true copies of these documents to the Employer before contract conclusion. If information provided is found inaccurate, the bidder will be considered fraudulent as prescribed in ITB Section 3.

(7) If a foreign Bidder has no seal, a Competent organization's Certificate must be provided in which certify that the signature in the Letter of Bid and other documents in the Bid are of the Bidder's legal representative.

Form No. 20: GRAND SUMMARY

Project's Name: ……
The package's name: ……

General requirements

1. Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the Bidding Document. Bidders shall fill in all rows and columns as prescribed in this Form. The Bid Price shall be lump-sum price, including all costs and taxes necessary for the supply and delivery of goods and services to the Employer at the Site. The Bidders shall be responsible for packaging, loading, transportation, export and import procedures, receipt, unloading, protection, payment of all applicable taxes and fees, and shall bear all risks related to the goods, equipment, materials and other necessary items provided under the Contract until those goods, equipment, and materials are fully delivered to the Employer at the Site.
2. If Bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with ITB 7 prior to submitting their Bid.
3. All design works shall comply with applicable laws, decrees, decisions, standards of Vietnam and project agreements.
4. The Price Schedules are divided into separate Schedules as follows:

   Schedule No.1: Equipment and Materials supplied from Abroad

   Schedule No.2: Equipment and Materials including Transportation to be supplied within from the Employer's Country

   Schedule No.3: Construction, Erection and Testing of the Works

   Schedule No.4: Other Services
5. In the Schedules, Bidders shall give the required details and a breakdown of their prices in currencies regulated in ITB 14 and in the manner and detail called for in the Price Schedules as follows:

   (a) Materials/Plant/Services to be supplied from abroad:

   The price of the Materials/Plant/Services shall be quoted at CIP price (according to incoterms 2020) to Site; and

   Cost of "Design & Manufacture" and "Freight & Insurance" (CIF Price) to be foreign cost shall be quoted in USD and "Inland Transportation" to be domestic cost shall be quoted in VND.

   (b) Materials/Plant/Services including Transportation to be supplied within/from the Employer's Country:

The price of the Material/Plant/Services shall be quoted in VND and comply with the ITB 5.3. This constitutes the local portion as prescribed in ITB 34.4.

The Contract Price includes Corporation Income Tax (CIT) and Personal Income Tax payable by Contractor's personnel. The Contractor shall be responsible for registering with and paying the taxes to relevant tax authorities.

(c) For each item, bidders shall complete each appropriate column in the respective Price Schedules, giving the price breakdown as indicated in the Price Schedules. Prices given in the Price Schedules against each item shall be for the scope covered by that item as detailed in Part 2 - Employer's Requirements or elsewhere in the Bidding Document.

6. In addition to the above, the Bidder/Contractor shall be responsible for all other taxes, duties, fees and charges relating to the implementation of the Works in Vietnam, where applicable and such taxes, duties, fees and charges shall be included in the Contract Price. The Contractor shall take responsibility for studying current regulations of relevant tax authorities to apply in due diligence.
7. The taxes, fees and charges shall not be considered during the comparison and ranking of the Bidder. The first-ranking Bidder shall have taxes, fees, and charges (if any) determined in the negotiation of Contract phase in accordance with the prevailing laws and regulations.
8. When requested by the Employer for the purposes of making payments or partial payments, valuing variations or evaluating claims, or for such other purposes as the Employer may reasonably require, the Contractor shall provide the Employer with a breakdown of any composite or lump sum items included in the Price Schedules.

GRAND SUMMARY

Project's Name: …….
The package's name: ……..

Description	Reference in Schedule No.	Amount	
		Foreign currency (USD)	Local currency (VND)
Schedule No. 1: Equipment and Materials supplied from Abroad			
Schedule No. 2: Equipment and Materials including Transportation to be supplied within from the Employer's Country			
Schedule No. 3: Construction, Erection and Testing of the Works			
Schedule No. 4: Other Services			
Bid Price Before Taxes	**A**		
Taxes and duties	**B = (C) + (D)**		
Import tax	*C*		
Value Added Tax (VAT)	*D*		
Bid Price After Taxes and duties	**A+B**		

Note:
- For goods supplied from abroad: the Bidder shall quote full import tax, all taxes, fees and charges (if any) according to current regulation of Vietnam Laws.
- VAT for the Imported Plant/ Equipment and VAT imposed on the Supply from Employer's Country, Construction/ Erection Works and Others Services shall be quoted in VND in accordance with the prevailing laws and regulations.
- The Bid Price shall include taxes, fees, and charges and the Bidder shall determine and allocate the Contingency costs in the Bid Price. The taxes, fees and charges shall be determined at 28 days prior the deadline for submission of Bid.
- The Price Schedules (Schedule No. 1, 2, 3 and 4) shall be made and completed according to Forms 21.

Legal representative of bidder
[Full name, position, signature and seal]

Form No. 21: PRICE SCHEDULES

Schedule No. 1: EQUIPMENT AND MATERIALS SUPPLIED FROM ABROAD

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
A	**300MW Unit**									
I	**ESP System**									
	For the 1st field. 2nd field and 3rd field, 12 high-frequency pulse transformers or high-frequency transformers are used (the Bidder shall propose 1a or 1b). For the 4th field, 04 high-frequency pulse transformers are used. These transformers have integrated control systems.									
1a	High-frequency pulse	Set	12							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	transformers for 1st field. 2nd field and 3rd field									
1b	High-frequency transformers for 1st field, 2nd field and 3rd field	Set	12							
2	High-Voltage pulse transformer and accessories for 4th field	Set	4							
3	New integrated control system	Set	1							
4	Insulator assemblies (including suspension insulators, post insulators, insulating posts, etc.)	Set	1							
5	Control cabinet for high-frequency transformer	Lot	12							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
						(USD)	(USD)	(VND)	Amount (USD)	Amount (VND)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
6	Control cabinet for pulse-type high- frequency transformer unit	Lot	4							
7	Insulator heater	Lot	1							
8	Discharge electrode system	Lot	1							
9	Collecting electrode system	Lot	1							
10	Collecting electrode rapping system	Lot	1							
11	Discharge electrode rapping system	Lot	1							
12	Flue gas distribution plate at ESP inlet	Lot	1							
13	Gas flow guide plate in the ash hopper system	Lot	1							
14	Electrical, lighting, earthing and lightning protection system,	System	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	including surge protection									
15	Control and instrumentation system	System	1							
16	Others (If any)		1							
II	**Fly ash handling System**									
1	Vacuum blower	Set	3							
2	Filter separator	Set	2							
3	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1							
4	Control and instrumentation system	System	1							
5	Others									
III	**SCR System**									
1	NH_3 storage tank and accessories	Set	2							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
2	Ammonia compressor and accessories	Set	2							
3	Ammonia pump and accessories	Set	2							
4	Vaporizer and associated accessories	Set	2							
5	Storage tank and associated accessories	Set	2							
6	Dilution air fan and associated accessories	Set	3							
7	SCR system (including but not limited to: Ammonia Injection Grid (AIG), catalyst layers, soot blowing system, etc.	Set	2							
8	NH_3 absorber tank	Set	1							
9	Ammonia (NH_3) leak detection	System	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	and mitigation system; NOx and O_2 monitoring system at SCR inlet and outlet; flue gas temperature measurement at SCR inlet and outlet									
10	Gas distribution system	System	1							
11	Soot blowing system	System	1							
12	Ash collection system	System	1							
13	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
14	Control and instrumentation system	System	1							
15	Others (If any)									
IV	**FGD System**									
1	Spray header and nozzles (including headers, branch pipes, dual nozzles, etc.)	Set	3							
2	Contractor shall proposal option a or b									
a	Flue gas baffle	Set	3							
b	Perforated tray	Set	1							
3	Mist eliminator and washing system (including spray nozzles, pumps, valves, piping, and associated accessories	Set	1							
4	Absorber Recirculation Pump and	Set	3							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	associated accessories									
5	Absorber agitator and associated accessories	Set	4							
6	Absorber Tower	Tower	1							
7	Wet ball mill and accessories	Set	1							
8	Mill slurry tank	Set	1							
9	Mill slurry tank agitator	Set	1							
10	Limestone weigh belt feeder	Set	1							
11	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1							
12	Control and instrumentation system	System	1							
13	Others (If any)									
	Rotary air	Set	2							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
						(USD)	(USD)	(VND)	Amount (USD)	Amount (VND)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
V	**preheater (complete with accessories, interconnecting materials, and electrical and control equipment)**									
VI	**Induced Draft Fan (IDF) system (Complete with accessories, interconnecting materials, and electrical and control equipment)**	Set	2							
VII	**Fire prevention and protection system** Fully equipped for newly installed systems (SCR and air preheater), while upgrading and	**System**	**1**							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	supplementing the remaining items based on the existing system as required in Part 2 – Chapter VII – Section 01: General Requirements "1.3 SCOPE OF WORKS".									
B	**330MW Unit**									
I	**ESP System**									
	For the 1st field, 2nd field, 3rd field and 4th field, 16 high-frequency pulse transformers or high-frequency transformers are used (the Bidder shall propose 1a or 1b).									

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	For the 5th field, 4 combined pulse and high-frequency (HF+PF) transformers are used. These transformers have integrated control systems.									
1a	High-frequency pulse transformers for 1st field, 2nd field, 3rd field and 4th field	Set	16							
1b	High-frequency transformers for 1st field, 2nd field, 3rd field and 4th field	Set	16							
2	High-frequency pulse transformers for 5th fields	Set	4							
3	New integrated control system	Set	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
4	Insulator assemblies (including suspension insulators, post insulators, insulating posts, etc.)	Set	1							
5	Control cabinet for high-frequency transformer	Set	16							
6	Control cabinet for pulse-type high-frequency transformer unit	Set	4							
7	Insulator heater	Lot	1							
8	Discharge electrode system	Lot	1							
9	Collecting electrode system	Lot	1							
10	Collecting electrode rapping system	Lot	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
11	Discharge electrode rapping system	Lot	1							
12	Flue gas distribution plate at ESP inlet	Lot	1							
13	Gas flow guide plate in the ash hopper system	Lot	1							
14	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1							
15	Control and instrumentation system	System	1							
16	Ash hopper and associated auxiliary systems for Field No. 5	Set	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
17	Others (if any)									
III	**SCR System**									
1	NH_3 storage tank and accessories	Set	2							
2	Ammonia compressor and accessories	Set	2							
3	Ammonia pump and accessories	Set	2							
4	Vaporizer and associated accessories	Set	2							
5	Storage tank and associated accessories	Set	2							
6	Dilution air fan and associated accessories	Set	3							
7	SCR system (including but not limited to: Ammonia Injection Grid (AIG), catalyst layers, soot blowing system, etc.	Set	2							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
						(USD)	(USD)	(VND)	Amount (USD)	Amount (VND)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
8	NH_3 absorber tank	Set	1							
9	Ammonia (NH_3) leak detection and mitigation system; NOx and O_2 monitoring system at SCR inlet and outlet; flue gas temperature measurement at SCR inlet and outlet	Set	1							
10	Gas distribution system	Set	1							
11	Soot blowing system	Set	1							
12	Ash collection system	Set	1							
13	Electrical, lighting, earthing and	System	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	lightning protection system, including surge protection									
14	Control and instrumentation system	System	1							
15	Others (If any)									
IV	**FGD System**									
1	Spray header and nozzles (including headers, branch pipes, dual nozzles, etc.)	Set	3							
2	Contractor shall proposal option a or b									
a	Flue gas baffle	Set	3							
b	Flue gas perforated tray	Set	1							
3	Mist eliminator and washing system (including spray	Set	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	nozzles, pumps, valves, piping, and associated accessories									
4	Booster fan (complete with accessories, interconnecting materials, and electrical and control equipment)	Set	1							
5	Absorber Recirculation Pump and associated accessories	Set	3							
6	Absorber agitator and associated accessories	Set	4							
7	Absorber drain pump	Set	2							
8	Absorber Tower	Tower	1							
9	Limestone slurry preparation system	System	1							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
10	Wet ball mill and accessories	Set	1							
11	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1							
12	Control and instrumentation system	System	1							
13	Auxiliary Transformer complete with all necessary accessories	Set	1							
14	Others (If any)									
V	**Fire prevention and protection system** Fully equipped for newly installed systems (SCR), while	**System**	**1**							

No.	Descriptions	Unit	Quantity/ Volume	Manufacturer	Origin, Model, codes, labels of products	Cost (design and manufacture)	Freight and Insurance	Inland transportation	Total	
									Amount (USD)	Amount (VND)
						(USD)	(USD)	(VND)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)=((7)+(8))*(4)	(11)=(4)*(9)
	upgrading and supplementing the remaining items based on the existing system as required in Part 2 – Chapter VII – Section 01: General Requirements "1.3 SCOPE OF WORKS".									
	Total Price Before Taxes									

*Notes:

- The Bidder shall provide all required information in the table above for the Equipment and Materials supplied from abroad corresponding to the list of goods, materials and equipment proposed by the Bidder as required in Part 2 - Chapter VII).

- For the items without quoted price according to the above Schedule No.1, the Bidder shall specify which part they are included.

- The equipment systems in the above Price Schedule shall be included accessories and special tools.

Schedule No.2: EQUIPMENT AND MATERIALS INCLUDING TRANSPORTATION TO BE SUPPLIED WITHIN FROM THE EMPLOYER'S COUNTRY

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
A	**300MW Unit**						
I	**ESP System**						
	For the 1st field. 2nd field and 3rd field, 12 high-frequency pulse transformers or high-frequency transformers are used (the Bidder shall propose 1a or 1b). For the 4th field, 04 high-frequency pulse transformers are used. These transformers have integrated control systems.						
1a	High-frequency pulse transformers for 1st field. 2nd field and 3rd field	Set	12				
1b	High-frequency transformers for 1st field, 2nd field and 3rd field	Set	12				
2	High-Voltage pulse transformer and accessories for 4th field	Set	4				
3	New integrated control system	Set	1				
4	Insulator assemblies (including suspension insulators, post insulators, insulating posts, etc.)	Set	1				
5	Control cabinet for high-frequency transformer	Lot	12				

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
6	Control cabinet for pulse-type high-frequency transformer unit	Lot	4				
7	Insulator heater	Lot	1				
8	Discharge electrode system	Lot	1				
9	Collecting electrode system	Lot	1				
10	Collecting electrode rapping system	Lot	1				
11	Discharge electrode rapping system	Lot	1				
12	Flue gas distribution plate at ESP inlet	Lot	1				
13	Gas flow guide plate in the ash hopper system	Lot	1				
14	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1				
15	Control and instrumentation system	System	1				
16	Others (If any)		1				
II	**Fly ash handling System**						
1	Vacuum blower	Set	3				
2	Filter separator	Set	2				
3	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1				
4	Control and instrumentation system	System	1				
5	Others						

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
III	**SCR System**						
1	NH_3 storage tank and accessories	Set	2				
2	Ammonia compressor and accessories	Set	2				
3	Ammonia pump and accessories	Set	2				
4	Vaporizer and associated accessories	Set	2				
5	Storage tank and associated accessories	Set	2				
6	Dilution air fan and associated accessories	Set	3				
7	SCR system (including but not limited to: Ammonia Injection Grid (AIG), catalyst layers, soot blowing system, etc.	Set	2				
8	NH_3 absorber tank	Set	1				
9	Ammonia (NH_3) leak detection and mitigation system; NOx and O_2 monitoring system at SCR inlet and outlet; flue gas temperature measurement at SCR inlet and outlet	System	1				
10	Gas distribution system	System	1				
11	Soot blowing system	System	1				
12	Ash collection system	System	1				
13	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1				
14	Control and instrumentation system	System	1				

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
15	Others (If any)						
IV	**FGD System**						
1	Spray header and nozzles (including headers, branch pipes, dual nozzles, etc.)	Set	3				
2	Contractor shall proposal option a or b						
a	Flue gas baffle	Set	3				
b	Perforated tray	Set	1				
3	Mist eliminator and washing system (including spray nozzles, pumps, valves, piping, and associated accessories	Set	1				
4	Absorber Recirculation Pump and associated accessories	Set	3				
5	Absorber agitator and associated accessories	Set	4				
6	Absorber Tower	Tower	1				
7	Wet ball mill and accessories	Set	1				
8	Mill slurry tank	Set	1				
9	Mill slurry tank agitator	Set	1				
10	Limestone weigh belt feeder	Set	1				
11	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1				
12	Control and instrumentation system	System	1				

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
13	Others (If any)						
V	**Rotary air preheater (complete with accessories, interconnecting materials, and electrical and control equipment)**	**Set**	**2**				
VI	**Induced Draft Fan (IDF) system (Complete with accessories, interconnecting materials, and electrical and control equipment)**	**Set**	**2**				
VII	**Fire prevention and protection system** Fully equipped for newly installed systems (SCR and air preheater), while upgrading and supplementing the remaining items based on the existing system as required in Part 2 – Chapter VII – Section 01: General Requirements "1.3 SCOPE OF WORKS".	**System**	**1**				
B	**330MW Unit**						
I	**ESP System**						
	For the 1st field, 2nd field, 3rd field and 4th field, 16 high-frequency pulse transformers or high-frequency transformers are used (the Bidder shall propose 1a or 1b).						

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
	For the 5th field, 4 combined pulse and high-frequency (HF+PF) transformers are used. These transformers have integrated control systems.						
1a	High-frequency pulse transformers for 1st field, 2nd field, 3rd field and 4th field	Set	16				
1b	High-frequency transformers for 1st field, 2nd field, 3rd field and 4th field	Set	16				
2	High-frequency pulse transformers for 5th fields	Set	4				
3	New integrated control system	Set	1				
4	Insulator assemblies (including suspension insulators, post insulators, insulating posts, etc.)	Set	1				
5	Control cabinet for high-frequency transformer	Set	16				
6	Control cabinet for pulse-type high- frequency transformer unit	Set	4				
7	Insulator heater	Lot	1				
8	Discharge electrode system	Lot	1				
9	Collecting electrode system	Lot	1				
10	Collecting electrode rapping system	Lot	1				
11	Discharge electrode rapping system	Lot	1				
12	Flue gas distribution plate at ESP inlet	Lot	1				
13	Gas flow guide plate in the ash hopper system	Lot	1				

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
14	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1				
15	Control and instrumentation system	System	1				
16	Ash hopper and associated auxiliary systems for Field No. 5	Set	1				
17	Others (if any)						
III	**SCR System**						
1	NH_3 storage tank and accessories	Set	2				
2	Ammonia compressor and accessories	Set	2				
3	Ammonia pump and accessories	Set	2				
4	Vaporizer and associated accessories	Set	2				
5	Storage tank and associated accessories	Set	2				
6	Dilution air fan and associated accessories	Set	3				
7	SCR system (including but not limited to: Ammonia Injection Grid (AIG), catalyst layers, soot blowing system, etc.	Set	2				
8	NH_3 absorber tank	Set	1				
9	Ammonia (NH_3) leak detection and mitigation system; NOx and O_2 monitoring system at SCR inlet and outlet; flue gas temperature measurement at SCR inlet and outlet	Set	1				

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
10	Gas distribution system	Set	1				
11	Soot blowing system	Set	1				
12	Ash collection system	Set	1				
13	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1				
14	Control and instrumentation system	System	1				
15	Others (If any)						
IV	**FGD System**						
1	Spray header and nozzles (including headers, branch pipes, dual nozzles, etc.)	Set	3				
2	Contractor shall proposal option a or b						
a	Flue gas baffle	Set	3				
b	Flue gas perforated tray	Set	1				
3	Mist eliminator and washing system (including spray nozzles, pumps, valves, piping, and associated accessories	Set	1				
4	Booster fan (complete with accessories, interconnecting materials, and electrical and control	Set	1				

No	Contents/Descriptions	Unit	Quantity	Manufacturer	Model, codes, labels of products	Local currency (VND)	
						Unit Price	Amount
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(7)
	equipment)						
5	Absorber Recirculation Pump and associated accessories	Set	3				
6	Absorber agitator and associated accessories	Set	4				
7	Absorber drain pump	Set	2				
8	Absorber Tower	Tower	1				
9	Limestone slurry preparation system	System	1				
10	Wet ball mill and accessories	Set	1				
11	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1				
12	Control and instrumentation system	System	1				
13	Auxiliary Transformer complete with all necessary accessories	Set	1				
14	Others (If any)						
V	**Fire prevention and protection system** Fully equipped for newly installed systems (SCR), while upgrading and supplementing the remaining items based on the existing system as required in Part 2 – Chapter VII – Section 01: General Requirements "1.3 SCOPE OF WORKS".	**System**	**1**				
	Total Price Before Taxes						

*Notes:

- The Bidder shall provide all required information in the table above for the Equipment and Materials supplied from the Employer's country corresponding to the list of goods, materials and equipment proposed by the Bidder as required in Part 2 - Chapter VII).

- For the items without quoted price according to the above Schedule No.2, the Bidder shall specify which part they are included.

- The equipment systems in the above Price Schedule shall be included accessories and special tools.

- Domestic goods include goods purchased by foreign contractors in the Employer's country.

Schedule No.3: CONSTRUCTION, INSTALLATION AND TESTING OF THE WORKS

Stt	Descriptions	Unit	Quantity	Foreign Currency (USD)		Local Currency (VND)	
				Unit price	Amount	Unit price	Amount
(1)	(2)	(3)	(4)	(5)	(6)=(4)*(5)	(7)	(8)=(4)*(7)
A	**300MW Unit**						
I	**ESP System**	**sys**					
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						
II	**FGD system**	**sys**					
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						
III	**SCR system**	**sys**					
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						
IV	**Air preheater**						
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						

Stt	Descriptions	Unit	Quantity	Foreign Currency (USD)		Local Currency (VND)	
				Unit price	Amount	Unit price	Amount
V	**ID Fans**						
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						
VI	**OTHER**	**Sys**	**1**				
VII	**FIRE PREVENTION AND PROTECTION SYSTEM**	**Sys**	**1**				
VII	**TESTING AND COMMISSIONING FOR UNIT 300MW**	**LOT**	**1**				
B	**330MW Unit**						
I	**ESP System**	**sys**					
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						
II	**FGD system**	**sys**					
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						
III	**SCR system**	**sys**					

Stt	Descriptions	Unit	Quantity	Foreign Currency (USD)		Local Currency (VND)	
				Unit price	Amount	Unit price	Amount
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						
IV	**Booster Fans**	**sys**					
	Removal …						
	Construction and Installation						
	Testing and Commissioning						
	Others (if any)						
V	**OTHER**	**sys**					
VI	**FIRE PREVENTION AND PROTECTION SYSTEM**	**sys**					
VII	**TESTING AND COMMISSIONING FOR UNIT 330MW**	**LOT**					
	Total Price Before Taxes						

Notes:

- Costs of Temporary works and Construction items are included in Bid Price.
- Construction and installation works shall conform to requirements and guidelines of the design and comply with Vietnamese Law, including but not be limited to the above Price Schedule.

- Any item of work not mentioned in the above particulars but written elsewhere in the scope of work or in Part 2 - Employer's Requirement (Technical Specifications) or essentially required for completion of works, proper operation and maintenance of Power Plant, safety of equipment and operating personnel shall be deemed to have been included in the above particulars.

Schedule No.4: OTHER SERVICE

No	Descriptions	Unit	Quantity	Local currency (VND)	
				Unit price	Amount
(1)	(2)	(3)	(4)	(5)	(6)=(4)*(5)
1	Training	Lump Sum	1		
2	Insurance	Lump Sum	1		
3	Others (if any)	Lump Sum	1		
	Total Price Before Taxes				

Notes:
Any item of work not mentioned in the above particulars but written elsewhere in the scope of work or in Part 2 - Employer's Requirement (Technical Specifications) or essentially required for completion of works, proper operation and maintenance of Power Plant, safety of equipment and operating personnel shall be deemed to have been included in the above particulars.

Form 22.

DOMESTIC COSTS ELIGIBLE INCENTIVES

No.	DESCRIPTION	AMOUNT
I	**ENGINEERING/CONSULTING**	
	Bid Price	(I)
	Foreignn Cost	(II)
	Taxes	(III)
	Domestic Cost	E(G)=(I)-(II)-(III)
	Sub-total-Engineering Domestic Cost	***E(G)***
II	**NON-CONSULTING**	
	Bid Price	(I)
	Foreignn Cost	(II)
	Taxes	(III)
	Domestic Cost	NC(G)=(I)-(II)-(III)
	Sub-total-Non-consulting Domestic Cost	***NC(G)***
III	**PROCUREMENT**	
	Name of Item No.1	
	Bid Price	(I)
	Expenditures on imported equipment/material *(Imported Cost Portion)*	(II)
	Other outward expenditures *(if any)*	(III)
	Taxes	(IV)
	Domestic Cost	P(G1)=(I)-(II)-(III)-(IV)
	Name of Item No.2	
	Bid Price	(I)
	Expenditures on imported equipment/material *(Imported Cost Portion)*	(II)
	Other outward expenditures *(if any)*	(III)
	Taxes	(IV)
	Domestic Cost	P(G2)=(I)-(II)-(III)-(IV)
	…..	
n	Name of Item No. N	

		Bid Price	(I)
		Expenditures on imported equipment/material *(Imported Cost Portion)*	(II)
		Other outward expenditures *(if any)*	(III)
		Taxes	(IV)
		Domestic Cost	P(GN)=(I)-(II)-(III)-(IV)
	Sub-total-Procurement Domestic Cost		***P(G)=P(G1)+P(G2)+…+P(GN)***
IV	**CONSTRUCTION/ERECTION/INSTALLATION**		
	Name of Item No.1		
		Bid Price	(I)
		Expenditures on imported equipment/material *(Imported Cost Portion)*	(II)
		Other outward expenditures *(if any)*	(III)
		Taxes	(IV)
		Domestic Cost	C(G1)=(I)-(II)-(III)-(IV)
	Name of Item No.2		
		Bid Price	(I)
		Expenditures on imported equipment/material *(Imported Cost Portion)*	(II)
		Other outward expenditures *(if any)*	(III)
		Taxes	(IV)
		Domestic Cost	C(G2)=(I)-(II)-(III)-(IV)
		…..	
n	Name of Item No. N		
		Bid Price	(I)
		Expenditures on imported equipment/material *(Imported Cost Portion)*	(II)
		Other outward expenditures *(if any)*	(III)
		Taxes	(IV)
		Domestic Cost	C(GN)=(I)-(II)-(III)-(IV)
	Sub-total-Construction Domestic Cost		***C(G)=C(G1)+C(G2)+…+C(GN)***

V	**TOTAL DOMESTIC COST**	**G=E(G)+NC(G)+P(G)+E(G)**

Legal representative of Bidder
[Full name, position, signatura and seal]

Note:
(1) In case the goods are not eligible for incentives, Bidder shall not declare this Form.

Form 23. Schedule of Adjustment Data : Not applicable

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1. PROJECT GENERAL INFORMATION

1.1. Project:

Project's name: Upgrade and Retrofit for Flue Gas Treatment System of 300MW and 330MW Units – Uong Bi Thermal Power Plant.

Employer:

- The Employer is Power Generation Corporation 1.

- Address: 22 Duong Dinh Nghe Street, Cau Giay Ward, Ha Noi Capital, Vietnam.

- Phone number: (+84) 24 730 89 789

- Owner's representative: EVNGENCO1-PMB

- Address: 32 Ngo Thoi Nhiem Street, Xuan Hoa Ward, Ho Chi Minh City, Vietnam.

- Phone number: (84.28) 62907101

- Fax: (84.28) 62907101

- Sources of Funds: EVNGENCO1 arrange.

1.2. Location:

Uong Bi Extention (Unit 300MW) & Uong Bi Extention 2 (Unit 330MW) of Uong Bi Thermal Power Plant – Uong Bi Thermal Power Company – Vang Danh Ward, Quang Ninh City.

1.3. Scope of Project

The project aims to retrofit and upgrade the flue gas treatment systems of the 300MW and 330MW units at Uong Bi Thermal Power Plant to comply with the emission limits for dust, SO_2 and NOx in accordance with QCVN 19:2024/BTNMT:

- Upgrade and retrofit the existing Electrostatic Precipitator (ESP) system to ensure that the dust concentration at the stack outlet (at 6% O_2) shall not exceed 20 mg/Nm³;
- Upgrade and retrofit the existing Flue Gas Desulfurization (FGD) system to ensure that the SO_2 concentration at the stack outlet (at 6% O_2) shall not exceed 120 mg/Nm³;
- Design, supply, install and commission a new Selective Catalytic Reduction (SCR) system to ensure that the NOx concentration at the stack outlet (at 6% O_2) shall not exceed 120 mg/Nm³;
- Replace the existing tubular Air Preheater (Level 1) with a new rotary Air Preheater for the 300MW unit;
- Replace the Induced Draft Fan (IDF) for the 300MW unit.

1.4. Project scale and construction classification:

- Project classification: Group B project, in accordance with Decree No. 85/2025/ND-CP dated April 08, 2025 of the Government of Vietnam.

- Construction classification: Level II, in accordance with Circular No. 06/2021/TT-BXD and Circular No. 02/2025/TT-BXD issued by the Ministry of Construction of Vietnam.

2. PACKAGE GENERAL INFORMATION

2.1. The package's information:

Package No. 8EPC-XLKTUB-2026: Engineering, Procurement, Supply, Construction and Installation of Equipment and Materials associated with Upgrade and Retrofit for Flue Gas Treatment System of 300MW and 330MW Units – Uong Bi Thermal Power Plant (Including Erection All Risks Insurance).

Sources of Funds (or capital-raising methods): EVNGENCO1's construction investment.

Form of Bidding: Open International bidding

Method of selection of Bidders: One phase with two dossier bags

Time to organize the selection of Bidders: April, 2026.

Type of contract: Lump Sum

Contract duration: 260days.

2.2. Time schedule:

The Contract completion period shall be 260 days from the Effective Date of the EPC Contract to the date of issuance of the Provisional Acceptance Certificate (PAC).

The Contractor shall be responsible for the complete design, engineering, procurement, manufacture, delivery, dismantling, installation, erection, testing, commissioning, calibration and all related works necessary to ensure the safe, stable and reliable operation of the upgraded systems in compliance with QCVN 19:2024/BTNMT.

The Contractor shall complete the design, procurement, manufacture and delivery of all equipment and materials to site, ready for construction, within 180 days from the Effective Date of the Contract.

Construction, installation, commissioning, calibration, testing, reliability run and performance test period as follow:

+ For the 300MW Unit: 80 days;

+ For the 330MW Unit: 75 days.

The Contractor shall submit, as part of its Bid, a detailed implementation schedule including key milestones and timeframes for all major activities, in compliance with the requirements of the Bidding Documents.

The detailed schedule proposed by the Contractor shall be subject to review, clarification and agreement by the Employer during contract negotiations.

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1. TIME SCHEDULE OF PROJECT

The completion time for the Upgrade and Retrofit of the Flue Gas Treatment Systems for the 300MW and 330MW units at Uong Bi Thermal Power Plant shall be 260 days from the Effective Date of the EPC Contract to the date of issuance of the Provisional Acceptance Certificate (PAC) for the Package.

2. TIME SCHEDULE OF PACKAGE AND MILESTONES

The Contractor shall provide, as part of its Bid, a detailed implementation schedule for the EPC package, including all major activities and key milestones such as site survey, detailed design, design review and approval, procurement of materials and equipment, site preparation, dismantling, installation, testing, commissioning, acceptance, submission of operation and maintenance manuals, as-built documentation, handover and all other related works within the scope of the Contract.

The Contractor shall utilize appropriate project management software to plan and control the schedule, with preference given to Primavera P6.

The Contractor shall submit a general work schedule including specific milestones and detailed tasks in compliance with the following requirements:

i. Time to Implement the Package: The total Contract duration shall be 260 days from the Effective Date of the Contract to the date of issuance of the Provisional Acceptance Certificate (PAC). The detailed unit shutdown schedule shall be as follows:

   + For the 300MW Unit shutdown duration shall not exceed 80 days;

   + For the 330MW Unit shutdown duration shall not exceed 75 days.

ii. The Detail design: The detailed design documents, including those for the fire prevention and firefighting system, shall be submitted to the Employer within 30 days from the Effective Date of the Contract. The Contractor is encouraged to propose a shorter submission period.

iii. Procurement: All equipment and materials shall be procured, manufactured and delivered to site within 150 days from the Effective Date of the Contract. The Contractor is encouraged to propose a shorter delivery schedule

iv. Installation, testing and commissioning: The unit shutdown period for dismantling, construction, erection, commissioning, reliability run, and performance testing shall not exceed 80 days for the 300 MW unit and 75 days for the 330 MW unit. The expected shutdown commencement date is January 10, 2027. The Contractor is encouraged to minimize the shutdown duration as much as practicable.

The Contractor shall, where possible, carry out replacement and installation work in advance without requiring Unit shutdown.

Note:

- During hot commissioning, any Unit trip caused by the Contractor shall be

counted as part of the Contractor's schedule delay.

- The commencement date of the Units outage may be subject to change depending on the power system operation conditions, dispatch plan of the National Power System and Market Operator (NSMO) and/or the actual conditions of the Plant.
- The Contractor shall be responsible for preparing and mobilizing all necessary manpower, equipment and materials in advance to ensure readiness for execution immediately upon official notification of the outage schedule by the Employer.
- In the event that the outage commencement date deviates from the planned schedule, the Employer and the Contractor shall, in a spirit of cooperation, discuss and assess the impact on the Contract schedule and agree on reasonable adjustments (if required).
- The Contractor shall take this potential variation into account when preparing the project schedule and the Bid Price.

Detailed information shall be referred to the attached schedule

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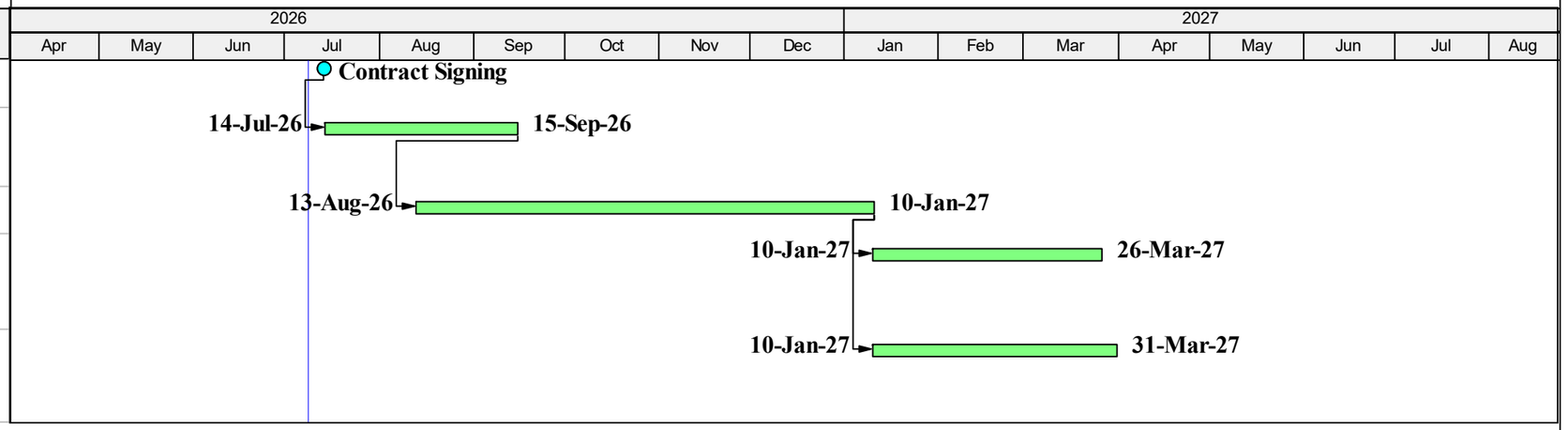
Project Schedule for the Upgrade and Retrofit for Flue gas treatment system of 300MW and 330MW Units – Uong Bi Thermal Power Plant

Activity Name	Start	Finish
Contract Signing	14-Jul-26 A	
Preparation, submission and approval detail design documents	14-Jul-26*	15-Sep-26
Procurement	13-Aug-26*	10-Jan-27
Dismantling, Construction, Erection, commissioning, RR, PT (Unit 330MW - S8)	10-Jan-27*	26-Mar-27
Dismantling, Construction, Erection, commissioning, RR, PT (Unit 300MW - S7)	10-Jan-27*	31-Mar-27



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Remaining Work
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Upgrade and Retrofit for Flue gas treatment system
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1.1 SECTION 01 GENERAL REQUIREMENTS

1.2 GENERAL

- The engineering, design, construction, quality control, testing, commissioning and acceptance of the Works shall comply with the applicable laws and regulations of Vietnam, including but not limited to the following:
- Construction Law No. 50/2014/QH13, as amended and supplemented by Law No. 03/2016/QH14, Law No. 35/2018/QH14, Law No. 40/2019/QH14, and Law No. 62/2020/QH14;
- Law on Construction No. 135/2025/QH15 dated 10 December, 2025;
- Law on Investment No. 61/2020/QH14 dated June 17, 2020;
- Law on Environmental Protection No. 72/2020/QH14 dated November 17, 2020;
- Law on Electricity No. 61/2024/QH15 dated November 30, 2024;
- Decree No. 31/2021/ND-CP dated March 26, 2021, of the Government providing guidelines for the implementation of certain articles of the Law on Investment;
- Decree No. 06/2021/ND-CP dated January 26, 2021, of the Government providing detailed regulations on quality management, construction execution, and maintenance of construction works;
- Decree No. 10/2021/ND-CP dated February 09, 2021, of the Government on management of construction investment costs;
- Decree No. 175/2024/ND-CP dated December 30, 2024, providing detailed regulations on certain articles and measures for the implementation of the Construction Law regarding construction activity management;
- Decree No. 35/2023/ND-CP dated June 20, 2023, of the Government on amending and supplementing certain articles of Decrees under the state management scope of the Ministry of Construction;
- Circular No. 02/2023/TT-BXD dated March 03, 2023, of the Ministry of Construction providing guidelines on certain contents of construction contracts;
- Circular No. 06/2021/TT-BXD dated June 30, 2021, issued by the Ministry of Construction, on classification of construction works and guidance on application in construction investment management, as amended and supplemented by Circular No. 02/2025/TT-BXD;

1.2.1 Reference to other sections

- References made throughout the Specifications and Schedules to other Sections are provided for convenience only. The absence of any such reference shall not relieve the Contractor from complying with all applicable

requirements of the Contract Documents, which shall be read and interpreted as a whole.

- In the event of any conflict between the provisions of these General Requirements and other Sections of the Specifications, the requirements of the respective Sections shall prevail.
- The drawings provided in the Bidding Documents are for reference only, unless otherwise stated. Any alternative proposed by the Bidder shall be clearly identified and shall comply with the specified technical requirements.

1.2.2 Cooperation with other contractors

- The Contractor shall be deemed to have included in its Contract Price all costs and expenses associated with coordination, interface, adjustment and cooperation with other contractors. No additional payment shall be made for any such costs.

1.3 SCOPE OF WORKS

1.3.1 The site

- The Project site is accessible via a well-developed transportation network, with access roads available on three sides of the site. Construction materials and equipment can be transported to the site via Highway No. 10 and Highway No. 18. However, the construction area is limited and congested, particularly in the boiler area, where existing equipment is densely arranged. The available space for equipment assembly and installation is restricted and requires careful planning.
- The Contractor shall carefully review the site conditions and shall be responsible for verifying all site constraints, including space limitations and access conditions.
- The locations for new equipment and facilities shall be thoroughly investigated during the design and execution phases to avoid conflicts with existing structures and underground utilities.

1.3.2 Project location

- Location: Uong Bi Extension (Unit 300MW) & Uong Bi Extension 2 (Unit 330MW) of Uong Bi Thermal Power Plant – Uong Bi Thermal Power Company – Vang Danh & Uong Bi Ward, Quang Ninh Province.

1.3.3 Description of the works

(1) Project Description

- Uong Bi Thermal Power Plant, invested in and operated by Uong Bi Thermal Power Company, consists of two coal-fired thermal power units with capacities of 300MW and 330MW. The configuration of each unit includes one boiler and one steam turbine-generator, utilizing traditional condensing steam thermal power technology. The plant is located in Quang Trung Ward, Uong Bi City, Quang Ninh Province. The commercial operation dates (COD) of the units are as follows: the 300MW unit on November 27, 2009, and the 330MW unit on April 15, 2013.

(2) Operation Fuel

- Main fuel are using for existing Uong Bi Extension (Unit 300MW) & Uong Bi Extension 2 (Unit 330MW) of Uong Bi Thermal Power Plant Unit 300MW and 330MW as follows:
- Coal: Domestic Anthracite coal (Cam 5b10) with the following specification according to TCVN 8910 – 2020, the main properties are as follows:

No.	Specification	Symbol	Unit	Range Data
1	Ash content (dry)	Ak	%	≤35
2	Total moisture	W	%	≤ 13
3	Volatile matter (dry)	Vk	%	≤10
4	Sulfur content (dry)	Sk	%	≤1,4
5	High heating value (dry)	Qk	Kcal/Kg	5200-5600

- Limstone:

No.	Specification	Unit	Range Data
1	CaCO3	%	>92
2	Size	mm	10÷40

- Fuel Oil: Diesel Oil 0,05S-II (DO)

No.	Specification	Unit	Range Data
1	Sulfur content	mg/Kg	≤ 500
2	Ash content	%	≤ 0,01
3	Total particulate matter	Mg/L	≤ 10

(3) Works

- The Works under this Contract shall include the complete design, engineering, procurement, manufacture, delivery to site, dismantling, construction, installation, erection, testing, pre-commissioning, commissioning, performance testing, reliability run and warranty of the upgraded flue gas treatment systems.
- The scope of work shall include, but not be limited to, the following**:**
- Review of existing design documents and specifications, and site investigation to assess the current condition of the equipment and boiler systems of the Plant.
- Preparation of detailed design for the upgraded systems, including environmental control systems such as Air Preheater (APH), Electrostatic

Precipitator (ESP), Flue Gas Desulfurization (FGD), Induced Draft Fan (IDF), fire protection system, Electrical and Control & Instrumentation (C&I) systems for Units 300MW and 330MW of Uong Bi Thermal Power Plant.

- Design, engineering, procurement, manufacture, installation and commissioning of a new Selective Catalytic Reduction (SCR) system for Units 300MW and 330MW to ensure that NOx emissions at the stack outlet (at 6% O_2) shall not exceed 120 mg/Nm³, in compliance with QCVN 19:2024/BTNMT.
- Upgrade and retrofit of the existing Electrostatic Precipitator (ESP) system, including engineering, procurement and installation, to ensure that dust emissions at the stack outlet (at 6% O_2) shall not exceed 20 mg/Nm³, in compliance with QCVN 19:2024/BTNMT.
- Upgrade and retrofit of the existing Wet Flue Gas Desulfurization (WFGD) system, including engineering, procurement and installation, to ensure that SO_2 emissions at the stack outlet (at 6% O_2) shall not exceed 120 mg/Nm³, in compliance with QCVN 19:2024/BTNMT.
- Design and installation of fire detection and fire protection systems for all upgraded systems, integrated with the existing fire protection system of Uong Bi Thermal Power Plant.
- Design, calculation, supply and integration of Electrical and C&I systems compatible with the existing plant systems.
- Provision of training and technical transfer to the Employer's operation and maintenance personnel.
- The warranty period for the installed systems shall be 12 months from the date of issuance of the Provisional Acceptance Certificate (PAC).
- Provision of photographic and video records of key construction, erection and commissioning activities up to the issuance of PAC.
- The Contractor shall be deemed to have included all works, equipment and services necessary for the complete and reliable operation of the systems, whether or not explicitly specified in this Section

(4) Permits and licences: The Contractor will be responsible for obtaining all permits/licences as follows:

The Contractor shall be fully responsible for preparing all required documentation, submitting applications, obtaining approvals, and coordinating with relevant authorities to secure all permits, approvals, consents and acceptances necessary for the design, supply, construction, installation, testing, commissioning and operation of the Works in accordance with the laws and regulations of Vietnam.

- Construction permit (if required);
- Fire protection system appraisal and acceptance;
- Import permits for equipment;

- Customs clearance procedures;
- Environmental approvals during construction and commissioning;
- Preparation and submission of environmental completion reports and commissioning plans in accordance with applicable regulations;
- Safety inspection and certification of equipment subject to strict occupational safety requirements;
- Any other permits, approvals and consents required under Vietnamese laws and regulations.

1.4 SUPERVISION OF CONSTRUCTION

- EPC contractors shall be responsible for supervision of construction as follows: Construction supervision for the work done by themselves and the work done by sub-contractor to meet the guaranteed schedule and quality, including but not limited:
- Establish a project management organization at the construction site, including Project Manager, Site Manager, Civil Engineer, QA/QC engineer, safety officer and other necessary personnel.
- Implement a Quality Management System in accordance with project requirements and applicable standards.
- Prepare and submit an Inspection and Testing Plan (ITP) for review and approval prior to implementation.
- Conduct material inspections, equipment inspections, and workmanship controls before and during installation.
- Prepare all supporting documents for inspection, testing and acceptance in accordance with current regulations.
- Prepare detailed method statement (civil works, steel structure erection, equipment installation, electrical and I&C installation, etc.) and submit Employer/Engineer for review and approval before starting work.
- Establish and implement construction site safety management, fire prevention and fighting plans, ensure compliance with regulations on health, safety, fire and explosion prevention in accordance with current regulations, submit Employer/Engineer for review and approval before starting work.
- Provide safety training and personal protective equipment to all workers.
- Implement measures to control dust, noise, waste, and wastewater during construction. Ensure compliance with applicable environmental regulations.
- Make a detailed construction schedule in accordance with the overall progress of the project.
- Prepare and submit weekly/monthly reports to the Employer/Engineer.
- Coordinate with the Employer/Engineer and other contractors (if any) to ensure smooth interface works, especially for works connected to the existing system.

- The contractor is fully responsible for organizing, managing, supervising and performing works to ensure quality, safety, compliance with schedule, safe and stable operation of the entire flue gas treatment system after upgrading and retrofitting in arcordance with Contract requirements.

1.5 SITE CONDITIONS

- The Contractor shall be responsible for carrying out its own site investigations and surveys (including geotechnical and topographical surveys, and assessment of existing structures…) to obtain all necessary, sufficient and accurate information required for the design, execution and completion of the Works.
- The Contractor shall visit and inspect the Site and shall satisfy itself as to the nature, location and conditions of the Site, including all factors that may affect the design, layout, construction methods, costs and schedule of the Project.
- The Contractor shall independently verify and assess all information provided in the Bidding Documents and shall obtain any additional information it deems necessary. The Contractor shall be solely responsible for the accuracy, adequacy and completeness of such information.
- For reference purposes, the Contractor may refer to the basic design documents as specified in Section 02, Chapter VI, Part II of the Bidding Documents.

1.6 SAFETY MEASURES

1.6.1 General

- The Contractor shall be responsible for the safety of all workmen and other persons entering the works and shall take all measures necessary to ensure their safety in compliance with statutory requirements and Conditions of Contract; in particular, the measures shall include, but not limited to:
- Provision of proper safety and emergency regulations; fire, gas and electric shock prevention, stretchers and first aid boxes, together with rescue facilities for each working center.
- Provision of safety helmets for his personnel.
- Provision of safety shoes, glasses, belts and other protections adapted to the risks encountered.
- Provision and maintenance of suitable lighting for adequate illumination of the working areas.
- Provision of safe access to any part of the works.
- Provision of notices to be erected at points likely to be used by the public, which shall warn of the existence of the works. These notices shall be in addition to statutory requirements.
- Provision of safe Contractor’s equipment and temporary works.

1.6.2 Safety plan

- The Contractor shall submit in due time to the approval of the Employer his detailed safety regulations and plan. After approval, the Contractor shall distribute copies to all his employees, to the Employer.
- The Contractor shall ensure that all his employees are fully conversant with the regulations, emergency and rescue procedures, etc., and the Contractor shall enforce the rule that any employee committing a serious breach of such regulations shall be instantly dismissed and shall not be re- employed on the Project.

1.7 GENERAL COORDINATION

1.7.1 Co-ordination

- Pursuant to the Conditions of Contract, the Contractor shall co-ordinate his work with those of the other contractors to whatever extent may be necessary to complete the Project according to the Program, the Drawings, and the Specifications and as per the Employer's instructions.

1.7.2 Employer's use of contractor's temporary works

- During the progress of the works, the Contractor shall allow the Employer's staff, and other contractors employed by the Employer in connection with the Works, the use of his roads, constructional plant and other temporary works or services.

1.7.3 Assistance to the employer

- The Contractor shall provide the assistance and personnel, which may be required by the Employer's Representative in relation to preparation of the works supervision, such as messengers, guards, and the like, whether required permanently or from time to time.

1.7.4 Dispute

- Should a disagreement or dispute arise between the Contractor and any other contractors, the same shall be referred without delay to the Employer for his decision. Upon such decision and without prejudice of his rights under the Contract, the Contractor shall proceed with the works in accordance therewith.

1.8 DRAWINGS SUPPLIED TO THE CONTRACTOR

1.8.1 Bid drawings

- The Bid Drawings are those listed in Bidding documents, and such further drawings, which may be supplied under the Contract. The Bid Drawings issued with the Bid Documents are of a general nature considered sufficient for bidding. They are not to be used for ordering materials, or manufacturing or construction.
- The dimensions and other characteristics given in the Bidding Drawings for the Works are illustration only. They shall be adapted by the Contractor to

suit his methods, working and construction designs subject to the approval of the Employer.

1.8.2 Other documents

- For co-ordination purpose, documents in relation with the present Works and issued by other parties will be furnished to the Contractor by the Employer, such as:
  + Drawings and configuration concerning other electrical & control plant not included in the present Contract;
- The Contractor shall timely review these documents and inform the Employer of his comments about errors or omissions or solution of continuity, which may affect the Works.

1.9 DESIGN AND DRAWINGS TO BE CARRIED OUT BY THE CONTRACTOR

- The Contractor is responsible for the execution of all designing, working and construction drawings and the like concerning this Package and miscellaneous works provided for the Permanent Works designed by the Contractor under the Contract.
- A list of drawings, configuration, and design calculations to be submitted to the Employer shall be drawn up at the start of the design stage by the Contractor in agreement with the Employer.
- However, the Employer will reserve the right to request at a later stage, any additional documents considered necessary.
- The Contractor is responsible for his own site survey to establish complete and accurate information for the technical design and construction drawing design, to carry out the materials, equipment procurement and construction work of the contract package. The Contractor will visit the proposed site and determine its nature and location and all conditions that may affect the design/layout and the cost of the package.
- The Contractor shall evaluate any and all information provided in this Bidding Document and collect individual information and shall be responsible for the accuracy or completeness of any such information.
- The Contractor shall submit to the Employer for approval of the drawings of Detail Design and the assemblies and sub-assemblies of each component of package together with such details necessary to assess the compliance of the equipment with the Contract. These drawings, or their associated schedules, shall include, in addition to dimensions, flatness, straightness, the values of operating clearances, the tolerances, the weld categories and the types of non-destructive tests, the types of heat treatments and the surface conditions.
- In addition to the above, Editable files (Word, Excel, PDF) for all documentation/calculation sheets shall be submitted.

1.9.1 Contractor's personnel

- The Contractor's personnel must be qualified to practice according to regulations, have professional qualifications and experience appropriate to their profession.
- Position, qualifications and duration of personnel expected to participate in the performance of the work are specified in the contract. In case of change of personnel, the contractor must explain the reason and at the same time provide the resume of the replacement for the Employer to consider, the replaced person must have the same or higher professional qualifications than the replaced person position.

1.9.2 Overall and detail design/working drawing of the Plant

- The Contractor shall submit to the Employer for approval of the drawings of Design and the assemblies and sub-assemblies of each component of package together with such details necessary to assess the compliance of the equipment with the Contract. These drawings, or their associated schedules, shall include, in addition to dimensions, flatness, straightness, the values of operating clearances, the tolerances, the references of materials Standards, the weld categories and the types of non-destructive tests, the types of heat treatments and the surface conditions. These drawings or their associated schedules shall also include the weights of assemblies, and the surface areas to be painted.

1.9.3 Formats and numbering

(1) Formats

- All drawings shall be drawn on the International Standards Organization (ISO) 'A series of drawing sheets, standardizing where possible on the A1 size and for the electrical diagrams on the A3 size.
- Drawings shall comply with ISO-272 or equivalent Vietnamese standard.
- Documents submitted, other than drawings and manufacturer's literature shall be A4 in size.
- All documents shall be in English and abbreviations shall be explained. All calculations and technical information shall be in units conforming to the System International Unit (SI). All dimensions shall be in Metric system and all weights in metric tons. All drawings shall have the appropriate scales drawn on them.
- Title block and numbering principle shall be approved by the Employer.

(2) Title Blocks

- All documents shall comprise a title block with the following details:
  + The name of the Employer;
  + The name and reference of the Contract;
  + The name of the Engineer;

+ The number of the corresponding Section of the Specifications;
+ The name of Contractor and if applicable Subcontractor;
+ The date, the title and number of the document and each new issue of the document shall be identified by a revision letter; The status of any document such as: "Preliminary", "For Approval", "Approved by the Employer on date", "As Manufactured", "As Built", shall be clearly marked by the Contractor.

(3) Numbering System

- All documents shall be listed in accordance with a numbering system specific to
the Contract, to be proposed by the Contractor.
- The Contractor may apply simultaneously his own numbering and using this number as a secondary reference in correspondence.

(4) Drawing Indexes

- The Contractor shall compile drawing indexes for all documents produced by himself and his subcontractors giving document number, title, revision, approval status, together with reference number and date of all relevant correspondence. He shall send up-to-date copies of each sheet of the index to the Employer at two weekly intervals or on request by the Employer.

1.9.4 Ownership of drawings and data

- All drawings, details, bill of materials and any other information, documentation furnished by the Contractor shall become the property of the Employer and shall be non-returnable.

1.9.5 Drawings and data to be submitted

(1) Drawings and Data

- Before starting manufacture of an item of the Plant, dimensioned drawings and data showing all significant details of the equipment and materials to be used shall be submitted to the Employer for approval.
- These drawings shall be submitted within the times stipulated in Table 1 attached hereto in calendar days from the Commencement Date. Time will be allowed by the Employer to permit changes to be made if required. The drawings shall be modified as necessary if required by the Employer and resubmitted for final approval.
- In relation to the drawings related to other packages, in cases where a delay in submission is solely attributable to the Contractor, the Contractor shall take full responsibility for the resulting situation and take proper rectification measures, with the approval of the Employer, at his own cost and expense.
- After approval of drawings by the Employer, the Contractor shall supply the Approved Drawings as a final to the Employer, according to Table 1.
- It is to be understood, however, that approval of the drawings will not relieve the Contractor of any responsibility in connection with the work.

- All drawings submitted for approval as a final to the Employer shall be sent by courier services or registered airmail. After all items of the work have been manufactured and erected, a complete set of prints and digital data of the As-Built Drawings showing the work as executed shall be furnished according to Table 1.

(2) Erection, Operating and Maintenance Instruction Manuals

- The Contractor shall submit to the Employer for approval instruction manuals
  concerning the correct manner of erection, operating and maintaining with special reference to any recently developed features, the scope of which shall be suitable for fully informing the Employer's staff on all aspects of the operation and maintenance for equipment of this package.
- The manuals shall be submitted one (1) month before starting the installation of relevant works.
- The Contractor shall submit copies of each manual for approval.
- The final version shall take into account the possible amendments required by the Employer, final setting values determined during the commissioning for equipment of this Package, etc. When finally approved, five (05) copies of the instruction manuals shall be furnished to the Employer. The Contractor shall ensure that his erection supervisor has a copy in his office at the Site.
- The contents of the instruction manuals shall be directly applicable to the equipment of project. Standard instructions covering a number of sizes and/or models of proprietary equipment will be accepted provided that they cover the items supplied and these items are clearly identified throughout the manuals.
- The manuals shall be subdivided on a Section-by-Section basis, with the content for any one Section in a self-contained volume, complete and separate in all respects from the content of other Sections.
- Precautions and warnings relating to the safety of persons and of the equipment shall be clearly stated at the beginning of the manual. Sketches or photographs shall be included in the text whenever necessary for clarity.
- The erection instruction manuals shall describe in detail the erection procedure and use of all erection equipment and measurement devices. The method of assembling, adjusting, operating and dismantling each device, system and machine shall be described and illustrated. The detailed operation sequences, erection drawings, erection clearances and tolerances shall be described.
- The operation and maintenance (O&M) instruction manuals shall include a separable and complete section describing the normal and emergency operating procedures for explanatory diagrammatic drawings. The maintenance of each component shall also be described, including the frequency of inspections and clean, etc.,

- The O&M manuals shall give specific information as inspections and device replacement procedures, and materials needed for maintenance operations. This information shall include brand names and manufacturer's numbers or designations that are available in Vietnam as possible.
- The Contractor shall, in preparing the instruction manuals, take into account a possible lack of experience and familiarity of the operators with this type of equipment.
- The manuals shall include a complete list of all drawings prepared for the Contract, a spare parts list, and a parts list for each component of the equipment.
- The parts list shall include manufacturer's name, serial number and instructions for ordering parts.
- In addition to the above, "Word", "Excel", "PDF" computer files for all documentation/calculation sheets shall be submitted for "As-Built Drawing

(3) Site Test Procedure Instructions

- The Contractor shall plan and execute a testing program which will establish that specified requirements have been met and that the items furnished and installed will perform as specified and as required.
- The Contractor shall submit to the Employer for approval, during or immediately following the submission of drawings, testing programs describing each test to be performed for the commissioning test.
- The testing programs shall be suitably documented to ensure that the tests for required component or sub-component are properly performed. The test program shall include pertinent test pre-requisites, such as test instrumentation selection and calibration, acceptance criteria, documentation of test results and evaluation of test results by qualified personnel.
- The program shall establish the sequence of the tests, the equipment preparation and operating procedures to be followed and the detailed procedure for conducting each test. The program shall also contain function guarantees, design values, technical particulars or other criteria for the evaluation of each test.
- These programs shall be submitted for approval and distributed in the same manner as for drawings.

(4) As Built Drawings – Record Drawings

- The contractor must make as-built drawings with the number of drawings as prescribed in the contract, which shows the actual dimensions compared to the design dimensions made on the basis of the approved construction design drawings. Any modification from the approved design must be shown on the as-built drawing. In case the actual dimensions and parameters of the construction work part or construction work are correct with the dimensions and parameters of the construction drawing design, such design drawing is the as-built drawing.

- As soon as the Plant and miscellaneous works or any part thereof are properly built or installed or tested, the Contractor shall ensure that the Approved Drawings are marked up to show the conditions as installed. One copy of such marked up drawings shall be filed by the Contractor for use by operational staff.
- The Contractor shall furnish the final Records Drawings (As-Built drawings) and other documents.
- In addition to the above, "Auto Cad" and "PDF" computer files for all drawings shall be submitted.

1.10 APPROVAL OF DESIGN

- The detailed design of this Package shall be subject to review and approval by the Employer or the Employer's Representative prior to execution. The Contractor shall be responsible for submitting all required documents for appraisal and for addressing and resolving all comments issued by the Employer or the relevant appraisal authority.
- The Contractor shall be fully responsible for ensuring that all designs, drawings, calculations, performance data and related documents, including proprietary items, comply in all respects with the requirements of the Contract prior to submission for review and approval.
- The Contractor shall clearly identify and describe any proposed deviations from the Specifications and shall provide full technical justification for such deviations for the Employer's review and approval.
- Any materials procured, manufacture undertaken or works executed prior to the Employer's approval of the relevant documents shall be entirely at the Contractor's risk.
- All modifications approved by the Employer during design, manufacture, erection or testing shall be incorporated into all similar equipment and systems within the scope of the Contract.
- Where the Employer requires modifications to drawings or documents, the Contractor shall revise and resubmit such documents for approval.
- The Contractor shall not be entitled to any extension of time or additional payment arising from the rejection or revision of its design documents or drawings.
- The detailed design review and approval procedures shall be defined and agreed during Contract negotiations**.**

1.11 STANDARDS, CODES AND REGULATIONS

1.11.1 Principles of application of regulations and standards

- The application of regulations and standards to the Project shall comply with the Construction Law, the Law on Standards and Technical Regulations, and Decree No. 175/2024/ND-CP dated December 30, 2024, on the management of construction activities.

- The following requirements shall apply:
- The design, procurement and construction of the Works shall comply with applicable national technical regulations.
- The technical design documentation shall include an assessment of compatibility, integration and compliance with applicable national technical regulations.
- Widely recognized and internationally accepted standards may be applied, subject to compliance with Vietnamese regulations.
- The use of new materials and technologies applied for the first time shall comply with applicable national technical regulations and relevant standards, and shall ensure feasibility, durability, safety and efficiency.

1.11.2 Applicable standards

- The design, materials, manufacture, inspection, testing and performance of the Works shall comply with the latest applicable Vietnamese regulations and internationally recognized standards, unless otherwise specified.

(1) Vietnamese codes and standards shall be applied, including but not limited to the following:

- QCVN 01:2008/BLDTBXH – National Technical Regulation on Safety of Steam Boilers and Pressure Vessels
- QCVN 02:2022/BXD – Natural Physical and Climatic Data for Construction
- QCVN 06:2022/BXD – Fire Safety of Buildings
- QCVN 04:2014/BCT – Safety of Pipelines for Steam and Hot Water in Power Plants
- QCVN 19:2024/BTNMT – National Technical Regulation on Industrial Emissions
- TCVN 9362:2012 - Specifications for design of foundation for buildings and structures.
- TCVN 9361:2012 - Foundation works - standard for construction, check and acceptance.
- TCVN 9379:2012 - Building structure and foundation-Basic rules for calculations.
- TCVN 9335:2012 - Heavy weight concrete - Nondestructive testing method
- Determination of compressive strength by using combination of ultrasonic equipment and rebound hammer.
- TCVN 9351:2012 - Soils for Construction – Field testing method-standard penetration test
- TCVN 9352:2012 - Soils for Construction – Static Cone Penetration Test Method.
- TCVN 9392:2012 - Metal arc welding of steal for concrete reinforcement

- TCVN 9356:2012 - Reinforced concrete structures- Electromagnetic method for determining thickness of concrete over and location and diameter of steel bar in the concrete
- TCVN 9342:2012 - Monolithic reinforced concrete structures constructed by slip form - Construction and acceptance.
- TCVN 9343:2012 - Concrete and reinforced concrete structures - Guide to maintenance
- TCVN 9345:2012 - Structural Concrete and Reinforced Concrete – Technical Guidelines for Crack Prevention under Hot and Humid Climatic Conditions.
- TCVN 9346:2012 - Structural Concrete and Reinforced Concrete - Requirements protection against corrosion in the marine environment
- TCVN 2682:2020 - Portland cements - Specifications
- TCVN 9384:2012 - Water stops for joint in construction works - Specifications for use
- TCVN 9352:2012 – Soil- Method of cone penetration test
- TCVN 4506:2012 - Water for concrete and mortar - Technical specification
- TCVN 9202:2012 - Masonry cement
- TCVN 8826:2024 - Chemical admixtures for concrete
- TCVN 9398:2012 - Surveying in construction - General requirements
- TCVN 9377-1:2012 -Finish works in construction- Execution and acceptance Part 1: paving and smoothing work
- TCVN 9377-2:2012 - Finish works in construction- Execution and acceptance Part 2: Plastering work;
- TCVN 9377-3:2012 - Finish works in construction- Execution and acceptance Part 3: Wall tiling work
- TCVN 9345:2012 - Concrete and reinforced concrete structures - Guide on technical measures for prevention of cracks occurred under the action of hot humid climate
- TCVN 5574:2018 - Concrete and reinforced structures - Design standard
- TCVN 5575:2024 - Steel structures - Design standards.
- TCVN 9386-1:2012 - Design of structures for earthquake resistance. Part 1: General rules, seismic actions and rules for buildings
- TCVN 9386-2:2012 - Design of structures for earthquake resistance. Part 2: Foundations, retaining structures and geotechnical aspects
- TCVN 7958:2017: Protection of buildings – Prevention and protection from termites for buildings under construction
- TCVN 2737-2023: Loads and effects-Design standard
- Other

(2) International Standards and codes

- The design shall comply with the regulations and design standards stipulated by the State of Vietnam for the construction sector. In addition, compliance with Article 10 of Government Decree No. 175/2024/NĐ-CP dated December 30, 2024, on detailing a number of articles and measures for the implementation of the Construction Law regarding the management of construction activities, is required.
- In principle, international standards and codes recognized such as ISO, IEC, IEEE, EN and/or standards of advanced countries such as UK, USA, Germany and Japan are considered for application to the project:
- ASME - American Society of Mechanical Engineers
- ASTM- American Society for Testing and Materials
- AWWA American Water Works Association
- AWS- American Welding Society
- CTI - Cooling Technology Institute
- HEI- Heat exchange Institute
- HI- Hydraulic Institute
- IEEE Institute of Electrical and Electronics Engineers
- ISA - International Society of Automation
- NFPA – National Fire Protection Association
- PFI - Pipe Fabrication Institute
- TEMA - Tubular Exchanger Manufacturers Association
- BS- British Standard Institute
- JIS- Japanese Industrial Standards
- DIN - German Institute for Standardization
- GB - National Standards of the People’s Republic of China.

1.11.3 Standards other than those specified

- Any reference in the Contract to National Standards and Codes or to materials and equipment of a particular manufacturer shall be regarded as followed by the words "or equivalent". The Contractor may propose to the approval of the Employer alternative recognized Standards or Codes, materials or equipment provided that they have the same level of quality or more as those specified.
- If the Contractor proposes deviations from the specified or approved Standards and Codes or desires to use materials or equipment not covered by these Standards and Codes, the Contractor shall state the exact nature of the change, the reason for making the change and the proof that these equipment or materials are equivalent or better, in every significant respect, to those specified.

1.11.4 Standards to be on site

- The Contractor shall keep on Site during the period of the site works the applicable Standards and Codes of Practice concerning the field tests of materials and equipment. One copy of these documents shall be handed over to the Employer's Representatives.
- The list of these documents established by the Contractor shall be submitted to the Employer prior to starting the works.

1.12 QUALITY OF DESIGN, MATERIALS AND MANUFACTURE

(1) All items of equipment of project shall be designed and manufactured in the most sound manner, using materials most suited to the particular service and giving due consideration to the most recent technical advances. All materials and components shall be new and unused. The design and materials shall be such as to enhance service life, operational reliability, freedom from wear and tear and ease of maintenance, inspection and adjustment. Back-up facilities shall be provided in order to ensure reliable and safe operation in the event of faults.

(2) Items of commercial equipment to be incorporated into the project shall be of high quality, produced by reputable manufacturers and of adequate capacity to perform the required service under all operating conditions.

(3) Operational reliability and high performance ratio of equipment, project is of the first importance and the Contractor shall take account of this requirement at all stages of design, manufacture and erection.

(4) All wearing parts and linking and connecting between parts shall be reliability and replaceable.

(5) The method of rectification of manufacturing errors, material defects and performance shortcomings shall be to the approval of the Employer.

(6) All components of project of the same design and dimensions shall be interchangeable

1.13 QUALITY ASSURANCE AND QUALITY CONTROL PROGRAMME

1.13.1 Quality Assurance Program

- The parts and components produced and the services provided in fulfilling the requirements of the Contract shall be performed in accordance with a Quality Assurance Program to be established by the Contractor. This Contractor's Quality Assurance Program shall be documented in sufficient detail to assure the Employer that the Contract requirements will be met during the design, procurement, manufacture, assembly, delivery, erection, installation, construction and test of all materials and components of the Works. The Contractor's Quality Assurance Program, as a minimum, shall provide the implementing details as given hereinafter.

1.13.2 Quality plan

(1) General

- 1. Quality Plan prepared by the Contractor with reference to his Quality Assurance Manual and as per ISO Standard shall be submitted to the Employer.
  2. This plan will reflect the know-how of the Contractor as well as the requirements of the Contract. Contractor's Quality plan shall include, but not be limited to, detailed procedures, instructions, or statement covering the following.

(2) Organization and procedures

- 1. The Quality Plan shall describe Contractor's Quality Assurance organization and delineate the responsibility and authority of the various personnel and groups involved. The Quality Assurance Department's relationship with other departments shall be defined and their independence of engineering, construction, cost, and scheduling shall be stated. An organizational chart shall be included with lines of authority and communication.
- 2. Procedures of communication between the Contractor, and the Employer will be established by the Employer. As a rule, any documents issued by the Contractor including letters, various Reports, Notes, etc. shall be addressed to the Employer with copies sent simultaneously and directly by the Contractor to the Employer and when applicable to Representatives on site. Particular procedure will be established for communications on site.

(3) Procurement Control

- 1. The Contractor's procurement process shall assure that purchased items, whether purchased directly or through his sub-suppliers comply with the Specification. This assurance shall be provided by the inclusion of the quality requirements into the Contractor's procurement documents and adequate inspection of the material at its source or upon receipt.
- 2. Prior to procurement, the Contractor shall furnish to the Employer, a list of Sub-Contractors and vendors to be orders for materials and equipment. The Contractor shall also furnish such pertinent information as to capacities, efficiencies and sizes, and such other information as may be required by the Employer.
- 3. Copies of Contractor’s orders of materials and equipment and list of his stock material or equipment shall be provided to the Employer. All orders and stock lists shall state the standard specification under which the material is to be furnished, pertinent drawing and the required delivery dates. They shall state that the materials and equipment are subject to inspection of the Employer.

(4) Material Control

- The Quality Plan shall provide assurance that procured and subsequently processed material meets the Specification requirements. Material identification shall be provided and maintained throughout the manufacturing cycle. Controls shall be provided for the documentation and disposition of non- conforming material, parts or components, and their

subsequent rework or repair and reinspection. The program shall also provide for the prior notification to the Employer of proposed rework or repair or non-conformance, for this evaluation and approval.

(5) Welding

a) General

- All welding performed in pursuance of this Contract shall conform to the approved standards.
- The Contractor shall provide all necessary plant, labour, equipment, appliances, materials and consumables required to perform all operations in connection with the welding outlined in this Contract. All equipment, plant and appliances shall be of good quality, well maintained and entirely suitable for the intended purpose.
- The Contractor shall be responsible for the compliance of his personnel and equipment with all applicable regulations and requirements issued by the Socialist Republic of Vietnam and other International Organizations for cutting and welding operations and for the use, handling and storage of radioactive sources and isotopes.
- All costs for inspection and testing including any additional tests required by Owner shall be deemed to be included in the Bid price. When additional inspection and testing is required by Owner it shall be performed promptly and no claims for consequent delay or disruption of the work will be considered.

b) Weld Procedure Documents

- Prior to the commencement of welding the Contractor shall submit to Owner for acceptance the welding procedures to be used in the fabrication of the relevant sections of the work.

c) Welders Qualification Tests

- All welders and welding operators shall be qualified for the work and shall hold current welder's qualification certificates in accordance with the latest edition of the ASME Boiler and Pressure Vessel Code Section IX, "Qualification Standard for Welding Procedures, Welders and Welding Operations" or equivalent.

d) Storage of Welding Consumables

- All welding electrodes, wire and fluxes shall be stored in a clean dry place and protected from all forms of deterioration prior to use.
- All welding consumables shall be properly identified and shall retain their identification up to the time of use. Each batch of electrodes and wire shall be identifiable with the respective manufacturer's test certificate and advice note and shall be used in strict delivery rotation.
- Electrodes which have damaged flux coatings, are bent, mis-shapen or have lost their identification, shall not be issued or used on any work covered by this Specification.

e) Non-Destructive Examination

- All non-destructive examinations shall be supervised by a fully qualified and experienced specialist appointed by the Contractor. Individual operators in each of the respective techniques shall be qualified and trained in the respective subject.

f) Quality Requirements for Welds

- All welds subjected to non-destructive tests shall be entirely free from cracks or crack-like defects, lack of root fusion, lack of sidewall fusion, root burn through, tailed pores. The standard for porosity and slag inclusions will be as indicated in the agreed standards for design and welding.

g) Mandatory Inspections

- All butt welds of all hydraulic oil pipes shall be subjected to 100% radiographic examination.

(6) Special Processes

- Special Processes such as welding, soldering, brazing, heat treatment, cleaning, non-destructive examination, etc., shall be performed in accordance with documented process procedures and by quality personnel. The procedure shall describe the process sequence and methods, process pre-requisites, equipment, qualification of personnel and equipment, and acceptance criteria. The procedures shall also describe the preparation and retention of documents used to record the results of special processes.

(7) Inspection

- The Quality Plan shall provide for the in-process and final inspection of material, equipment and activities to assure compliance with approved documents. Examination or measurements shall be performed at each applicable work operation. Inspection activities shall be performed by qualified independent individuals.

(8) Calibration

- Procedures shall be established to assure that test and measuring devices used to test, inspect, or accept material and components are calibrated at specified intervals to maintain the proper accuracy. Devices used shall be of the proper range, type, and sensitivity to reliably measure the parameters being evaluated. The calibration of such devices shall be documented and shall be performed using certified measurement Standards.

1.13.3 Test program

- The Contractor's test program shall be suitably documented to assure that the required component or sub-component testing is properly performed.

1.13.4 Level of criticality and control

- The level of quality control shall be adjusted to the importance of the equipment in terms of cost of repairs, personnel safety and loss of production as applicable. In respect of inspection and approval, the levels of criticality

of the equipment and phases of construction will be divided into three categories as follows:

a) Type R (R for Record): The Contractor shall send to the Employer the record of the tests or inspections. This generally applies to items whose failure would have no effect on production, personnel, ecology or environment. Replacement of equipment or spare parts would be readily available and treated as routine maintenance.

b) Type I (I for Invitation): The Employer shall be invited to be present during the tests or inspection and the Employer will decide whether to assist in the tests and to inspect the works or not. If the Employer decides not to be present, the works will go on.

c) Type S (S for Stop): The works (manufacturing, erection, placing, construction, testing) shall be stopped and the work shall be resumed only after the Employer has given his approval. This generally applies to those items whose operability and reliability is vital for operation. Shutdown due to malfunction or failure of one of these items would result in loss of production and/or replacement costs, or pose potential hazard to personnel safety, and could cause damage to the environment.

1.13.5 Non-conformity

- During manufacture and site works, after each assessment or measurement of quality, cases of non-conformity, identified either by the Contractor's quality control supervisors or by the personnel in charge of execution or by the Employer, will be divided into four categories:
- 1. NC.1- Minor defects which shall be repaired immediately, then recorded on standard follow-up documents.
- 2. NC.2- Defects which can be repaired according to a pre-established procedure. The repairs shall be carried out immediately and recorded on special documents.
- 3. NC.3- Defects which cannot be repaired according to a pre-established procedure. The decision to repair, modify or rebuild or remanufacture the item shall be proposed by the Contractor for the Employer's approval.
- 4. NC.4- Main defects on critical items. The Contractor shall propose a solution to the Employer. Then the Employer, after due consultation, will notify the Contractor the final decision.

1.13.6 Documentation

- 1. The Quality Plan shall include a system to ensure that the documentation necessary to attest the completion of fabrication, erection, and installation, use of correct material; completion of required inspections and tests and acceptability of results are generated, reviewed, maintained and turned over to the Employer at the required time.

- 2. The system shall ensure that such documentation is reviewed by the Contractor for legibility, completeness, validity of data, trace ability of document to activity or equipment and acceptability of results
- 3. Documentation to be generated and maintained during manufacturing and site works period as applicable, shall include at least:
- a. Installation and repair procedure;
- b. Inspection and test procedures;
- c. Inspection and test reports;
- • If a demonstrable satisfactory service record is available for a material, certain specified tests may be waived by the Employer;
- • In the case of Standard labeled stock products which have a record of satisfactory performance in similar works over a period of not less than 2 years, the Employer may accept a statement from the Manufacturer attested by a certified laboratory certifying that the product conforms to the applicable specifications;
- d. Vendor surveillance reports;
- e. Final inspection reports;
- f. Packing and shipping procedure;
- g. Certificates of compliance.

1.13.7 Documents to be submitted by the contractor

- 1. The Contractor shall submit to the Employer the following documents:
- a) The Contractor's Quality Plan;
- b) The Contractor's Inspection and Test Plan;
- This Plan, which will be the basis for the selection of shop witness or observation points, shall sequentially list all major material and component processing or assembly operations, and all routine and special inspection and tests. Tests and inspection listed in the Plan shall include reference to the applicable inspection, test or special process. To allow possible inspection of materials and equipment in the course of, or on completion of the preparation or manufacture or assembling or testing, the Contractor shall give the Employer written notice.
- 2. Design, drawings, data, calculation notes and other design documentation as
  required.
- 3. Test and inspection programmer and procedures for each major test, the relevant detailed test programmer and procedures shall include descriptions of the test methods, applicable Standards, testing equipment and installations and test record sheets with theoretical data and tolerances.
- 4. Tests documents
- Within one week after completion of tests and inspection:

- a) Record Drawings (as manufactured);
- b) Contractor's Data Report;
- c) Certificate of Compliance;
- d) Certified Material Test Reports;
- e) Heat Treatment Charts (if any);
- f) Non-Destructive-Tests Examination Reports (if any);
- g) Non-conformance Reports (if any);
- h) Type, Routine and Special Tests Report;
- i) Site Test reports
- j) Final Inspection Report;
- The 'Permission to Deliver' any item of the Plant shall be issued by the Employer after the receipt of the test reports and other certificates as detailed above, showing that these items comply with the Contract; then the Contractor will be authorized to proceed with the packaging and shipping.
- 5. The Contractor shall supply shipping documents (copy of packing lists, bill of lading, and insurance certificate) for each dispatch. Packing lists shall include details of the content of each crate or package dispatched together with the identification numbers of each package, the dimensions net and gross weights and where necessary, any special indications regarding storage and the type of packaging.
- 6. The Contractor shall supply erection instruction manuals, which describe in detail the erection procedure and use of all erection equipment and measurement devices for the installation and testing of the supplied equipment. These documents shall include all information and sketches necessary for proper erection and disassembly, in particular:
- a) The method of assembling, adjusting, operating and dismantling each device;
- b) The use of erection platforms with overall dimensioned sketches, if any;
- c) Detailed operation sequences, erection drawings, erection clearances and tolerances;
- d) Sketches or photographs shall be included in the text whenever necessary for clarity;
- e) Lifting and handling equipment required;
- The Contractor shall, in preparing the erection instruction manuals, take into account a possible lack of experience and familiarity of the operators with this type of equipment.

1.14 ASSEMBLY DURING MANUFACTURE

- All parts of the Plant shall be assembled during manufacture fully necessary for the purpose of inspection, testing and otherwise ensuring that they will

function satisfactorily and are mutually correct as regards dimensions. During such assembly, all parts shall be correctly doweled and match-marked or tagged to facilitate erection on site.

- The location of the match-marks shall be indicated on erection drawings.

1.15 PACKING, STORAGE AND IDENTIFICATION

1.15.1 Packing for transport

- All Plant shall be effectively protected against damage (including all deterioration) during transport from the place of manufacture to the Site in a tropical location and during storage. Large parts shall be supported to distribute their mass uniformly and thus avoid any permanent deformation. An approved drying agent shall be included with all items, which may be affected by moisture or excessive humidity, and with all items, which are enclosed, in plastic or other impervious material.

1.15.2 Check on arrival at site

- Goods and equipment shall be independently inspected by competent authorities during periods: procurement, installation and operation. Contractor shall provide the inspection process, showing specific scope of works for the Employer to agree before implementation.
- Immediately upon receipt at Site, all packages shall be checked by the Contractor against the shipping list for loss and inspected for damage during transit. The Contractor shall report all damage and the proposed remedial work therefore to the Employer for approval in accordance with the Contract.

1.15.3 Storage facilities on site

- The Employer will provide covered storage at the Site. The Contractor shall ensure that all packages are suitable for the storage conditions provided.

1.15.4 Protection of plant

- Equipment shall be protected against corrosion. Parts on which final alignment
  and running clearances depend shall have adequate blocking to prevent distortion of their machined surfaces, and shall be positively prevented from coming into contact with timber packing or supports, paying due regard to movements which may occur during transport. If equipment shows signs of damage on receipt of shipment, the corrosion protection shall be removed, the rust and moisture eliminated, the defects repaired by appropriate means and the protection reapplied.
- Electrical insulation shall be protected against sweating and entry of dust during transport and storage.
- Flange faces and openings, if any, shall be covered by metal blanks and gaskets. Rubber parts shall be protected against light and air. Moisture absorbent crystals shall be included with all items enclosed in plastic or other impervious material.

- Plant likely to be damaged by shock or vibration, shall be packed in protective containers in accordance with the recommendation of the original supplier and suitable for the method of transport used.

1.15.5 Packing material

- All packing material, except that required for storage of spare parts, shall remain the property of the Contractor and shall be removed from the Site. Only parts for immediate use shall be delivered from the works storage area, and their packing material shall be removed quickly from the installation site and disposed of to the satisfaction of the Employer.

1.15.6 PACKAGES

- All packages shall be clearly and indelibly marked with the dimensions, weight, slinging and weight bearing points. Any packages, which are not symmetrically loaded, shall be marked with the position of the center of gravity.
- Each package shall contain a packing list in a waterproof envelope.

1.15.7 INSPECTION PRIOR TO DISPATCH

- The Employer shall reserve the right to inspect the plant and the packing before the items are dispatched.

1.16 LAYOUT OF WORK AND SURVEYS

- The Contractor is responsible for his own site survey to establish complete and accurate information for the technical design and detail design, to carry out the materials, equipment procurement and construction work of the contract package. The Contractor will visit the proposed site and determine its nature and location and all conditions that may affect the design/layout and the cost of the package.
- By Bidder’s results of survey, the Bidder proposes solutions to upgrade the system, replace equipment that shall be ensure the Bidder's proposed equipment shall be compatible with the existing equipment. The Bidder shall be responsible for any conflict between existing equipment and equipment supplied by Bidder.
- The Contractor shall evaluate any and all information provided in this Bidding Document and collect individual information and shall be responsible for the accuracy or completeness of any such information.

1.17 TESTS

1.17.1 Test procedures

- The Contractor shall submit to the Employer for approval during or immediately following the submission of drawings, the test procedures to be performed during manufacture, erection and tests on completion.
- The test procedures shall include the list of tests as well as define detailed test method and procedures, measuring items, testing equipment to be used

and recording forms for test results, and shall contain design values and tolerances which will be treated as the criteria for evaluation of each test.

- All plant, equipment and its major components shall be subject to inspection and testing throughout the manufacturing, construction, commissioning stages and on completion. The Contractor and his Subcontractors shall provide every facility including adequate advance notice, temporary access, etc to enable the Employer/Engineer or his nominee to carry out the necessary inspection and witness tests of the plant and ascertain progress.
- The entire costs associated with all tests and inspections shall be borne by the Contractor.
- The passing of any such inspection or test will not prejudice the right of the Employer/Engineer to reject any plant if it does not comply with the Contract during later stages of fabrication, when erected, or give complete satisfaction in service.
- All reasonable tests which the Employer/Engineer may consider necessary to determine the quality of the materials or suitability of the equipment supplied under this Contract shall be carried out in accordance with the appropriate Standard either at the manufacturer's works or elsewhere at the discretion of the Employer/Engineer.
- Where a standard provides for agreement on testing procedures or test levels between the "manufacturer" and the "purchaser" and this Specification does not set out the Employer/Engineer's requirements. The Contractor shall ascertain the Employer/Engineer's requirements and shall test the equipment in accordance with them.
- The scope of the inspecting and testing shall be set out in an Inspection and Test Plan to be agreed between the Employer/Engineer and the Contractor.
- All non-destructive testing examinations shall be carried out by laboratories and personnel registered with certified testing authorities.
- The Contractor shall, at its expense, prepare all welds, plates or other surfaces for inspection. This preparation shall include grinding, dressing or finishing ensuring that suitable non-destructive testing techniques can be applied and that adequate interpretation and clarity of test indications are achieved for production welds and procedure and welder qualification tests.
- All non-destructive testing shall be carried out after completion of all fabrication stages and after heat treatment, except that required on incoming items and weld preparations or where relevant manufacturing Standards specify intermediate stage testing. It is the responsibility of the Contractor to carry out other intermediate nondestructive testing in addition to the above, to ensure that the quality of work is satisfactory at the stage of final non-destructive testing. Details and results of any intermediate non-destructive testing shall be made available for review by the Employer/Engineer.
- The Employer/Engineer may, at its cost (and using its own employees or agents) non-destructively test any items whether previously tested or not.

Should these tests show that repairs/rectification works are proved to be necessary either at the fabricator's works or at site, all costs associated with the Employer/Engineer's inspection, the repair of the item or re-examination shall be at the expense of the Contractor.

- The listed tests included in this Contract indicate the minimum level of testing intended and shall not limit the tests actually performed. The Contractor will be responsible for the coordination of the testing and putting into service of the plant system(s) and plant electrical system(s).
- Triplicate sets of all tests, records, test certificates and test curves whether or not they have been witnessed by the Employer/Engineer shall be supplied for all tests carried out in accordance with the provisions of the Contract.
- Subcontracts and sub-orders shall include a statement advising the Subcontractor that the items being ordered will be subject to witnessing of inspections and tests by the Contractor, shall comply in every respect with this Contract and shall be subject to the satisfaction of the Employer/Engineer and the Contractor. The Contractor shall inform its subcontractors of all the pertinent clauses in this Contract when ordering bought-out materials or plant.
- All instruments to be used in connection with these tests shall be calibrated before the tests. The Contractor shall provide and calibrate the instruments and the Employer/Engineer reserves the right to be represented at such calibration and use such check instruments as it may desire. The Contractor shall carry out the tests and pay all costs.
- If the guaranteed performance and efficiency of any item of plant is not met and/or if any item fails to comply with the requirements of this Specification in any respect whatsoever at any stage of manufacture, erection or tests, the Employer/Engineer may reject the item, or defective component thereof, whichever he considers necessary, and after adjustment or modifications as directed by the Employer/Engineer, the Contractor shall submit the item for further inspection and/or test. All repair procedures shall be submitted for the Employer/Engineer's acceptance. In the event of a defect on any item being of such a nature that the requirements of this Specification cannot be fulfilled by adjustment or modification, such item shall be replaced by the Contractor, at his own expense to the entire satisfaction of the Employer/Engineer. Any item of plant repaired shall not be accepted as a part of the Works as a permanent solution or replacement unless the Contractor guarantees in writing that the repaired plant or component shall have the same service life and efficiency as the component originally manufactured.

1.17.2 Tests at manufacturer’s factory

(1) General

- The Employer/Engineer shall have the right, whenever they shall deem necessary, to inspect and examine the fabrication and the assembly of equipment/machinery in the Contractor's workshops and at the Site, and witness the tests of materials and equipment. The Contractor shall provide all

necessary assistance for these visits, inspections and checks and give all the information requested.

- In particular, the Contractor shall provide the Employer/Engineer with a list of the workshops in which the different parts of the supply are manufactured and shall furnish all information that may be useful for the checking of the manufacturing, such as material orders, etc. In cases where part/s of a machine is/are manufactured in the workshops of a third party, the Contractor shall arrange that the Employer/Engineer may freely and without hindrance inspect and examine materials and witness the tests, just as if these were in the Contractor's workshop.
- The Contractor shall provide at his own expense, for the tests in conformity with the provisions of the Specifications and shall supply the equipment and personnel necessary for the performance of these tests (Remark: The Contractor shall arrange conveniently so that the Employer/Engineer may inspect and examine materials and witness the tests)
- The Contractor shall be obligated, moreover, to supply to his account all means required for all inspections which by law are to be made by the Government Authorities or other recognized Authorities.
- The Employer/Engineer reserves the right to carry out the tests with instruments supplied by the Contractor.
- If any test which is:
- not so intended or provided for: or
- is not so defined; or
- though so intended or provided for, is ordered by the Employer/Engineer to be carried out by an independent person at a place other than the place of manufacture or fabrication of the item or intended place for testing, the cost of such test shall be borne by the Contractor if the test shows the design, workmanship or materials are not in accordance with the provisions of the Contract; otherwise, such costs will be borne by the Employer/Engineer. The additional inspections that will be necessary due to Contractor's fault shall be charged to the Contractor.
- The scope of the inspecting and testing shall be set out in the Inspection and Test Plans to be agreed between the Employer/Engineer and the Contractor.
- The Employer/Engineer reserves the right to attend any tests other than those included in the above list even if not specifically required to be witnessed by him or not mentioned in the Technical Specification. The Contractor shall not be entitled to any extra compensation by reason thereof.
- In case the manufacturer desires to use materials not manufactured specifically for the Works in accordance with the Specification, he shall submit satisfactory evidence to the Employer/Engineer that such material conforms to the requirements of the Employer/Engineer, in which case any further testing of the materials may be waived.

- Three (3) certified copies of the reports, on all required tests, regardless of whether such tests have been witnessed by the Employer/Engineer, shall be furnished by the Contractor. The reports shall be in such form as to demonstrate the compliance of the equipment or any part thereof with the Contract.
- If during manufacturing, defects appear which the Contractor believes are possible to repair, the Contractor shall advise the Employer/Engineer as soon as possible detailing the cause of the defect and method of repair, additional inspections and tests to be performed and. any potential problems with the repaired defect. The Contractor shall be responsible for the repair and any consequential damage or impact caused as a result. The Employer/Engineer is under no obligation to accept the repair, and if rejected, the Contractor shall replace the defective item at no cost to the Employer/Engineer. The Employer/Engineer may examine the materials before and/or after the Contractor performs the proposed repairs.
- The presence of the Employer/Engineer or waiving of the inspection or tests shall in no way relieve the Contractor of his responsibility for furnishing equipment and machinery in accordance with the requirements of the Contract.

(2) Forgings

- All-important forgings, including items such as fan shafts, pump shafts, etc., shall be subjected to ultrasonic testing and magnetic particle inspection as per the drawing and technology agreement.
- Hydraulic Pressure Tests
- All parts which may be subject to internal pressure during normal or working conditions shall be hydraulically-tested, unless otherwise agreed, at the manufacturer's works to the pressure required by the appropriate Standard where applicable, or as accepted by the Employer/Engineer.
- All piping shall be hydraulically tested in accordance with the applicable manufacturing code.
- Pressure vessels shall be tested in accordance with their design standard.
- Where applicable all valves, etc., shall be subject to hydraulic tests in accordance with the relevant codes. All valves being tested shall be tested separately between each stub and flange and the closed valve and between stub ends or flanges with the valve open.
- Copies of certificates covering all hydraulic tests shall be submitted to the Employer/Engineer in triplicate.

(3) Pumps, Fans and Rotating Equipment

- All pumps, fans and rotating equipment, where practicable, shall be tested at the manufacturer's works in accordance with approved standards. Such tests shall be witnessed by the Contractor and may be witnessed by the Employer/Engineer. Complete performance tests shall be carried out on the

pump and fan of each type and rating supplied under this Contract to verify its output against total head, power input and efficiency. Further site testing of pumps and fans shall also be performed. Head/volume, suction head/volume, efficiency and power input curves corrected for site conditions are to be provided. All rotary equipment shall be statically and dynamically balanced.

- Pump performance curves shall be provided by the Contractor during the design phase for acceptance by the Employer/Engineer showing pump performance for a flow range from 0% to 120% including NPSH (R).
- Each pump motor shall be works tested and speed/torque curves for 100% voltage and 80% voltage and thermal characteristic curves shall be provided by the Contractor during the design phase to the Employer/Engineer.

(4) Transformers

- On completion of the component parts, the transformer shall be completely erected at the manufacturer to permit a final inspection to be made of the mechanical and electrical assembly and for overall testing.
- Partial discharge tests shall be performed in turn upon each terminal. The method of partial discharge measurement shall be one of the internationally accepted, in accordance with the relevant IEC recommendations.

(5) Electrical Protection and Metering

- Protection and metering relays and equipment shall be subj ect to type, sample and all tests in accordance with the relevant international standards to which the equipment is constructed.

(6) Motors

- Motor shall be subj ect to type, sample in according to Contract requirements and routine tests in accordance with the relevant international standards to which the equipment is constructed.

1.17.3 Inspection Prior Shipment

- No material or equipment shall be shipped before all tests and inspections have been carried out according to the Contract and/or certified copies of the tests and inspection reports and/or Contractor's guarantee have been accepted by the Employer/Engineer.
- Unless otherwise agreed, no equipment shall be dispatched from the Contractor's works to Site, or from a Subcontractor's works to the Contractor's works or to Site, until an appropriate release certificate has been issued.
- The acceptance of any material or equipment prior to shipment shall in no way relieve the Contractor of any of his responsibilities for meeting all the requirements of the Contract and shall not pre-vent subsequent rejection if such material or equipment is later proved to be defective.

1.17.4 Inspection and Tests During Construction/ Erection

(1) General

- During the installation work, the Contractor must conduct self-inspection at each stage before completion. Each stage must be inspected and certified by the Contractor to meet the requirements before requesting the Supervision Consultant/Investor to inspect and accept it.
- After completing the installation, the Contractor must check all technical parameters in accordance with the technical requirements and conduct a successful test before inviting the supervision Employer/Engineer to accept.
- All installation work must be completed in compliance with contract requirements before moving on to the next stage.
- The scope of inspections and testing during the construction/ erection stage shall be included in the Project and Detailed Inspection and Test Plans.
- No work shall be covered up or put out of view without the permission of the Employer/Engineer and the Contractor shall afford full opportunity for the Employer/Engineer to examine and measure any work which is about to be covered up or put out of view and to examine foundations before Permanent Work is placed thereon. The Contractor shall give due notice to the Employer/Engineer whenever such work or foundation is or are ready or about to be ready for examination and the Employer/Engineer without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, will attend for the purpose of examining and measuring such work or of examining such foundation.
- The Contractor shall uncover any part or parts of the Works or make opening in or through the same as the Employer/Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Employer/Engineer.
- Defective work and material shall be rejected by the Employer/Engineer at any time before the Final Acceptance of the Works. When such work has been reject by official, it shall be removed immediately by the Contractor and replaced or rebuilt in accordance with the Specification. The cost of any condemned defective work or material will not be paid by the Employer/Engineer.
- Failure or neglect on the part of the Employer/Engineer to condemn or reject defective or inferior work or materials shall not be construed to imply acceptance of the same if such defective or inferior work or materials are not discovered at any time prior to the Final Acceptance of the Works by the Employer/Engineer.
- On arrival at Site and during the course of erection, all items of plant shall be inspected and tested by the Contractor to ensure that there shall be no delay in erection and commissioning arising from defects, damage and/or deterioration of parts. Any equipment which arrives on site without adequate protection in accordance with manufacturer’s recommendation against dirt

or corrosion shall be rejected by the Employer/Engineer and may not be re-offered for acceptance until it has been cleaned and protected. All temporary protective coatings shall be removed before equipment is commissioned.

- Environmental protection and fire prevention must be paid special attention by the contractor and his subcontractors. All construction works on the construction site must strictly comply with the construction method submitted by the contractor and approved by the Employer. All faults that occur due to negligence and lack of control during the construction process will be the responsibility of the contractor for both all cost and the delay schedule of project.
- The Contractor shall ensure that the internal surfaces of all pipework systems, tanks, pumps and heat exchangers are free from mill scale, welding beads, dust or other debris before the equipment is put into service. The Contractor shall include in the Inspection and Test Plan details of the methods of cleaning to be adopted.
- Preliminary runs shall be made where necessary, to ensure that there shall be no delays in commissioning which might arise from defects, damage and/or deterioration of parts.

(2) Other requirements:

- Pipework: Pipework and vessels/tank supplied under this Contract shall be tested in accordance with the appropriate standard unless specified otherwise.
- Hydrostatic Tests:
- On completion of erection, the pressure parts and pipework systems, with all fittings and mountings in position, shall be subjected to a hydraulic test in accordance with the appropriate standard.
- The Contractor is to nominate, provide, install and carry out any special requirements for draining and storage of the plant after the completion of the hydrostatic tests.
- Electrical Plant – General: Unless otherwise specified all tests listed in the relevant Standard shall be carried out together with any additional tests required by the Specification. Despite anything to the contrary contained in the Standard, all type, sample and routine tests shall be carried out.
- Control Systems: Initial power up test is required to establish that the equipment has not sustained damage or detenovation since factory testing and that it has been correctly installed.

1.17.5 Checking and Tests at Site Prior to Commissioning

- Prior to commissioning any item of Plant or system, the Contractor shall carry out checks to satisfy himself and the Employer/Engineer that all items of the plant as erected will comply with the Contract requirements.
- The Contractor will be required to complete and sign a detailed check sheet for each item of the plant.

- All costs associated with the work of completing the check sheets, including staff for disconnecting and reconnecting equipment, preparing the plant for checking, including the provision of access for personnel, shall be borne by the Contractor.

1.17.6 Commissioning Tests

- All tests should be carried out in accordance with the agreed procedures as detailed in the Inspection and Test Plan. The procedures should be checked for compliance with the relevant requirements of the Specification, accepted drawings, related Standard Specifications and manufacturer's and vendor's installation/operating/start up instructions before embarking upon any phase of testing. Unless otherwise accepted by the Employer/Engineer, commissioning procedures including schedules and other details of commissioning checks and procedures shall be submitted at least one (1) month in advance of the start of such activities.
- The Contractor is responsible for all commissioning tests. These tests will be conducted by the Contractor and be witnessed by the Employer/Engineer.

(1) Commissioning, tuning, reliability run and performance test

- After construction and successful completion of the Pre-Commissioning Test, the Commissioning Test starts in accordance with the relevant section of the Contract Document. This includes the checking out of plant to ascertain its fitness for operation and compliance with the Contract.
- The Contractor shall be responsible for the Commissioning Test under the authority of the Employer/Engineer.
- The Contractor shall submit the schedule, inspection and test plan, procedure for testing, pre-commissioning, commissioning, reliability run and performance test to the Owner for approval at least one month before beginning commissioning work. Total of time for testing, pre-commissioning, commissioning shall be not greater than 15 days. The times for reliability run and performance test shall be 15 days.
- During the period allotted in the commissioning stage for the reliability and test runs, The Employer/Engineer will provide, as far as system conditions permit, reasonable loading or unloading of the Plant. The Employer/Engineer will also provide such supervisory staff as required during this period and except under emergency conditions where the safety of the Plant is involved, any load change affecting the Employer/Engineer's electrical supply system is only to be carried out with the agreement of the Employer/Engineer's representative.
- The commissioning tests must be satisfactorily completed before the Contractor can give notice to start the Reliability Run.
-
- During the testing, pre-commissioning, commissioning, reliability run and performance test of the plant, data shall be recorded and graphed to confirm compliance with the contract.

- Test reports for each test to be prepared and submitted to The Employer/Engineer within 01 week after the complete tests.
- During commissioning, reliability run and performance test, if the unit tripped leading to load reject and shutdown more than one (01) times/unit, that caused by the Contractor. Next restarts the unit for Contractor testing purposes shall be subject to the Contractor's cost of fuel as specified in the Contractor for such restart.
- The Contractor shall arrange experts/ technicians with high experiences and skills to perform the commissioning and co-ordinate with the Employer/Engineer.

(2) Commissioning Schedule

- The Contractor shall schedule and submit as a program to the Employer/Engineer at least 7 days prior to the requirement.

(3) Materials, Consumables and Chemicals for Commissioning, Tuning, Reliability Run and Performance Tests

All costs related to consumables and utilities required for testing, commissioning and performance tests shall be borne by the Contractor, including but not limited to:

Chemicals;

Filter media and consumable materials;

Lubricants and greases;

Industrial water and demineralized water;

Electrical power required for testing and commissioning;

Compressed air and industrial gases;

Any other consumables required for testing, commissioning and system tuning.

Primary fuels, including coal and diesel oil (DO), shall be provided by the Employer as specified in Item (1) above.

1.17.7 Defects Notification Period

- The Contractor shall provide the services to assist the Employer's staff in operation and normal/ routine maintenance of the Plant for the duration of the Defects Liability Period (one year from the date of Provisional Acceptance Certificate).
- Monthly report describing in a concise form, his activities and if any problems encountered, shall be sent to the Employer, within one week after the end of each month.

1.17.8 Final Acceptance

- When the Defects Notification Period for the Works has expired and upon fulfilment of all justified claims concerning the remedy/correction of faults, defects, deficiencies and other contractual obligations by the Contractor and

provided that there are no issues pending, the Employer/Engineer shall issue Final Acceptance Certificate.

- Two (2) months before the end of the Defects Notification Period, a final inspection of the Works shall be jointly undertaken by the Employer/Engineer and the Contractor in order to ascertain that the Works have technically complied with the provisions of the Contract. The Contractor shall dispatch his competent and appropriate personnel for such inspection at site. the Employer/Employer's representative shall, in consultation with the Contractor, set the date of such inspection taking into account such factors as the Employer's system operation program.

1.18 LABELS FOR EQUIPMENT

1.18.1 Warning notices

- The Contractor shall provide sufficient warning notices and signs for the Works of a form and wording acceptable to the Employer.

1.18.2 Labels

- The Contractor shall provide labels in sufficient numbers, size and detail to permit rapid and positive identification to be made for operational and maintenance purposes of all pieces of equipment.
- Labels not in direct sunlight shall be engraved in a plastic laminate composed of white and black layers. Alternatively, labels may be machine-embossed aluminum with lettering filled with black paint. Labels exposed to sunlight shall be of mat stainless steel with engraved letters filled with black paint. Pipe labels, if any, shall comply with ISO 909S using adhesive markers. Labels for devices mounted on or in enclosures shall be provided on the inside of the enclosure adjacent to the device as well as on the device.
- Warning labels shall be provided on or in all electrical equipment where terminals at dangerous voltages (including 400/230V) may be exposed during maintenance. Warning labels shall be of plastic laminate with white lettering on a red background.
- The text of each label shall include the device number and a clear description of the function.

1.18.3 Name plates

- Name plates for Plant Identification and record purposes shall be manufactured from stainless steel with satin finish and engraved with black lettering of a size, which is legible from the working level. The size, material, letter and colour of nameplates shall be approved by Employer.
- All equipment shall also be provided and attached the Manufacturer's nameplate.

1.19 SPECIAL TOOLS

- The special tools shall include any tools, instruments and devices that are required or useful in assembling, disassembling, adjustment and maintenance

work of the Plant and that are not usually available in a standard machine shop.

- The Contractor shall provide maintenance equipment for the proper maintenance of the Plant. The special tools shall be sufficient to enable dismantling and reassembly of the Plant, testing for wear or distortion of all wearing parts, diagnosing and locating faults in electronic equipment and replacement of all spare parts ordered.
- Special Tools shall be supplied by the Contractor as necessary for erection, installation, operation and maintenance, etc. of each item of equipment supplied under this Contract.
- Special tools shall include tools specified by the Employer and those others recommended as necessary and accepted during the contract negotiation stage.
- The Contractor shall list and supply all special tools. List of such tools including their make and detailed specification shall be submitted for acceptance by the Employer.
- All special tools shall be clearly marked to identify their use and shall be made available for the erection to be undertaken by the Contractor. Special tools shall be shipped with the first consignment of equipment to be erected.
- The tools shall be delivered to the Employer prior to taking over, in perfect condition or be replaced, if necessary, with new tools of equal or better quality than the original ones.

1.20 SPARE PARTS AND CONSUMMABLE

- The Contractor shall supply of spare parts and consumable for the Plant. Spare parts and consumable shall be provided sufficient to enable routine normal operation of the plant up to hand over to Employer for operation.
- During one-year warranty period, the Contractor shall prepare and maintain sufficient spare part, materials, consumable to promptly replace and repair equipment systems, ensuring safe operation.
- All mandatory spare parts either specified or recommended by the Contractor for periodic replacement shall be listed before hand – over to Employer.

1.21 TRANSPORT FOR THE EMPLOYER'S STAFF

- Not applicable.

1.22 SITE FACILITIES

1.22.1 General

- Without prejudice to the generality of the various Clauses of the Contract, particular attention is drawn to the obligations of the Contractor to make his own arrangements for supply, maintenance and furnishing of his labour camps, staff residences, office, workshops, stores and store compounds and watching and guarding thereof at the land areas under employer ownership.

1.22.2 Access to working areas

- Accesses will be made available to the area of the project The Contractors shall make his own arrangements for access to other working areas.

1.22.3 Lighting

- The Contractors shall make his own arrangements concerning the lighting of the areas allocated to him by the Employer. The Contractor shall provide sufficient lighting to ensure that, at all times:
- • Safe working conditions are provided for all personnel on his works sites;
- • Complete inspections of all work in progress can be made by the Employer, and the Contractor

1.22.4 Water supply, sewerage, solid wastes

- The Contractor shall contact to Uong Bi Power Plant to use the water source for construction and daily life at the site. The Contractor shall pay these water costs during the execution of the package.
- The Contractor is responsible for keeping the site clean and tidy, the Contractor shall collect, transport and destroy rubble, garbage... according to the guideline of the Uong Bi power plants.

1.22.5 Telephone and communications

- The Contractor shall make his own arrangement concerning his telecommunication system and the Contractor has no right to claim to the Employer on the quality of communication line.

1.22.6 Construction power supply

- The Contractor must contact to Uong Bi Power Plant to use the power source for construction. The contractor shall pay these electricity costs during the implementation of the bidding package.
- The Contractor shall to arrange a backup generator (if necessary) at the construction site to ensure continuous construction in the event of a power outage at the site.
- In the construction area, there are breaker boxes with protective covers and overhead lines to lead to power points, there must be safe grounding in accordance with current standards.

1.22.7 Occupational safety requirements

- Security of the Works area and public safety measures are adequate and effective.
- The Contractor must submit to the investor a detailed declaration of employees, data on types of labor, documents on construction equipment on the construction site.
- The Contractor is responsible for working conditions and safety for workers and personnel to perform the bidding package of his unit.

- In the quotation made by the contractor, the costs arising from the application of safety measures in accordance with the law of Vietnam must be included.
- The Contractor is responsible for the safety of transportation at the construction site, is obliged to arrange warning signs, prohibited areas and necessary orientations for traffic convenience and safety as possible at the construction site.
- Must train and disseminate knowledge on occupational safety for construction workers in accordance with regulations.
- At dangerous locations, the contractor must arrange signs, put up flags, barricades, and have lights at night.
- All materials, construction equipment and labor are taken care of by the contractor themselves, must be correct and sufficient as the contractor agreed with the investor. The investor has the right to conduct an inspection of all or some important stages before and during the construction by the contractor.
- The Employer has the right to inspect the organization about the qualifications and experience of the key staff directly operating at the construction site in accordance with the requirements of the bidding documents and the winning documents, and check the quality of the contractor. contractor, all construction materials, fuel, equipment, construction vehicles according to the quality and types stated in the bidding documents and the winning bid documents. If any work is unsatisfactory, the investor has the right to request the contractor to rectify, including changing personnel.

1.22.8 Removal of construction facilities

- After the completion of the Works covered by the Contract and prior to Final Acceptance, the entire Site facilities provided by the Contractor, including its water supply system, electricity supply and distribution systems, and all facilities therein, all facilities at work areas and all other installations shall be removed by the Contractor,

1.22.9 Waste disposal facilities

- The Contractor is to establish and maintain in good order, suitable facilities for the disposal, off site, of all rubbish and construction debris and surplus excavated spoil or unsuitable materials. Such facilities shall be developed and operated with the full cooperation of responsible local and provincial authorities. The Contractor is to pay special attention to the processing or recovery of any valuable waste materials for recycling or sale and is to strictly control scavenging of these materials in a safe, orderly and hygienic manner.
- The Contractor shall bear all costs associated with the above-mentioned scope of work.

1.22.10 Transport and unloading facilities

- The Contractor shall assess transport requirements from shipping port or other unloading facility, right through to Site.

- The Contractor shall to contact local authorities and related units to ask for permission to use roads and means of transportation during construction (if necessary), coordinate security and order maintenance in the construction area

1.22.11 Sewerage disposal and sanitation

- The Contractor shall provide and maintain adequate sanitary facilities for the construction works. However, the Contractor must be responsible for keeping the toilets and related works clean and tidy according to the guideline of the Uong Bi thermal power plant.

1.22.12 Misplaced materials

- Any material that is deposited elsewhere than in places designated or approved by the Employer will not be paid for, and the Contractor may be required to remove such material and waste or deposit it where directed.

1.22.13 Old materials

- Old materials of value, found by the Contractor upon the Works, shall be carefully piled together where designated by the Employer, and the Contractor shall be responsible for the same until it is disposed of by the Employer but not later than the Final Acceptance of the Works.
- For materials and equipment after dismantling, the contractor shall be reponsible for preserving, counting and handing over to Employer

1.22.14 Clean-up

- When the Works are completed and before final payment is made, the Contractor shall remove from the Site, without expense to the Employer, all Temporary Works and structures, all surplus materials and rubbish not suitable for on or near site disposal, shall fill and dress all holes and cavities made for his convenience, and shall leave the whole area in good order and condition, all as required by the Employer.
- The contractor will arrange daily industrial cleaning personnel during implementation at site.

1.23 MAIN CONSTRUCTION REQUIREMENTS

(1) Construction preparation work

- Before starting the construction and installation of the main works, the preparation work must be completed well, including the preparation measures for organization, construction coordination, the preparation works inside and outside the factory. including outdoor distribution stations.
- Before deciding on preparatory measures in terms of organization, construction coordination and other preparations, it is necessary to carefully study the design and specific conditions at the factory. At the same time, it is necessary to design the construction organization of the dismantling and installation of equipment for the project, the specific construction schedule and some important characteristics in the process of design, construction and acceptance.

- The solutions proposed in the construction organization design must reasonably meet the technical requirements, progress according to each stage of implementation of the project and must be approved before implementation.
- Documentation, design drawings and equipment catalogs, together with manufacturer's installation instructions, should be carefully researched for a complete inventory of equipment and associated components.
- Construction and installation of equipment can only be carried out when all parts are received and necessary conditions are met at the construction site. Before installation, it is necessary to check whether the parts are missing or damaged during transportation. If there is a shortage or damage, it is necessary to notify the relevant parties for timely correction and supplementation.
- Prepare the installation site with all the equipment and means used in the construction and installation such as: specialized assembly tools, shelves for storing equipment, measuring tools that have been tested. accuracy, required lifting and handling equipment, etc.
- The units participating in the construction and installation must equip themselves with the means, construction tools as well as other necessary specialized testing equipment.

(2) Equipment dismantling Works

- According to the approved construction plan, dismantling work for each item.
- The work of dismantling existing equipment and old systems in the operating conditions of the factory must be especially careful, proceeding step by step for each device in accordance with the order and technical process. The implementation steps must be established, compiled and approved for implementation.
- Must carefully study the documents, technical specifications, technology diagrams, methods of assembly, calibration and disassembly of each device, operating procedures of each system, each existing equipment expected to be upgrade instead. At the same time, consult and closely coordinate with the operation management unit regarding issues in the dismantling of equipment. While implementing, must comply with the permission and supervision of the operation management unit.

(3) Equipment installation work

- The installation of new equipment is carried out immediately after the dismantling work has been completed, following the phases of the project for equipment installation items based on the main work to ensure construction time and progress.
- Equipment installation is carried out according to each item, each device under the permission and supervision of the operation management unit.

- The equipment construction and installation unit must clearly determine the installation location of the equipment on the basis of the original data of the site in accordance with the technical design process of the project and must be responsible for the accuracy of the equipment placement work.
- Control panels, protection, etc. must be perfectly aligned, to ensure that the operator can easily manipulate the doors.

(4) Second circuit connection work

- The connection of the secondary circuit is carried out after the installation of the equipment is completed. The connection of the second circuit by item, each circuit is made according to the final circuit diagrams for all new devices.
- The connection of the secondary circuit to the panel cabinets must be coordinated between the operation management unit and the unit participating in the construction.

(5) Testing

- Testing is carried out after completing the installation and connection of equipment for each item and the entire project according to the main workload and is carried out in stages according to the construction schedule. approved by specialized tools and equipment.
- All equipment after installation must be tested and calibrated in accordance with current standards, regulations and approved design documents. In the process of testing, inspecting equipment must coordinate and comply with the instructions and supervision of the operation management unit, especially issues related to the existing equipment in operation of the factory.

1.24 MEETINGS

- The Contractor shall attend management meetings held every week with the Employer during the executive stage. In design stage the Contractor shall attend management meetings when the Employer request.
- The Contractor shall provide prior to each meeting detailed programs showing separately the various activities of the Contractor anticipated over the forthcoming two-weeks period as well as the progress achieved over the preceding 1 week relative to the program applicable to that period.
- The agenda of each management meeting shall include the approval of the minutes of the previous meetings, progress of the works with respect to the schedule and analysis of the difficulties encountered in the work.
- The minute of the meetings shall be prepared by the Contractor and the Employer shall be deemed, after approval by the other participants, to be written confirmation of the declarations, instructions and decisions taken during the meeting.
- The Contractor will be required to attend regular management meetings basically on a monthly basis, with the Employer, and the other Contractors

for coordination of interface activities. The minutes of the meeting shall be prepared by the Contractor in the same manner as the progress meeting.

1.25 PROGRESS REPORTS

- Progress reports shall be provided by the Contractor, indicating the actual state of progress of all items during the course of manufacture and work at the Site.

1.26 OPERATION AND MAINTENANCE MANUALS

1.26.1 General

- The Contractor shall provide five (05) sets of Operation and Maintenance Manuals (O&M Manuals), which shall be sufficient to fully inform the Employer's personnel on all aspects of the operation, maintenance and troubleshooting of the Plant.
- The content of the O&M Manuals shall be specific to the Plant. Standard documentation for proprietary equipment may be accepted, provided that the supplied equipment is clearly identified and fully covered in the Manuals.
- The O&M Manuals shall be organized on a system-by-system or section-by-section basis. Each section shall be provided as a complete, self-contained volume independent from other sections.
- All necessary safety precautions and warnings related to personnel safety and equipment protection shall be clearly stated at the beginning of each Manual. Illustrations, diagrams and photographs shall be included where necessary to ensure clarity and ease of understanding.
- The Contractor shall submit draft versions of all Manuals for the Employer's review and approval. The final versions shall incorporate all comments from the Employer and shall reflect the final settings and operating parameters established during commissioning.
- In addition, the Contractor shall provide all documentation, drawings and calculation sheets in editable electronic formats (including but not limited to Word, Excel and native formats) as well as PDF versions.

1.27 TRAINING AND TECHNICAL ASSISTANCE

1.27.1 Site training

- The Contractor shall provide, at site before the Provisional acceptance testing of the Plant adequate training in a scheduled manner to the Employer's staff that will be in charge of the operation and maintenance.
- Training for all components and systems, I&C and use of all related equipment and software to the involved management as well as O&M staff shall be provided as part of the Bidder's scope of work.
- The training shall be organized by the Contractor's Instructor(s) under the present Contract for approximately a total of Thirty (30) trainees which are expected to follow partly or totally the courses. Seven (07) days for each system (ESP, SCR, FGD…) will be apply for each power plant at least.

Written material shall be furnished to each trainee. During the period(s) of training, the instructor(s) shall not be employed in any other capacity.

- The training shall be carried out by qualified Instructor(s) of the Contractor. Detailed training program and candidates for Instructor shall be submitted by the Contractor for Employer's Approval, two (2) weeks before the beginning of the training period(s).
- The training shall be organized by the Contractor's Instructor(s) under the present Contract for approximately a total of ten trainees which are expected to follow partly or totally the courses. Written material shall be furnished to each trainee. During the period(s) of training, the Instructor(s) shall not be employed in any other capacity.
- Within one month after the end of the training period the Contractor shall send to the Employer three copies of completion Reports, with one copy to the Employer, including material furnished to the trainees during the courses.

1.27.2 Technical assistance

- The Contractor shall provide the services to assist the Employer's staff in operation and normal/ routine maintenance of the Plant for the duration of the Defects Liability Period (one year from the date of Provisional Acceptance Certificate).
- Three copies of a monthly report describing in a concise form, his activities and if any problems encountered, shall be sent to the Employer, within one week after the end of each month.

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SECTION S03

SPECIFICATIONS TECHNICAL REQUIREMENT

3.1 EXISTING EQUIPMENT OF 300MW UNIT

The existing condition of the equipment systems of the 300 MW unit is described in detail in Section 2, Chapter VII of the Bidding Documents.

3.1.1 Boiler

Uong Bi Thermal Power Plant Expansion has one boiler and one turbine generator, with a unit capacity of 300MW. The boiler used is of the natural circulation type, with near-critical parameters, balanced ventilation, and pulverized coal burners located on the front and rear walls forming an L-shaped flame, the pulverized coal preparation system is indirect, with an intermediate pulverized coal hopper. The boilers are designed to burn anthracite coal from the Vang Danh area.

The boiler 300MW unit is supplied by ТПЕ – 318/CO (Russia), and is designed to burn anthracite coal of Vietnam, the specifications are as follows:

-	Steam capacity	t/h	920
-	Design main steam parameters + Boiler Operating Pressure + Main Steam Pressure at Boiler Outlet + Temperature	 kgf / cm² kgf / cm² º C	 194.7 176 543
-	Reheat Steam Parameters at BMCR + Pressure + Reheat Steam Temperature (at Boiler Inlet). + Reheat Steam Temperature (at Boiler Outlet). + Flow rate	 kgf / cm² º C º C t/h	 41.6 337 543 818.57
-	Lower Heating Value (LHV) Total Coal Consumption	kcal/kg Tons/hour	4961 137.6
-	Feed water temperature	º C	254
-	The feedwater temperature is acceptable when operating in a periodic recirculation mode.	º C	160
-	Temperature of flue gas outlet	º C	122
-	Excess air coefficient	α	1.3
-	The boiler's efficiency is at 85% of its rated steam capacity.	%	87.66

Adjust the steam temperature:

Method: Spraying water to reduce temperature

Main fuel: Vang Danh Coal

Auxiliary Fuel Oil (DO)

Desulfurizing Reagent: Limestone.

Flue Gas and Air System.

Type: Balanced Draft System

Coal characteristics appllied for the ESP retrofit design: refer to the coal specification table in Item 1.3.3 , Section 1, chapter VII of Bidding document.

3.1.2 Electrostatic Precipitation (ESP) System

The existing electrostatic precipitator system consists of 2 branches, each with 4 fields, total of 32 ash hoppers, 8 field transformers, and a horizontal collector-pole hammer type.

Technical Specifications of ESP

Parameters	**Unit**	**Value**
Dust Concentration at ESP Outlet	mg/Nm^3	400
Maximum Flue Gas Temperature at Inlet (T_{in})	^oC	200
Maximum Flue Gas Temperature at Outlet (T_{out})	^oC	200
Number of branches of the dust collector	branch	02
Number of electrostatic fields in one branch	school	04
Number of fly ash collection hoppers	funnel	16 x 2
DC current of the high-voltage source (Id)	ghost	1250
DC voltage of the high-voltage source (Ud)	kV	92
Peak voltage (UdP)	kV	150
Rectifier Transformer Rating (8 sets ZEOB)	kVA	74 x 8
AC Supply Voltage to Rectifier	V	400
Insulator Heating Steam Temperature	^oC	200
Insulator Heating Steam Pressure	Kgf/ cm^2	1.0 ÷ 6.0

3.1.3 Flue Gas Desulfurization (FGD) system

The desulfurization unit is a wet limestone/gypsum type system comprising one absorption tower for one boiler. The main FGD system includes the following four systems for the efficient removal of dust and sulfur dioxide (SO2) from the flue gas of the gypsum output product:

- Exhaust gas system;

- Limestone preparation system;

- Service system;

A system for disposing of the generated product has been created;

The basic parameters of the system are as follows:	
Fuel	Coal-fired
Absorbent	Limestone slurry
By-product	Gypsum (25 wt%)
Gypsum dewatering system	Not applicable
Drying method	Not applicable
Flue Gas Flow Rate	1,012,000 $m^3{}^N$/h (dry) at the design point 900,000 $m^3{}^N$/h (dry) at the Guarantee Point
Flue gas temperature at the inlet	≤ 120 °C at the inlet of the FGD (outlet of the smoke fan)
Inlet SO_2 Concentration	≤ 3,900 mg/$m^3{}^N$ (dry O_2 = 6%)
Desulfurization efficiency	> 90%
Outlet Flue Gas Temperature:	47.7 °C (at the design point)
Moisture Content at Outlet	≤ 150 mg/m^3 (humidity) is the warranty value for the dehumidifier.
Limestone consumption	< 3.19 t/h (warranty value)
Power consumption	< 1,610 kWh /h (warranty value)
Water consumption	< 58 t/h (warranty value)
SO_2 Emission at Stack	< 500 mg/$m^3{}^{N\,(dry)}$ $_{O_2}$ concentration = 6% (warranty value)
Refer drawing	UBEX-M11-M-52-HTA-0001

3.1.4 Tubular Air Heater and Steam Coil Air Preheater

The tubular air preheater consists of two identical sections arranged in the convective flue gas path downstream of the boiler

Each section of the air preheater comprises two stages (Stage I and Stage II). The economizer is located between Stage I and Stage II.

Flue gas enters two flue gas ducts and flows vertically downward (inside the tubes of the air preheater). The flue gas first passes through the hot stage (Stage II), which consists of one vertical module, then flows through the economizer and proceeds to Stage I, which consists of three vertical modules.

The modules of Stage II are fabricated from tubes of Ø40×2 mm arranged in a staggered (triangular pitch) configuration. The tube ends are welded to tube sheets with a thickness of 30 mm. The Stage II air preheater is made of alloy steel. Each module of Stage I is fabricated from carbon steel.

Cold air is supplied to Stage I of the air preheater from the common discharge duct of the forced draft fan. The air flows through the spaces between the heat transfer tubes, passes through the modules and stages of the air preheater, and is then delivered to the interconnected hot air ducts.

3.1.5 Induced Draft Fan (IDF)

The IDF's function is to draw flue generated during combustion through heat exchangers, APH and EPS into the booster fan of the desulfurization system or through a bypass to the chimney. The IDF also works in combine with the main gas fan to maintain pressure balance in the combustion chamber.

02 units fans type ДН – 28.8 x 2 – 0.936

Speed Control Range: 0-750 rpm

Capacity: 865.9 x 10^3 m^3/h

Pressure: 465 kgN/m3

Motor power: 1600KW, voltage 6600V

3.2 EXISTING EQUIPMENT OF 330MW UNIT

The existing condition of the equipment systems of the 330 MW unit is described in detail in Section 2, Chapter VII of the Bidding Documents.

3.2.1 Boiler

The Uong Bi Expansion 2 Thermal Power Plant has one boiler and one turbine-generator, with a unit capacity of 330 MW. The boiler was manufactured by BWBC for the UBEX2 330 MW project using B&W technology. It is a single-drum, natural circulation, single-chamber , balanced air, single- reheat , dry ash removal type boiler . The boiler is designed to burn anthracite coal at Vang Danh area, along with a ball mill system. Hot air supply and a "W" shaped downshot flame utilize EI-XCL (Enhanced Ignition - Radial Control - Low NOx) type solid flow pulverized coal burners with low NOx content . These burners are designed to burn coal with low volatile matter content . The boiler is installed as a vertical outdoor unit with a full steel structure. There are two rotary air preheaters for **each boiler.**

Technical characteristics of a boiler

Parameters	**VWO**	**RO**
Main Steam Flow (t/h)	1020	952
Main Steam Pressure at Boiler Outlet (MPa)	18.34	18.25
Main Steam Temperature at Boiler Outlet (°C)	543	543
Reheat steam flow (t/h)	925	865

Reheat steam pressure at inlet (MPa)	4,407	4,121
Reheat steam pressure at boiler outlet (MPa)	4,217	3,943
Reheat steam temperature at the inlet (°C)	345	366
Reheat steam temperature at the outlet (°C)	543	543
Feedwater Temperature(°C)	258	254
Water spray temperature (°C)	182	179
Boiler design pressure (MPa)	20.5	20.5
Economizer Design Pressure(MPa)	20.9	20.9
Reheater design pressure (MPa)	5.34	5.34
Turbine inlet pressure (MPa)	17.75	17.75
Calculated Boiler Efficiency	88.8%	89.03%

Adjust the steam temperature:

Method: Spraying water to reduce temperature

Fuel:

Main fuel: Vang Danh anthracite coal

Auxiliary Fuel : Oil (FO)

Desulfurizing Reagent: Limestone.

Flue Gas and Air System.

Type: **Balanced Draft System**

3.2.2 Electrostatic Precipitation (ESP) System

The existing electrostatic precipitator system consists of 2 branches, each with 16 fields, total of 16 ash hoppers, 16 field transformers, and a horizontal collector-pole hammer type.

Technical specifications of ESP system

No.	Category	Unit	Technical specifications
1	ESP Type	But	2SY4*35M-2*88-140
2	Total dust collection area	m^2	246.4
3	Maximum Flue Gas Flow Rate	m^3/h	980666
4	Collecting Electrode Type (Positive)	But	480C

No.	Category	Unit	Technical specifications
5	Discharge Electrode Type (Negative)	But	Fields 1, 2, and 3 are RSB barbed wire , field 4 is galvanized twisted wire.
6	High Voltage Power Supply	A/KV	0.8/72
7	Total ESP Air Leakage	%	≤ 2
8	Pressure Drop across ESP	Pa	≤ 250
9	ESP Efficiency	%	99.02
10	Residual dust concentration after ESP	mg/Nm^3	≤ 400
11	Flue Gas Temperature	^{0}°C	< 400 (> 250 ° C is considered high temperature)
12	Resistance ratio		1 x 10^5 Ω.cm ~ : 1 x 10^{14} Ω.cm
13	Same Polarity Electrode Spacing		250mm ~ 600mm
14	Allowable Operating Pressure Range		-4.0 x 10^4 Pa ~ 0 Pa (in there: -1.0 x 10^4 Pa is the standard specification; - 4.0 x 10^4 Pa ~ - 1.0 Pa x 10^4 Pa (high pressure)
15	Dust Concentration at ESP Inlet	mg/Nm^3	≤ 32800

3.2.3 SO_x removal (FGD) system

The sulfur removal system is a limestone/gypsum treatment process using FGD technology. Through a wet ball mill, limestone blocks are ground to produce high-quality limestone slurry by hydraulic vortex separation of water . Lime sludge is transported into the absorption tower by pump. The limestone sludge fills the reaction tank inside the tower, which is in contact with the flue gas . Inside the tower, the SO2 gas in the flue gas reacts with the calcium carbonate in the lime sludge, becoming calcium sulfite . An oxidizing gas is injected into the sludge chamber at the bottom of the absorption tower. This oxidizing injection causes the calcium sulfite to convert into calcium sulfate . When the calcium sulfate reaches a certain saturation level, dewatering of the gypsum is performed during crystallization. The gypsum sludge is discharged from the absorption tower and transferred to a gypsum dewatering system, then concentrated by rotary evaporation (not applicable for 330 MW systems). The flue gas, after desulfurization, is passed through... set eliminate Mist is used to remove tiny water droplets mixed in the smoke, which is then discharged outdoors through the chimney. The sulfur removal system includes: Flue gas system, SO2 absorption system, Limestone sludge production system, Auxiliary

systems, Wastewater discharge system , etc.

Technical specifications of FGD system

(a)*Absorption tower system*

Describe	Characteristic	Unit	Quantity
Absorption tower (ABS) (20HTD10AT001)	Φ11.8×29.5m, Q235-B	Complex	1
Sludge spraying pipe	FRP	Floor	3
Nozzle	type: spiral Material: SiC Flow rate: 101.14 m^3/h Fogging pressure : 0.3 bar	Set	132+7
Agitators inside ABS	type: Side-entry N=22kW	set	3
Cooling nozzle	Material: C276 Flow rate 95 l/min Spray pressure : 0.49 bar	Pcs	12
Exhaust gas inlet lining	C276, δ = 2mm		0.417
Oxidation gas duct	FRP		0.45
The filters include connectors.	1.4529		0.66
Emergency smoke cooling spray nozzles (20HTQ40AA201)	C276		0.036

Describe	Characteristic	Unit	Quantity
Oxidation air blower (20HTG11,12 AN001)	Type: centrifugal Q=4300 m^3 /h, N=132 kW Silencer output pressure: 73.7 kPa	Gruop	1+1S
Moisture spray nozzle for oxidizing gas (20HTQ26AA201)	Flow rate 23 l/min 1/2" connector size	Pcs	0.45
Mist eliminator (20HTE10AT001	Φ11800 type: two levels, row type	set	1
Absorption tower circulation system (ABS)			
ABS circulation pump (20HTF11,12,13,AP 001)	Q = 4450 m^3 /h P=13.4 mH /15.4 mH/17.4 mH N=280kW/315kW/355kW	Complex	3
ABS circulation pump inlet expansion joint (20HTF11,12,13AS0 01)	Φ700 Material: metalloid	Pcs	3
ABS circulation pump outlet expansion joint (20HTF11,12,13AS0 02)	Φ600 Material: metalloid	Pcs	3

Describe	Characteristic	Unit	Quantity
ABS injector nozzle expansion joint (20HTF11AS011,012) (20HTF12AS011,012) (20HTF13AS011,012)	Φ600 Material: metal	Pcs	6

(b)Flue gas system

Describe	Characteristic	Unit	Quantity
Booster fan (20HTC10AN001)	Type: The angle of the wing can be changed along the axis. Average:2009051m^3/h× 1926Pa, N=1500kW	set	1
BUF cooling fan (20HTC21,22AN001)	N=11kW	set	2
Flue Gas Dampers			
Inlet Flue Gas Damper (20HTA10AA001)	50008×600(W×H)	set	1
Outlet Flue Gas Damper (20HTA30AA001)	71004×600(W×H)	set	1

Describe	Characteristic	Unit	Quantity
FGD Bypass Dampers (20HTA40AA001A) (20HTA40AA001B)	50008×600(W×H)	set	1
Seal Air Fans for Dampers 20HTW31,32AN001	Q=5700 m^3/h, N=22 KW, U=400 V	Pcs	2
Electric Air Heater (Seal Air Heater) (20HTW30AC001)	N=110KW, U=400V	set	1
Expansion joint			
FGD Inlet Expansion Joint (20HTA10AS001)	50008×600(W×H)	Pcs	1
BUF Inlet Expansion Joint (20HTA10AS002	530053×600(W×H)	Pcs	1
BUF output expansion joint (20HTA20AS001)	Φ6000	Pcs	1
Absorption tower inlet expansion joint (20HTA20AS002)	9400×4250(W×H)	Pcs	1
Absorption tower outlet expansion joint (20HTA30AS001)	7100×4600 (W×H)	Pcs	1

Describe	Characteristic	Unit	Quantity
FGD output expansion joint (20HTA40AS002)	7100×4600(W×H)	Pcs	1
Expansion joint for bypass smoke duct (20HTA60AS002)	5000×8000(W×H)	Pcs	1

(c)*Limestone* slurry preparation system

Describe	Characteristic	Unit	Quantity
Limestone unloading hopper (20HTJ10BB001)	Size: 3m x 3m x 3m Material: Carbon steel	Pcs	1
Rod valve (20HTJ10AA001)	Q=50t/h	Pcs	1
Vibrating Feeder (Limestone Unloading) (20HTJ10AF001)	Q=50 t/h, N=2.2kW	set	1
Magnetic Separator (20HTJ10AT001)	Type : inclined chute Q=50 t/h, N=0.55kW	set	1
Limestone Crusher (20HTJ10AJ001)	Type : ring type hammer mill Q=50 t/h, N=90kW	set	1
Bucket Elevator (Limestone Conveyor) (20HTJ10AF002)	type: chain-bucket Q=50 t/h, N=15kW	set	1

Describe	Characteristic	Unit	Quantity
Limestone Storage Silo (20HTJ20BB001)	Φ 4×5 Steel materials	Silo	1
Silo Dust Collector (20HTJ20AT001)	Dust extraction efficiency: 1500-2100 m^3/h Filter area: 24 m^2; Pulse-type fabric bag dust collector	set	1
Manual push-slide gate valve (20HTJ20AA201)	Q=5t/h	Pcs	1
Gravimetric Belt Feeder (20HTJ20AF001)	Q=5 t/h, N=2.2+1.1kW	set	1
Wet ball mill (20HTK30AJ001)	Q=5 t/h N=280kW	Set	1
Slurry Recirculation Tank (Post-Mill Tank) (20HTK40BB001)	Ø2.4×2.4, Steel material	Set	1
Slurry Tank Agitator (20HTK40AM001)	N=4kW	Set	1
Slurry Recirculation Pumps (20HTK41,42AP001)	Type: centrifugal Q=39 m^3/h, P=55 mH, N=30 kW	set	1+1S
Hydrocyclone Separator (Limestone Slurry) (20HTK50AT001)	Productivity Q = 14 m^3/h Sludge concentration: 30% One working, one backup.	set	1

Describe	Characteristic	Unit	Quantity
Mixer for finished limestone sludge tanks (20HTK60AM001)	N=7.5kW	set	1
Pumping finished limestone slurry (20HTK61,62AP001)	Type: centrifuge Q=20m³/h, P=40mH, N=11kW	set	1+1S
Finished limestone sludge tank (20HTK60BB001)	Ø5×5 Steel materials	Tank	1

(d)Wastewater discharge system

Describe	Characteristic	Unit	Quantity
Absorber Area Drain Sump (20HTT10BB001)	3000L × 3000W × 3000H Material: reinforced concrete	Block	1
Drain Sump Agitator (ABS Area) (20HTT10AM001)	type: installed on the surface of the tank N=2.2kW	set	1
Absorber Area Drain Pumps 20HTT11,12AP001)	type: drain pump Q=50m³/h, P=30mH, N=22kW	set	2
Limestone Slurry Preparation Area Drain Sump (20HTT30BB001)	3000L × 3000W × 3000H Material: reinforced concrete	Block	1
Drain Sump Agitator (Limestone	Type : installed on the surface of the tank	set	1

Describe	Characteristic	Unit	Quantity
Preparation Area) (20HTT30AM001)	N=2.2kW		
Limestone Preparation Area Drain Pump (20HTT30AP001)	Type : sludge pump Q=30m³ / h, H=30mH, N=11kW	set	1

3.3 TECHNICAL REQUIREMENTS

The requirements, parameters, data, and technical solutions specified herein shall be considered the minimum mandatory requirements with which the Contractor shall comply when carrying out site survey, engineering calculations, design, equipment selection, and preparation of technical proposals in the Bid. The Contractor shall base all calculations and equipment selection on the technical solutions specified in the Bidding Documents

The Contractor shall be fully responsible for performing all design calculations, equipment selection, and technical proposals in the Bid to ensure that the System meets the requirements for safety, reliability, continuous operation, performance, and plant lifetime as specified in the Bidding Documents

All proposals submitted by the Contractor shall be deemed to include all equipment, materials, services, and works necessary, whether or not explicitly specified in the Bidding Documents, to ensure that the System is properly designed, supplied, installed, tested, commissioned, and operated in a safe and reliable manner, and in compliance with the emission limits specified in the Bidding Documents.

3.3.1 General Requirements Of 300MW Unit

The Project for Retrofit and upgrading of the flue gas treatment system of the 300 MW boiler unit at Uong Bi Thermal Power Plant shall be implemented to ensure compliance with the emission limits for dust, SO_2, and NOx in accordance with the Vietnamese National Technical Regulation QCVN 19:2024/BTNMT on emissions from thermal power plants, as follows:

Upgrade the electrostatic precipitator (ESP) system to achieve compliance with applicable environmental standards, ensuring that the dust concentration at the stack (at 6% O_2) is less than 20 mg/Nm³, in accordance with QCVN 19:2024/BTNMT;

Upgrade the flue gas desulfurization (FGD) system to achieve compliance with applicable environmental standards, ensuring that the SO_2 concentration at the stack (at 6% O_2) is less than 120 mg/Nm³, in accordance with QCVN

19:2024/BTNMT;

Install a new selective catalytic reduction (SCR) system for NOx removal to achieve compliance with applicable environmental standards, ensuring that the NOx concentration at the stack (at 6% O_2) is less than 120 mg/Nm³, in accordance with QCVN 19:2024/BTNMT;

Replace the existing tubular primary air heater with a rotary air preheater, and upgrade/replace the induced draft (ID) fans.

3.3.1.1 Electrostatic Precipitation (ESP) System

(1) Design Requirements for Retrofit and Upgrade

Coal, DO, limestone characteristics applied refer to Item 1.3.3 Section 1, chapter VII of Bidding document.

Flue gas mass flow rate (excluding particulate matter):

Flue gas volumetric flow rate: 1.901.000 m³/h

Design flue gas temperature: 150°C

Flue gas velocity: 1.227 m/s

Maximum inlet dust concentration to ESP : ≤ 43,3 g/Nm³

Maximum outlet dust concentration from ESP: < 40 mg/Nm³

Dust concentration at the stack shall be less than 20 mg/Nm³ (under all boiler operating conditions)

Required dust collection efficiency: $\eta > 99.91\%$

The ESP system shall be designed to be capable of operation from boiler start-up using DO (diesel oil) firing.

(2) Scope of Upgrade

The existing site layout does not allow for the implementation of mechanical solutions such as the addition of extra electrical fields. Therefore, in order to meet the specified performance requirements, the selected approach is to increase the height and upgrade the technology of the existing electrostatic precipitator (ESP) system. The main technical solution and scope of work shall be as specified below:

Increase the height of the ESP, ensuring the structural integrity of the existing system and maintaining stable operation of the unit;

Replace the existing conventional transformer-rectifier (T/R) sets of Fields 1, 2 and 3 with high-frequency or high-frequency pulse transformer-rectifier sets;

Replace the existing conventional transformer-rectifier (T/R) set of Field 04 with a high-frequency pulse transformer-rectifier set;

Replace the collecting electrodes, discharge electrodes, and rapping system (conversion from side rapping to top-mounted rapping system);

Replace the dedicated control cabinets compatible with the high-frequency and high-frequency pulse transformer systems;

Provide additional solutions for uniform flue gas distribution and for eliminating vortex formation within the ash hoppers;

Upgrade the fly ash conveying and collection system to be compatible with the dust removal efficiency of the ESP;

Provide a control and monitoring system;

Provide and install the power supply system (including auxiliary transformers, circuit breakers, power distribution panels, power cables, etc.), as well as lightning protection, lighting systems, and other associated auxiliary systems to ensure safe and reliable operation

(3) Detailed technical solutions for each item shall be as follows:

a) Expansion of Effective Collecting Field Dimensions:

The Contractor shall propose solutions to expand the effective collecting area/volume of the existing ESP by increasing the effective collecting field dimensions (such as height, length, width, or a combination thereof) based on site conditions and structural safety assessment. The expansion solution shall be calculated and designed by the Contractor to ensure that the upgraded ESP system meets the required performance.

b) Replace transformer:

Replace six (06) existing conventional transformer-rectifier (T/R) sets with twelve (12) high-frequency or high-frequency pulse transformer-rectifier (T/R) sets for Fields 1, 2, and 3. Replace two (02) existing conventional transformer-rectifier (T/R) sets with four (04) high-frequency pulse (HF+PF) transformer-rectifier (T/R) sets for Field 4. All transformer-rectifier sets shall be equipped with integrated control systems.

c) Replace Discharge Electrodes and Supporting Frames

All discharge electrodes (DE) of the ESP shall be fully replaced. The discharge electrode system shall be designed with a compact and robust DE frame, suspended by load-bearing insulator assemblies to ensure proper high-voltage insulation and safe operation.

The DE rapping bars shall be directly welded to the rapping shafts to ensure efficient transmission of rapping forces for effective dust removal. The system shall be equipped with anti-vibration devices to ensure that the DE frames oscillate only in the vertical direction.

The discharge electrodes shall be of the latest generation, specifically designed and optimized for each electrical field to ensure high corona discharge efficiency.

The design and modification of the electrode support beams shall ensure sufficient flexibility to accommodate dynamic loads induced by the rapping system during

operation.

All existing ESP discharge electrode wires shall be replaced with spike-type rigid discharge electrodes.

d) Replace Collecting Electrodes and Supporting Frames

The new collecting electrode (CE) system shall adopt a structure consisting of Σ-shaped (sigma-type) plates to provide enhanced stiffness, efficient force transmission, and resistance to deformation, with each assembly comprising not less than four (04) electrode plates.

These assemblies shall be suspended from the upper beams by hinged connections to reduce stress, facilitate installation, and ensure controlled oscillation. The system shall be equipped with anti-vibration devices at the lower ends to allow vertical expansion, minimize lateral deformation, maintain structural stability, prevent inter-plate contact, and extend service life.

The design shall ensure effective transmission of rapping forces from the top to the collecting plates, thereby achieving efficient dust removal and minimizing long-term dust accumulation.

The collecting electrodes, consisting of Σ-shaped corrugated plates, shall meet the following requirements:

Provide maximum stiffness to withstand impact loads generated by the rapping system under elevated temperature conditions, while minimizing material consumption;

Minimize dust re-entrainment into the flue gas stream;

The design, supply, and installation of electrode support beams shall ensure adequate flexibility under the action of the rapping system.

e) Replacement of flat flow distribution plates with “W”-type flue gas distribution plates at the ESP inlet

The flue gas inlet shall be equipped with specially designed “W”-type flue gas distribution plates, providing a stable structure and low pressure drop;

Large specific surface area, ensuring improved flue gas flow uniformity; Promotes particle agglomeration, thereby increasing the size of fine particles;

Promotes particle agglomeration, thereby increasing the size of fine particles;

Ensures uniform gas flow distribution, enhancing the effective utilization of collecting electrodes within the electric field and improving overall ESP performance**;**

f) Modification of ash hopper geometry for gas flow optimization within the ESP chamber

Install new gas flow guiding plates in the ash hopper to improve flue gas flow distribution;

Significantly reduce vortex formation and stabilize gas flow within the hopper;

Reduce gas velocity to minimize fly ash re-entrainment;

Enhance dust settling and reduce secondary dust emissions.

g) Design and supply of electrical insulation equipment

All insulators of the electrostatic precipitator (ESP) shall be replaced. The insulators shall be installed in compartments located outside the flue gas stream, with appropriate measures to prevent contamination by dust. In particular, the surface temperature of the insulators shall be maintained above the dew point to prevent condensation.

The insulator compartments shall be equipped with a hot air ventilation system to prevent insulator failure or breakage. This system shall include electric air heaters, motor-driven fans, inlet filters, and air distribution ducts. A temperature measuring device with control switches shall be installed in the ductwork to indicate high and low operating temperatures, as well as to alarm in case of fan or heater malfunction.

Insulators shall be provided with heating systems during ESP start-up and under other operating conditions where required.

Insulators used for discharge electrodes and rapping mechanisms are critical components of the ESP system and shall be made of porcelain.

Rapping shaft insulators shall consist of a porcelain body with metallic end fittings at both ends.

The insulator surfaces shall be glazed in brown or white, and all metal parts shall be coated with anti-corrosion protection. The insulator shafts shall be manufactured in accordance with IEC 60168, JIS C3801, JIS C3802, or equivalent standards. They shall be suitable for operating temperatures up to 400°C, operating voltage in the range of 110 kV to 120 kV, and torsional strength not less than 1000 Nm.

Support insulators shall be used as high-voltage insulation to support electrodes in the ESP system. These shall include cylindrical, conical, and other special configurations. Hollow support insulators shall be made of ceramic with glazed surfaces (white or brown) both internally and externally. They shall comply with IEC 60233, JIS C3801, JIS C3802, or equivalent standards, and shall be capable of withstanding operating temperatures up to 400°C, withstand voltage of 110 kV to 120 kV, and compressive strength not less than 500 kN.

h) Replacement of the rapping system for both electrodes and inlet flue gas distribution plates

Replace the existing side-mounted (horizontal) mechanical rapping system with a top-mounted electromagnetic rapping system (outdoor type), facilitating easier maintenance and repair. This system shall provide significant advantages, including the elimination of moving parts within the electric field and avoidance

of common failures associated with side rapping systems such as wear, misalignment, and shaft jamming;

The rapping frequency and intensity of each rapping unit shall be independently adjustable, thereby reducing dust re-entrainment and improving system adaptability;

The top-mounted electromagnetic rapping system for discharge electrodes (DE) shall not impose shear forces on the DE wires, thereby eliminating wire breakage and ensuring stable and reliable long-term operation;

The rapping system shall have an average annual failure rate of less than 1%, with a design service life of 10 to 15 years

Performance Upgrade Solution for the Last Collection Field (Field No. 4)

For the last field, the bidder shall supply and install "Fine Particulate Control Systems" applying advanced, commercially proven technologies to meet the following technical objectives:

- Completely prevent the back corona phenomenon;

- Minimize fine particle re-entrainment carried by the flue gas stream into

the downstream FGD system

i) Upgrade of the Fly Ash Handling System

The existing fly ash handling system is currently operating at its maximum capacity.

The Contractor shall carry out site survey, design, supply, installation, testing, and commissioning of a complete fly ash handling system to meet the requirements following the upgrade of process systems (SCR, ESP, FGD, and other related systems).

The Contractor shall be responsible for recalculating the system capacity to ensure safe, reliable, and continuous operation under all unit operating conditions.

The fly ash handling system shall ensure continuous collection, conveying, storage, and discharge of fly ash without blockage and without dust emissions to the environment.

The following minimum solutions shall be implemented to ensure safe and reliable operation of the upgraded fly ash handling system:

Replace three (03) existing vacuum conveying fans with three (03) new higher-capacity vacuum conveying fans, including motors, control systems, instrumentation, piping systems, and all associated accessories;

Replace two (02) existing bag-type separators with two (02) new higher-capacity bag-type separation units, including all auxiliary equipment and accessories;

The Contractor shall survey, calculate, and modify the fly ash hopper system, ash conveying pipelines, ash discharge valves, ash drying system, and ESP compressed air system to ensure that the upgraded fly ash collection and conveying system operates safely, reliably, and continuously without blockage, adhesion, or ash buildup;

Instrumentation & Control Requirements: The upgraded fly ash handling system shall be equipped with a complete instrumentation, control, alarm, and protection system and shall be fully integrated into the existing Plant control and monitoring system.

j) Electrical, control & Instrument solution

In Section 4.1, Chapter 4, Part 2 (Basic Design), the Employer has provided a description of the existing electrical system and instrumentation and control (I&C) system of the Plant. The Contractor shall be responsible for carrying out site survey, data collection, calculations, and design of the electrical and I&C systems to ensure that the upgraded system meets all technical requirements without adversely affecting the existing equipment of the unit.

The Contractor shall ensure that the electrical and I&C systems are designed and supplied to fully meet the requirements for capacity, reliability, safety, redundancy, continuous operation, and compatibility with the upgraded equipment.

Total harmonic distortion (THD) of the electrical system (including switchboards and transformers) shall not exceed 5% during operation.

Control & Instrument System

The Contractor shall provide a new ESP control system compatible with the upgraded installation, including replacement of hardware and equipment, corresponding software upgrade, and integration of advanced control functionalities.

The entire control and monitoring system shall be replaced, including control panels, operator workstations/computers, and integrated software systems.

Control Software Requirements

The ESP control system software shall be the latest commercial release and shall incorporate the following advanced functions:

The ESP field control system shall be configured with hot redundancy such that, in the event of a controller failure, the system shall continue to operate normally;

The human-machine interface (HMI) and server system shall enable real-time monitoring of ESP operating status and perform automatic control optimization based on operating parameters using expert system algorithms to achieve optimal ESP performance;

Open communication interface supporting Modbus TCP/IP protocol;

Remote monitoring and control capability;

Full accessibility of all controller parameters;

User-friendly navigation across controller logic functions;

Controller configuration settings shall be easily saved and restored;

Voltage-current (V–I) characteristic curves shall be stored in a database for historical analysis;

Search functionality for retrieving V–I characteristic curve data;

Built-in help function accessible without exiting the application;

Statistical functions providing detailed information on operating time, rapping system usage, current limit distribution, and top alarm lists;

Trend-based visualization tools to enhance operational monitoring;

Fast data acquisition and processing capability.

Integration with Plant DCS

In addition to the supply, design, and installation of the ESP control system, the Contractor shall be responsible for full integration of the new control system into the Plant Distributed Control System (DCS), including but not limited to the following:

Installation of new control panels in the ESP electrical/control room;

Installation of control and communication cables to all relevant equipment and connection to control workstations;

Integration of interlocks with the unit control system, protection system, alarm handling, and event logging within the control software;

Development of new control interfaces for both the ESP control room and the central control room, compatible with the existing unit control system;

Provision of historical data storage software and functions for playback of past events, including trend-based visualization of historical process parameters.

k) Construction solution:

In Section 3.3.1, Chapter 5, Part 2 (Basic Design), the Employer has provided a description of the existing conditions and the basic requirements for the civil works. The Contractor shall be responsible for carrying out site surveys, data collection, calculations, design, and construction/installation of all related civil works to ensure that the upgraded system meets all technical requirements.

3.3.1.2 FGD system

(1) Design Requirements for Retrofit and Upgrade

Coal, DO, limestone characteristics applied refer to Item 1.3.3, Section 1, chapter VII of Bidding document.

The existing absorption tower of the FGD system of the units is designed to handle boiler flue gas with 3 spray nozzles.

Design standard inlet flue gas flow rate: 1.817.138 Nm^3/h (dry basis, 6% O_2)

Flue gas temperature at inlet/outlet: 150°C

Flue gas temperature at inlet/outlet: >47.5°C

Maximum inlet SO_2 concentration: 4069 mg/Nm^3 (dry basis, 6% O_2)

Required DeSOx efficiency: > 97%

Required SO_2 emission concentration at stack: <120 mg/Nm^3 (under all boiler operating conditions).

The FGD system shall be designed to be capable of operation from boiler start-up using DO (diesel oil) firing.

(2) Scope of Upgrade

Upgrade and retrofit of the absorber tower, including but not limited to increasing the tower height, replacement of slurry spray headers and spray nozzles, mist eliminator systems, and all associated piping and auxiliary systems;

Replacement of absorber circulation pumps;

Upgrade of the limestone grinding system and associated auxiliary equipment;

Upgrade, modification, and replacement of other related systems and equipment as required.

(3) Detailed technical solutions for each item shall be as follows:

a) Replace the spray system and nozzles:

Replace the main headers, branch pipes, and limestone slurry spray nozzles. All associated piping systems, including spray headers, manifolds, branch pipes, and interconnecting lines to the nozzles, shall be replaced in a coordinated and integrated manner.

b) Installation of Flue gas Perforated Tray or Baffle Ring

The Contractor shall carry out survey, calculations, design, fabrication, supply, installation, and commissioning of a flue gas distribution system, consisting of a perforated tray or a flue gas baffle ring within the absorber, to ensure uniform gas flow distribution and enhance the SO_2 removal efficiency of the FGD system.

The design and installation of the perforated tray or flue gas baffle ring shall be compatible with the post-upgrade operating conditions and shall not result in pressure drop exceeding the allowable limits of the fan system.

c) Replacing the mist eliminator and washing nozzles:

Replace the mist eliminators and the mist eliminator washing system in full coordination with the upgraded FGD system, including pumps, piping, spray nozzles, drains, valves, electrical equipment, instrumentation & control (I&C),

protection systems, and all associated accessories, ensuring stable operation and prevention of limestone slurry carryover into the flue gas stream.

Number of levels: minimum two (02) levels;

Type: proven commercial technology ensuring high separation efficiency and effective washing performance.

d) Replace the absorption tower circulation pump:

Replace the absorber circulation pump system, including pumps, motors, suction and discharge piping, electrical equipment, instrumentation & control (I&C), protection systems, and all associated accessories, ensuring stable and reliable operation of the system.

e) Replacing the absorption tower agitators.

The Contractor shall replace the agitators with units appropriately sized and designed to match the absorber dimensions and operating conditions.

f) Restoration and Replacement of the Absorber Anti-Corrosion Lining

Clean, treat, and reapply anti-wear lining to all internal surfaces of the absorber. The new lining shall ensure adequate adhesion and durability in accordance with operating conditions.

g) Upgrade of the limestone grinding system

Install one (01) additional limestone mill with a minimum capacity of 5 t/h to meet the increased limestone demand following the upgrade.

The Contractor shall be fully responsible for performing all design calculations, equipment selection, and technical proposals in the Bid to ensure that the system meets the requirements for safety, reliability, continuous operation, performance, and plant lifetime as specified in the Bidding Documents.

h) Electrical, control & Instrument solution:

In Section 4.1, Chapter 4, Part 2 (Basic Design), the Employer has provided a description of the existing electrical and instrumentation & control (I&C) systems of the Plant. The Contractor shall be responsible for carrying out site survey, data collection, calculations, and design of the electrical and I&C systems to ensure that the upgraded system meets all technical requirements without adversely affecting the existing unit equipment.

The Contractor shall ensure that the electrical and I&C systems are designed and supplied to fully meet the requirements for capacity, reliability, safety, redundancy, continuous operation, and compatibility with the upgraded equipment.

Instrumentation & Control Requirements

The I&C system for the upgraded equipment shall be integrated into the existing control system, including control logic, HMI interface, instrumentation and control cabling, and related systems.

During integration and upgrade works, any defective instrumentation or control devices identified shall be replaced by the Contractor.

Dismantling, installation, inspection, completion, and commissioning activities shall be carried out in accordance with the upgraded technology and shall be fully compatible with all related systems.

i) Construction solution:

In Section 3.3.1, Chapter 5, Part 2 (Basic Design), the Employer has provided the description of existing conditions and basic requirements for civil works. The Contractor shall be responsible for site survey, data collection, calculations, design, and construction/installation of all related civil works to ensure compliance with the technical requirements of the upgraded system.

3.3.1.3 SCR system

(1) Design Requirements

Coal, DO, limestone characteristics applied refer to Item 1.3.3, Section 1, chapter VII of Bidding document.

Flue gas flow: 981.640,00 Nm3/h;

Flue gas temperature at SCR inlet: 3900C

NOx content in flue gas at SCR inlet: 1200 mg/Nm3.

NOx content in flue gas at SCR outlet: < 120 mg/Nm3 (under all boiler operating conditions)

Required DeNOX efficiency: ≥ 90%

Residual ammonia content in flue gas at SCR outlet: < 3 ppm.

The system shall be designed to enable the SCR to be put into operation before the flue gas inlet temperature reaches 310°C.

(2) Scope of Supply

Design, engineering, supply, installation and commissioning of the Selective Catalytic Reduction (SCR) system located between the economizer and the stage 1 air preheater.

(3) Detailed Technical solutions for Each Item Shall Be as Follows:

Ammonia shall be delivered by the supplier's dedicated tank trucks to two (02) storage tanks. The capacity of these tanks shall be designed to ensure sufficient storage for continuous operation of one (01) boiler at rated load for a period of seven (07) days.
From the storage tanks, ammonia shall be pumped to the vaporizer, then supplied to a buffer tank, and subsequently delivered to the air mixing system. The ammonia–air mixture shall be injected through nozzles installed upstream of the catalyst reactor into the flue gas duct for NOx reduction.

a) NH_3 system

Ammonia storage system: 2 × 100% capacity, including metering, measurement, monitoring devices, safety valves, and drain valves;
Compressors: 2 × 100%;
Ammonia pumps: 2 × 100%;
Ammonia vaporization system: two (02) vaporizers and two (02) buffer tanks (one in operation and one standby), including all instrumentation, control, and monitoring equipment.

b) SCR system

Spray system, mixing system, and catalyst reactor: two (02) sets (one per flue gas pass), each equipped with a steam soot blowing system.

c) Reactor SCR:

Type: Vertical flow reactor;
Configuration: High-dust configuration;
Catalyst layers: two (02) operating layers + one (01) spare layer;
Design: Provision for catalyst expansion/replacement.
Catalyst Requirements:
Type: V_2O_5–WO_3/TiO_2 or equivalent;
Lifetime: ≥ 24,000 operating hours.
Ammonia Injection Grid (AIG)
Multi-zone grid design;
Individually adjustable zones;
Ensure uniform mixing upstream of the catalyst;
Dilution Air Fans: three (03) units (two operating and one standby serving both SCR systems).

d) Flue Gas Distribution System

Flow guide vanes shall be installed at duct bends and turning sections;
Flow straightening devices, such as honeycomb structures, screens, or parallel vane arrangements, shall be provided to ensure uniform gas flow distribution.

e) Soot Blowing System

Location: upstream of the catalyst and between catalyst layers;
Shall ensure effective cleaning without damaging the catalyst;
NH_3 absorption system, including piping, valves, and accessories;
NH_3 leak detection and mitigation system at the ammonia station;
Ash handling system from the economizer outlet to the SCR inlet;
Fire prevention and protection system.

f) Electrical, control & Instrument solution:

In Section 4.1, Chapter 4, Part 2 (Basic Design), the Employer has provided a description of the existing electrical system and instrumentation and control (I&C) system of the Plant. The Contractor shall be responsible for carrying out site survey,

data collection, calculations, and design of the electrical and I&C systems to ensure that the upgraded system meets all technical requirements without adversely affecting the existing equipment of the unit.

The Contractor shall ensure that the electrical and I&C systems are designed and supplied to fully meet the requirements for capacity, reliability, safety, redundancy, continuous operation, and compatibility with the upgraded equipment.

The Contractor shall design, supply, and install a new I&C system for the Selective Catalytic Reduction (SCR) system to ensure safe, reliable, continuous operation and compliance with emission requirements specified in the Bidding Documents.

The SCR control system shall be fully integrated with the existing Distributed Control System (DCS) of the Plant and shall be operated and monitored from the central control room.

The Contractor's scope of supply shall include, but not be limited to: instrumentation, gas analyzers, control system, control panels, I/O cabinets, control software, signal cables, system configuration, control programming, protection interlocks, integration with the existing DCS, testing, commissioning, and putting into operation.

1. Control Philosophy

The control system shall automatically regulate the ammonia (NH_3) injection rate to maintain the NOx concentration at the SCR outlet at the setpoint and ensure compliance with emission limits.

The control system shall include, as a minimum:

Automatic control of NH_3 flow control valves;

Capability for both automatic and manual operation from the control room and local stations;

Stable control of outlet NOx concentration under all operating conditions and unit load levels.

Control Functions

The SCR control system shall include, but not be limited to, the following control loops:

NH_3 flow control;

Dilution air flow control;

NH_3/air mixture temperature control;

NH_3 distribution control to injection grids (if applicable);

Fan control;

Outlet NOx concentration control;

Monitoring of residual NH_3 (NH_3 slip).

2. Control System Configuration

The SCR control system shall meet, as a minimum, the following requirements:

Full integration with the existing Plant DCS;

Monitoring and control from the central control room for the SCR system;

Simultaneous monitoring and control from both the central control room and local control stations for the NH_3 system;

Historical data storage, event logging, and alarm logging functions;
Trend display of historical process data;
Operating modes: Auto/Manual;
Seamless switching between Auto and Manual modes without interruption;
Sequential control for system start-up and shutdown;
Safe shutdown function in case of failure;
Fail-safe operation: in case of power loss, the system shall bring equipment to a safe state;
Controllers shall be configured with hot redundancy;
Communication network shall be redundant;
Power supply for the control system shall be redundant.

3. Interlocks and Safety Requirements

The SCR system shall comply with NFPA 85 and shall be integrated with the boiler protection system of the Plant.
At a minimum, the following interlocks shall be provided:
MFT (Master Fuel Trip) signal → stop NH_3 injection;
NH_3 system failure → stop NH_3 injection;
Control system power loss → stop NH_3 injection.
In the event of a failure, the system shall automatically transition to a safe state.

4. Instrumentation and Control Devices

The Contractor shall provide, as a minimum, the following instrumentation and control devices:
New I/O modules for integration of the control system into the existing DCS.
Flue Gas System Measurement
Pressure upstream and downstream of the SCR;
Flue gas flow rate upstream and downstream of the SCR;
Temperature upstream and downstream of the SCR;
NOx concentration upstream and downstream of the SCR;
O_2 concentration upstream and downstream of the SCR;
Residual NH_3 concentration downstream of the SCR.
NOx and NH_3 analyzers shall:
Be of in-situ type (direct measurement without sample extraction);
Utilize ultraviolet (UV) technology;
Have fast response time.
Redundancy arrangement: minimum two (02) NOx analyzers at SCR inlet and two (02) at SCR outlet.
NH_3 System Measurement:
NH_3 tank level measurement;
Pressure measurement;
Temperature measurement;

NH_3 leak detection system;
NH_3 flow measurement

g) *Construction solution*

In Section 2, Chapter VII, Part 2 (Basic Design), the Employer has provided the description of the existing conditions and the basic requirements for the civil works. The Contractor shall be responsible for carrying out site surveys, data collection, calculations, design, and construction/installation of all related civil works to ensure that the upgraded system meets all technical requirements.

3.3.1.4 Replacement of tubular primary air heater with rotary air preheater (RAPH)

The Contractor shall design, supply, transport, install, test, and commission complete rotary air preheaters (Rotary Air Preheater – RAPH) for the boiler to ensure safe, reliable, and continuous operation, meeting all unit operating requirements under all operating conditions.
The air preheater shall be suitable for the boiler operating conditions, flue gas characteristics, coal properties, ambient conditions, and downstream flue gas treatment systems (ESP, FGD, SCR, etc.).
The Contractor shall be fully responsible for thermal design, mechanical design, material selection, equipment durability, air leakage performance, heat transfer efficiency, and service life of the equipment.

(1) Design Requirements:

Flue gas flow through APH: 1,365.5 t/h;
Primary air flow: 235 t/h;
Flue gas inlet temperature: 350 ÷ 380°C;
Flue gas outlet temperature: 140 ÷ 150°C;
Air inlet temperature: 25°C;
Air outlet temperature: 310 ÷ 345°C;
Air leakage: ≤ 6%;
The rotor shall be designed to ensure structural integrity without deformation during operation;
Heat transfer elements shall be suitable for flue gas containing SO2, SO3, dust, and corrosive components;
Cold-end heating elements shall be made of corrosion-resistant materials;
The sealing system shall be adjustable and replaceable to compensate for wear.

(2) Scope of Supply

Replace two (02) existing tubular primary air heaters with two (02) rotary air preheaters suitable for the existing layout of the 300 MW unit to provide sufficient space for SCR installation.

Each air preheater shall be equipped with two (02) drive motors with variable frequency drives (VFD) to optimize operation.

Provide and install auxiliary systems for safe operation of the RAPH, including drive system, soot blowing system, washing system, fire protection system, fire detection/alarm system, trip/alarm system, and other associated equipment.

Modify flue gas ducts and air ducts as required to accommodate the installation of the RAPH and SCR systems.

The Contractor's scope of supply shall include, but not be limited to, the following items:

Complete rotary air preheater (RAPH);

Rotor, housing, and heating elements;

Sealing system;

Drive system (motor, gearbox, coupling);

Lubrication system;

Cleaning system (soot blower / air blower / water washing, if applicable);

Monitoring, instrumentation, and control system;

teel structures, platforms, and access ladders;

Local control panels;

Provision of new I/O modules for integration of the control system into the existing DCS;

Power and signal cables;

Testing, commissioning, and handover for operation.

(3) Electrical, Instrumentation and Control System

In Section 4.1, Chapter 4, Part 2 (Basic Design), the Employer has provided a description of the existing electrical and I&C systems of the Plant. The Contractor shall be responsible for survey, data collection, calculations, and design to ensure that the upgraded system meets all technical requirements without adversely affecting existing unit equipment.

The Contractor shall ensure that the electrical and I&C systems meet all requirements for capacity, reliability, safety, redundancy, continuous operation, and compatibility with the upgraded system.

Instrumentation & Control Requirements

The air preheater shall be controlled and monitored from the Plant DCS, with provision for local manual operation (local control);

The Contractor shall integrate all measurement signals and equipment status into the DCS and shall provide full operational control, protection, and remote monitoring functions (The key parameters to be displayed on the DCS shall include, but not be limited to: current rotational speed, control signals from the DCS, motor status signals, flue gas and air temperatures (inlet/outlet), and shaft

vibration). The system shall be fully compatible with and integrated into the existing DCS operator station of the 300 MW unit.

Integration of alarm and protection signals; Provision of local control panels; Implementation of interlocks with the boiler system;

The DCS interfaces as well as the control logic shall be configured and tuned by the Contractor in accordance with the scope of the retrofit and upgrade.

Control mode: Auto/Manual mode.

As a minimum, the following instrumentation and protection devices shall be provided: Flue gas inlet/outlet temperature, air inlet/outlet temperature, flue gas differential pressure, air side differential pressure, motor current, bearing temperature, bearing vibration, rotor speed, rotor stall/jamming alarm, fire detection alarm.

3.3.1.5 Induced Draft Fan (IDF)

The Contractor shall design, supply, transport, install, test, and commission complete induced draft (ID) fans and all associated auxiliary equipment to ensure safe, reliable, and continuous operation of the system under all unit operating conditions.

The ID fans shall be designed to suit the flue gas characteristics of the boiler, including flue gas temperature, gas composition, dust loading, SOx content, moisture content, and operating conditions of downstream flue gas treatment systems such as SCR, ESP, and FGD.

The Contractor shall be fully responsible for aerodynamic design calculations, material selection, mechanical design, structural integrity, vibration levels, noise levels, fan efficiency, and motor power rating.

(1) Design Requirements

The Contractor shall perform all necessary calculations and design of the ID fans based on the operating conditions of the boiler and the flue gas treatment systems, and shall ensure, as a minimum, the following requirements:

The fans shall deliver the required flow rate and pressure under all unit operating conditions;

The fans shall be capable of continuous operation at BMCR (Boiler Maximum Continuous Rating);

Stable operation at low-load conditions;

Adequate margin in both flow rate and pressure;

Suitability for flue gas containing dust and corrosive components;

High fan efficiency;

Fan impellers shall be made of wear-resistant and corrosion-resistant materials.

Motor and Drive System:

The ID fan motors shall be air-cooled (natural ventilation);
Motors shall be suitable for outdoor installation;
Minimum protection class: IP55;
Minimum insulation class: Class F;
Motors shall be compatible with hydraulic coupling;
Provision of winding temperature and bearing temperature monitoring;
Protection functions shall include overcurrent, overload, and phase failure.

(2) Technical Solution and Scope of Supply:

Electrical, Instrumentation and Control System

In Section 4.1, Chapter 4, Part 2 (Basic Design), the Employer has provided a description of the existing electrical and I&C systems of the Plant. The Contractor shall be responsible for site survey, data collection, calculations, and design to ensure that the upgraded system meets all technical requirements without adversely affecting existing unit equipment.

The Contractor shall ensure that the electrical and I&C systems meet all requirements for capacity, reliability, safety, redundancy, continuous operation, and compatibility with the upgraded system.

During detailed design, the Contractor shall verify and ensure adequacy of power supply systems, including but not limited to switchgear, power cables, protection relays, current transformers (CT), and related equipment.

Instrumentation & Control Integration:

All measurement signals, control signals, and equipment status of the ID fans shall be integrated into the existing DCS, ensuring compatibility with the existing monitoring and control systems (including vibration monitoring systems such as Bently Nevada) to ensure safe and stable operation of the unit.
Integration of interlocks and protection signals. The Contractor shall supply and install local control panels, interlocking with the boiler system;
Provision of additional I/O modules for integration with the existing DCS (if required).

3.3.1.6 List *of New and Replacement Equipment and Materials*

The required equipment and materials for the upgrade of the flue gas treatment system of the 300 MW Unit are summarized in the table below:

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
A	**300MW Unit**										
I	**ESP System**										
	For the 1st field. 2nd field and 3rd field, 12 high-frequency pulse transformers or high-frequency transformers are used (the Bidder shall propose 1a or 1b). For the 4th field, 04 high-frequency pulse transformers are used. These transformers have integrated control systems.										
1a	High-frequency pulse transformers for 1st field. 2nd field and 3rd field	Set	12	1. Input voltage: 3x380/400/415V ±10% 2. Output "DC" voltage: 60–140kV DC 3. Output "DC" current: 800–1800mA 4. Peak voltage: ≥ 140kV 5. Efficiency: ≥ 92% 6. Pulse width: ≥ 80µs 7. Protection rating: IP65 8. Material: Copper coil 9. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF							(*)

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
				10. Environment temperature: up to 50°C							
1b	High-frequency transformers for 1st field, 2nd field and 3rd field	Set	12	1. Input voltage: 3x380/400/415V ±10% 2. Output power (High "DC" voltage): ≥72kV, ≥25–40kHz, ≤1800mA 3. Efficiency: ≥92% 4. Environment temperature: up to 50°C 5. Material: Copper coil 6. EMC standards: EN 55011, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11 7. Protection rating: EN/IEC 60529/IP65 8. Cooling medium: oil. Cooling method: ONAN/ONAF/OFAF.							(*)

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
2	High-Voltage pulse transformer and accessories for 4th field	Set	4	1. Input voltage: 3x380/400/415V ±10% 2. Output "DC" voltage: 60–140kV DC 3. Output "DC" current: 800–1800mA 4. Peak voltage: ≥ 140kV 5. Efficiency: ≥ 92% 6. Pulse width: ≥ 80µs 7. Protection rating: IP65 8. Material: Copper coil 9. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF 10. Environment temperature: up to 50°C							(*)
3	New integrated control system	Set	1								
4	Insulator assemblies (including suspension	Set	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	insulators, post insulators, insulating posts, etc.)										
5	Control cabinet for high-frequency transformer	Lot	12								
6	Control cabinet for pulse-type high- frequency transformer unit	Lot	4								
7	Insulator heater	Lot	1								
8	Discharge electrode system	Lot	1	Material: 316L steel or equivalent							(*)
9	Collecting electrode system	Lot	1	Type: Σ Material: cold- rolled annealed SPCC steel (ASTM 366) or equivalent.							(*)
10	Collecting electrode rapping	Lot	1	Top rapping							(*)

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	system										
11	Discharge electrode rapping system	Lot	1	Top rapping							(*)
12	Flue gas distribution plate at ESP inlet	Lot	1								
13	Gas flow guide plate in the ash hopper system	Lot	1								
14	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1								
15	Control and instrumentation system	System	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
16	Others (If any)		1								
II	**Fly ash handling System**										
1	Vacuum blower	Set	3								
2	Filter separator	Set	2								
3	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1								
4	Control and instrumentation system	System	1								
5	Others										
III	**SCR System**										

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
1	NH_3 storage tank and accessories	Set	2								
2	Ammonia compressor and accessories	Set	2								
3	Ammonia pump and accessories	Set	2								
4	Vaporizer and associated accessories	Set	2								
5	Storage tank and associated accessories	Set	2								
6	Dilution air fan and associated accessories	Set	3								
7	SCR system (including but not limited to: Ammonia Injection Grid (AIG), catalyst	Set	2	SCR Reactor System: - Type: Honeycomb – rectangle or square; - Catalist material: V_2O_5-WO_3/TiO_2							

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	layers, soot blowing system, etc.										
8	NH_3 absorber tank	Set	1								
9	Ammonia (NH_3) leak detection and mitigation system; NOx and O_2 monitoring system at SCR inlet and outlet; flue gas temperature measurement at SCR inlet and outlet	System	1								
10	Gas distribution system	System	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
11	Soot blowing system	System	1								
12	Ash collection system	System	1								
13	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1								
14	Control and instrumentation system	System	1								
15	Fire prevention and fighting system	System	1								
16	Others (If any)										
IV	**FGD System**										
1	Spray header and nozzles	Set	3								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	(including headers, branch pipes, dual nozzles, etc.)										
2	Contractor shall proposal option a or b										
a	Flue gas baffle	Set	3								
b	Perforated tray	Set	1								
3	Mist eliminator and washing system (including spray nozzles, pumps, valves, piping, and associated accessories	Set	1	Material: PPTV (Talcum reinforced polypropylene) or equivalent							
4	Absorber Recirculation Pump and associated	Set	3	-Type: Centrifugal pump; -**Casing:** Ductile iron, rubber-lined (or equivalent);							(*)

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	accessories			-**Impeller:** High- chrome alloy (or equivalent); -**Shaft:** High- strength alloy steel (or equivalent).							
5	Absorber agitator and associated accessories	Set	4								
6	Absorber Tower	Tower	1								
7	Wet ball mill and accessories	Set	1	Capacity ≥5t/h Lining material: rubber.							
8	Mill slurry tank	Set	1								
9	Mill slurry tank agitator	Set	1								
10	Limestone weigh belt feeder	Set	1								
11	Electrical, lighting, earthing and lightning protection	System	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	system, including surge protection										
12	Control and instrumentation system	System	1								
13	Others (If any)										
V	**Rotary air preheater (complete with accessories, interconnecting materials, and electrical and control equipment)**	Set	2	1. Air tightness: air leakage between flue gas and air stream ≤ 6%; 2. - Hot end heating elements material: SPCC - Intermediate end heating elements material: Corten - Cold end heating elements material: enameled plate. 3. Heat exchange efficiency: ≥ 88%; 4. Install a variable frequency drive (VFD) for each motor;							

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical Specifications [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
VI	**Induced Draft Fan (IDF) system (Complete with accessories, interconnecting materials, and electrical and control equipment)**	Set	2	1. Type: Centrifugal fan, 02 inlets, 01 outlet; 2. Operating voltage: 6.6kV 3. Efficiency: ≥ 82.5%; 4. Impeller material: Abrasion-resistant material; 5. Minimum protection rating: IP55; 6. Minimum insulation class: Class F;							(*)

Notes:

This is the list of minimum required equipment for the 300MW Unit. The Bidder shall fully provide all information required in the above list of goods, equipment and materials and comply with the following requirements:

- The Bidder shall propose all items of goods, equipment and materials as required in the above table. The Bidder shall be responsible for determining all quantities of equipment and materials necessary for the complete design, supply, installation, testing, commissioning and reliable operation of the system.

- The Bidder may add items of goods, materials and equipment as necessary to comply with the requirements specified in Part 2 - Chapter VII. For additional items, the Bidder shall specify from which part of above list they are extracted.

- The Bidder shall specify the model, codes, labels/trademarks of goods, equipment and materials (if any) and origin[(1)]. In cases where the goods do not have a model, codes, the Bidder writes "none" in column (9). In cases where the manufacturer has a model, codes but the Bidder writes "none," the Bid proposal(s) shall not be considered and/or evaluated.

- For goods, equipment and materials remarked (*): The Bidder shall declare one (01) manufacturer only for each of equipment/material item. In case the Bidder offers multiple manufacturers for one item of equipment/materials, the Bid Proposal(s) shall not be considered and/or evaluated.

- For remaining goods, equipment and materials: The Bidder can declare more than one (01) manufacturer per equipment/material.

- Specifications of all equipment/materials shall meet Technical Requirements prescribed in Part 2 - Chapter VII of the Bidding Documents.

- Any item of work not mentioned in the above particulars but written elsewhere in the Scope of Work or in Part 2 - Employer's Requirement (Technical Specifications) or essentially required for completion of works, proper operation and maintenance of Power Plant, safety of equipment and operating personnel shall be deemed to have been included in the above particulars.

- Goods, equipment, materials, and technical solutions proposed by the Bidder must be 100% new, of the latest models currently available on the market, and have clear and verifiable origin. All items shall comply with the technical requirements set forth in the Bidding Documents as well as all applicable laws and regulations of Vietnam.

- The Bidder shall provide complete technical documentation to demonstrate the compliance of the offered equipment/materials.

([1]): *"Origin of goods, materials and equipment" means the country or territory where such goods, materials and equipment are manufactured, produced or processed in that country or territory, through a process of manufacturing, processing or assembly to form a commercially recognized product which differs substantially in its basic characteristics from its original constituent elements.*

3.3.2 General Requirements Of 330MW Unit

The Project for Retrofit and upgrading of the flue gas treatment system of the 330 MW boiler unit at Uong Bi Thermal Power Plant shall be implemented to ensure compliance with the emission limits for dust, SO_2, and NOx in accordance with the Vietnamese National Technical Regulation QCVN 19:2024/BTNMT on emissions from thermal power plants, as follows:

Upgrade the electrostatic precipitator (ESP) system to achieve compliance with applicable environmental standards, ensuring that the dust concentration at the stack (at 6% O_2) is less than 20 mg/Nm³, in accordance with QCVN 19:2024/BTNMT;

Upgrade the flue gas desulfurization (FGD) system to achieve compliance with applicable environmental standards, ensuring that the SO_2 concentration at the stack (at 6% O_2) is less than 120 mg/Nm³, in accordance with QCVN 19:2024/BTNMT;

Install a new selective catalytic reduction (SCR) system for NOx removal to achieve compliance with applicable environmental standards, ensuring that the NOx concentration at the stack (at 6% O_2) is less than 120 mg/Nm³, in accordance with QCVN 19:2024/BTNMT;

3.3.2.1 ESP System

(1) Design Requirements for Retrofit and Upgrade

Coal, DO, limestone characteristics applied refer to Item 1.3.3, Section 1, chapter VII of Bidding document.

Flue gas mass flow rate (excluding particulate matter):

Flue gas volumetric flow rate: 1.719.000 m³/h

Design flue gas temperature: 145°C

Flue gas velocity: 1.21 m/s

Maximum inlet dust concentration to ESP: ≤ 48,802 g/Nm³

Maximum outlet dust concentration from ESP: < 40 mg/Nm³

Dust concentration at the stack shall be less than 20 mg/Nm³ (under all boiler operating conditions)

Required dust collection efficiency: $\eta > 99.92\%$

The system shall be designed to enable the SCR to be put into operation before the flue gas inlet temperature reaches 310°C.

The ESP system shall be designed to be capable of operation from boiler start-up using DO (diesel oil) firing.

(2) Scope of Upgrade:

To achieve the target performance, the proposed solution focuses on increasing the height, adding additional fields and upgrading the technology of the existing

Electrostatic Precipitator (ESP) system. The main scope of works shall include, but not be limited to, the following:

Increase the height of the existing ESP, ensuring structural integrity and safe, stable operation of the Unit;

Add an additional ESP field (Field No. 5) without adversely affecting surrounding equipment and systems;

Replace the existing conventional transformer-rectifier (T/R) sets of Fields No. 1, 2, 3 and 4 with high-frequency or pulsed high-frequency transformer-rectifier systems;

Replace the existing transformer-rectifier set of Field No. 5 with a pulsed high-frequency transformer-rectifier system;

Replace collecting electrodes, discharge electrodes and rapping systems (conversion from side rapping to top rapping system);

Replace dedicated control panels associated with the high-frequency transformer-rectifier systems and pulsed power systems;

Implement gas flow optimization solutions, including uniform flue gas distribution and elimination of flow disturbances such as vortex formation within ash hoppers;

Upgrade the fly ash handling and conveying system to match the improved ESP performance;

Provide a complete control and monitoring system;

Design, supply and install the power supply system (including auxiliary transformers, circuit breakers, switchgear, cables, etc.), lightning protection, lighting system and all associated auxiliary systems to ensure safe and reliable operation.

(3) Detailed Technical solutions for Each Item Shall Be as Follows:

a) Expansion of Effective Collecting Field Dimensions

The Contractor shall propose solutions to expand the effective collecting area/volume of the existing ESP by increasing the effective collecting field dimensions (such as height, length, width, or a combination thereof) based on site conditions and structural safety assessment. The expansion solution shall be calculated and designed by the Contractor to ensure that the upgraded ESP system meets the required performance.

b) Replace Tranformer:

Replace sixteen (16) existing conventional transformer-rectifier (T/R) sets with sixteen (16) high-frequency or pulsed high-frequency transformer-rectifier systems for Fields No. 1, 2, 3 and 4.

Provide and install four (04) new pulsed high-frequency (HF+PF) transformer-

rectifier systems for Field No. 5.

All transformer-rectifier systems shall be equipped with integrated control systems.

c) Replace Discharge Electrodes and Supporting Frames

All discharge electrodes (DE) of the ESP shall be fully replaced. The discharge electrode system shall be designed with a compact and robust DE frame, suspended by load-bearing insulator assemblies to ensure proper high-voltage insulation and safe operation.

The DE rapping bars shall be directly welded to the rapping shafts to ensure efficient transmission of rapping forces for effective dust removal. The system shall be equipped with anti-vibration devices to ensure that the DE frames oscillate only in the vertical direction.

The discharge electrodes shall be of the latest generation, specifically designed and optimized for each electrical field to ensure high corona discharge efficiency.

The design and modification of the electrode support beams shall ensure sufficient flexibility to accommodate dynamic loads induced by the rapping system during operation.

All existing ESP discharge electrode wires shall be replaced with spike-type rigid discharge electrodes.

d) Replace Collecting Electrodes and Supporting Frames

The new collecting electrode (CE) system shall adopt a structure consisting of Σ-shaped (sigma-type) plates to provide enhanced stiffness, efficient force transmission, and resistance to deformation, with each assembly comprising not less than four (04) electrode plates.

These assemblies shall be suspended from the upper beams by hinged connections to reduce stress, facilitate installation, and ensure controlled oscillation. The system shall be equipped with anti-vibration devices at the lower ends to allow vertical expansion, minimize lateral deformation, maintain structural stability, prevent inter-plate contact, and extend service life.

The design shall ensure effective transmission of rapping forces from the top to the collecting plates, thereby achieving efficient dust removal and minimizing long-term dust accumulation.

The collecting electrodes, consisting of Σ-shaped corrugated plates, shall meet the following requirements:

Provide maximum stiffness to withstand impact loads generated by the rapping system under elevated temperature conditions, while minimizing material consumption;

Minimize dust re-entrainment into the flue gas stream;

The design, supply, and installation of electrode support beams shall ensure adequate flexibility under the action of the rapping system.

e) Replacement of flat flow distribution plates with "W"-type flue gas distribution plates at the ESP inlet

The flue gas inlet shall be equipped with specially designed "W"-type flue gas distribution plates, providing a stable structure and low pressure drop;

Large specific surface area, ensuring improved flue gas flow uniformity; Promotes particle agglomeration, thereby increasing the size of fine particles;

Promotes particle agglomeration, thereby increasing the size of fine particles;

Ensures uniform gas flow distribution, enhancing the effective utilization of collecting electrodes within the electric field and improving overall ESP performance**;**

f) Modification of ash hopper geometry for gas flow optimization within the ESP chamber

Install new gas flow guiding plates in the ash hopper to improve flue gas flow distribution;

Significantly reduce vortex formation and stabilize gas flow within the hopper;

Reduce gas velocity to minimize fly ash re-entrainment;

Enhance dust settling and reduce secondary dust emissions.

g) Design and supply of electrical insulation equipment

All insulators of the electrostatic precipitator (ESP) shall be replaced. The insulators shall be installed in compartments located outside the flue gas stream, with appropriate measures to prevent contamination by dust. In particular, the surface temperature of the insulators shall be maintained above the dew point to prevent condensation.

The insulator compartments shall be equipped with a hot air ventilation system to prevent insulator failure or breakage. This system shall include electric air heaters, motor-driven fans, inlet filters, and air distribution ducts. A temperature measuring device with control switches shall be installed in the ductwork to indicate high and low operating temperatures, as well as to alarm in case of fan or heater malfunction.

Insulators shall be provided with heating systems during ESP start-up and under other operating conditions where required.

Insulators used for discharge electrodes and rapping mechanisms are critical components of the ESP system and shall be made of porcelain.

Rapping shaft insulators shall consist of a porcelain body with metallic end fittings at both ends.

The insulator surfaces shall be glazed in brown or white, and all metal parts shall be coated with anti-corrosion protection. The insulator shafts shall be manufactured in accordance with IEC 60168, JIS C3801, JIS C3802, or equivalent standards. They shall be suitable for operating temperatures up to 400°C, operating voltage in the range of 110 kV to 120 kV, and torsional strength not less than 1000 Nm.

Support insulators shall be used as high-voltage insulation to support electrodes in the ESP system. These shall include cylindrical, conical, and other special configurations. Hollow support insulators shall be made of ceramic with glazed surfaces (white or brown) both internally and externally. They shall comply with IEC 60233, JIS C3801, JIS C3802, or equivalent standards, and shall be capable of withstanding operating temperatures up to 400°C, withstand voltage of 110 kV to 120 kV, and compressive strength not less than 500 kN.

h) Replacement of the rapping system for both electrodes and inlet flue gas distribution plates

Replace the existing side-mounted (horizontal) mechanical rapping system with a top-mounted electromagnetic rapping system (outdoor type), facilitating easier maintenance and repair. This system shall provide significant advantages, including the elimination of moving parts within the electric field and avoidance of common failures associated with side rapping systems such as wear, misalignment, and shaft jamming;

The rapping frequency and intensity of each rapping unit shall be independently adjustable, thereby reducing dust re-entrainment and improving system adaptability;

The top-mounted electromagnetic rapping system for discharge electrodes (DE) shall not impose shear forces on the DE wires, thereby eliminating wire breakage and ensuring stable and reliable long-term operation;

The rapping system shall have an average annual failure rate of less than 1%, with a design service life of 10 to 15 years

Performance Upgrade Solution for the Last Collection Field (Field No. 5).

For the last field, the bidder shall supply and install "Fine Particulate Control Systems" applying advanced, commercially proven technologies to meet the following technical objectives:

- Completely prevent the back corona phenomenon;

- Minimize fine particle re-entrainment carried by the flue gas stream into the downstream FGD system

i) Upgrade of the Fly Ash Handling System

The Contractor shall carry out survey, design, engineering, procurement, supply, installation, testing, commissioning and handover of a complete fly ash

handling system in accordance with the requirements arising from the upgraded flue gas treatment systems (SCR, ESP, FGD and associated systems).

The Contractor shall be responsible for recalculating and verifying the capacity of the fly ash handling system to ensure safe, reliable and continuous operation under all operating conditions of the Units.

The fly ash handling system shall ensure continuous collection, conveying, storage and unloading of fly ash without blockage, accumulation or dust emission to the environment.

The minimum technical requirements to ensure safe and reliable operation of the fly ash handling system, in accordance with the requirements of the upgraded flue gas treatment systems, shall include the following:

Due to the installation of an additional Electrostatic Precipitator Field No. 5 (ESP Field No. 5) for the 330 MW Unit, the Contractor shall design, supply, install and commission a complete ash collection and conveying system for ESP Field No. 5, fully integrated with the existing fly ash handling system of the Plant.

The ash handling system shall ensure continuous and reliable collection and conveying of all fly ash generated from ESP Field No. 5 to the existing ash silos or new ash silos (if required), without blockage, dust emission or adverse impact on the operation of the existing system.

In addition to the new system for ESP Field No. 5, the Contractor shall survey, calculate and implement necessary modifications to the existing ash hoppers, ash conveying pipelines, ash discharge valves and ash conditioning systems of other ESP fields to ensure safe, reliable and continuous operation after upgrading, without blockage, ash buildup or agglomeration.

All modifications shall be implemented in a fully integrated and coordinated manner with the overall fly ash handling system, including conveying systems, ash silos and unloading systems.

Instrumentation and Control (I&C) Requirements: The upgraded fly ash handling system shall be provided with complete instrumentation, control, monitoring, alarm and protection systems, and shall be fully integrated with the existing plant control and monitoring system.

j) Electrical, control & Instrument solution

In Section 2, Chapter VII, Part 2 (Basic Design), the Employer has provided a description of the existing electrical system and instrumentation and control (I&C) system of the Plant. The Contractor shall be responsible for carrying out site survey, data collection, calculations, and design of the electrical and I&C systems to ensure that the upgraded system meets all technical requirements without adversely affecting the existing equipment of the unit.

The Contractor shall ensure that the electrical and I&C systems are designed and supplied to fully meet the requirements for capacity, reliability, safety,

redundancy, continuous operation, and compatibility with the upgraded equipment.

Total harmonic distortion (THD) of the electrical system (including switchboards and transformers) shall not exceed 5% during operation.

Control & Instrument System

The Contractor shall provide a new ESP control system compatible with the upgraded installation, including replacement of hardware and equipment, corresponding software upgrade, and integration of advanced control functionalities.

The entire control and monitoring system shall be replaced, including control panels, operator workstations/computers, and integrated software systems.

Control Software Requirements

The ESP control system software shall be the latest commercial release and shall incorporate the following advanced functions:

The ESP field control system shall be configured with hot redundancy such that, in the event of a controller failure, the system shall continue to operate normally;

The human-machine interface (HMI) and server system shall enable real-time monitoring of ESP operating status and perform automatic control optimization based on operating parameters using expert system algorithms to achieve optimal ESP performance;

Open communication interface supporting Modbus TCP/IP protocol;

Remote monitoring and control capability;

Full accessibility of all controller parameters;

User-friendly navigation across controller logic functions;

Controller configuration settings shall be easily saved and restored;

Voltage-current (V–I) characteristic curves shall be stored in a database for historical analysis;

Search functionality for retrieving V–I characteristic curve data;

Built-in help function accessible without exiting the application;

Statistical functions providing detailed information on operating time, rapping system usage, current limit distribution, and top alarm lists;

Trend-based visualization tools to enhance operational monitoring;

Fast data acquisition and processing capability.

Integration with Plant DCS

In addition to the supply, design, and installation of the ESP control system, the Contractor shall be responsible for full integration of the new control system

into the Plant Distributed Control System (DCS), including but not limited to the following:

Installation of new control panels in the ESP electrical/control room;

Installation of control and communication cables to all relevant equipment and connection to control workstations;

Integration of interlocks with the unit control system, protection system, alarm handling, and event logging within the control software;

Development of new control interfaces for both the ESP control room and the central control room, compatible with the existing unit control system;

Provision of historical data storage software and functions for playback of past events, including trend-based visualization of historical process parameters.

k) Construction solution:

In Section 2, Chapter VII, Part 2 (Basic Design), the Employer has provided a description of the existing conditions and the basic requirements for the civil works. The Contractor shall be responsible for carrying out site surveys, data collection, calculations, design, and construction/installation of all related civil works to ensure that the upgraded system meets all technical requirements.

3.3.2.2 FGD system

(1) Design Requirements for Retrofit and Upgrade

Coal, DO, limestone characteristics applied refer to Item 1.3.3, Section 1, chapter VII of Bidding document.

The existing absorption tower of the FGD system of the units is designed to handle boiler flue gas with 3 spray nozzles.

Design standard inlet flue gas flow rate: 1.630.909 Nm^3/h (dry basis, 6% O_2)

Flue gas temperature at inlet/outlet: 145°C

Flue gas temperature at inlet/outlet: >47.5°C

Maximum inlet SO_2 concentration: 4167 mg/Nm^3 (dry basis, 6% O_2)

Required DeSOx efficiency: > 97,12%

Required SO_2 emission concentration at stack: <120 mg/Nm^3 (under all boiler operating conditions).

The FGD system shall be designed to be capable of operation from boiler start-up using DO (diesel oil) firing.

(2) Scope of Upgrade

Upgrade and retrofit of the absorber tower, including but not limited to increasing the tower height, replacement of slurry spray headers and spray nozzles, mist eliminator systems, and all associated piping and auxiliary systems;

Replacement of absorber circulation pumps;

Upgrade of the limestone grinding system and associated auxiliary equipment;

Upgrade, modification, and replacement of other related systems and equipment as required.

(3) Detailed technical solutions for each item shall be as follows:

a) Replace the spray system and nozzles:

Replace the main headers, branch pipes, and limestone slurry spray nozzles. All associated piping systems, including spray headers, manifolds, branch pipes, and interconnecting lines to the nozzles, shall be replaced in a coordinated and integrated manner.

b) Installation of Flue gas Perforated Tray or Baffle Ring

The Contractor shall carry out survey, calculations, design, fabrication, supply, installation, and commissioning of a flue gas distribution system, consisting of a perforated tray or a flue gas baffle ring within the absorber, to ensure uniform gas flow distribution and enhance the SO_2 removal efficiency of the FGD system.

The design and installation of the perforated tray or flue gas baffle ring shall be compatible with the post-upgrade operating conditions and shall not result in pressure drop exceeding the allowable limits of the fan system.

c) Replacing the mist eliminator and washing nozzles:

Replace the mist eliminators and the mist eliminator washing system in full coordination with the upgraded FGD system, including pumps, piping, spray nozzles, drains, valves, electrical equipment, instrumentation & control (I&C), protection systems, and all associated accessories, ensuring stable operation and prevention of limestone slurry carryover into the flue gas stream.

Number of levels: minimum two (02) levels;

Type: proven commercial technology ensuring high separation efficiency and effective washing performance.

d) Replace the absorption tower circulation pump:

Replace the absorber circulation pump system, including pumps, motors, suction and discharge piping, electrical equipment, instrumentation & control (I&C), protection systems, and all associated accessories, ensuring stable and reliable operation of the system.

e) Replacing the absorption tower agitators.

The Contractor shall replace the agitators with units appropriately sized and designed to match the absorber dimensions and operating conditions.

f) Restoration and Replacement of the Absorber Anti-Corrosion Lining

Clean, treat, and reapply anti-wear lining to all internal surfaces of the absorber. The new lining shall ensure adequate adhesion and durability in accordance with operating conditions.

g) Absorber drain pump

The Contractor shall design, supply and install two (02) new discharge pumps to ensure safe, stable and reliable operation of the system.

h) Limestone slurry preparation system

General Requirements: The Contractor shall carry out survey, design, engineering, procurement, supply, installation, testing, commissioning and handover of one (01) new limestone grinding and slurry preparation system with a minimum capacity of 8 tons per hour, fully integrated with the existing FGD system of the Plant.

The system shall ensure safe, reliable and continuous operation under all operating conditions of the Units and shall meet all operational requirements of the FGD system.

The Contractor's scope of supply shall include, but not be limited to, the following equipment and systems: Limestone feeding system, Hammer crusher (if required), Storage tanks, Wet ball mill, Limestone slurry pumps, Classification system (e.g., hydrocyclones), Piping system, Valve system, Process water system, Compressed air system, Electrical system, Instrumentation and Control (I&C) system, Fire prevention and protection system;

All auxiliary equipment and accessories necessary for complete and reliable operation.

The Contractor shall be responsible for all design calculations, equipment selection and technical proposals submitted in the Bid to ensure that the system meets the requirements for safety, reliability, continuous operation, performance and service life in accordance with the Bidding Documents.

Instrumentation and control requirements: The limestone grinding and slurry preparation system shall be provided with complete instrumentation, control, monitoring, alarm and protection systems, and shall be fully integrated with the existing plant control and monitoring system.

i) Replace Booster Fan:

The Contractor shall carry out survey, design, engineering, procurement, supply, installation, testing, commissioning and handover of a new booster fan, fully compatible with the upgraded SCR, ESP and FGD systems.

The booster fan shall be designed to provide sufficient flow rate and pressure head under all operating conditions of the Units, ensuring stable, safe and reliable operation of the flue gas treatment system.

The Contractor shall be responsible for all design calculations, equipment

selection and technical proposals submitted in the Bid to ensure that the system meets the requirements for safety, reliability, continuous operation, performance and service life in accordance with the Bidding Documents.

1. Technical requirements:

The booster fan shall be designed and selected based on the operating characteristics of the existing Induced Draft (ID) fan and the overall system conditions after upgrading.

The booster fan shall meet, as a minimum, the following requirements:

Fan type: Axial flow type with adjustable inlet blade angle (variable pitch);

Capacity: Capable of providing the required flow rate and pressure head for the system;

Margin: Adequate margin in both flow rate and pressure head shall be provided;

Materials: Resistant to abrasion and corrosion;

Coating: Equipped with anti-abrasion and anti-corrosion protection;

Motor: Suitable for all operating conditions;

Protection class: Minimum IP55;

Insulation class: Minimum Class F.

The scope of work shall include, but not be limited to, the following:

Survey and assessment of the existing booster fan system;

Dismantling of existing fan (if applicable);

Design and selection of the new booster fan;

Design and construction of foundations and supporting structures;

Supply and installation of the new booster fan and motor;

Supply and installation of auxiliary systems, including lubrication system, cooling system, couplings, expansion joints at inlet and outlet, etc.;

Supply and installation of electrical, instrumentation, protection and monitoring systems;

Supply and installation of control system, including local control panel;

Modification of flue gas ducts to suit the new booster fan;

Testing, commissioning and acceptance.

Electrical System Requirements:

The Contractor shall survey, calculate and upgrade the electrical supply system to ensure safe, reliable and continuous power supply for the booster fan and all associated auxiliary equipment.

The Contractor shall be responsible for load calculation, verification of the

existing electrical system capacity and implementation of all necessary upgrades, replacements or additions. The scope shall include, but not be limited to:

Survey of the existing auxiliary power system;

Load calculation for the new booster fan and load balancing of the auxiliary power system;

Verification of transformer capacity, switchgear, MCC, cable loading capacity, protection and relay systems;

Design of power supply scheme, including upgrading or replacement of circuit breakers, switchgear, MCC, cables and protection systems (if required);

Testing and commissioning.

j) Electrical, control & Instrument solution:

In Section 2, Chapter VII, Part 2 (Basic Design), the Employer has provided a description of the existing electrical and instrumentation & control (I&C) systems of the Plant. The Contractor shall be responsible for carrying out site survey, data collection, calculations, and design of the electrical and I&C systems to ensure that the upgraded system meets all technical requirements without adversely affecting the existing unit equipment.

The existing auxiliary transformer of the FGD system may be insufficient to supply the total electrical load after upgrading (including the installation of the limestone grinding and slurry preparation system).

The Contractor shall perform load calculations and verify the capacity of the existing transformer. If required, the Contractor shall design, supply, install and commission a new auxiliary transformer with adequate capacity.

The scope shall include, but not be limited to, all associated equipment and systems, including: 6.6 kV switchgear, power cables, control and signal cables, Protection and control systems, All necessary auxiliaries for complete and reliable operation.

The Contractor shall ensure that the electrical and I&C systems are designed and supplied to fully meet the requirements for capacity, reliability, safety, redundancy, continuous operation, and compatibility with the upgraded equipment.

Instrumentation & Control Requirements

The I&C system for the upgraded equipment shall be integrated into the existing control system, including control logic, HMI interface, instrumentation and control cabling, and related systems.

During integration and upgrade works, any defective instrumentation or control devices identified shall be replaced by the Contractor.

Dismantling, installation, inspection, completion, and commissioning activities shall be carried out in accordance with the upgraded technology and shall be fully compatible with all related systems.

k) Construction solution:

In Section 2, Chapter VII, Part 2 (Basic Design), the Employer has provided the description of existing conditions and basic requirements for civil works. The Contractor shall be responsible for site survey, data collection, calculations, design, and construction/installation of all related civil works to ensure compliance with the technical requirements of the upgraded system.

3.3.2.3 SCR System

(1) Design Requirements

Coal, DO, limestone characteristics applied refer to Item 1.3.3, Section 1, chapter VII of Bidding document.

Flue gas flow: 1.049.249,36 Nm3/h;

Flue gas temperature at SCR inlet: 390^{o}C

NOx content in flue gas at SCR inlet: 1000 mg/Nm^3.

NOx content in flue gas at SCR outlet: < 120 mg/Nm^3 (under all boiler operating conditions)

Required DeNOX efficiency: ≥ 88%

Residual ammonia content in flue gas at SCR outlet: < 3 ppm.

The system shall be designed to enable the SCR to be put into operation before the flue gas inlet temperature reaches 310°C.

(2) Scope of Supply

Design, engineering, supply, installation and commissioning of the Selective Catalytic Reduction (SCR) system located between the economizer and the air preheater.

(3) Detailed Technical solutions for Each Item Shall Be as Follows:

Ammonia shall be delivered by the supplier's dedicated tank trucks to two (02) storage tanks. The capacity of these tanks shall be designed to ensure sufficient storage for continuous operation of one (01) boiler at rated load for a period of seven (07) days.

From the storage tanks, ammonia shall be pumped to the vaporizer, then supplied to a buffer tank, and subsequently delivered to the air mixing system. The ammonia–air mixture shall be injected through nozzles installed upstream of the catalyst reactor into the flue gas duct for NOx reduction.

h) NH_3 system

Ammonia storage system: 2 × 100% capacity, including metering, measurement, monitoring devices, safety valves, and drain valves;
Compressors: 2 × 100%;
Ammonia pumps: 2 × 100%;
Ammonia vaporization system: two (02) vaporizers and two (02) buffer tanks (one in operation and one standby), including all instrumentation, control, and monitoring equipment.

i) SCR system

Spray system, mixing system, and catalyst reactor: two (02) sets (one per flue gas pass), each equipped with a steam soot blowing system.

j) Reactor SCR:

Type: Vertical flow reactor;
Configuration: High-dust configuration;
Catalyst layers: two (02) operating layers + one (01) spare layer;
Design: Provision for catalyst expansion/replacement.
Catalyst Requirements:
Type: V_2O_5–WO_3/TiO_2 or equivalent;
Lifetime: ≥ 24,000 operating hours.
Ammonia Injection Grid (AIG)
Multi-zone grid design;
Individually adjustable zones;
Ensure uniform mixing upstream of the catalyst;
Dilution Air Fans: three (03) units (two operating and one standby serving both SCR systems).

k) Flue Gas Distribution System

Flow guide vanes shall be installed at duct bends and turning sections;
Flow straightening devices, such as honeycomb structures, screens, or parallel vane arrangements, shall be provided to ensure uniform gas flow distribution.

l) Soot Blowing System

Location: upstream of the catalyst and between catalyst layers;
Shall ensure effective cleaning without damaging the catalyst;
NH_3 absorption system, including piping, valves, and accessories;
NH_3 leak detection and mitigation system at the ammonia station;
Ash handling system from the economizer outlet to the SCR inlet;
Fire prevention and protection system.

m) Electrical, control & Instrument solution:

In Section 2, Chapter VII, Part 2 (Basic Design), the Employer has provided a description of the existing electrical system and instrumentation and control (I&C) system of the Plant. The Contractor shall be responsible for carrying out site survey, data collection, calculations, and design of the electrical and I&C systems to ensure that the upgraded system meets all technical requirements without adversely affecting the existing equipment of the unit.

The Contractor shall ensure that the electrical and I&C systems are designed and supplied to fully meet the requirements for capacity, reliability, safety, redundancy, continuous operation, and compatibility with the upgraded equipment.

The Contractor shall design, supply, and install a new I&C system for the Selective Catalytic Reduction (SCR) system to ensure safe, reliable, continuous operation and compliance with emission requirements specified in the Bidding Documents.

The SCR control system shall be fully integrated with the existing Distributed Control System (DCS) of the Plant and shall be operated and monitored from the central control room.

The Contractor's scope of supply shall include, but not be limited to: instrumentation, gas analyzers, control system, control panels, I/O cabinets, control software, signal cables, system configuration, control programming, protection interlocks, integration with the existing DCS, testing, commissioning, and putting into operation.

1. Control Philosophy

The control system shall automatically regulate the ammonia (NH_3) injection rate to maintain the NOx concentration at the SCR outlet at the setpoint and ensure compliance with emission limits.

The control system shall include, as a minimum:

Automatic control of NH_3 flow control valves;

Capability for both automatic and manual operation from the control room and local stations;

Stable control of outlet NOx concentration under all operating conditions and unit load levels.

Control Functions

The SCR control system shall include, but not be limited to, the following control loops:

NH_3 flow control;

Dilution air flow control;

NH_3/air mixture temperature control;

NH_3 distribution control to injection grids (if applicable);

Fan control;

Outlet NOx concentration control;

Monitoring of residual NH_3 (NH_3 slip).

2. Control System Configuration

The SCR control system shall meet, as a minimum, the following requirements:

Full integration with the existing Plant DCS;

Monitoring and control from the central control room for the SCR system;
Simultaneous monitoring and control from both the central control room and local control stations for the NH_3 system;
Historical data storage, event logging, and alarm logging functions;
Trend display of historical process data;
Operating modes: Auto/Manual;
Seamless switching between Auto and Manual modes without interruption;
Sequential control for system start-up and shutdown;
Safe shutdown function in case of failure;
Fail-safe operation: in case of power loss, the system shall bring equipment to a safe state;
Controllers shall be configured with hot redundancy;
Communication network shall be redundant;
Power supply for the control system shall be redundant.

3. Interlocks and Safety Requirements

The SCR system shall comply with NFPA 85 and shall be integrated with the boiler protection system of the Plant.
At a minimum, the following interlocks shall be provided:
MFT (Master Fuel Trip) signal → stop NH_3 injection;
NH_3 system failure → stop NH_3 injection;
Control system power loss → stop NH_3 injection.
In the event of a failure, the system shall automatically transition to a safe state.

4. Instrumentation and Control Devices

The Contractor shall provide, as a minimum, the following instrumentation and control devices:
New I/O modules for integration of the control system into the existing DCS.
Flue Gas System Measurement
Pressure upstream and downstream of the SCR;
Flue gas flow rate upstream and downstream of the SCR;
Temperature upstream and downstream of the SCR;
NOx concentration upstream and downstream of the SCR;
O_2 concentration upstream and downstream of the SCR;
Residual NH_3 concentration downstream of the SCR.
NOx and NH_3 analyzers shall:
Be of in-situ type (direct measurement without sample extraction);
Utilize ultraviolet (UV) technology;
Have fast response time.
Redundancy arrangement: minimum two (02) NOx analyzers at SCR inlet and two (02) at SCR outlet.
NH_3 System Measurement:

NH_3 tank level measurement;
Pressure measurement;
Temperature measurement;
NH_3 leak detection system;
NH_3 flow measurement

n) *Construction solution*

In Section 2, Chapter VII, Part 2 (Basic Design), the Employer has provided the description of the existing conditions and the basic requirements for the civil works. The Contractor shall be responsible for carrying out site surveys, data collection, calculations, design, and construction/installation of all related civil works to ensure that the upgraded system meets all technical requirements.

3.3.2.4 List *of New and Replacement Equipment and Materials*

The required equipment and materials for the upgrade of the flue gas treatment system of the 330 MW Unit are summarized in the table below:

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
B	**330MW Unit**										
I	**ESP System**										
	For the 1st field, 2nd field, 3rd field and 4th field, 16 high-frequency pulse transformers or high-frequency transformers are used (the Bidder shall propose 1a or 1b. For the 5th field, 4 combined pulse and high-frequency (HF+PF) transformers are used. These transformers have integrated control systems.										
1a	High-frequency pulse transformers for 1st field, 2nd field, 3rd field and 4th field	Set	16	1. Input voltage: 3x380/400/415V ±10% 2. Output "DC" voltage: 60–140kV DC 3. Output "DC" current: 800–1800mA 4. Peak voltage: ≥140kV 5. Efficiency: ≥92% 6. Pulse width: ≥80µs 7. Protection rating: IP65 8. Material: Copper coil 9. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF							(*)

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
				10. Environment temperature: up to 50°C							
1b	High-frequency transformers for 1st field, 2nd field, 3rd field and 4th field	Set	16	1. Input voltage: 3x380/400/415V ±10% 2. Output power (High "DC" voltage): ≥72kV, ≥25–40kHz, ≤1800mA 3. Efficiency: ≥92% 4. Environment temperature: up to 50°C 5. Material: Copper coil 6. EMC standards: EN 55011, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11 7. Protection ratings: EN/IEC 60529/IP65 8. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF.							(*)

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
2	High-frequency pulse transformers for 5th fields	Set	4	1. Input voltage: 3x380/400/415V ±10% 2. Output "DC" voltage: 60–140kV DC 3. Output "DC" current: 800–1800mA 4. Peak voltage: ≥140kV 5. Efficiency: ≥92% 6. Pulse width: ≥80µs 7. Protection rating: IP65 8. Material: Copper coil 9. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF 10. Environment temperature: up to 50°C							(*)
3	New integrated control system	Set	1								
4	Insulator assemblies (including	Set	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	suspension insulators, post insulators, insulating posts, etc.)										
5	Control cabinet for high-frequency transformer	Set	16								
6	Control cabinet for pulse-type high- frequency transformer unit	Set	4								
7	Insulator heater	Lot	1								
8	Discharge electrode system	Lot	1	Material: 316L steel or equivalent							(*)
9	Collecting electrode system	Lot	1	Type: Σ Material: cold- rolled annealed SPCC steel (ASTM 366) or equivalent.							(*)

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
10	Collecting electrode rapping system	Lot	1	Top rapping							(*)
11	Discharge electrode rapping system	Lot	1	Top rapping							(*)
12	Flue gas distribution plate at ESP inlet	Lot	1								
13	Gas flow guide plate in the ash hopper system	Lot	1								
14	Electrical, lighting, earthing and lightning protection system, including surge protection	System	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
15	Control and instrumentation system	System	1								
16	Ash hopper and associated auxiliary systems for Field No. 5	Set	1								
17	Others (if any)										
III	**SCR System**										
1	NH_3 storage tank and accessories	Set	2								
2	Ammonia compressor and accessories	Set	2								
3	Ammonia pump and accessories	Set	2								
4	Vaporizer and associated accessories	Set	2								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
5	Storage tank and associated accessories	Set	2								
6	Dilution air fan and associated accessories	Set	3	3x50%							
7	SCR system (including but not limited to: Ammonia Injection Grid (AIG), catalyst layers, soot blowing system, etc.	Set	2	SCR Reactor System: Type: Honey comb – rectangle or square; Catalist material: V2O5-WO3/TiO2							
8	NH_3 absorber tank	Set	1								
9	Ammonia (NH_3) leak detection and mitigation system; NOx	Set	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	and O_2 monitoring system at SCR inlet and outlet; flue gas temperature measurement at SCR inlet and outlet										
10	Gas distribution system	Set	1								
11	Soot blowing system	Set	1								
12	Ash collection system	Set	1								
13	Electrical, lighting, earthing and lightning protection system,	System	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	including surge protection										
14	Control and instrumentation system	System	1								
15	Fire prevention and fighting system	System	1								
16	Others (If any)										
IV	**FGD System**										
1	Spray header and nozzles (including headers, branch pipes, dual nozzles, etc.)	Set	3								
2	Contractor shall proposal option a or b										

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
a	Flue gas baffle	Set	3								
b	Flue gas perforated tray	Set	1								
3	Mist eliminator and washing system (including spray nozzles, pumps, valves, piping, and associated accessories	Set	1	Material: PPTV (Talcum reinforced polypropylene) or equivalent							
4	Booster fan (complete with accessories, interconnecting materials, and electrical and control equipment)	Set	1	Type: Axial flow fan with adjustable blade angle; Rated voltage: 6.6 kV; Efficiency: ≥ 85%; Degree of protection: Minimum IP55; Insulation class: Minimum Class F.							
5	Absorber	Set	3	-Type: Centrifugal pump;							(*)

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	Recirculation Pump and associated accessories			-**Casing:** Ductile iron, rubber-lined (or equivalent); -**Impeller:** High- chrome alloy (or equivalent); **Shaft:** High- strength alloy steel (or equivalent).							
6	Absorber agitator and associated accessories	Set	4								
7	Absorber drain pump	Set	2								
8	Absorber Tower	Tower	1								
9	Limestone slurry preparation system	System	1								
10	Wet ball mill and accessories	Set	1	Capacity ≥8t/h Lining material: rubber.							
11	Electrical, lighting, earthing and lightning	System	1								

No. [1]	Bidding Documents' requirements				Proposal by The Bidder						Remark [12]
	Description [2]	Unit [3]	Q'ty [4]	Technical Requirement [5]	Unit [6]	Q'ty [7]	Technical specification [8]	Mode, codes, labels/ trade marks [9]	Manufacturer [10]	Origin [11]	
	protection system, including surge protection										
12	Control and instrumentation system	System	1								
13	Auxiliary Transformer complete with all necessary accessories	Set	1								
14	Others (If any)										

Notes:

This is the list of minimum required equipment for the 330MW Unit. The Bidder shall fully provide all information required in the above list of goods, equipment and materials and comply with the following requirements:

- The Bidder shall propose all items of goods, equipment and materials as required in the above table. The Bidder shall be responsible for determining all quantities of equipment and materials necessary for the complete design, supply, installation, testing, commissioning and reliable operation of the system.

- The Bidder may add items of goods, materials and equipment as necessary to comply with the requirements specified in Part 2 - Chapter VII. For additional items, the Bidder shall specify from which part of above list they are extracted.

- The Bidder shall specify the model, codes, labels/trademarks of goods, equipment and materials (if any) and origin[(1)]. In cases where the goods do not have a model, codes, the Bidder writes "none" in column (9). In cases where the manufacturer has a model, codes but the Bidder writes "none," the Bid proposal(s) shall not be considered and/or evaluated.

- For goods, equipment and materials remarked (*): The Bidder shall declare one (01) manufacturer only for each of equipment/material item. In case the Bidder offers multiple manufacturers for one item of equipment/materials, the Bid Proposal(s) shall not be considered and/or evaluated.

- For remaining goods, equipment and materials: The Bidder can declare more than one (01) manufacturer per equipment/material.

- Specifications of all equipment/materials shall meet Technical Requirements prescribed in Part 2 - Chapter VII of the Bidding Documents.

- Any item of work not mentioned in the above particulars but written elsewhere in the Scope of Work or in Part 2 - Employer's Requirement (Technical Specifications) or essentially required for completion of works, proper operation and maintenance of Power Plant, safety of equipment and operating personnel shall be deemed to have been included in the above particulars.

- Goods, equipment, materials, and technical solutions proposed by the Bidder must be 100% new, of the latest models currently available on the market, and have clear and verifiable origin. All items shall comply with the technical requirements set forth in the Bidding Documents as well as all applicable laws and regulations of Vietnam.

- The Bidder shall provide complete technical documentation to demonstrate the compliance of the offered equipment/materials.

([1]): *"Origin of goods, materials and equipment" means the country or territory where such goods, materials and equipment are manufactured, produced or processed in that country or territory, through a process of manufacturing,*

processing or assembly to form a commercially recognized product which differs substantially in its basic characteristics from its original constituent elements.

3.3.3 Civil Works Requirements

3.3.3.1 General Requirements

The Contractor shall carry out survey, design, engineering, construction, testing and completion of all civil works required for the installation of equipment under the Project for the upgrade and retrofit of the flue gas treatment systems, including but not limited to SCR, ESP, FGD, flue gas duct systems, fans, air preheaters, ash handling systems, silos, equipment buildings, electrical and control buildings, equipment foundations and steel structures.

All civil works shall be designed and constructed to ensure safety, structural stability, long-term operation and compatibility with the site geological conditions and operating conditions of the Plant.

The Contractor shall be fully responsible for topographical and geotechnical investigations, design calculations, construction execution and the quality of all civil works.

The Contractor shall conduct detailed site surveys, including topography, geotechnical conditions and assessment of existing structures, and shall be fully responsible for the design and construction of all civil works.

All civil structures shall be designed to ensure adequate strength, stability and suitability for the actual site conditions.

All additional structures, components and installations shall be designed and constructed to ensure full integration with the existing structures, forming a unified structural system that satisfies all original design load combinations, including but not limited to dead loads, live loads, wind loads and seismic loads.

Any errors, omissions or additional works arising from the Contractor’s design or construction shall be entirely at the Contractor’s responsibility and cost.

3.3.3.2 Scope of Civil Works

The scope of civil works shall include, but not be limited to, the following:

Survey of topographical and geotechnical conditions;

Design of equipment foundations, reinforced concrete structures and steel structures;

Design of equipment buildings, fan foundations and equipment pedestals;

Design of foundations and supporting structures for flue gas ducts;

Design of platforms, stairways and handrails;

Design of drainage systems and cable trench systems;

Dismantling of existing steel structures, concrete structures and equipment foundations (if required);

Dismantling of existing pipelines, flue gas ducts and air ducts (if required);
Dismantling of platforms, stairways and relocation of affected equipment and systems;
Construction of foundations, reinforced concrete structures and steel structures;
Construction of control buildings and equipment buildings;
Installation of platforms, stairways and boiler elevators;
Completion works;
Testing and acceptance of civil works.

3.3.3.3 Foundation Design and Construction Requirements

The Contractor shall design and construct foundations for all equipment and structures, including but not limited to SCR, ESP, FGD, ID fan/booster fan, ammonia storage tanks, equipment buildings, duct supporting structures and boiler elevators.

The foundation design shall ensure adequate capacity to withstand static loads, dynamic loads, wind loads, seismic loads (if applicable), vibration from rotating equipment, and settlement within allowable limits, without adversely affecting existing structures.

3.3.3.4 Steel Structure Design and Construction Requirements

The Contractor shall design, fabricate and install steel structures for all items, including but not limited to:
Support structures for SCR, air preheater, ESP and FGD;
Support structures for flue gas and air ducts;
Platforms, stairways, boiler elevators and handrails;
Equipment supports, piping supports and cable supports.
All steel structures shall be designed to ensure adequate strength and stiffness, and to withstand all applicable load combinations, including but not limited to dead loads, live loads, wind loads and seismic loads. The structures shall also be capable of resisting vibration and accommodating thermal expansion of pipelines. Appropriate corrosion protection and fire protection measures (if required) shall be provided.

3.3.3.5 Auxiliary Buildings and Facilities

The Contractor shall design and construct auxiliary buildings and facilities, including but not limited to control buildings, ammonia storage facilities, MCC buildings, pump houses, limestone grinding buildings, equipment foundations and pedestals, cable trenches, drainage systems and internal roads for operation and maintenance.

3.3.4 Other requirements:

3.3.4.1 Materials

Materials for all the equipment shall be of new type and proven with application references. Under various conditions during the design operation duration of the ESP, SCR, FGD, APH, IDF system (such as changes of temperature, pressure and contaminant concentration, etc.), the materials shall show any signs of exceeding-standard aging, fatigue and corrosion. In addition, system efficiency and reliability shall not be affected by both the stresses and strains applied on any components.

Materials to be used shall meet the standards applied by the Owner.

3.3.4.2 Requirement for ventilation and air conditioning systems

The Contractor shall submit its complete and reliable design requirements for ventilation and air conditioning system of the SCR system as specific such ammonia storage and supply building to meet relation standards for safety, working condition in the ammonia environment.

3.3.4.3 Requirement for safety and fire prevention and protection system

All possible measures shall be taken by the Contractor to ensure safe operation, APH and flue gas treatment system shall be designed according to relevant Vietnam and International safety regulations.

Design, construction and installation works must comply with Vietnam regulations about safety and fire prevention (including: to appraise design for upgrading and new build, to verify equipment, to inspect installation work, to accept for eligible firefighting operation).

To prevent and handle fire and explosion incidents, fire extinguishers shall be placed at necessary locations on the construction site where accidents are likely to occur. Water tanks shall also be arranged, and water levels must always be maintained to ensure readiness in case of emergency. A designated officer shall conduct daily inspections of fire prevention measures.

Fire prevention and protection system (FPF) training and awareness programs must be organized for construction workers in accordance with applicable regulations.

Compliance with Government Decree No. 105/2025/ND-CP dated 15/05/2025 and other applicable regulations is mandatory.

The Contractor shall organize inspection and acceptance by the competent authority in accordance with current regulations.

3.3.4.4 Painting and color

The Contractor shall submit detailed design information (drawings and instructions) regarding painting as required by the Owner for approval.

The colors of flue gas treatment system shall be identical with the unit. Final

building design, decoration specification for building materials shall be submitted to Owner's for approval.

3.3.4.5 Quality Control

The Contractor shall be responsible for the quality control on its scope of design, equipment and materials procurement, transportation and storage, etc., including preparation of quality control plan and submission of quality control manual, and check each item (incl. items of its sub-contractors) against the quality control plan for the conformity with Contract requirement and specification.

3.3.4.6 Maintenance and hoist facilities

The Contractor shall design a complete set of permanent and removable hoisting facilities for flue gas treatment system maintenance and repair (lifting hook/ring, motor/manual hoists and limiting cranes, etc), including the lifting positions, lifting weight, lifting height and equipment selection, etc shall be clarified in the the first stage proposal bidding document.

Apart from the maintenance and hoisting facilities specified, crane and motor hoist shall be set up at the equipment above 3000 kg for purpose of maintenance, to enable movement of the equipment to proper transportation equipment. Furthermore, the Contractor shall also provide crane and motor hoist at the places necessary for maintenance and replacement.

Proper crane and hoist shall be installed at the assemblies and components within scope of supply, such as fan, motor accessories, large valves, etc., where regular and routine repair and maintenance are performed.

A list of each facility shall be submitted for approval, indicating quantity, model, rated lifting weight and strength characteristic of materials. In addition, mill test paper and certification for all the ropes and materials (crane manual) shall be submitted.

3.3.4.7 Structure, Platform and Handrail

The Contractor shall design the maintenance area and supply platforms to enable smooth performance of the maintenance and repair works on ESP, FGD, SCR plant.

Thermal expansion of system and equipment shall be considered during the phase of design; consistency of platforms, handrails and stairways is another requirement (such as pattern and color)

Structural steels shall be used for all the maintenance and repair platforms and handrails.

3.3.4.8 Analyzing instrument

The contractor must provide analytical equipment for monitoring including but not limited as follows:

- At SCR inlet: NO_x, O_2 gas concentrations, temperature (đo SO_x vào ra SCR);

- At SCR outlet: NO_x, O_2 gas concentrations, NH_3 slip/ escape rate, temperature, differential pressure;

- At ESP inlet and outlet: dust concentrations;

- At FGD inlet: pressure, temperature, flow, dust, O_2, SO_2;

All signals are sent to DCS for monitoring. The contractor must survey and assess the condition of the analytical equipment to take appropriate measures to ensure the safe and stable operation of the unit.

3.3.4.9 Lighting system

For lighting systems designed with a separate power source from another system (from the repair transformer or the air conditioner transformer).

The lighting system meets the operational, maintenance, and repair requirements of the power plant, ensuring safe and stable operation.

3.3.4.10Thermal Insulation

All equipment and piping shall be provided with thermal insulation to minimize heat loss and prevent condensation. Insulation materials shall comply with applicable standards such as TCVN or equivalent ASTM/ISO standards.

The insulation works shall include the supply and installation of all insulation materials, together with all necessary accessories such as fixing devices, vapor barriers, jacketing cement, adhesives, etc., for piping, vessels, ducts and equipment, to reduce heat loss, prevent condensation and ensure personnel safety.

All insulation materials used for high-temperature systems shall be non-combustible, compatible with the surface to be insulated and shall not cause corrosion to the protected material. The materials shall be chemically inert and shall retain these properties even when exposed to moisture. Asbestos-containing materials shall not be used.

Anti-condensation insulation shall be applied to all equipment, systems and piping operating below the maximum dew point where condensation may occur and adversely affect structures, equipment or personnel.

The insulation layer in direct contact with high-temperature surfaces shall be capable of withstanding the full operating temperature without degradation or damage and shall accommodate thermal expansion.

The type and thickness of insulation materials shall be appropriate for each specific application and shall be subject to the Employer’s approval. For irregularly shaped equipment, spray-applied insulation materials (asbestos-free) shall be used. The outer jacketing shall be suitable for site environmental conditions and resistant to surface deterioration.

Chimneys and SCR reactor equipment shall be clad with corrugated corrosion-resistant steel sheets with a minimum thickness of 1.2 mm, similar to the existing boiler and flue gas duct systems. All insulated piping and equipment

shall be externally clad with aluminum sheets with a minimum thickness of 0.6 mm.

Where aluminum cladding is used, measures shall be provided to prevent galvanic corrosion. All fixing accessories for cladding shall be non-corrosive and subject to approval.

All outdoor insulation systems shall be fully weatherproof. All joints of aluminum cladding shall be properly sealed and folded to prevent water ingress by capillary action.

Pipelines installed in trenches shall be insulated and secured with galvanized steel mesh. The outer layer shall be covered with refractory cement and finished with bituminous coating or equivalent to ensure waterproofing.

The Contractor shall submit a list of proposed insulation materials, including thermal conductivity values calculated in accordance with applicable standards at operating temperatures, thickness and density of each material. Where multi-layer insulation is used, interface temperatures shall be provided.

Removable insulation sections shall be provided at locations such as access panels, lifting lugs, inspection doors, measurement points and other required locations. The insulation design shall allow removal without damage to adjacent areas. Equipment nameplates shall remain visible by providing suitable openings in the insulation.

Insulation and cladding for maintainable equipment shall be designed for easy and quick removal and reinstallation.

During insulation works, the Contractor shall protect all equipment, structures and surrounding areas from damage. Equipment shall be covered with tarpaulins or suitable protective materials, and floors shall be protected during material mixing. Any damage shall be repaired at the Contractor’s cost. The use of seawater or brackish water for mixing insulation materials or coatings is strictly prohibited.

3.3.4.11 Structural Arrangement of Civil Works

Based on the review of the Plant design and the existing equipment conditions, the Contractor shall perform detailed structural analysis and load calculations for both existing and new structures.

The Contractor shall design and arrange the supporting structures, including detailed layout of supporting columns for the NOx removal system (SCR), in accordance with the Tender Drawings.

The structural design shall ensure adequate load-bearing capacity, safety and stability for the entire system, and shall meet the requirements for internal arrangement within the flue gas ducts as well as the layout requirements for all associated equipment.

The Contractor shall verify the structural integrity of existing structures and

ensure that any additional loads do not adversely affect their performance

3.3.4.12 Lightning Protection System

The Contractor shall design, supply, install, test and commission a complete lightning protection system for all facilities within the scope of the Project, including but not limited to ESP, FGD, SCR systems, steel structures, equipment buildings, ammonia storage tanks, conveyors, control buildings, substations, piping systems, cable systems and all outdoor equipment.

The lightning protection system shall ensure the safety of personnel, equipment and structures against both direct lightning strikes and induced lightning surges.

The system shall be designed in accordance with applicable international standards such as IEC 62305, NFPA 780 or other equivalent approved standards.

3.3.5 Applicable Standards

Refer to Item 1.10.2, Section 1, Chapter VII of the Bidding Documents.

3.3.6 Performance Guarantee

3.3.6.1 Performance Guarantee of Flue Gas Treatment System

Performance tests shall be conducted using coal, oil and limestone with characteristics as specified in Section 1, Chapter VII of the Bidding Documents.

In the event that the actual fuel or limestone properties (such as sulfur content, ash content, etc.) do not reach the design maximum values during performance testing, the Contractor shall provide clear and reliable evidence (including calculations, data and supporting documents) demonstrating that the emission limits for dust, NOx and SO_2 can still be achieved after appropriate correction.

Such demonstration shall include the provision of correction curves for interpolation and extrapolation of emission values (dust, NOx, SO_2) under varying fuel and operating conditions.

All correction curves shall be proposed and submitted as part of the Contractor's Bid.

The performance tests for each system shall be conducted in accordance with the following standards (or equivalent approved standards):

SCR system: ASME PTC 4.1 or equivalent;

FGD system: ASME PTC 40 or equivalent;

ESP system: EPA (Environmental Protection Agency) standards or ASME Power Test Codes or equivalent;

Air Preheater (APH): Air leakage shall be determined based on CO_2 measurements using the Orsat method.

The performance of the flue gas treatment system shall be guaranteed by the Contractor.

The guaranteed performance values for Units 300 MW and 330 MW shall be as specified below:

3.3.6.2 Performance Guarantee of SCR System

The detailed guaranteed performance parameters to be achieved by the Contractor are specified in the table below:

No.	Guaranteed Parameter at BMCR Condition	Requirement		Bidder's Proposal
		300MW	330MW	
1	NOx concentration in flue gas measured at the stack outlet (at 6% O_2)	<120 mg/Nm^3	<120 mg/Nm^3	
2	NOx removal efficiency (with two catalyst layers in operation)	≥90%	≥88%	
3	Ammonia slip in flue gas downstream of the SCR (upstream of the air preheater)	≤3 ppm	≤3 ppm	
4	Consumption of NOx reducing agent (anhydrous ammonia solution, NH_3 concentration 99.5%)	<625,27 (kg/h)	<544,57 (kg/h)	
5	Auxiliary power consumption of the DeNOx system, including reagent handling and dosing equipment	<215,5kW	<212,6kW	
6	Degree of SO_2 conversion to SO_3 in flue gas	<1%	<1%	

a) SCR Performance Guarantee

During the performance guarantee tests of the SCR system, under any load condition required or approved by the Employer, the test results shall meet the following requirements:

NOx concentration at stack outlet shall be less than 120 mg/Nm^3 (at 6% O_2);

Ammonia slip shall not exceed 3 ppm;

SO_2 to SO_3 conversion rate shall be less than 1%.

The Contractor shall submit, as part of the Bid, correction curves for NOx removal efficiency corresponding to variations in flue gas NOx concentration.

The Contractor shall also provide curves showing SO_2/SO_3 conversion rate as a function of flue gas temperature, upstream SO_2 concentration and boiler load conditions.

b) Definition of SCR Efficiency

DeNOx efficiency (%) = $(C_1 - C_2) / C_1 \times 100$

Where:

C_1: NOx concentration at SCR inlet (mg/Nm³);

C_2: NOx concentration at SCR outlet (mg/Nm³).

c) Pressure Drop

The Contractor shall provide, in the Bid, detailed information on the variation of catalyst bed pressure drops over time, based on operational data from similar SCR systems already in service.

d) SCR System Availability

The availability of the SCR system during the warranty period, from the first ammonia injection to the Final Acceptance of the Unit, shall not be less than 98%.

e) Definition of Availability

Availability (%) = $(A - B - C - D) / A \times 100$

Where:

A: Total time during which the SCR system is available for operation within the evaluation period;

B: Time during which the SCR system is unavailable while the Unit is in a condition that would otherwise allow normal SCR operation;

C: Time during which the SCR system fails to achieve the required NOx removal efficiency (≥90% for Unit 300 MW and ≥88% for Unit 330 MW);

D: Time during which ammonia slip exceeds 3 ppm.

f) Catalyst Lifetime

The Contractor shall guarantee and demonstrate that both the activity life and mechanical life of the SCR catalyst meet the requirements specified in the Bidding Documents.

The Contractor shall ensure that the catalyst operating life, from the date of first ammonia injection to the time when catalyst addition or replacement is required, shall not be less than 24,000 operating hours.

The catalyst activity life shall be determined on the basis of equivalent operation at rated conditions (BMCR/RO).

In addition, the Contractor shall guarantee that the mechanical life of the catalyst shall not be less than 50,000 operating hours from the date of first ammonia injection.

Supporting Documents

The Contractor shall submit, as part of the Bid, all supporting documents demonstrating the catalyst lifetime, including but not limited to:

Catalyst lifetime calculation reports;

Catalyst design parameters;

Catalyst deactivation rate;

Reference data from similar projects;

Evidence of successful operation of the catalyst in plants with similar capacity and operating conditions;

Manufacturer's guarantee for catalyst performance and lifetime;

Catalyst activity degradation curves over time;

Pressure drops calculations across the catalyst layers;

Ammonia slip calculations.

All the above documents shall be included in the Bid to demonstrate compliance with the required catalyst lifetime and NOx removal performance.

g) Ammonia Consumption

The Contractor shall specify the ammonia consumption in the Bid and shall guarantee such consumption at BMCR.

The Contractor shall provide correction curves showing ammonia consumption as a function of variations in NOx concentration in the flue gas and other relevant operating parameters (if any).

h) Additional Description of Performance Guarantee and Verification Method

The Contractor shall provide detailed descriptions of the criteria and methods for verification of the guaranteed performance conditions.

The evaluation criteria and verification methods shall include appropriate correction methods and/or correction curves to account for variations in operating conditions relative to the guaranteed performance parameters.

The Contractor shall submit, as part of the Bid, operating data and documented experience from similar DeNOx plants supplied by the Contractor, including but not limited to:

Catalyst activity degradation over time;

Pressure drops across the catalyst layers;

Ammonia slip performance;

3.3.6.3 Performance Guarantee for FGD System Upgrade

The detailed guaranteed performance parameters to be achieved by the Contractor are specified in the table below:

No.	Guaranteed Parameter at BMCR Condition	Requirement		Bidder's Proposal
		300MW	330MW	
1	SO_2 concentration in flue gas measured at the stack outlet (at 6% O_2)	<120 mg/Nm^3	<120 mg/Nm^3	
2	SO_2 removal efficiency	>97%	>97,12%	

Total limestone consumption (m³/h): To be proposed and guaranteed by the Contractor;

Total auxiliary power consumption (kW): To be proposed and guaranteed by the Contractor.

3.3.6.4 Performance Guarantee for ESP System Upgrade

The detailed guaranteed performance parameters to be achieved by the Contractor are specified in the table below:

No.	Guaranteed Parameter at BMCR Condition	Requirement		Bidder's Proposal
		300MW	330MW	
1	Dust concentration in flue gas measured at the ESP outlet (at 6% O_2)	<40 mg/Nm^3	<40 mg/Nm^3	
2	Dust concentration in flue gas measured at the stack outlet (at 6% O_2)	<20 mg/Nm^3	<20 mg/Nm^3	
3	Dust collection efficiency	>99,91%	>99,92%	
4	Auxiliary power consumption of the ESP system	<1383,4kW	<1222 kW	

Total auxiliary power consumption (kW): To be proposed and guaranteed by the Contractor.

3.3.6.5 Other Guarantees

The detailed guaranteed parameters to be met by the Contractor are specified in the table below:

No.	Guaranteed Parameter at BMCR Condition	Requirement		Bidder's Proposal
		300MW	330MW	

I	**Air preheater**			
1	Air leakage rate	≤6 %		
2	Flue gas outlet temperature	≤150^{o}C		
II	**FGD System**			
1	Limestone grinding system capacity	≥5 t/h	≥8 t/h	

Any Bid proposing guaranteed parameters that do not meet the minimum requirements specified above shall be considered non-responsive to the technical requirements.

SECTION S04 – TECHNICAL PARAMETER OF MAJOR EQUIPMENT

The Proposal Technical Parameter shall be filled in by the Bidders. The Parameter shall be binding on the Bidder and must not be changed without the written permission of the Employer. The parameters shall be subject to technical evaluation in Section 3, chapter III of Bidding Documents.

1.List of main Equipment for Unit 300MW

All the main equipment and materials needed for the upgrade of Flue gas treatment system of the Unit 300MW are listed in the following table:

List of Major Goods, Equipment and Materials

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks (9)	Manufacturer *(10)*	Origin *(11)*	
A	**300MW Unit**										
I	**ESP System**										
	For the 1st field. 2nd field and 3rd field, 12 high-frequency pulse transformers or high-frequency transformers are used (the Bidder shall propose 1a or 1b). For the 4th field, 04 high-frequency pulse transformers are used. These transformers have integrated control systems.										
	High-frequency pulse transformers	Set	12	1. Input voltage: 3x380/400/415V ±10%							(*)

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks (*9*)	Manufacturer *(10)*	Origin *(11)*	
1a	for 1st field. 2nd field and 3rd field			2. Output "DC" voltage: 60–140kV DC 3. Output "DC" current: 800–1800mA 4. Peak voltage: ≥ 140kV 5. Efficiency: ≥ 92% 6. Pulse width: ≥ 80µs 7. Protection rating: IP65 8. Material: Copper coil 9. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF 10. Environment temperature: up to 50°C							
1b	High-frequency transformers for 1st field, 2nd field and 3rd field	Set	12	1. Input voltage: 3x380/400/415V ±10% 2. Output power (High "DC" voltage): ≥72kV, ≥25–40kHz, ≤1800mA 3. Efficiency: ≥92% 4. Environment temperature: up to 50°C 5. Material: Copper coil 6. EMC standards: EN 55011, IEC 61000-4-2,							(*)

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks (9)	Manufacturer *(10)*	Origin *(11)*	
				IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11 7. Protection rating: EN/IEC 60529/IP65 8. Cooling medium: oil. Cooling method: ONAN/ONAF/OFAF.							
2	High-Voltage pulse transformer and accessories for 4th field	Set	4	1. Input voltage: 3x380/400/415V ±10% 2. Output "DC" voltage: 60–140kV DC 3. Output "DC" current: 800–1800mA 4. Peak voltage: ≥ 140kV 5. Efficiency: ≥ 92% 6. Pulse width: ≥ 80µs 7. Protection rating: IP65 8. Material: Copper coil 9. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF 10. Environment temperature: up to 50°C.							(*)

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks (*9*)	Manufacturer *(10)*	Origin *(11)*	
3	Discharge electrode system	Lot	1	Material: 316L steel or equivalent							(*)
4	Collecting electrode system	Lot	1	Type: Σ Material: cold- rolled annealed SPCC steel (ASTM 366) or equivalent.							(*)
5	Collecting electrode rapping system	Lot	1	Top rapping							(*)
6	Discharge electrode rapping system	Lot	1	Top rapping							(*)
II	**FGD System**										
2	Absorber Recirculation Pump and associated accessories	Set	3	- Type: Centrifugal pump; - **Casing:** Ductile iron, rubber-lined (or equivalent); **- Impeller:** High- chrome alloy (or equivalent); - **Shaft:** High- strength alloy steel (or quivalent).							(*)
III	**Induced Draft Fan (IDF) system**	Set	2	1. Type: Centrifugal fan, 02 inlets, 01 outlet;							(*)

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks (9)	Manufacturer *(10)*	Origin *(11)*	
	(Complete with accessories, interconnecting materials, and electrical and control equipment)			2. Operating voltage: 6.6kV 3. Efficiency: ≥ 82.5%; 4. Impeller material: Abrasion-resistant material; 5. Minimum protection rating: IP55; 6. Minimum insulation class: Class F;							

Notes:

- The Bidder shall propose all items of goods, equipment and materials as required in the above table. The Bidder shall be responsible for determining all quantities of equipment and materials necessary for the complete design, supply, installation, testing, commissioning and reliable operation of the system.
- The Bidder may add items of goods, materials and equipment as necessary to comply with the requirements specified in Part 2 - Chapter VII. For additional items, the Bidder shall specify from which part of above list they are extracted.
- The Bidder shall specify the model, codes, labels/trademarks of goods, equipment and materials (if any) and origin(1). In cases where the goods do not have a model, codes, the Bidder writes "none" in column (9). In cases where the manufacturer has a model, codes but the Bidder writes "none," the Bid proposal(s) shall not be considered and/or evaluated.
- For goods, equipment and materials remarked (*): The Bidder shall declare one (01) manufacturer only for each of equipment/material item. In case the Bidder offers multiple manufacturers for one item of equipment/materials, the Bid Proposal(s) shall not be considered and/or evaluated.
- Specifications of all equipment/materials shall meet Technical Requirements prescribed in Part 2 - Chapter VII of the Bidding Documents.
- Any item of work not mentioned in the above particulars but written elsewhere in the Scope of Work or in Part 2 - Employer's Requirement (Technical Specifications) or essentially required for completion of works, proper operation and maintenance of Power Plant, safety of equipment and operating personnel shall be deemed to have been included in the above particulars.
- Goods, equipment, materials, and technical solutions proposed by the Bidder must be 100% new, of the latest models currently available on the market, and have clear and verifiable origin. All items shall comply with the technical requirements set forth in the Bidding Documents as well as all applicable laws and regulations of Vietnam.
- The Bidder shall provide complete technical documentation to demonstrate the compliance of the offered equipment/materials.

([1]): *"Origin of goods, materials and equipment" means the country or territory where such goods, materials and equipment are manufactured, produced or processed in that country or territory, through a process of manufacturing, processing or assembly to form a commercially recognized product which differs substantially in its basic characteristics from its original constituent elements*

2. List of main Equipment for Unit 330MW

All the main equipment and materials needed for the upgrade of Flue gas treatment system of the Unit 330MW are listed in the following table:

List of Major Goods, Equipment and Materials

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks *(9)*	Manufacturer *(10)*	Origin *(11)*	
B	**330MW Unit**										
I	**ESP System**										
	For the 1st field, 2nd field, 3rd field and 4th field, 16 high-frequency pulse transformers or high-frequency transformers are used (the Bidder shall propose 1a or 1b. For the 5th field, 4 combined pulse and high-frequency (HF+PF) transformers are used. These transformers have										

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks *(9)*	Manufacturer *(10)*	Origin *(11)*	
	integrated control systems.										
1a	High-frequency pulse transformers for 1st field, 2nd field, 3rd field and 4th field	Set	16	1. Input voltage: 3x380/400/415V ±10% 2. Output "DC" voltage: 60–140kV DC 3. Output "DC" current: 800–1800mA 4. Peak voltage: ≥140kV 5. Efficiency: ≥92% 6. Pulse width: ≥80µs 7. Protection rating: IP65 8. Material: Copper coil 9. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF 10. Environment temperature: up to 50°C							(*)
1b	High-frequency transformers for 1st field, 2nd field, 3rd field and 4th field	Set	16	1. Input voltage: 3x380/400/415V ±10% 2. Output power (High "DC" voltage): ≥72kV, ≥25–40kHz, ≤1800mA							(*)

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks *(9)*	Manufacturer *(10)*	Origin *(11)*	
				3. Efficiency: ≥92% 4. Environment temperature: up to 50°C 5. Material: Copper coil 6. EMC standards: EN 55011, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11 7. Protection ratings: EN/IEC 60529/IP65 8. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF.						
2	High-frequency pulse transformers for 5th fields	Set	4	1. Input voltage: 3x380/400/415V ±10% 2. Output "DC" voltage: 60–140kV DC 3. Output "DC" current: 800–1800mA 4. Peak voltage: ≥140kV 5. Efficiency: ≥92% 6. Pulse width: ≥80µs							(*)

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks *(9)*	Manufacturer *(10)*	Origin *(11)*	
				7. Protection rating: IP65 8. Material: Copper coil 9. Cooling medium: oil; Cooling method: ONAN/ONAF/OFAF 10. Environment temperature: up to 50°C							
3	Discharge electrode system	Lot	1	Material: 316L steel or equivalent							(*)
4	Collecting electrode system	Lot	1	Type: Σ Material: cold- rolled annealed SPCC steel (ASTM 366) or equivalent.							(*)
5	Collecting electrode rapping system	Lot	1	Top rapping							(*)
6	Discharge electrode rapping system	Lot	1	Top rapping							(*)
II	**FGD System**										
1	Absorber Recirculation Pump and	Set	3	- Type: Centrifugal pump; **- Casing:** Ductile							(*)

No. *(1)*	**Bidding Documents' requirements**				**Proposal by The Bidder**						Remark *(12)*
	Description *(2)*	Unit *(3)*	Q'ty *(4)*	Technical Requirement *(5)*	Unit *(6)*	Q'ty *(7)*	Techinical specification *(8)*	Model, codes, labels/ trademarks *(9)*	Manufacturer *(10)*	Origin *(11)*	
	associated accessories			iron, rubber-lined (or equivalent); **- Impeller:** High-chrome alloy (or equivalent); **Shaft:** High-strength alloy steel (or equivalent).							

Notes:

- The Bidder shall propose all items of goods, equipment and materials as required in the above table. The Bidder shall be responsible for determining all quantities of equipment and materials necessary for the complete design, supply, installation, testing, commissioning and reliable operation of the system.
- The Bidder may add items of goods, materials and equipment as necessary to comply with the requirements specified in Part 2 - Chapter VII. For additional items, the Bidder shall specify from which part of above list they are extracted.
- The Bidder shall specify the model, codes, labels/trademarks of goods, equipment and materials (if any) and origin[(1)]. In cases where the goods do not have a model, codes, the Bidder writes "none" in column (9). In cases where the manufacturer has a model, codes but the Bidder writes "none," the Bid proposal(s) shall not be considered and/or evaluated.
- For goods, equipment and materials remarked (*): The Bidder shall declare one (01) manufacturer only for each of equipment/material item. In case the Bidder offers multiple manufacturers for one item of equipment/materials, the Bid Proposal(s) shall not be considered and/or evaluated.
- Specifications of all equipment/materials shall meet Technical Requirements prescribed in Part 2 - Chapter VII of the Bidding Documents.
- Any item of work not mentioned in the above particulars but written elsewhere in the Scope of Work or in Part 2 - Employer's Requirement (Technical Specifications) or essentially required for completion of works, proper operation and maintenance of Power Plant, safety of equipment and operating personnel shall be deemed to have been included in the above particulars.
- Goods, equipment, materials, and technical solutions proposed by the Bidder must be 100% new, of the latest models currently available on the market, and have clear and verifiable origin. All items shall comply with the technical requirements set forth in the Bidding Documents as well as all applicable laws and regulations of Vietnam.
- The Bidder shall provide complete technical documentation to demonstrate the compliance of the offered equipment/materials.

([1]): *"Origin of goods, materials and equipment" means the country or territory where such goods, materials and equipment are manufactured, produced or processed in that country or territory, through a process of manufacturing, processing or assembly to form a commercially recognized product which differs substantially in its basic characteristics from its original constituent elements.*

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Detailed information shall be referred to the attached link as below
https://drive.google.com/file/d/1oUyQu94JhTWsHzvQ3dL2L6C49SJdKY2C/view?usp=sharing

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ABBREVIATIONS

EPC	Engineering, Procurement and Construction
ITB	Instructions to Bidders
BDS	Bid Data Sheet
BD	Bidding documents
GCC	General Conditions of Contract
PCC	Particular Condition of Contract
Law on Bidding	Law on bidding No. 22/2023/QH15 dated June 23th, 2023 of the National Assembly as amended and supplemented by Law No. 57/2024/QH15, Law No. 90/2025/QH15
Decree	Government's Decree No. 214/2025/ND-CP dated August 04, 2012 on guidelines for the Law on Bidding in terms of selection of contractors
VND	Vietnamese Dong
USD	US Dollar

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PART 3. CONDITIONS OF CONTRACT

CHAPTER IX: GENERAL CONDITIONS OF CONTRACT

1. GENERAL PROVISIONS

1.1 Definitions

In the Contract as defined below, the words and expressions defined shall have the following meanings assigned to them, except where the context requires otherwise:

1.1.1 "Adjudicator" means the person appointed under Sub-Clause 14.1 [*Adjudication*].

1.1.2 "Adjudicator's Agreement" means the agreement signed or deemed to have been signed by both Parties and the Adjudicator.

1.1.3 "Base Date" means the date 28 days before the latest date for submission of the tender.

1.1.4 "Commencement Date" means the date as stated in the Engineer's notice issued under Sub-Clause 6.1.1.

1.1.5 "Conditions of Contract" or "these Conditions'' means these General Conditions and the Particular Conditions.

1.1.6 "Contract" means the Contract Agreement and the other documents listed in the **Contract Data**.

1.1.7 "Contract Agreement" means the agreement entered into by both Parties, and which includes the offer of the Contractor and the acceptance of the Employer.

1.1.8 "**Contract Data**" means the pages entitled **Contract Data** which constitute Part A of the Particular Conditions.

1.1.9 "Contract Price" means the agreed amount stated in the Contract Agreement for the execution of the Works, and includes adjustments (if any) in accordance with the Contract.

1.1.10 "Contractor" means the person(s) named as contractor in the **Contract Data** and the legal successors in title of such person(s).

1.1.11 "Contractor's Documents" means the documents prepared by the Contractor under the Contract including calculations, computer programs and other software, design, digital files, drawings, manuals, models, specifications, and other documents of a technical nature.

1.1.12 "Contractor's Equipment" means all apparatus, equipment, machinery, construction plant, vehicles, and other items required by the Contractor for the execution of the Works. Contractor's Equipment excludes Temporary Works, Plant, Materials and any other things intended to form or forming part of the Permanent Works.

1.1.13 "Cost" means all expenditure reasonably incurred (or to be incurred) by the Contractor in performing the Contract, whether on or off the Site, including taxes, overheads (including, as the case may be, Prolongation Cost) and similar charges, but does not include profit. Where the Contractor is entitled under a Sub-Clause of these Conditions to payment of Cost, it shall be added to the Contract Price.

1.1.14 "Cost Plus Profit" means Cost plus the applicable percentage for profit stated in the **Contract Data** (if not stated, five percent (5%) of the Cost).

1.1.15 "Country" means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.

1.1.16 "day" means a calendar day.

1.1.17 "Date of Completion" means the date stated in the Taking-Over Certificate issued by the Engineer under Sub-Clause 9.2.1(a), or the date when the Taking-Over Certificate is issued under Sub-Clause 9.3.1 or deemed to have been issued under Sub-Clause 9.3.2.

1.1.18 "Defects Notification Period" or "DNP" means the period for notifying defects and/or damage in the Works or a Section or a part thereof (as the case may be) under Sub-Clause 5.5.1, as stated in the **Contract Data** (if not stated, 365 days), calculated from the Date of Completion of the Works or a; Section or a part thereof, and as may be extended under Sub-Clause 5.5.2.

1.1.19 "Drawings" means the drawings prepared by (or on behalf of) the Employer for the Works included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.

1.1.20 "Employer" means the person named as the employer in the **Contract Data** and the legal successors in title to this person.

1.1.21 "Employer's Risks" means the risks listed in Sub-Clause 11.1 [*Employer's Risks and Contractor's Entitlements*],

1.1.22 "Engineer" means the person named in the **Contract Data** appointed by the Employer to act as the Engineer for the purposes of the Contract, or any replacement appointed by the Employer and notified to the Contractor, and who is deemed to be part of the Employer's personnel.

1.1.23 "Exceptional Event" means an event or circumstance which:

(i) is beyond a Party's control;

(ii) such Party could not reasonably have provided against before entering into the Contract;

(iii) having arisen, such Party could not reasonably have avoided or overcome; and

(iv) is not substantially attributable to the other Party.

1.1.24 "Extension of Time" or "EOT" means an extension of the Time for Completion under Sub-Clause 6.4 [*Extension of Time for Completion*],

1.1.25 "General Conditions" means this document entitled "General Conditions", as published by FIDIC.

1.1.26 "Goods" means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.

1.1.27 "Laws" means all national (or state or provincial) legislation, statutes, acts, decrees, rules, ordinances, orders, treaties, international law and other laws, and regulations and by-laws of any legally constituted public authority.

1.1.28 "Materials" means things of all kinds (other than Plant), whether on the Site or otherwise allocated to the Contract and intended to form or forming part of the Permanent Works.

1.1.29 "No-objection" means that the Engineer has no objection to the Contractor's Documents, including design (if any), which may then be used for the Works.

1.1.30 "Particular Conditions" means the document entitled particular conditions of contract included in the Contract, which consists of Part A - **Contract Data** and Part B (if any) - Special Provisions.

1.1.31 "Party" means either the Employer or the Contractor, as the context requires. "Parties" means both the Employer and the Contractor.

1.1.32 "Performance Certificate" means the certificate issued by the Engineer under Sub-Clause 5.6 [*Performance Certificate*].

1.1.33 "Permanent Works" means the works of a permanent nature which are to be executed by the Contractor under the Contract.

1.1.34 "Plant" means the apparatus, equipment, machinery, and vehicles (including any components) whether on the Site or otherwise allocated to the Contract and intended to form or forming part of the Permanent Works.

1.1.35 "Prolongation Cost" or "PGC" means on-Site, and off-Site overheads associated with a compensable EOT, as stated in the **Contract Data**.

1.1.36 "Schedules" means the document(s) entitled schedules prepared by the Employer and completed by the Contractor and included in the Contract. Such

document(s) may include data, lists, bill of quantities, schedules of payment and/or rates and prices, and guarantees.

1.1.37 "Section" means a part of the Works specified in the **Contract Data** as a Section (if any).

1.1.38 "Site" means the places where the Permanent Works are to be executed and to which Plant and Materials are to be delivered, and any other places specified in the Contract as forming part of the Site.

1.1.39 "Special Provisions" means the document (if any) entitled special provisions which constitutes Part B of the Particular Conditions.

1.1.40 "Specification" means the document prepared by (or on behalf of) the Employer and entitled specification as listed in the **Contract Data**, which specifies the Works and includes the Employer's design and/or the Employer's requirements if any design is to be carried out by the Contractor, and any additions and modifications to the specification in accordance with the Contract.

1.1.41 "Taking-Over Certificate" means a certificate issued (or deemed to be issued) by the Engineer in accordance with Clause 9 [*Taking-Over*],

1.1.42 "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution of the Works.

1.1.43 "Time for Completion" means the time for completing the Works or a Section (as the case may be) as stated in the **Contract Data** and as may be extended under Sub-Clause 6.4 [*Extension of Time for Completion*], calculated from the Commencement Date.

1.1.44 "Unforeseeable" means not reasonably foreseeable by an experienced contractor by the Base Date.

1.1.45 "Variation" means any change to the Specification and/or the Drawings or the Works, which is instructed as a variation under Clause 7 [Variations],

1.1.46 "Works" means the Permanent Works and the Temporary Works, or either of them as appropriate.

1.2 Interpretation

1.2.1 Words indicating persons or parties shall be interpreted as referring to natural and legal persons (including corporations and other legal entities). Words indicating the singular or one gender shall include the plural or the other gender, and vice versa, where the context requires.

1.2.2 "may" means that the Party or person referred to has the choice of whether to act or not in the matter referred to; "shall" means that the Party or person

referred to has an obligation under the Contract to perform the duty referred to.

1.2.3 The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

1.3 Communications

Wherever provision is made for the giving or issue of any notice, instruction, determination, agreement, No-objection, consent, certificate, claim, discharge, proposal, statement, or any other similar type of communication by any person, such communication shall:

(a) be in writing and in the language stated in the **Contract Data** (if not stated, the language of these Conditions);

(b) be sent by one of the methods and to the addresses stated in the **Contract Data**, or to any changed address subsequently notified by a Party;

(c) not be unreasonably withheld or delayed; and

(d) have effect when it is received at the recipient's address under sub-paragraph (b) above (or deemed to have been received). An electronically transmitted communication is deemed to have been received on the day of transmission, provided no non-delivery notification was received by the sender.

When a notice or certificate is issued by a Party or the Engineer, a copy shall be sent to the Engineer or the other Party, as the case may be.

1.4 Governing Law

The Contract shall be governed by the law of the country (or other jurisdiction) stated in the **Contract Data** (if not stated, the law of the Country), excluding any conflict of law rules.

1.5 Priority of and Error or Defects in Documents

1.5.1. The documents forming the Contract are to be taken as mutually explanatory of one another. If there is any conflict, ambiguity or discrepancy in or between the documents,

(a) the document of higher priority shall prevail. The priority of the documents shall be in accordance with the order as listed in the **Contract Data**; and

(b) the Engineer shall issue the necessary clarification or instruction.

1.5.2 If a Party (or the Engineer) becomes aware of an error or defect (whether of a technical nature or otherwise) in a document which was prepared for use in the execution of the Works, the Party (or the Engineer) shall promptly give a notice of such error or defect to the Engineer and the other Party (or to the Parties). The Party responsible for the error or defect shall then rectify the

error or defect in accordance with the Contract, without delay and at its risk and cost.

1.6 Assignment

Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract without the prior written agreement of the other Party, except for any assignment of any right to any moneys due or becoming due under the Contract as security in favour of a bank or financial institution.

1.7 Compliance with Laws

1.7.1 The Contractor and the Employer shall, in performing the Contract, comply with all applicable Laws.

1.7.2 Each Party shall obtain permits and licenses, and give notices, as required by the applicable Laws and as stated in the **Contract Data** and pay all associated fees accordingly. Each Party shall provide reasonable assistance to the other Party in this respect.

"For avoidance of doubt, taxes and fees excluding VAT shall be considered by the Owner the adjustments resulting from Changes in Laws related to taxes and fees if the Contractor has declared the formulas, data, calculation methods of these taxes and demonstrated that the total actual payable taxes in Vietnam are greater than the tax amount calculated in the Bid Price."

1.8. Confidentiality

Save to the extent necessary to carry out either Party's obligations under the Contract and/or applicable Laws, neither Party nor the Engineer shall disclose or cause or permit to disclose to third parties any confidential information, including all documents forming the Contract, or intellectual property of the other Party without the other Party's prior consent, except where the information:

(a) was already in that Party's possession without an obligation of confidentiality before receipt from the other Party;

(b) becomes generally available to the public through no breach of these Conditions; or

(c) is lawfully obtained by the Party from a third party which is not bound by an obligation of confidentiality.

1.9. Intellectual Property

1.9.1 Any intellectual property owned by a Party prior to, or created by a Party after, the date when the Contract comes into effect shall remain the property of that Party.

1.9.2 The Contractor shall be deemed (by signing the Contract Agreement) to give to the Employer a non-terminable, transferable, non-exclusive, royalty-free license to copy, use and communicate the documents prepared by the Contractor under the Contract, including making and using modifications of them. This license shall:

(a) apply throughout the actual or intended operational life (whichever is longer) of the relevant parts of the Works; and

(b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the documents prepared by the Contractor under the Contract for the sole purposes of completing, operating, maintaining, altering, adjusting, repairing, and demolishing the Works.

1.10. Limitation of Liability

1.10.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than under Sub-Clause 6.5 [*Delay Damages*], sub-paragraph (a) of Sub-Clause 7.1.2, sub-paragraphs (b) and (c)(ii) of Sub-Clause 10.4.1, and Sub-Clause 11.3 [*Indemnities*],

1.10.2 The total liability of the Contractor to the Employer under or in connection with the Contract, other than under Sub-Clause 11.3 [*Indemnities*], shall not exceed the sum stated in the **Contract Data** or (if a sum is not so stated) the Contract Price stated in the Contract Agreement.

1.10.3 This Sub-Clause shall not limit liability in any case of fraud, gross negligence, deliberate default, or reckless misconduct by the defaulting Party.

1.11 Joint and Several Liability

If the Contractor constitutes a joint venture, consortium, or other unincorporated grouping of two or more persons, these persons shall be jointly and severally liable to the Employer for the performance of the Contractor's obligations under the Contract.

2. THE EMPLOYER

2.1. Access to and possession of the Site

2.1.1 The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the **Contract Data** (if not stated, 14 days after the Commencement Date). The right and possession may not be exclusive to the Contractor.

2.1.2 The Contractor shall be responsible for any access to, and/or possession and use of, any area (such as access routes) located outside the Site that it may require.

2.1.3 The Employer shall be responsible for ensuring that the Employer's personnel and the Employer's other contractors (if any) on or near the Site co-operate with the Contractor.

2.2. Site Data

2.2.1 The Employer shall have made available to the Contractor for information, before the Base Date, all relevant data in the Employer's possession on the topography of the Site and on sub-surface, hydrological, climatic, and environmental conditions at the Site. The Employer shall also promptly make available to the Contractor all such data which comes into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.

2.2.2 To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, access to the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the tender as to all matters relevant to the execution of the Works.

2.3 Employer's Financial Arrangements

The Employer shall submit within 28 days after receiving a reasonable request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to fulfil its payment obligations under the Contract.

3. THE ENGINEER

3.1 Engineer, Engineer's Authorised Person and Assistants

3.1.1 The Employer shall appoint the Engineer, who shall carry out the duties assigned to, and shall be vested with all the authority necessary to act as, the Engineer in the Contract. If the Engineer is a legal entity, the Engineer shall notify the Contractor of the name and particulars of the Engineer's authorized person (unless already named in the **Contract Data**), who is a natural person authorized to act on the Engineer's behalf under the Contract.

3.1.2 The Engineer, or the Engineer's authorized person (as the case may be), shall have suitable qualifications, experience, and competence to act as the Engineer under the Contract and shall be fluent in the language referred to in Sub-Clause 1.3 [*Communications*],

3.1.3 The Engineer may assign specific duties and authority to assistants, who shall be suitably qualified, experienced, and competent natural persons, and who shall be fluent in the language referred to in Sub-Clause 1.3 [*Communications*], The Engineer may also revoke such assignment. The

assignment or revocation shall take effect when notified to the Parties. The Engineer shall not assign its authority to act under Sub-Clause 3.5 [*Agreement or Determination*],

3.2 Engineer's Duties and Authority

3.2.1 Except as otherwise stated in these Conditions, the Engineer shall act as a skilled professional and shall be deemed to act for the Employer.

3.2.2 If the Engineer is required to obtain any consent from the Employer before exercising a specified authority, those requirements shall be as stated in the **Contract Data**. However, whenever the Engineer exercises any such specified authority, then (for the purposes of the Contract) such consent shall be deemed to have been given. The Employer shall not impose further constraints on the Engineer's authority.

3.2.3 The Engineer has no authority to amend the Contract or, except as otherwise stated in these Conditions, to relieve either Party of any duty, obligation or responsibility under or in connection with the Contract.

3.3 Engineer's Instructions

3.3.1 The Contractor shall comply with the instructions given by the Engineer (or by the Engineer's authorized person or assistants to whom appropriate authority has been delegated), on any matter related to the Contract.

3.3.2 If an instruction constitutes a Variation, Clause 7 [*Variations*] shall apply.

3.4 Effect of Engineer's Acts

Any acceptance, agreement, approval, check, certificate, comment, consent, disapproval, examination, inspection, instruction, notice, No-objection, record(s) of meeting, permission, proposal, record, reply, report, request, review, test, valuation, or similar act (including the absence of any such act) by the Engineer, the Engineer's authorized person or any assistant shall not relieve the Contractor from any duty, obligation or responsibility the Contractor has under or in connection with the Contract.

3.5 Agreement or Determination

3.5.1 Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause to agree or determine any matter, the Engineer shall act neutrally between the Parties and shall not be deemed to act for the Employer. The Engineer shall consult with both Parties in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

3.5.2 Except as otherwise stated in these Conditions, the Engineer shall give notice to both Parties of each agreement or determination, with supporting

particulars, within 42 days from the receipt of the corresponding fully detailed claim, or Variation proposal under Sub-Clause 7.1.1 (a). Each Party shall give effect to each agreement or determination unless and until revised under Clause 14 [*Disputes*].

4. THE CONTRACTOR

4.1 General Obligations

4.1.1 Except as otherwise stated in these Conditions, the Contractor shall execute the Works in accordance with the Contract. The Contractor shall provide all supervision, labour, and Goods required to fulfil its obligations under the Contract. To the extent consistent with the Laws of the Country, all Plant and Materials on Site shall be deemed to be the property of the Employer.

4.1.2 The Contractor shall be responsible for the adequacy, stability, and safety of all Site operations and of all methods of construction. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall verify any original setting-out points, lines, and levels of reference, specified in the Contract or notified by the Engineer (if any), and shall rectify any error therein. Except to the extent specified in the Contract, the Contractor shall be responsible for all Contractor's Documents and all Temporary Works but shall not be responsible for the design or specification of the Permanent Works.

4.1.3. The Contractor shall confine the Contractor’s operations to the Site, and to any additional areas which may be obtained by the Contractor and acknowledged by the Engineer as working areas. The Contractor shall not interfere unnecessarily or improperly with the convenience of the public.

4.1.4 The Contractor shall, as specified in the Contract or as instructed by the Engineer, co-operate with the Employer’s personnel and with any other contractors employed by the Employer and with any authority or any utility company who may be employed in the carrying out of any work, on or near the Site.

4.2 Contractor’s Representative and Other Personnel

4.2.1 Unless already named in the **Contract Data**, the Contractor shall, before the Commencement Date, submit to the Engineer for consent the name and particulars of the natural person authorized to act on the Contractor’s behalf under the Contract.

4.2.2 The Contractor’s personnel shall be appropriately qualified, skilled, experienced, and competent in their respective trades or occupations. The Contractor's representative and other key personnel shall be fluent in the language referred to in Sub-Clause 1.3 [*Communications*],

4.3. Contractor's Care of the Works

4.3.1 The Contractor shall be responsible for the security of the Site. The Contractor shall take full responsibility for the care of the:

(a) Works, including any Section (if any) and other part thereof; and

(b) Goods and Contractor's Documents

from the Commencement Date until the date of issue (or deemed issuance, in accordance with Sub-Clause 9.3 [*Taking-Over Parts of the Works*]) of the relevant Taking-Over Certificate, when responsibility for the care of the Works, any Section (if any) or other part thereof shall pass to the Employer.

4.3.2 If any loss or damage occurs to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause whatsoever except as stated in Sub-Clause 11.1.3(a), the Contractor shall rectify the loss or damage at the Contractor's own risk and cost, so that the Works, Goods or Contractor's Documents (as the case may be) comply with the Contract. The Contractor shall also be liable for such loss or damage caused by the Contractor after the date of issue (or deemed issuance, in accordance with Sub-Clause 9.3 [*Taking-Over Parts of the Works*]) of the relevant Taking-Over Certificate.

4.3.3 If the loss or damage occurs as a result of any cause stated in Sub-Clause 11.1.3(a), the Contractor shall rectify any such loss or damage that may arise to the extent instructed by the Engineer under Clause 7 [*Variations*],

4.4 Subcontracting

4.4.1 The Contractor shall not subcontract the whole of the Works. The Contractor shall not subcontract any part of the Works without the prior consent of the Engineer, except for subcontractors named in the **Contract Data** or for suppliers of Materials.

4.4.2 The Contractor shall be responsible for the work of all subcontractors, for managing and coordinating all the subcontractors' works, and for the acts or defaults of any subcontractor, any subcontractor's agents or employees, as if they were the acts or defaults of the Contractor.

4.4.3 If any subcontractor's obligation to the Contractor extends beyond the expiry date of the relevant DNP, the Contractor shall assign the benefit of such obligation to the Employer. Each subcontract shall include provisions permitting such assignment, as well as the assignment set out under Sub-Clause 10.2.5 in the event of termination.

4.5 Performance Security

4.5.1 Within 28 days after the date the Contract comes into effect, the Contractor shall deliver to the Employer a performance security in the amount (if any)

stated in the **Contract Data** from a third party to which the Employer gives consent, and in the form annexed to the Particular Conditions (or in another form agreed by the Employer).

4.5.2 The Employer shall not make a claim under the performance security, except:

(a) for amounts due to the Employer under the Contract which the Contractor fails to pay;

(b) in circumstances which entitle the Employer to terminate the Contract under Sub-Clause 10.2.2 or Sub-Clause 10.2.3, irrespective of whether a notice of termination has been given; or

(c) in case of failure by the Contractor to extend the validity (if any) of the performance security if the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date (if any) of the performance security.

In the event of sub-paragraphs (b) and (c), the Employer may claim the full amount of the performance security. Once the amounts for which the Employer is entitled under the Contract have been established, the Employer shall return to the Contractor any excess amount left over from the performance security.

4.5.3 The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses, and expenses (including legal fees and expenses) resulting from a claim under the performance security to the extent that the Employer was not entitled to make the claim.

4.5.4 The Employer shall return the performance security to the Contractor within 21 days after receiving a copy of the Performance Certificate.

4.6 Contractor's Documents

4.6.1 Contractor's Documents shall be submitted to the Engineer for review in accordance with the Contract. Within the relevant review period stated in the Specification (if not stated, 14 days), the Engineer shall give a notice to the Contractor:

(a) of No-objection, with or without comments. The Contractor shall resubmit all commented Contractor's Documents, taking these comments into account; or

(b) that the Contractor's Documents fail (to the extent stated) to comply with the Contract, with reasons. The Contractor shall thereafter promptly rectify and resubmit the relevant Contractor's Documents to the Engineer for review in accordance with this Sub-Clause.

If the Engineer gives no notice within the review period, the Engineer shall be deemed to have given a notice of No-objection.

4.6.2 The Contractor shall not commence execution of the Works corresponding to the submitted Contractor's Document until a notice of No-objection is given (or deemed to have been given).

4.7 Contractor's Design

4.7.1 The Contractor shall design the Works to the extent (if any) stated in the Contract. The Contractor undertakes that the design will be in accordance with all applicable Laws and with the documents forming the Contract, as altered, or modified by Variations.

4.7.2 The Contractor shall be responsible for both its tendered design (if any) and for the design under this Sub-Clause (if any), and the corresponding Works shall be, when completed, fit for the purpose(s) for which they are intended, as defined, and described in the Contract (or, where no purpose(s) is (are) so defined and described, fit for their ordinary purpose(s)).

4.7.3 The Employer shall be entitled subject to Clause 13 [*Claims*] to an extension of the DNP, if the defect or damage occurs during the DNP and if and to the extent that the Works, Section, or a major item of Plant (as the case may be) cannot be used for its intended purpose(s) by reason of such defect or damage.

4.7.4 If the Contractor fails to comply with the Engineer's (or Employer's, as the case may be) instruction to remedy a defect or damage for which the Contractor is responsible, the Employer shall be entitled, subject to Clause 13 [*Claims*], to:

(a) carry out, itself or by others, all necessary remedial work at the Contractor's cost; or

(b) a reasonable reduction in the Contract Price, if at taking-over or during the DNP the Employer accepts the defect or damage.

5. QUALITY

5.1 Manner of Execution

The Contractor shall execute the Works in the manner (if any) specified in the Contract, and in a proper workmanlike and careful manner in accordance with recognised good practice.

5.2 Health, Safety and Environment

The Contractor shall comply with all applicable health, safety and environmental Laws, and the relevant obligations specified in the Contract.

5.3 Quality Assurance

The Contractor shall comply with the quality assurance obligations (if any) specified in the Contract, and in accordance with recognised good practice.

5.4 Inspection and Testing

5.4.1 The Employer, the Engineer and any of their assistants shall, during all the working hours stated in the **Contract Data** and at all other reasonable times, have full access to the Site and the Works. They shall be entitled to inspect and test the Works, and the Materials and Plant (whether on or off the Site).

5.4.2 The Contractor shall carry out all tests specified in the Contract.

5.4.3 In addition to the provisions of Sub-Clause 5.4.2. the Engineer may give instruction as to the uncovering and/or testing of any work. Unless as a result of any uncovering and/or testing it is established that the Contractor's design. Materials. Plant or workmanship are not in accordance with the Contract, the instruction shall constitute a Variation and Clause 7 [*Variations]* shall apply.

5.5 Remedying Defects

5.5.1 The Engineer (or, if during the DNP, the Employer) may, at any time prior to the expiry of the DNP, instruct the Contractor to remedy any defect or damage in any part of the Works or the Contractor's Documents. The Contractor shall comply with the instruction as soon as practicable, and within the reasonable time (if any) specified in the instruction. The Contractor shall do so at its own risk and cost, provided that it is responsible for the defect or damage. Otherwise, the instruction shall constitute a Variation and Clause 7 [*Variations*] shall apply.

5.5.2 The Employer shall be entitled subject to Clause 13 [*Claims*] to an extension of the DNP, if the defect or damage occurs during the DNP and if and to the extent that the Works, Section, or a major item of Plant (as the case may be) cannot be used for its intended purpose(s) by reason of such defect or damage.

5.3.3 If the Contractor fails to comply with the Engineer's (or Employer's, as the case may be) instruction to remedy a defect or damage for which the Contractor is responsible, the Employer shall be entitled, subject to Clause 13 [*Claims*], to:

(a) carry out, itself or by others, all necessary remedial work at the Contractor's cost; or

(b) a reasonable reduction in the Contract Price, if at taking-over or during the DNP the Employer accepts the defect or damage.

5.6 Performance Certificate

Within 21 days after:

(a) the latest of the expiry dates of the Defects Notification Periods; and

(b) the Contractor has supplied all the Contractor’s Documents, completed and tested all the Works (including remedying any defects) in

accordance with the Contract, and cleared the Site leaving it in clean and safe condition, the Engineer shall issue a Performance Certificate to the Contractor. Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

6. TIME

6.1 Execution of the Works

6.1.1 The Engineer shall give not less than 7 days' notice of the Commencement Date to the Contractor. Unless otherwise stated in the Particular Conditions, the Commencement Date shall be within 28 days after the date when the Contract comes into effect.

6.1.2 The Contractor shall commence the execution of the Works as soon as practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay and shall complete the Works and Sections (if any) within the relevant Time for Completion.

6.2 Programme

6.2.1 Within the time stated in the **Contract Data** (if not stated, 14 days from the Engineer's notice of the Commencement Date), the Contractor shall submit to the Engineer for review an initial programme for the Works in the form stated in the **Contract Data**. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations.

6.2.2 Unless the Engineer gives a notice to the Contractor within 14 days after the Engineer's receipt of the programme (whether initial or revised), stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with that programme, subject to the Contractor's other obligations under the Contract.

6.2.3 No work shall be carried out on the Site outside the working hours stated in the **Contract Data**, unless otherwise consented by the Engineer.

6.3 Advance Warning

Each Party shall advise the other and the Engineer, and the Engineer shall advise the Parties, in advance of any known or probable future events or circumstances which may delay or disrupt the execution of the Works or increase the Contract Price.

6.4 Extension of Time for Completion

6.4.1 The Contractor shall be entitled, subject to Clause 13 [*Claims*], to an EOT if and to the extent that completion for the purposes of Sub-Clause 9.2 [*Taking-Over Certificate*] is or will be delayed by any of the following causes:

(a) any of the Employer's Risks;

(b) any Variation (except that there shall be no requirement to comply with Clause 13 [*Claims*])', or

(c) a cause of delay giving an entitlement to EOT under a Sub-Clause of these Conditions.

6.4.2 When determining each EOT, the Engineer shall review previous agreements, or determinations under Sub-Clause 3.5 [*Agreement or Determination*], and may increase, but shall not decrease, the total EOT or the Time for Completion.

6.5 Delay Damages

6.5.1 If the Contractor fails to complete the Works or any Section within the relevant Time for Completion, the Employer shall be entitled, subject to Clause 13 [Claims], to payment of delay damages by the Contractor for such default. Delay damages shall be the amount stated in the **Contract Data**, which shall be paid for every day which shall elapse between the relevant Time for Completion and the relevant Date of Completion of the Works or Section. The total amount due under this Sub-Clause shall not exceed the maximum amount (if any) stated in the **Contract Data**.

6.5.2 However, after the taking-over of any part of the Permanent Works under Sub-Clause 9.3 [*Taking-Over Parts of the Works*], the amount stated in the **Contract Data** for each day of delay shall be reduced in the proportion that the value of the taken-over part bears to the total value of the Works or Section, as the case may be.

6.5.3 These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 10.2.2 or Sub-Clause 10.2.3 before completion of the Works. These delay damages shall not relieve the Contractor from the obligation to complete the Works, or from any other duties, obligations, or responsibilities which the Contractor may have under or in connection with the Contract.

6.6. Exceptional Events

6.6.1 If a Party is or will be prevented from performing any obligations under the Contract due to an Exceptional Event, such affected Party shall give notice as soon as practicable to the other Party of such an Exceptional Event and shall specify the obligations, the performance of which is or will be prevented.

6.6.2 Subject to compliance with the notice requirements above, the affected Party shall be excused from performance of the prevented obligations for so long as such Exceptional Event prevents the affected Party from performing them. Other than performance of the prevented obligations, the affected Party shall not be excused from performance of all other obligations under the Contract.

In particular, the obligations of either Party to make payments due to the other Party under the Contract shall not be excused by an Exceptional Event.

6.6.3 If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of an Exceptional Event of which notice has been given under this Sub-Clause, or for multiple periods which total more than 140 days due to the same Exceptional Event, then either Party may give to the other Party a notice of termination of the Contract and termination shall take effect 7 days after the notice is received by the other Party. The Parties shall then proceed in accordance with Sub-Clause 10.3.3 and Sub-Clause 10.4 [*Payment after Termination*] but the Contractor shall not be entitled to the amount stated under Sub-Clause 10.4.1 (c)(ii), and the Employer shall not be entitled to the amount stated under Sub-Clause 10.4.1(b).

7. VARIATIONS

7.1 Right to Vary

7.1.1 The Engineer may initiate Variations at any time before the issue of the Taking-Over Certificate for the Works, except as otherwise stated under Sub-Clause 5.5.1, either by:

(a) instructing a Variation by giving a notice to the Contractor describing the required change, in which case the Contractor, subject to Sub-Clause 7.1.2, shall be bound by and shall execute the Variation with due expedition and without delay, and shall submit a proposal for adjustment to the Time for Completion and the Contract Price, if any. Valuation of the Variation shall be carried out in accordance with Sub-Clause 7.2 [*Valuation of Variations*], and shall not be a condition precedent for the execution of the Variation; or

(b) requesting a proposal from the Contractor, in which case the Contractor shall, as soon as practicable, either:

(i) submit a proposal, including the Contractor's description of the varied work, and proposal for adjustment to the Time for Completion and the Contract Price, if any. The Engineer shall respond by giving a notice to the Contractor, stating its consent or otherwise:

(1) if consent is given, the Engineer shall instruct the Variation and the Contractor shall be bound by and shall execute the Variation with due expedition and without delay. The Contract Price and the Time for Completion shall be adjusted accordingly; or

(2) if otherwise, the Engineer may nevertheless instruct the Variation despite the lack of consent (in which case sub-paragraph (a) above shall apply);

or

(ii) give reasons, with detailed supporting particulars, why the Contractor cannot comply by reference to the matters set out under Sub-Clause 7.1.2.

The Contractor shall not delay any work whilst awaiting the Engineer's response.

7.1.2 Unless otherwise agreed by the Parties, the Engineer shall not instruct, and the Contractor shall not be bound by, a Variation which:

(a) results in the omission of any work which the Employer then intends to carry out by itself, or by others, unless the Employer pays the Contractor any incurred Cost related to such omission, plus an amount equivalent to 10% of the value of the omitted work;

(b) was Unforeseeable having regard to the scope and nature of the Works described in the Specification; or

(c) will adversely affect the Contractor's ability to comply with Sub-Clause 5.2 [*Health, Safety and Environment*].

7.2 Valuation of Variations

7.2.1 The Engineer shall proceed in accordance with Sub-Clause 3.5 [*Agreement or Determination*] to agree or determine the adjustment (if any) to the Contract Price and/or an EOT (if any, subject to Sub-Clause 6.4 [*Extension of Time for Completion*]. The Contractor shall be entitled to such adjustment to the Contract Price and/or EOT without any requirement to comply with Clause 13 [Claims],

7.2.2 Adjustments to the Contract Price shall be valued as follows:

(a) at a lump sum price agreed between the Parties,

(b) where appropriate, at rates or prices in the Contract,

(c) in the absence of appropriate rates or prices, the rates or prices in the Contract shall be used as the basis for valuation as far as they relate to similar work to be carried out under similar conditions, or failing which

(d) if the Engineer so instructs, at daywork rates (if any) set out under the Contract for which the Contractor shall keep records of hours of labour and Contractor's Equipment, and of Materials used.

7.2.3 Valuation of Variations shall take due regard of the associated Prolongation Cost, if any.

8. PAYMENT

8.1 Valuation of the works

The Works shall be valued and paid for at the time(s) as stated in the **Contract Data**, subject to adjustments in accordance with the Contract.

8.2 Advance Payment

8.2.1 If an advance payment is provided for in the **Contract Data**, it shall constitute an interest-free loan which the Contractor may apply for and use exclusively for financing its obligations under the Contract.

8.2.2 If specified in the **Contract Data**, the Contractor shall provide the Employer with an advance payment guarantee for the full amount of the advance payment, from a third party to which the Employer gives consent and in the form annexed to the Particular Conditions (or in another form agreed by the Employer). The Contractor shall ensure that the advance payment guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by the amount repaid by the Contractor as stated in the payment certificates.

8.2.3 The Engineer shall certify within 7 days, and the Employer shall pay the advance payment within 28 days, of the receipt of the Contractor's application, the advance payment guarantee (as the case may be) in accordance with Sub-Clause 8.2.2 and the performance security (if any) in accordance with Sub-Clause 4.5.1. Payment shall be in the currency(ies) stated in the **Contract Data**.

8.2.4 If the advance payment has not been repaid before the issue of the Taking-Over Certificate for the Works, or before termination of the Contract, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

8.3 Statements

At each time for payment stated in Sub-Clause 8.1 [*Valuation of the Works*], the Contractor shall submit to the Engineer a statement showing the amounts to which the Contractor considers itself entitled, together with supporting documents substantiating such amount. The statement shall include the following items, as applicable, in the sequence listed:

(a) the estimated contract value of the Works executed, and the Contractor's Documents produced, up to the relevant time for payment (including Variations (if any) but excluding items described in sub-paragraphs (b) to (f) below), as adjusted under Sub-Clause 8.8 [*Changes in Cost*] (as the case may be);

(b) a percentage, as stated in the **Contract Data**, of the value under sub-paragraph (a) above to be deducted for retention, until the amount so retained by the Employer reaches the limit of retention money (if any) stated in the **Contract Data**;

(c) a percentage, as stated in the **Contract Data** (if not stated, 25%), of the value under sub-paragraph (a) above to be deducted for the repayment of the advance payment (if any), until the advance payment has been repaid in full;

(d) if specified in the **Contract Data**, any amounts to be added and / or deducted for Plant and Materials delivered to the Site, using the percentage of the Cost of Plant and Materials, and at the times, as stated in the **Contract Data**;

(e) any other additions and/or deductions which have become due under the Contract or otherwise; and

(f) the deduction of amounts certified in all previous payment certificates.

8.4 Interim Payments

8.4.1 The Engineer shall, within 14 days after receiving a statement and supporting documents, issue an interim payment certificate to the Employer, stating the amount which the Engineer fairly considers to be due, with supporting particulars (which shall identify any difference between a certified amount and the corresponding amount in the statement and give the reasons for such difference).

8.4.2 No amount shall be certified or paid to the Contractor until the Employer receives the performance security (if any) in accordance with Sub-Clause 4.5 [*Performance Security*],

8.4.3 The Engineer may in any interim payment certificate make any correction or modification that should properly be made to any previous interim payment certificate.

8.4.4 The Employer shall, within 28 days after the Engineer receives a statement and supporting documents, pay to the Contractor the amount certified in each interim payment certificate. Payment shall be in the currency(ies) stated in the **Contract Data**.

8.4.5 An interim payment certificate, or a payment, shall not be deemed to indicate the Engineer’s or the Employer's acceptance, approval, consent or notice of No-objection to any corresponding part of the Works or Contractor's Documents.

8.5 Release of Retention Money

8.5.1 The first half of the retention money shall be included in the next statement after the issue of the Taking-Over Certificate for the Works.

8.5.2 The second half of the retention money shall be included in the next statement after the issue of the Performance Certificate.

8.5.3 As an alternative to Sub-Clause 8.3(b), the Parties may agree to substitute part or all of the retention money by a guarantee (in the form annexed to the Particular Conditions or in another form agreed by the Employer). The Employer shall thereafter return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.

8.6 Final Payment

8.6.1 Within 14 days after the issue of the Performance Certificate, the Contractor shall submit to the Engineer a draft final statement showing the amount which the Contractor considers to be finally due, together with supporting documents substantiating such amount.

8.6.2 The Contractor and the Engineer shall endeavour to agree the amount finally due, which shall be reflected in a final statement submitted by the Contractor to the Engineer, together with a discharge which confirms that such amount represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. From the time of submission of the final statement, discharge and supporting documents:

(a) the Engineer shall within 28 days issue a final payment certificate to the Employer, stating the amount which the Engineer fairly considers to be due, with supporting particulars; and

(b) the Employer shall within 56 days pay to the Contractor the amount so certified.

8.6.3 However, if following discussions between the Engineer and the Contractor under Sub-Clause 8.6.2, it becomes evident that a dispute exists as to the amount finally due, the Contractor shall issue a statement for the agreed parts of the draft final statement, and Sub-Clause 8.4 [*Interim Payments*] shall apply. The disagreed parts shall be deemed to be a dispute which may be referred by either Party to adjudication under Sub-Clause 14.1 [*Adjudication*]. Thereafter if the dispute is finally resolved, the Contractor shall then prepare a final statement and the relevant provisions of Sub-Clause 8.6.2 shall apply.

8.7 Delayed Payment

8.7.1 The Contractor shall be entitled to receive financing charges, compounded monthly on the amount unpaid during the period of delay, for each day the

Employer fails to pay beyond the prescribed payment period, irrespective of the date on which any payment certificate is issued.

8.7.2 Unless otherwise stated in the **Contract Data**, these financing charges shall be calculated at the annual rate of three percent (3%) above the discount rate of the central bank in the country of currency of payment, and shall be paid in such currency.

8.7.3 The Contractor shall by request be entitled to payment of these financing charges without the need to submit any statement or receive any payment certificate, and without any requirement to proceed under Clause 13 [*Claims*], Such entitlement is without prejudice to any other right or remedy.

8.8 Changes in Cost

If the Contract Price is to be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, such adjustment shall be calculated as stated in the **Contract Data**.

9. TAKING-OVER

9.1 Completion

The Contractor shall apply for a Taking-Over Certificate by giving a notice to the Engineer when the Contractor considers that the Works, or Section, have been completed in accordance with the Contract, including the passing of tests on completion (if any) and/or the submission of documents as may be stated in the Contract, and except as allowed under Sub-Clause 9.2.1 (a).

9.2 Taking-Over Certificate

9.2.1 The Engineer shall, within 28 days after receiving the Contractor's notice under Sub-Clause 9.1 [*Completion*], either:

(a) issue a Taking-Over Certificate to the Contractor, stating the date on which the Works or Section are completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the safe use of the Works or Section for their intended purpose; or

(b) reject the application, by giving a notice to the Contractor, with reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under Sub-Clause 9.1 [*Completion*],

9.2.2 The Employer shall take over the Works or Section upon the issue of the Taking-Over Certificate.

9.2.3 The Contractor shall, as soon as practicable and within the reasonable time (if any) specified in the Taking-Over Certificate, complete any outstanding work and remedy any defect listed in the Taking-Over Certificate, and Sub-Clause 5.5 [*Remedying Defects*] shall apply.

9.3 Taking-Over Parts of the Works

9.3.1 The Engineer may, at the sole discretion of the Employer, issue a Taking-Over Certificate for any part of the Works.

9.3.2 The Employer shall not use any part of the Works (other than as a temporary measure, which is either stated in the Specification or with the prior agreement of the Contractor) unless and until the Engineer has issued a Taking-Over Certificate for that part. Otherwise, that part shall be deemed to have been taken over by the Employer as from the date on which it is used, a Taking-Over Certificate for that part shall be deemed to have been issued on the same date by the Engineer, and Sub-Clause 9.2.3 shall apply.

10. SUSPENSION AND TERMINATION

The action of either Party under this Clause shall not prejudice any other rights of that Party, under the Contract or otherwise.

10.1 Suspension

10.1.1 The Engineer may at any time instruct the Contractor to suspend progress of part or all of the Works. Such instruction shall state the date and cause of the suspension.

10.1.2 If:

(a) the Engineer fails to certify, or the Employer fails to pay, in accordance with Clause 8 [*Payment*];

(b) the Employer fails to comply with Sub-Clause 2.3 [*Employer's Financial Arrangements*];

(c) the Employer fails to comply with an agreement or a determination under Sub-Clause 3.5 [*Agreement or Determination*], or with a decision of the Adjudicator under Sub-Clause 14.1 [*Adjudication*], and such failure constitutes a material breach of the Employer's obligations under the Contract; or

(d) the Employer substantially fails to perform, and such failure constitutes a material breach of, the Employer's obligations under the Contract,

the Contractor may issue a notice to the Employer, referring to this Sub-Clause and stating the default(s) to be remedied. If the default is not remedied within 14 days (or, in the case of sub-paragraph (d), within a reasonable time)

after the Employer's receipt of this notice, the Contractor may thereafter suspend work (or reduce the rate of work).

10.1.3 In any case of suspension, Sub-Clause 4.3 [*Contractor's Care of the Works*] shall remain applicable.

10.2 Termination by Employer

10.2.1 If the Contractor substantially fails to perform, and such failure constitutes a material breach of, the Contractor's obligations under the Contract, the Employer may issue a notice to the Contractor, referring to this Sub-Clause, stating the default(s) and a reasonable time within which the Contractor shall remedy the default(s).

10.2.2 If, within the time specified in the Employer's notice under Sub-Clause 10.2.1, the Contractor has failed, without reasonable excuse, to remedy the stated default(s), then the Employer may give a notice to the Contractor of the Employer's intention to terminate the Contract. Unless the Contractor remedies the default(s) within 14 days of receiving the notice under this Sub-Clause, the Employer may by giving a second notice to the Contractor immediately terminate the Contract.

10.2.3 Notwithstanding the above, if the Contractor:

(a) subcontracts the whole, or any part of, the Works in breach of Sub-Clause 4.4.1;

(b) assigns the Contract without the required agreement under Sub-Clause 1.6 [Assignment];

(c) becomes bankrupt or insolvent; or

(d) is found, based on reasonable evidence, to have engaged in corrupt, fraudulent, collusive or coercive practice at any time in relation to the Works or to the Contract,

the Employer shall be entitled to terminate the Contract immediately by giving a notice to the Contractor.

10.2.4 Notwithstanding the above, the Employer shall be entitled at any time to terminate the Contract for its own convenience 28 days after giving a notice, and returning the performance security (if any), to the Contractor. The provisions of Sub-Clause 10.3.3(a) shall then apply.

10.2.5 In case of termination under Sub-Clause 10.2.2 or Sub-Clause 10.2.3, the Contractor shall cease work, deliver to the Engineer all Contractor's Documents, and demobilize from the Site leaving behind all Goods required by the Employer. If and to the extent instructed by the Employer, the Contractor shall also assign any subcontract to the Employer.

10.3 Termination by Contractor

10.3.1 If the Employer fails to remedy the default(s) notified within the time specified under Sub-Clause 10.1.2 (and in the case of sub-paragraph (d) thereof, has no reasonable excuse for such failure) then the Contractor may give a notice to the Employer of the Contractor's intention to terminate the Contract. Unless the Employer remedies the default(s) within 14 days of receiving the notice under this Sub-Clause, the Contractor may by giving a second notice to the Employer immediately terminate the Contract.

10.3.2 Notwithstanding the above, if the Employer:

(a) assigns the Contract without the required agreement under Sub-Clause 1.6 [*Assignment*];

(b) becomes bankrupt or insolvent; or

(c) is found, based on reasonable evidence, to have engaged in corrupt, fraudulent, collusive, or coercive practice at any time in relation to the Works or to the Contract,

the Contractor shall be entitled to terminate the Contract immediately by giving a notice to the Employer.

10.3.3 In case of termination under Sub-Clause 10.3.1 or Sub-Clause 10.3.2:

(a) the Contractor shall cease work, deliver to the Engineer all Contractor's Documents, and all Plant, Materials, and other work for which the Contractor has received payment, remove all other Goods (in which case property of the removed Plant and Materials shall revert to the Contractor), and demobilize, from the Site; and

(b) the Employer shall return the performance security (if any) to the Contractor promptly after the date of termination.

10.4 Payment after termination

10.4.1 After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed (and any other work executed) and of the Plant and Materials reasonably ordered for the Works (once delivered to the Employer), all to the extent that they are in accordance with the Contract. This payment shall be adjusted by the following:

(a) any amount to which either Party is entitled under Clause 13 [*Claims*] or otherwise;

(b) if the Employer has terminated under Sub-Clause 10.2.2 or Sub-Clause 10.2.3, the Employer shall be entitled to an amount equivalent to 20% of the value of those parts of the Works not executed at the date of the termination;

(c) if the Employer has terminated under Sub-Clause 10.2.4, or the Contractor has terminated under Sub-Clause 10.3 [*Termination by Contractor*], the Contractor shall be entitled to:

(i) the Cost of the Contractor's demobilization, and any other Cost or liability which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the Works; and

(ii) an amount equivalent to 10% of the value of those parts of the Works not executed at the date of termination.

Supporting particulars shall be submitted by the relevant Party within 42 days after the notice of termination.

10.4.2 The Engineer shall proceed in accordance with Sub-Clause 3.5 [Agreement or Determination] to agree or determine the matters set out under Sub-Clause 10.4.1, and the resulting net balance due shall be paid by the Employer or the Contractor (as the case may be) within 70 days after submission of the supporting particulars under Sub-Clause 10.4.1.

10.4.3 The entitlements set out under Sub-Clause 10.4.1(b) and (c)(ii) above shall be the only amounts due between the Parties in respect of loss and/or damage resulting from the termination.

11. RISK AND RESPONSIBILITY

11.1 Employer's Risks and Contractor's Entitlements

11.1.1 If and to the extent that the Contractor suffers delay and/or incurs Cost due to an Employer's Risk, as set out below, then the Contractor shall be entitled, subject to Clause 13 [*Claims*] to the corresponding entitlement set out in the table below.

11.1.2 However, if as a result of an Employer's Risk the Engineer gives an instruction which constitutes a Variation, then Clause 7 [*Variations*] shall apply without any requirement to proceed under Clause 13 [*Claims*],

11.1.3 In this Contract, Employer's Risks are as set out in the table below, and the following applies:

• when the Contractor's entitlement is for "Cost and/or EOT", then the Contractor is entitled to an EOT, and to Cost over the duration of such EOT (i.e. resulting from a compensable delay); and

• when the Contractor's entitlement is for "EOT only" (i.e., resulting from an excusable delay), then the Contractor is entitled to an EOT but not to any Cost, even Prolongation Cost.

Employer's Risks		Contractor's Entitlement
(a)	loss and/or damage to the Works, Goods or Contractor's Documents caused by:	
	(i) any Exceptional Event;	If an instruction is given by the Engineer to rectify the loss and/or damage: Cost and/or EOT, as a
	(ii) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions;	
	(iii) interference, whether temporary or permanent, with any right of way, light, air, water or other easement (other than that resulting from the Contractor's method of construction) which is the unavoidable result of the execution of the Works in accordance with the Contract;	
	(iv) fault, error, defect or omission in any element of the design of the Works attributable to the Employer;	
	(v) use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract, and/or	
	(vi) any act or default of the Employer, the Employer's personnel or the Employer's other contractors.	
(b)	a man-made Exceptional Event (for consequences other than loss and/or damage covered under sub-paragraph (a)(i) above) preventing the Contractor from performing any obligations under the Contract:	
	(i) if the Exceptional Event occurs inside the Country, or, in case of war (whether war be declared or not) and similar Exceptional Events, whether they occur inside or outside the Country	Cost and/or EOT
	(ii) if the Exceptional Event occurs outside the Country	EOT only
(c)	a natural Exceptional Event (for consequences other than loss and/or damage covered under sub-paragraph (a)(i) above) preventing the Contractor from performing any obligations under the Contract	EOT only

Employer's Risks		Contractor's Entitlement
(d)	errors in relation to original setting-out points, lines and levels of reference specified in the Contract or notified by the Engineer (if any)	Cost and/or EOT
(e)	Unforeseeable physical conditions (natural physical conditions and physical obstructions - natural or man-made, including topographic, sub-surface, hydrological and environmental conditions) encountered at Site, but excluding climatic conditions	Cost and/or EOT
(f)	Unforeseeable adverse climatic conditions at Site	EOT only
(g)	Unforeseeable delay caused by local authorities	EOT only
(h)	any change made after the Base Date to the Laws of the Country, or in the judicial or official governmental interpretation of these Laws, which adversely affects the Contractor in the performance of its obligations under the Contract	Cost and/or EOT
(i)	a suspension (or reduction of the rate of work) under Sub-Clause 10.1 *[Suspension]* to the extent that it is not attributable to a Contractor's failure	Cost and/or EOT
(j)	any delay, impediment or prevention caused by or attributable to the Employer or the Employer's personnel, or any other failure of the Employer or the Employer's personnel to fulfil their obligations	Cost and/or EOT
(k)	any Unforeseeable delay caused by or attributable to the Employer's other contractors, or utility companies, on or near the Site	Cost and/or EOT
(I)	Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions	EOT only
(m)	Unforeseeable non-suitability or non-availability of an access route to the Site, caused by the Employer or a third party	Cost and/or EOT
(n)	any re-measurable item of work where the measured quantity is greater than the estimated quantity stated in the Contract for that item by more than ten percent (10%), taking due regard of any significant reduction in the measured quantities of other items of work	EOT and Prolongation Cost

11.2 Contractor's Risks and Employer's Entitlements

The Employer shall be entitled, subject to Clause 13 [*Claims*], to any additional payment by the Contractor, or to a reduction in the Contract Price, and/or to any other entitlement and/or relief, as the case may be, in any of the following instances:

(a) any decrease in Cost as a result of any change made after the Base Date to the Laws of the Country, or in the judicial or official governmental interpretation of these Laws;

(b) any failure of the Contractor to fulfil any of its obligations which causes the Employer to incur costs; or

(c) any cause giving an entitlement to the Employer under or in connection with the Contract.

11.3 Indemnities

Each Party shall indemnify and hold harmless the other Party and its personnel against and from all third-party claims, damages, losses and expenses (including legal fees and expenses) in respect of:

(a) bodily injury, sickness, disease or death of any person whatsoever;

(b) damage to or loss of any property, real or personal (other than the Works); and

(c) any infringement of any patent, registered design, copyright, trademark, trade name, trade secret or other intellectual or industrial property right,

to the extent that these claims, damages, losses, and expenses relate to the Contract and arise:

(i) for indemnities by the Contractor to the Employer: by reason of the Contractor's execution of the Works, or by reason of any negligence, willful act or breach of the Contract by the Contractor, its subcontractors, or their respective personnel; and

(ii) for indemnities by the Employer to the Contractor:

- by reason of any negligence, willful act or breach of the Contract by the Employer, its contractors, or their respective personnel; or
- in the case of sub-paragraph (b) above, by reason and to the extent that such damage or loss arises out of any cause stated under Sub-Clause 11.1.3(a).

12. INSURANCE

12.1 Extent of Cover

12.1.1 Without limiting either Party's obligations or responsibilities under the Contract, the insuring Party stated in the **Contract Data** shall, prior to commencing the Works, effect and thereafter maintain insurance(s) in the joint names of the Parties in accordance with the requirements stated in the **Contract Data**. If the insuring Party is:

(a) the Contractor: insurances shall be affected with the insurer(s) stated in the **Contract Data**. Any other insurer(s) that the Contractor may wish to use shall be subject to consent by the Employer, and so shall be the terms of the insurance cover in such a case;

(b) the Employer:

(I) the terms and conditions of the insurance cover shall have been provided to tenderers prior to the Base Date; and

(II) the Contractor shall, at its own cost, effect and maintain any other insurances that the Contractor deems to be required to provide appropriate cover for the Contractor's obligations under the Contract.

12.1.2 The insuring Party shall provide the other Party with insurance certificate(s), in the form annexed to the Particular Conditions or in another form agreed by the Parties. The insurance certificate(s) shall be endorsed by the relevant insurer(s), evidencing that any required insurances stated in the **Contract Data** have been affected, are maintained and that the premiums have been paid. Whenever required by the Employer, the Contractor shall produce the policies of the insurances which the Contractor is required to effect under the Contract.

12.2 Failure to Insure

12.2.1 If a Party fails to effect or maintain any of the insurances required under Sub-Clause 12.1 [*Extent of Cover*], or fails to provide satisfactory insurance certificate(s) or policies evidencing that it has done so, the other Party may, on 14 days' notice to the defaulting Party and without prejudice to any other right or remedy, arrange the missing insurance cover and pay the premiums due and recover the same from the defaulting Party as an addition or deduction in the amount certified for payment under Sub-Clauses 8.4 [*Interim Payments*] and/or 8.6 [*Final Payment*], without any requirement to proceed under Clause 13 [*Claims*],

12.2.2 If either Party fails to comply with any condition of the insurances effected under the Contract, the Party so failing to comply shall indemnify the other

Party against all direct losses and claims (including legal fees and expenses) arising from such failure.

13 CLAIMS

13.1 Right to Claim

If:

(a) the Contractor considers itself entitled to any additional payment and/or to an EOT and/or to another entitlement or relief against the Employer as a result of any of the Employer's Risks, or under any Clause of these Conditions or otherwise in connection with the Contract; or

(b) the Employer considers itself entitled to any additional payment from the Contractor (or reduction in the Contract Price), and/or to an extension of the DNP and/or to another entitlement or relief against the Contractor, under any Clause of these Conditions or otherwise in connection with the Contract,

then the Contractor or the Employer (as the case may be) shall give to the Engineer:

(i) a notice describing the event or circumstance giving rise to the entitlement contemplated under this Sub-Clause within 28 days; and

(ii) a fully detailed claim with supporting particulars, including contemporary records, of the entitlement contemplated under this Sub-Clause within 56 days,

after the claiming Party became aware, or should have become aware, of the said event or circumstance.

13.2 Claim Procedure

13.2.1 Upon receipt of a fully detailed claim, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Agreement or Determination] to agree or determine the entitlement or relief (if any) of the claiming Party.

13.2.2 If a Party fails to comply with any Sub-Clause of these Conditions in relation to a claim, any entitlement or relief shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, and/or mitigation of the effects of the claim event or circumstance.

13.3 Duty to Mitigate

The Parties shall use their reasonable endeavours to avoid or minimise the effects of all claim events or circumstances.

14. Disputes

14.1 Adjudication

14.1.1 Unless otherwise agreed, the Parties shall jointly appoint, and enter into an agreement with, the Adjudicator from those listed in the **Contract Data** within 28 days after the date when the Contract comes into effect. If they fail to do so, the Adjudicator shall be appointed in accordance with the appended Rules for Adjudication ("the Rules"). The Adjudicator shall be a suitably qualified person, fluent in the language referred to In Sub-Clause 1.3 [*Communications*].

14.1.2 If the Parties so agree, they may jointly request the Adjudicator to provide assistance and/or informally discuss and attempt to resolve any issue or disagreement that may have arisen between them during the performance of the Contract. If the Adjudicator becomes aware of any issue or disagreement between the Parties, he/she may also invite the Parties to make such a joint request. Neither the Parties nor the Adjudicator shall be bound, in any future dispute resolution process, by any opinion given by the Adjudicator in the informal assistance process.

14.1.3 Unless settled amicably, any dispute between the Parties, which arises out of or in connection with the Contract, including any opinion, instruction, certificate, valuation or determination of the Engineer, shall be referred by either Party to adjudication and shall be decided by the Adjudicator in accordance with the Rules.

14.1.4 If either Party is dissatisfied with the decision of the Adjudicator, or if no decision is given within the time set out in the Rules, such Party may give a notice of dissatisfaction to the other Party, with a copy to the Adjudicator, referring to this Sub-Clause within 28 days after receipt of the decision, or after the expiry of the time for the decision (as the case may be). If the Adjudicator has given a decision, and no notice of dissatisfaction is given by either Party within the specified time, then the decision shall be final and binding on the Parties.

14.1.5 Whether or not a notice of dissatisfaction has been given within the specified time, the decision shall be binding on the Parties who shall promptly give effect to it unless and until the decision of the Adjudicator is revised by arbitration.

14.1.6 In the event that a Party fails to comply with any decision of the Adjudicator, whether binding or final and binding, then the other Party may, without prejudice to any other rights it may have, refer the failure itself directly to arbitration under Sub-Clause 14.2 [*Arbitration*] without any requirement to proceed through adjudication again under this Sub-Clause.

14.1.7 In such event, the arbitrator shall have the power, by way of summary or other expedited procedure, to order, whether by an interim or provisional measure or an award (as may be appropriate under applicable law or otherwise), the enforcement of that decision. In the case of a binding but not final decision of the Adjudicator, such interim or provisional measure or award shall be subject to the express reservation that the rights of the Parties as to the merits of the dispute are reserved until they are resolved by an award. Any interim or provisional measure or award enforcing a decision of the Adjudicator which has not been complied with, whether such decision is binding or final and binding, may also include an order or award of damages or other relief.

14.2 Arbitration

14.2.1 Except as stated in Sub-Clause 14.1.6, neither Party shall be entitled to commence arbitration of a dispute under this Clause unless a notice of dissatisfaction has been given in accordance with Sub-Clause 14.1.4.

14.2.2 Unless settled amicably, any dispute in respect of which the Adjudicator's decision (if any) has not become final and binding shall be finally settled by arbitration. Unless otherwise agreed by the Parties:

(a) the dispute shall be finally settled by international arbitration under the Rules of Arbitration of the International Chamber of Commerce ("the Rules of Arbitration"), and the expedited procedure provisions of the Rules of Arbitration shall apply irrespective of the amount in dispute;

(b) the dispute shall be settled by one arbitrator appointed in accordance with the Rules of Arbitration; and

(c) the arbitration shall be conducted in the language referred to in Sub-Clause 1.3 [Communications],

14.2.3 The arbitrator shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the Adjudicator (other than a final and binding decision) relevant to the dispute. Nothing shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator on any matter whatsoever relevant to the dispute.

14.2.4 Neither Party shall be limited in the proceedings before the arbitrator to the evidence or arguments previously put before the Adjudicator to obtain his/her decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the Adjudicator shall be admissible in evidence in the arbitration.

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ABBREVIATIONS

EPC	Engineering, Procurement and Construction
ITB	Instructions to Bidders
BDS	Bid Data Sheet
BD	Bidding documents
GCC	General Conditions of Contract
PCC	Particular Condition of Contract
Law on Bidding	Law on bidding No. 22/2023/QH15 dated June 23, 2023 of the National Assembly Vietnam, as amended and supplemented by Law No. 57/2024/QH15, Law No. 90/2025/QH15
Decree 214/2025/CP	Government's Decree No. 214/2025/ND-CP dated August 04, 2012 on guidelines for the Law on Bidding in terms of selection of contractors
VND	Vietnamese Dong
USD	US Dollar

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PART 3. CONDITIONS OF CONTRACT

CHAPTER X: PARTICULAR CONDITIONS OF CONTRACT

PART A - CONTRACT DATA

This Contract Data document forms Part A of the Particular Conditions of Contract.

[*Note: with the exception of the items below which have been completed by the Employer, the Contractor complete the following information before submitting the Bid*].

Item	**Sub-Clause**	**Data**
Name and address of Contractor	1.1.10 & 1.3(b)	"Contractor to Complete"
"Cost Plus Profit"	1.1.14	"Cost Plus Profit" is not applicable
Defects Notification Period (DNP)	1.1.18	Defects Notification Period means warranty period. This period is 12 months, calculated from the date on which the Works or Section is completed as certified under Sub-Clause 9.2 [*Taking Over Certificate*]
Name and address of Employer	1.1.20 & 1.3(b)	Employer: Power Generation Corporation 1 (EVNGENCO1) – Address: 22 Duong Dinh Nghe, Cau Giay Ward, Hanoi, Vietnam. Employer's Representative: EVNGENCO1 Projects Management Board (EVNGENCO1-PMB) – Address: 32 Ngo Thoi Nhiem, Xuan Hoa Ward, Ho Chi Minh City, Vietnam
Name and address of Engineer	1.1.22 & 1.3(b)	*[To be inserted by the Employer]*
Time for Completion for the Works	1.1.43	260 days (from contract effective date).
Language	1.3(a)	English
Methods of communication	1.3(b)	☑ Paper-original ☑ Electronic Original delivered by hand (against receipt), or sent by mail or courier, or transmitted by using

<table>
<tr><th>Item</th><th>Sub-Clause</th><th>Data</th></tr>
<tr><td></td><td></td><td>any of the following electronic transmission systems:
……</td></tr>
<tr><td>Law governing the Contract</td><td>1.4.</td><td>Vietnamese Laws</td></tr>
<tr><td>Permits and licences to be obtained, notices to be given, by each Party</td><td>1.7.2</td><td><table><tr><td>Employer</td><td>Contractor</td></tr><tr><td></td><td>• Construction permit (if required);
• Fire protection system appraisal and acceptance;
• Import permits for equipment;
• Customs clearance procedures;
• Environmental approvals during construction and commissioning;
• Preparation and submission of environmental completion reports and commissioning plans in accordance with applicable regulations;
• Safety inspection and certification of equipment subject to strict occupational safety requirements;
• Any other permits, approvals and consents required under Vietnamese laws and regulations;
• Foreign Contractor Construction License.</td></tr></table></td></tr>
<tr><td>Total liability of the Contractor to the Employer under or in connection with the</td><td>1.10.2</td><td>Not Applicable</td></tr>
</table>

Item	Sub-Clause	Data
Contract		
Right of access to and possession of the Site given by the Employer	2.1.1	Within 07 calendar days since the Effective Date
Engineer's authorised person (if any)	3.1.1	Not Applicable
Limits on Engineer's authority	3.2.2	In this Contract, the contents related to the Engineer shall be limited to the following items: - Reviewing Detailed design: Sub-clause 4.7 - Construction supervising: Sub-clause 5.4.1, 5.5.1 The remaining contents referred to the Engineer shall be deemed to refer to the Employer.
Working hours	5.4.1 & 6.2.3	According to regulations of Uong Bi Thermal Power Plants
Performance Certificate	5.6	Performance Certificate means Final Acceptance Certificate for the Works
Programme:		
Commencement Date	6.1.1	Commencement Date is Effective Date. The date is stipulated in the Contract Agreement
Time for submission initial program for the Works	6.2.1	14 days after the Contract Agreement signing
Form of programme	6.2.1	For schedule management and submission of schedule management files to the Employer and the Engineer, the Contractor shall use one of the schedule management software as follows: Primavera P6, MS Project and etc. The Contractor is encouraged to use Primavera P6 for this package.
Delay damages		

Item	Sub-Clause	Data
Amount of delay damages	6.5.1 & 6.5.2	- 0.2% of Contract Price for Works, or - 0.1% of Contract Price for Unit,
Maximum amount of delay damages	6.5.1	12% of Contract Price
Contract Price	8.1	*[To be inserted by the Employer]*
Amount of delay damages	5.6	- 0.2% of Contract Price for Works, or - 0.1% of Contract Price for Unit,
Maximum amount of delay damages	5.6	5% of Contract Price
Advance Payment		
Amount of Advance Payment	8.2.1	The Advance Payment of 10% Contract Price (excluding import tax, VAT and CAR, EAR Insurances).
Advance Payment Security required	8.2.2	☑ Yes ☐ No
Currency(ies) of payment	8.2.3	United States Dollars (USD) and/or Vietnamese Dong (VND).
Repayment terms	8.3(c) 8.4	10% The advance payment shall be fully repaid when the payment amount reaches to 80% of the Contract Price.
Percentage of retention	8.3(b)	10% of the Contract Price.
Amounts to be added and/or deducted for Plant and Materials delivered to Site	8.3(d)	☐ Yes ☑ No
Annual rate for financing charges for delayed payment	8.7.2.	Not provided. Refer to Sub-Clause 8.7.2
Contract Price adjustment for changes in cost?	8.8	☐ Yes ☑ No If no, Sub-Clause 8.8 shall not apply

Item	Sub-Clause	Data
Taking-over Certificate	9.2	Taking-over Certificate means Provisional Acceptance Certificate for the Works
Extent of Cover	12.1	Not provided. Refer to Sub-Clause 12.1

PART B - PARTICULAR CONDITIONS

Clause 1: GENERAL PROVISIONS

Sub-Clause 1.1 Definitions

Add the following text to Sub-Clause 1.1

"Tests on Completion" means the tests which are specified in the **Item 1.17** of Part 2 Chapter VII, Section 1 of the Bidding Document that the Contractor is obligated to carry out under Clause 9 [Test on Completion] before the Works or a Section (as the case may be) are taken over by the Employer.

"Reliability Run" means a part of the Tests on Completion as described in **item 1.17.6** of Part 2, Chapter VII, Section 1 of the Bidding Document which is part of the Employer's Requirements.

"Commissioning" means a part of the Tests on Completion **as** described in **1.17** of Part 2 Chapter VII, Section 1 of the Bidding Document which is part of the Employer's Requirements.

"Commissioning" means a part of the Tests on Completion as described in 1.16 of Part 2 Chapter VII, Section 1 of the Bidding Document which is part of the Employer's Requirements.

"**Performance Guarantees**" means the performance data to be guaranteed by the Contractor in accordance with the requirements as specified in Appendix 2 in Part 3 of the Bidding Document that the Contractor is undertaken to attain during Performance Test as specified in the Clause 9 of this PCC.

"Minimum Performance Requirements" means each of the minimum requirements of performance for ESP, FGD, SCR as specified in in Appendix 2 in Part 3 of the Bidding Document.

"Goods" means permanent equipment and materials to be provided and incorporated in the Works by the Contractor under the Contract, but does not include Contractor's Equipment.

"Works" has meaning as specified in the Contract Agreement.

Clause 4: CONTRACTOR

Sub-Clause 4.1 General obligations

Add the following paragraph to the beginning of Sub-Clause 4.1:

"The Contractor shall have obligations to implement the Contract including but not limited to the engineering design, manufacture, procurement, supply, delivery, construction, installation, commissioning, tests on completion and warranty of the plant, materials and equipment associated with Upgrade and retrofit for Flue gas treatment System of 300MW & 330MW Units - Uong Bi Thermal Power Plant project as mentioned, enumerated and referred to in the Contract Documents and other relevant correspondence annexed hereto on the basis of an EPC contract."

Add the following contents to Sub-Clause 4.1:

4.1.5 General obligations of the Contractor:

a) Provide sufficiently manpower, materials, plant, equipment and other necessary facilities to perform the works under the contract.

b) Receive, manage, preserve and hand over documents and instruments provided by the Employer (if so agreed in the contract).

c) Notify the Employer of incomplete information, documents, and unsafe working instruments affecting the work performance under the signed contract.

d) Keep confidential information related to the contract in accordance with the contract agreement or as prescribed by law.

e) Perform work under the contract with ensuring safety, quality, schedule and other agreements in the contract.

f) Prepare the designs implemented after the basic design has been decided by the investor upon project approval in accordance with the approved basic design, excluding construction cost estimates of constructional items, works within the scope of EPC contract.

g) Organize the procurement, manufacture and supply of technological equipment to meet the requirements and implementation schedule of the contract; select subcontractors (if any) through bidding or appointed contractors to submit to the Employer for approval; negotiate and reach agreement with the Employer on the content of bidding documents for the procurement of technological equipment (if agreed in the contract).

h) Organize trainings for managers and workers to operate the works, transfer the technology as well as the technical services (if agreed in the contract).

i) Carry out testing, adjustment, integrated running test and commissioning of the works and hand over the completed works to the Employer in accordance with the contract agreement and in compliance with current laws.

k) Ensure that the products provided by Contractor not infringe the intellectual property rights in accordance with the law.

l) Hand over the documents and documents related to the contract's products to the Employer according to the signed contract.

m) Other obligations as prescribed by law.

and the following paragraph to the ending of Sub-Clause 4.1:

"Additionally, the Contractor is obliged to implement the recommendations and conclusions of inspection, examination and audit of competent authorities."

Sub-Clause 4.5 Performance Security

Add following content at the end of Sub-Clause 4.5:

The Performance Security in the form of a letter of guarantee is issued by a bank or a credit institution lawfully operating in Vietnam and must be an unconditional,

irrevocable guarantees.

- Value of Performance Security: 10% of Contract Price.
- Submission time of Performance Security: within 10 days from the date of the signed Contract

Validity of performance security: The Performance Security shall be effective upon the date of issuance or the Effective Date of the Contract (whichever comes earlier) and shall remain in force and effect until the end of the 28th day after the Contractor has completed all the Contract work and the Employer received the Warranty Security.

In case the Contractor is a Consortium/Joint Venture, each member shall submit its Performance Security to the Employer, the level of corresponding security to the Contract Price that each member performs. If the Consortium/Joint Venture has an agreement that the leading member of the Consortium/Joint Venture shall submit the Performance Security, the leading member of the Consortium/Joint Venture shall pay the Performance Security at the amount of ten percent (10 %) of the Contract Price to the Employer and each member of must pay its Performance Security to the leading Contractor of the Consortium/Joint venture at corresponding value of the contract performed by them. If any member of the Consortium/Joint Venture breaches the Contract requirements, the Performance Securities of all member shall be confiscated.

During contract performance, the Contractor shall ensure that the Performance Security value is ten percent (10 %) of the contract value in all cases.

If the terms of the Performance Security specify its expiry date and by the date 28 days prior to the expiry date, the Contractor has

(i) not become entitled to receive the Provisional Acceptance Certificate for the Works, and/or

(ii) not completed all minor outstanding work and defects which will not substantially affect the use of the Works for their intended purpose enclosed in PAC documents in accordance with the EPC contract's requirements with confirmation by the Employer,

The Contractor shall extend the validity of the Performance Security until the valid time as specified above, and if the Contractor fails to do so, the Performance Security shall be forfeited. The Contractor shall submit to the Employer the amended Performance Security no later than 14 days before the expiry date of the Performance Security. All expenses incurred in connection with extend the validity and/or supplement the value and/or revise the Performance Security shall be borne by the Contractor.

For avoidance of doubt, the Performance Security shall be forfeited in one of the following cases if the Contractor:

a) refuses to perform the Contract when the contract has come into effect;

b) violate termns and conditions of the Contract;

c) perform the Contract behind the Schedule due to its fault but refuses to extend validity of the Performance Security;

d) fails to extend the Performance Security on time according to the provisions of the Contract;

e) the Employer has evidence that the Contractor used the payment money of this Contract for the wrong purpose.

f) Not complete all minor outstanding work and defects which will not substantially affect the use of the Works for their intended purpose enclosed in PAC documents in accordance with the EPC contract's requirements with confirmation by the Employer.

g) fails to pay the Employer the debt as agreed by the Contractor or determined to be payable in Clause 13 [*Claim*] or Clause 14 [*Dispute*], within determined days after the agreement or dispute resolution conclusion issued.

h) The case allowing the Employer to terminate the Contract in accordance with Clause 10.2. [*Termination by the Employer*], whether or not there is a notice of termination.

Whenever Variations and/or adjustments under Clause 7 [*Variations*] result in an accumulative increase or decrease of the Contract Price stated in the Contract Agreement:

(a) in the case of such an increase, at the Employer's request the Contractor shall promptly increase the amount of the Performance Security by a percentage equal to the increase; or

(b) in the case of such a decrease, subject to the Employer's prior consent the Contractor may decrease the amount of the Performance Security by a percentage equal to the decrease.

The Contractor, at his own costs, shall make Performance Security amendment accordingly."

Time for return the Performance Security: Performance Security will be released by the Employer and returned to the Contractor not later than 28 days after the Contractor fulfills its contract obligations, the Works completion and acceptance and puts into use and the Employer receives the Warranty Security from the Contractor.

Sub-Clause 4.6 Contractor's Documents

The Contractor must provide complete, clear, detailed and easy-to-understand instructions for installation, testing, commissioning and acceptance of all equipment under the Contract for the contractor's experts in equipment installation being able to carry out installation, testing and commissioning without depending on the guidance of on-site-fabricating experts.

Sub-Clause 4.7 Contractor's Design

Add the following content to Sub-Clause 4.7

4.7.3 The Contractor shall provide information technology equipment to connect with management system of the Employer for technical document approval of the bidding package/project. The Contractor shall provide IT system to manage the technical document approval process, provide computer system to back up all data related to the Commissioning process and provide it to the Employer during the implementation process.

The Contractor's design documents shall include drawings, technical documents and other necessary documents as specified in the Employer's bidding documents (or request for proposals) and shall meet the Employer's requirements for the Employer's submission to the competent authority for approval in accordance with the law. Unless otherwise specified, the Contractor's design documents shall be written in the language stated in Clause 1.3 (a).

If the Employer's requirements or legal requirements require the Contractor's design documents to be submitted to the Employer for consideration and approval, this design document shall be submitted together with the notice set forth below. Unless otherwise specified in the Employers' requirements, the time for consideration and approval shall not exceed ... days (the number of days agreed by the parties) from the date the Employer receives the Contractor's valid design documents. During the review and approval period, the Employer may notify the Contractor which contents of the Contractor's design documents to be inconsistent with the Contract. During the review and approval period, the Employer may notify the Contractor that the Contractor's design documents contain contents inconsistent with the Contract, then the Contractor shall amend, supplement and resubmit it for the Employer's consideration and approval in accordance with this Clause and the Contractor shall bear all relevant costs.

All works requiring the design to be approved by the Employer are:

i) The works construction shall be only began after the Contractor's design documents are approved by the Employer;

ii) The works construction shall be complied with the design documents approved by the Employer;

iii) In case of altering the design, the works construction shall be carried out only after the altered design documents are approved by the Employer.

Any such agreement or consideration or approval (under this clause or otherwise) shall not relieve the Contractor's liability or obligations for the work.

4.7.5 As-Built Documents

The Contractor shall prepare, and keep up-to-date, a complete set of "as-built" records of the execution of the Works, showing the exact as-built locations, sizes and details of the work as executed. These records shall be kept on the Site and shall be used exclusively for the purposes of this Sub-Clause. Two copies shall be supplied to the Employer prior to the commencement of the Tests on Completion.

In addition, the Contractor shall supply to the Employer as-built drawings of the Works, showing all Works as executed, and submit them to the Employer for review under Sub-Clause 4.6 [*Contractor's Documents*]. The Contractor shall obtain the consent of the Employer as to their size, the referencing system, and other relevant details.

Prior to the issue of any Taking-Over Certificate, the Contractor shall supply to the Employer the specified numbers and types of copies of the relevant as-built drawings, in accordance with the Employer's Requirements. The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 9.2 [*Taking-Over of Certificate*] and Sub-Clause 9.3 [*Taking-Over Parts of the Works*] until the Employer has received these documents.

4.7.6 Operation and Maintenance Manuals

Prior to commencement of the Tests on Completion, the Contractor shall supply to the Employer provisional operation and maintenance manuals in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair the Plant.

The Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 9.2 [*Taking-Over of Certificate*] and Sub-Clause 9.3 [*Taking-Over Parts of the Works*] until the Employer has received final operation and maintenance manuals in such detail, and any other manuals specified in the Employer's Requirements for these purposes.

Add the following sub-Clauses to Clause 4

Sub-Clause 4.8 - Use of Site Data

The Contractor shall be deemed to have scrutinised, prior to the Base Date, Employer's Requirements (including design criteria and calculations, if any). The Contractor shall be responsible for the design of the Works and for the accuracy of such Employer's Requirements (including design criteria and calculations), except as stated below.

The Employer shall not be responsible for any error, inaccuracy or omission of any kind in Employer's Requirements as originally included in the Contract and shall not be deemed to have given any representation of accuracy or completeness of any data or information, except as stated below. Any data or information received by the Contractor, from Employer or otherwise, shall not relieve the Contractor from his responsibility for the design and execution of the Works.

However, Employer shall be responsible for the correctness of the following portions of Employer's Requirements and of the following data and information provided by (or on behalf of) Employer:

(a) portions, data and information which are stated in the Contract as being immutable or the responsibility of Employer,
(b) definitions of intended purposes of the Works or any parts thereof,
(c) criteria for the testing and performance of the completed Works, and

(d) portions, data and information which cannot be verified by the Contractor, except as otherwise stated in the Contract.

Add the following sub-Clauses to Clause 4

Sub-Clause 4.9 - Contractor's equipment delivery

4.9.1 Employership of Equipment and Materials

Each item of Equipment and Materials complies with applicable Law, including all packaged materials and surplus materials, shall become the property of the Employer at whichever is the earlier of the following times, free from liens and other encumbrances:

a) when it is delivered to the Site;

b) when the Contractor is entitled to payment of the value of the Equipment and Materials under Sub-Clause 8.4.2 Payment for Procurement.

Except the above stipulations, Contractor shall be responsible for all losses or damages to above items those supplied by Contractor or procured the Employer and provided to Contractor for purpose of completion of installation work, as well as all temporary structure and works, parts of installation work completed or underway, till issuance of Provisional Acceptance Certificate for the Works.

Each item of Equipment and Materials complies with applicable law, including all packaging materials and surplus material, the Contractor shall hand over to the Employer.

4.9.2 Permission to Delivery

The Contractor shall give the Employer not less than twenty one (21) days' notice of the date and other information concerning his delivery of any Plant or Construction Equipment to the Site.

No Equipment or Materials shall be shipped before all tests and inspections have been carried out according to the Contract Documents and/or certified copies of the tests and inspection reports and/or Contractor's guarantee have been accepted by the Employer.

Before procuring Equipment and Materials for the EPC contract, the Contractor shall prepare requirements of specifications, technology, and origin to submit to the Employer and the Engineer for approval before proceeding procurement. The acceptance of any Equipment or Materials prior to shipment shall in no way relieve the Contractor of any of his responsibilities for meeting all the requirements of the Request for Proposal and shall not prevent subsequent rejection if such Equipment or Materials is later found to be defective.

The Contractor is responsible for complying with the approved design documents, specifications, technology, and origin of materials and technological equipment in the EPC contract.

Contractor shall be responsible for receiving Equipment and Materials at Site.

Add the following sub-Clauses to Clause 4

Sub-Clause 4.10 - Shipment

(a) Packing and Shipping

The Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Plant and Materials and other things required for the Works and the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Equipment and Materials, and shall negotiate and pay all claims arising from their transport.

(b) Import Licenses

The Contractor shall be responsible for obtaining all necessary permits, licenses or approvals relating to importation, including clearance through customs and release of his shipment in the Socialist Republic of Vietnam.

The Employer is the importer of the Goods, Equipment and Materials and the incentives and exemptions for taxes, duties and fees in relation to the import are applicable only in the name of the Employer.

Customs clearance will be the Contractor's responsibility and the Employer will assist.

(c) Notice of Shipment Schedule

The Contractor shall provide the Employer with a complete shipment schedule twenty-one (21) days prior to the first shipment and shall update and reissue this schedule monthly thereafter.

(d) Shipping Documents

The Contractor shall courier to the Employer at least one (1) original and six (6) copies of the following shipping documents on all the shipments under this Contract immediately after shipment is made to expedite the release of shipment from customs:

- Signed Commercial Invoice;
- Certificate of Insurance covering all risks for 110 percent of the invoiced value;
- Certificate of Quality issued by manufacturer(s);
- Detailed Packing List;
- Certificate of Origin in the country that exported the goods;
- (3/3) Full set of 'Clean on Board' Bill of Lading and two (2) non-negotiable copies, made out to order, blank endorsed, and marked "Freight prepaid"
    - Consignee: To order
    - Notify: Power Generation Corporation 1

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- Or: Airway Bill, in one (1) original and two (2) copies, marked "Freight prepaid";
- Test and Inspection report(s) for the main Equipment.

Separate shipping documents for each kind of shipment shall be provided for Equipment and Materials, replacement for Equipment and Materials, Construction Equipment, and spare parts where such goods are shipped on the same vessel.

Bill of Lading shall clearly identify whether the goods are Equipment and Materials, Construction Equipment, replacement for Equipment and Materials, or spare parts. Bill of lading shall be clean "on board" ocean bill of lading marked "Blank endorsed".

The Contractor's packing list shall include the following:

- Number of packages in shipment
- Weight, dimension and volume of each package
- A complete detailed listing of each item contained within each package, clearly identifying each item and quantity thereof.
- A statement identifying the goods within each package as:

  - Equipment and Materials

  - Construction Equipment

  - Replacement for Plant and Materials

  - Spare parts.

For Construction Equipment, the detailed listing shall identify all such equipment and tools by serial number, trademark, type, make, year and model, plus any additional information which will aid the re-export of the Construction Equipment (if applicable). Such packing lists shall be further identified with the statement "Contractor's Equipment for Temporary Import Only".

(e) Shipping Mark

Each individual package, crate or box to be shipped shall be plainly marked or have stainless tags attached for identification. A copy of the detailed packing list shall be enclosed in the case liner of each package, crate or box. All packing lists shipped with the package, crate or box shall be enclosed in waterproof envelopes. Each package, crate or box shipped shall have, in addition to the usual customary marks, the following identifying marks:

1. Contractor's name and address

   Employer: POWER GENERATION CORPORATION 1
   Project: Upgrade and Retrofit for Flue Gas Treatment System of 300MW and 330MW Units – Uong Bi Thermal Power Plant.

2. Departure port:
3. Destination port:
4. Contract No.:
5. Name of Commodity:

Add the following Sub-clause to Clause 4

Sub-Clause 4.11 - Warranty Security

"The Warranty Security, as regulated in Form. 27b, shall be in amount of five percent (5%) of the Contract Price, in the currency of Contract Price, in the form of an irrevocable and unconditional guarantee payable on demand and issued by a bank acceptable to the Employer, either (a) by a bank located in the country of the Employer, or (b) directly by a foreign bank lawfully operated in the country of the Employer. Guarantee amount is payable against the Employer's written demand accompanied by their statement.

The Contractor shall deliver the Warranty Security to the Employer within 28 days before Taking-Over Date as certified under Sub-Clause 9.2 [*Taking-Over Certificate*].

The Warranty Security shall be effective upon the Taking-Over Date and shall remain in force and effect until the 28thday from the expiry of Defects Liability Period. If the terms of the Warranty Security specify its expiry date and by the date 28 days prior to the expiry date, the Contractor has not become entitled to receive the Final Acceptance Certificate for the Works, the Contractor shall extend the validity of the Warranty Security until the valid time as specified above and provide that Security is extended at least 21 days before the expiry date, and if the Contractor fails to do so, the Warranty Security shall be forfeited.

For the of Consortium/Joint venture, if any Consortium/Joint venture's partner has failed to comply with warranty obligation and payment liability of inspection Delay Damages as per the Contract leading its Warranty Security to be forfeited, the Warranty Securities of all consortium's partners shall be also forfeited.

In case of Sub-Clause 5.6 applied, the Warranty Security shall be extended accordingly. The Employer shall return the Warranty Security to the Contractor within 28 days after the expiry of Defects Liability Period for the Plant and all the outstanding works and defects (if any) have completed following the EPC Contract's requirements with confirmation by the Employer."

Clause 5: QUALITY

Sub-Clause 5.2 Health, Safety and Environment

Replace the entire content of sub-Clause 5.2 with the following content:

5.2.1 The Contractor's responsibility for occupational safety is regulated as follows:

a) The Contractor shall provide safety measures for people, plant and equipment on the construction site, including adjacent works (if any).

b) Safety measures and regulations on occupational safety shall be displayed in public on the construction site for everyone to know and obey; Dangerous locations on the construction site (if any) shall be arranged with instructor, accident warnings.

c) The Contractor shall coordinate with the Employer and the Engineer to regularly inspect and supervise the work safety on the construction site. When violations against occupational safety, construction work shall be stopped.

d) The Contractor is responsible for training, guiding and disseminating regulations on occupational safety for its employees. If there is a work with strict requirements on occupational safety, the employee shall have a certificate of occupational safety training.

đ) The Contractor is responsible for providing adequate labor protection, safety equipment for employees according to regulations when using labor on construction site.

e) When there is an incident on occupational safety, the Contractor shall coordinate with the Engineer and the Employer in processing and reporting to the State management agency in charge of occupational safety in accordance with the law, and at the same time be responsible for remedying and compensating for damages caused by the Contractor's failure in occupational safety.

5.2.2 The Contractor's responsibility for environmental protection is regulated as follows:

a) The Contractor shall take measures to ensure the environment for workers on construction site and protect the surrounding environment including measures to prevent dust, prevent noise and clean up the site; wastewater, solid waste and other types of waste shall be collected and treated up in compliance with environmental standards and technical regulations.

b) During the transportation of construction waste, applicable measures shall be taken to ensure safety and environmental sanitation.

c) The Contractor shall coordinate with the Engineer to inspect and supervise the implementation of construction environmental protection, and at the same time be subject to inspection and supervision of the State management agency in charge of environment. In case the Contractor fails to comply with regulations of environmental protection, the Employer and the State management agency in charge of environment are entitled to suspend construction and request the Contractor to comply with the environmental protection measures.

5.2.3 The Contractor shall comply with current regulations on fire prevention.

Sub-Clause 5.3 Quality assurance

Add the following content at the end of Clause 5.3

For equipment needs the presence of Contractor's experts to supervise the process of assembling, testing, calibration and commissioning, the Contractor shall ensure the experts being present on the site to perform their duties, and at the same time submit the written letter of repair recommendations to the Employer in case the Contractor's assembling does not comply with the instructed requirements. If the experts fail to give timely instructions and recommendations to the Employer, the Contractor shall be responsible for the quality of the assembled equipment.

The Contractor commits that the Contractor and the Manufacturer of the main equipment participating in materials and equipment delivery of this Contract will not impose any constraints or restrictions in providing technical consulting services, providing spare/replacement materials and equipment after the warranty period of the Contract. This commitment includes, but is not limited to, provisions obstructing the Employer's access to the above-mentioned services and equipment in order to improve the operational reliability of the equipment/system.

Sub-Clause 5.4 Inspection and Testing

Add the following contents at the end of Sub-Clause 5.4

"5.4.4 Testing and Inspection during Manufacture

General

Both Parties agree that the number of tests witnessed by the Employer at manufactures place will be discussed in the kick-off meeting. Test during manufacture will follow the Inspection and Test plan (ITP). However, the Employer has the right to request or witness any Inspection.

The Employer and the Engineer shall have the right, whenever he shall deem necessary, to inspect, examine and test the fabrication and the assembly of Plant and Materials in the Contractor's workshops and at the Site, and witness the tests of Plant and Materials. The Contractor shall provide all necessary assistance to these visits, inspections and checks and give all the information requested.

The Contractor shall provide the Employer with a list of the workshops in which the different parts of the supply are manufactured and shall furnish all information that may be useful for the checking of the manufacturing, such as material orders, etc. In cases where parts of the machinery are manufactured in the workshops of a subcontractor, the Contractor shall arrange that the Employer and the Engineer may freely and without hindrance inspect and examine Plant and Materials and witness the tests, just as if these were in the Contractor's workshop.

The Contractor shall be obligated, moreover, to supply for his account all means required for all inspections which by law are to be made by the Government Authorities or other recognized Authorities.

All expenses relating to the Employer's foreign inspection visits (if any) shall be at the expense of the Contractor. This shall include, but not limited to, visa application fee, travel expenses (international and domestic fares), accommodation, per diem and subsistence allowance, travel and medical

insurance, miscellaneous costs incurred during the inspection visits. The Employer's foreign inspection visits shall be agreed by Parties.

If any test is either:

(a) not intended or provided for; or

(b) not defined; or

(c) intended or provided for but is ordered by the Employer to be carried out by an independent person at any place other than the place of manufacture or fabrication of the material tested,

then the cost of such tests shall be borne by the Contractor if the test shows the design, workmanship, Plant or Materials are not in accordance with the provisions of the Contract, otherwise, such costs will be borne by the Employer. The additional inspections that will be necessary due to the Contractor's fault shall be borne by the Contractor.

No such inspection, examination or testing shall relieve the Contractor of his responsibility for furnishing Plant and Materials in accordance with the requirements of the Contract.

Dates for Inspection and Testing

In the Bidding Document the tests to be carried out by the Contractor are indicated. Within two (2) months from the Effective Date of the Contract, the Contractor shall submit to the Employer, complete lists of the tests which shall be carried out in the workshops. The Contractor shall inform the Employer of the details and dates of performance of such tests and such information must reach the Employer at least thirty (30) days before the performance of the tests. The tests may be witnessed by the Employer and the relevant tests reports shall be countersigned by both the Contractor and the Employer. The Employer shall inform in due time the Contractor of the Employer's decision to attend any of the tests above listed.

The testing procedure shall be furnished to the Employer at least thirty (30) days before performance of the Test.

The Employer reserves the right to attend any tests other than those included in the above list even if not specifically required to be witnessed by him nor mentioned in the Bidding Document. The Contractor shall provide utmost facilities for such tests.

In case the Contractor desires to use Plant and Materials not manufactured specifically for the Works in accordance with the Employer's Requirements, he shall submit satisfactory evidence to the Employer that such material conforms to the requirements of these Employer's Requirements, in which case the detailed tests on the Plant and Materials may be waived.

Six (06) certified copies of the reports, including curves and oscillograms, on all required tests, regardless whether such tests have been witnessed by the Employer or not, shall be promptly furnished by the Contractor. The reports shall be in such

form as to demonstrate the compliance of the Plant or any part thereof to the Employer's Requirements.

Facilities for Testing

The Contractor shall carry out, at his own expense, the tests in conformity with the provisions of the Bidding Document and the Contract.

The Contractor shall also provide such all necessary assistance, including documents and other information, qualified and experienced labour, materials, electricity, fuel, consumables, stores, apparatus and instruments as may be necessary to carry out the tests efficiently.

Rejection of Defective Plant

If, as a result of the inspection, examination or testing referred to in this Article, upon consultation to the Engineer, the Employer decides that any Plant, Materials, design or workmanship is defective or otherwise not in accordance with the Contract, he may reject such Plant, Materials, design or workmanship and shall notify the Contractor thereof immediately.

The notice shall state the Employer's objections with reasons. The Employer shall not reject any Plant for minor defects which do not affect the commercial operation of such Plant.

Defective Plant and Material may be rejected by the Employer at any time before the Final Acceptance of the Works and when such work has been rejected, the Contractor shall then promptly make good the defect or ensure that any rejected Plant complies with the Contract.

If the Employer requires such Plant or Materials to be retested, the tests shall be repeated under the same terms and conditions. All costs incurred for the repetition of the tests shall be borne by the Contractor or deducted from the Contract Price.

5.4.5 Shop Assembly

Shop assembly to the largest extent feasible shall be performed by the Contractor to assure proper fitting of the various parts and for checking the correctness of clearance and dimensions. Parts thus assembled shall be match-marked for reassembly at the Site, prior to being dismantled for shipment. A detailed description of the intended shop assembly shall be supplied.

5.4.6 Testing and Inspection during construction

Tests during construction will follow the Inspection and Test Plan (ITP). However, the Employer has the right to request or witness any Inspection at Contractor's expenses.

Sub-Clause 5.6 Performance Certificate

Amend and supplement the respective provisions related to Performance Certificate (or Final Acceptance Certificate) as follows:

"Final inspection shall be conducted two (2) months before the expiry of the Defects Liability Period in order to ascertain that all defects and deficiencies are rectified and the Works have technically complied with the provisions of the Contract prior to the issuance of the Final Acceptance Certificate.

The Contractor shall dispatch his competent and appropriate personnel for such inspection at his own cost. The Employer shall, in consultation with the Engineer, set the date of such inspection taking into account such factors as the Employer's operation.

If the Contractor fails to comply with final inspection schedule agreed by Employer, the Contractor shall subject to Sub-Clause 13 [*Claims*] pay inspection Delay Damages to the Employer for this default. These Delay Damages shall be:

- 0.2% of Contract Price for Works, or
- 0.1% of Contract Price for Unit,

which shall be paid for every day elapsing after final inspection schedule.

Maximum amount of inspection Delay Damages shall be 5% of Contract Price.

These damages shall not relieve the Contractor from his obligation to complete the Works, or, from any other duties, obligations or responsibilities which he may have under the Contract.

When the Defects Liability Period for the Works has expired and upon fulfilment of all justified claims concerning the remedy/correction of faults, defects, deficiencies and other contractual obligations by the Contractor and provided that there are no reservations pending, the Employer, upon consultation with the Engineer, shall issue a Final Acceptance Certificate from which date the Employer shall take full responsibility for the operation, maintenance and protection of the Works.

The Employer shall issue the Final Acceptance Certificate for the Works within 28 days after the latest of the expiry dates of the Defects Liability Period, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. If the Employer fails to issue the Final Acceptance Certificate accordingly, the Final Acceptance Certificate shall be deemed to have been issued on the date 28 days after the date on which it should have been issued, as required by this Clause.

Only the Final Acceptance Certificate shall constitute the ultimate acceptance of the Works.

The following items must be completed and accepted by the Employer prior to issuing of the Final Acceptance Certificate:

(a) The Contactor has submitted all documentation as required by the Contract;

(b) The Contractor has fulfilled his payment obligations to the Employer under the Contract;

(c) The Contractor has completed all punch list items;

(d) The Contractor has completed all defects during the Defects Liability Period;

The Employer shall verify and confirm that all Works are completed finally in accordance with the Contract."

Clause 6: TIME

Sub-Clause 6.1 Execution of the Works

Delete the entire content of Clause 6.1.1

Sub-Clause 6.5 Delay Damages

In this Sub-Clause, Delay Damages shall be understood as "Delay Penalties and indemnities"

Replace the entire content of sub-Clause 6.5 as follows:

If the Contractor fails to comply with the requirements stipulated in 2(i) [*Time to Implement the Package*], 2(iii) [*Procurement*], 2(iv) [*Installation, Testing and Commissioning*] of Part 2, Chapter VI, Bidding Document which is neither caused by an exceptional event nor by the Employer's fault, the Employer shall be entitled subject to Sub-Clause 13.1 [*Right to Claims*] to payment of Delay Damages by the Contractor for this default.

These Delay Penalties shall be determined by the Employer and paid by the Contractor as the sum of delay penalty amounts upon the delay penalty per day multiply with the number delaying days in the delaying period to be determined in the manner set out below:

a) The delay penalties

- The delay penalty per one delaying day of Works shall be 0.2% of Contract Price as agreed by the Parties and set out in the Contract Agreement.
- The delay penalty per one delaying day of Unit shall be 0.1% of Contract Price as agreed by the Parties and set out in the Contract Agreement.
- Number of delaying days of Works shall the number of days elapsing between the date of the Time for Completion for Works and the Taking-Over Date.

The total amount of the Delay Penalties shall not exceed 12% of total Contract Price set out in the Contract Agreement and such Delay Penalties shall be resolved before issuance of the Provisional Acceptance Certificate except as otherwise accepted by the Employer.

The penalties under the Sub-Clause 8.8 shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities, which the Contrator may have under the Contract.

b) The delay indemnities

In addition to regulations on penalty, the Contractor is responsible for compensating all actually direct and indirect damages to the Employer accrued from the Contractor's fault or breach during contract performance.

These penalty and compensating shall not relieve the Contractor from the obligation to complete the Works, or from any other duties, obligations or responsibilities which the Contractor may have under or in connection with the Contract.

Sub-Clause 6.6 Exceptional Events

Supplement the first paragraph to Sub-clause 6.6 as follows:

"Force Majeure Event" means any event or circumstance which is beyond the reasonable control of the affected Party, could not reasonably have been foreseen at the time of entering into this Contract, and could not have been prevented or overcome by the affected Party despite having taken all reasonable measures.

Force Majeure Events may include, but are not limited to, acts of God such as storms, floods, earthquakes, tsunamis, landslides, droughts or other natural disasters; fire or explosion; war (declared or undeclared), riots, civil commotion, terrorism, blockade; epidemic or pandemic declared by a competent authority; widespread strikes not caused by the affected Party; or acts, orders, or decisions of a competent governmental authority which prevent a Party from performing its obligations under this Contract.

A circumstance shall only be considered a Force Majeure Event if it is beyond the reasonable control of the affected Party and directly prevents or delays the performance of its obligations under this Contract.

For the avoidance of doubt, financial hardship, changes in market conditions, price fluctuations, lack of funds, or similar circumstances shall not constitute a Force Majeure Event.

Add the following contents to Sub-Clause 6.6:

6.6.2 A notice under Clause 6.6.1 must:

(i) fully describe the Exceptional Event with certified evidence proving the occurrence of the event and the estimation of period of duration thereof; and

(ii) estimate in good faith of the degree to which and the period for which its performance will be affected thereby; and

(iii) specify the countermeasures to remedy or abate the Exceptional Event 6.6.3 The Party affected by the Exceptional Event shaw upon request, provide other information as the Party no affected by the Exceptional Event may reasonably require.

Clause 8: CONTRACT PRICE, ADVANCE PAYMENT AND PAYMENT

Sub-Clause 8.1 Contract Price

Replace the name of Clause 8.1 from "Valuation of the Works" to "Contract Price".

This Contract is a lump-sum contract and only governed in accordance with provisions in the Contract.

The Contract Price includes all costs for the work performance: all costs, fees, profits, and all taxes related to the work in accordance with the law.

Unless otherwise expressly specified in the Contract, the Contractor shall bear all risks relating to the costs of work performance and the Contractor shall be deemed to have obtained all necessary information and taken into account all the necessary circumstances that may affect the costs of determining the Contract Price.

Sub-Clause 8.2 Advance Payment

Replace the entire content of Sub-Clause 8.2 as follows:

The Employer shall make advance payment, as an interest-free loan for mobilization and design within fourteen (14) days from receipt of the following documents from the Contractor:

(a) The Contractor's claim for payment in one (1) original and the Contractor's commercial invoice (if any)

(b) Advance Payment Security in accordance with Sub-Clause 8.2 [*Advance Payment*] and as hereunder the amount equal to 10% of the EPC Contract Price;

(c) Performance Security in accordance with Sub-Clause 4.5 [*Performance Security*].

The amount of Advance Payment is ten (10) percent of Contract Price (excluding import tax, VAT and CAR, EAR Insurances), shall be made in one installment.

The value of Advance Payment Security may be deducted in installments corresponding to the recovery process of advance payment from Contractor.

The Advance Payment Security shall be issued in the form of an irrevocable and unconditional guarantee payable on demand stipulated in this Contract and shall be issued by either (a) by a bank located in the country of the Employer or a foreign bank through a correspondent bank located in the country of the Employer, or (b) directly by a reputable foreign bank having branch lawfully operating in Vietnam acceptable to the Employer. The format of this Advance Payment Security shall be in accordance with the sample forms of advance payment security stipulated in this Contract; other formats may be permitted, subject to the prior approval of the Employer.

The Advance Payment Security shall be provided by the Contractor within fifteen (15) days from Contract signing and shall remain valid and in full effect from the date the Employer make the Advance Payment to the Contractor until the advance payment has been fully repaid (via recovery of advance payment as mentioned below).

Recovery of advance payment: The advance payment shall be repaid through proportional deduction in interim payments (at least 10% of payment value),

starting from the first payment, and completing after the payment value reaches 80% Contract value.

Such guaranteed amount shall be reduced periodically by the amounts recovered by Employer from the proceeds of the Contract upon our receipt of copy of set of each claim for payment signed by both the Employer and the Contractor showing amount of guarantee to be reduced.

The Contractor shall ensure that the Advance Payment Security is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by the amount repaid by the Contractor. If the terms of the security specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Advance Payment Security until the advance payment has been repaid. The Contractor shall submit to the Employer the amended Advance Payment Security no later than 21 days before the expiry date of the Advance Payment Security.

All expenses incurred in connection with extend the validity and/or supplement the value and/or revise the Advance Payment Security shall be borne by the Contractor.

The Employer shall return the Advance Payment Security to the Contractor within twenty-eight (28) days after issuance of the Provisional Acceptance Certificate for the Works.

In case, the Employer does not make advance payment in time, the Contractor is entitled to payment of these financing charges under *Sub-Clause 8.7 [Delayed Payment]*.

Sub-Clause 8.4 Interim Payment

Replace the entire content of Sub-Clause 8.4 as follows:

"No amount will be certified or paid until the Employer has received, and approved, the performance security in accordance with Sub-Clause 4.5. Thereafter, the Engineer shall, within seven (07) days of receiving a Statement and supporting documents submitted by the Contractor, deliver to the Employer with a copy to the Contractor a certified Statement (payment certificate) for Interim Payment showing the amount which the Engineer considers to be due; if no payment is considered to be due, the Employer shall promptly notify the Contractor accordingly.

Payments due shall not be withheld on account of:

(a) defects: any supply or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement shall be deducted by the Engineer from any amount otherwise due;

(b) part (only) of the payment applied for being disputed: in such case, a payment certificate shall be issued for the undisputed amount.

The Engineer may in any payment certificate make any correction or modification that should properly be made to any previous certificate. Payment shall not be

deemed to indicate the Employer's acceptance, approval, consent or satisfaction but is payment on account only.

8.4.1 Application of Interim Payments

The Contractor shall submit a Statement in six (6) copies to The Employer 1) after each shipment or delivery for Equipment Supply Work, or 2) after the end of each month for Construction, Installation and other services (including Materials) of the Works in a form approved by the Employer, showing in detail the amounts to which the Contractor considers himself to be entitled as specified in Sub-Clause 8.4.2 hereunder [*Schedule of Payment*].

Details of the procedure for such application will be discussed and mutually agreed by both Parties in the execution of the Project (kick-off meeting).

8.4.2 Schedule of Payment

Within 30 days of the Effective Date of the Contract, the Contractor prepares to submit a Schedule of Payment, which includes a Comprehensive Rate Sheet consisting of hard copy and soft copy using Microsoft Excel 2019. Subsequently or quarterly, the Contractor will update this payment schedule.

The payment of EPC Contract Price shall be made in the following procedures:

8.4.2.1 Application for Interim Payment

a. Payment of Cost of Equipment and Materials supplied from abroad

- Seventy percent (70%) of the total sum of "Design & Manufacture" and "Freight & Insurance" (CIF Price) of respective items as indicated in the Contract Price Schedule (excluding import tax, VAT) and ninety percent (90%) of the "Inland Transportation" of respective items as indicated in the Contract Price Schedule (excluding import tax, VAT) and one hundred percent (100%) of the VAT and import tax amount as indicated in the VAT invoice shall be paid to Contractor's account upon delivery to the Site and submission of the Contractor of the Application for Interim Payment within thirty (30) days with the followings supporting documents:
  - The Contractor's claim for payment in one (1) original;
  - One (1) original and two (2) copies of the VAT invoice;
  - Certificate of Insurance covering all risks for 110 percent of the invoiced value in one (1) original and six (6) copies;
  - Certificate of Quality issued by the qualified manufacturer(s) in one (1) original and six (6) copies;
  - General Packing List and Detailed Packing List in one (1) original and six (6) copies;
  - Certificate of Origin issued by competent authorities in the country that exported the goods in one (1) original and six (6) copies;

- "Clean on Board" Bill of Lading in three (3) originals and two (2) nonnegotiable copies, made out to order, blank endorsed, and marked "Freight prepaid" –
- Consignee: To Order
    - Notify:
    - Or: Airway Bill, in three (3) originals and two (2) copies, marked "Freight prepaid";
- Test and Inspection report(s) during manufacture and shop assembly in one (1) original and six (6) copies;
- Three (3) copies of customs declaration form showing clearly and fully detailed information, tax and fee payment receipts;
- One (1) original and five (5) copies of Certificate of Delivery, issued by the Employer to the Contractor in accordance with Sub-Clause 4.10 [Shipment], to verify that the goods are of the correct origin and meet the technical specifications in accordance with the Contract including all tests and inspection certificates/reports for the respective item to be delivered;
- Six (6) original Statement of interim payment showing the following detailed informations: Value of completed Works of the Contract; Deduction amount of Advance Payment; Payment application value after deductions of the above-mentioned amounts agreed by the Employer and the Contractor (duly signed and stamped by both Parties).

➢ Twenty percent (20%) of the total sum of "Design & Manufacture" and "Freight & Insurance" (CIF Price) of respective items as indicated in the Contract Price Schedule (excluding import tax, VAT) shall be paid to Contractor's account upon delivery to the Site and the Contractor's submission of the Contractor of the Application for Interim Payment within thirty (30) days with the followings supporting documents:

- The Contractor's claim for payment in one (1) original;
- One (1) original and five (5) copies of Certificate of Testing and Commissioning Completion issued by the Employer;
- Six (6) original Statement of interim payment showing the following detailed informations: Value of completed Works of the Contract; Deduction amount of Advance Payment; Payment application value after deductions of the above-mentioned amounts agreed by the Employer and the Contractor (duly signed and stamped by both Parties).

b. Payment of Cost of Plant/Equipment/materials supplied from the Employer's country

Ninety percent (90%) of the total amount of respective items as indicated in the Contract Price Schedule (excluding VAT) and one hundred percent (100%) of the

VAT amount as indicated in the VAT invoice shall be paid, upon delivery to the Site, within thirty (30) days after receipt of the documents below:

- The Contractor's claim for payment in one (1) original;
- One (1) original and five (5) copies of the VAT invoice;
- One (1) original and five (5) copies of Certificate of Delivery, issued by the Employer to the Contractor in accordance with Sub-Clause 4.10 [Shipment], to verify that the goods in accordance with the same procedures as those applied to Cost of Plant/Equipment/Materials supplied from the Employer's country and meet the technical specifications in accordance with the Contract including all tests and inspection certificates/reports for the respective item to be delivered;
- Six (6) original Statement of interim payment showing the following detailed informations: Value of completed Works of the Contract; Deduction amount of Advance Payment; Payment application value after deductions of the above-mentioned amounts agreed by the Employer and the Contractor (duly signed and stamped by both Parties).

c. Payment of Cost of Construction, Erection and Testing of the Works;

Ninety percent (90%) of the Price of the Construction, Erection and Testing Work of the respective items as indicated in the Contract Price Schedules (excluding VAT) and one hundred percent (100%) of the VAT amount as indicated in the VAT invoice shall be paid within thirty (30) days upon submission of the Contractor of the Application for Interim Payment with the following supporting documents:

- The Contractor's claim for payment in one (1) original
- One (1) original of Certificate of Work Done issued by the Employer;
- One (1) original and five (5) copies of VAT invoice;
- One (1) original and five (5) copies of Certificate of Testing and Commissioning Completion issued by the Employer (applicable to testing and commsioning only);
- Six (6) original certificate of interim payment showing the following detailed informations: Value of completed Works of the Contract; Deduction amount of Advance Payment; Payment application value after deductions of the above-mentioned amounts agreed by the Employer and the Contractor (duly signed and stamped by both Parties).

d. Payment of the "Other Services" (excluding the CAR, EAR Insurances) of the Contract Agreement

Ninety percent (90%) of price of the respective item indicated in the Contract Price Schedules (excluding VAT) and one hundred percent (100%) of the VAT amount as indicated in the VAT invoice shall be paid within thirty (30) days upon

submission of the Contractor of the Application for Interim Payment with the following supporting documents:

- The Contractor's claim for payment in one (1) original;
- One (1) original and five (5) copies of VAT invoice;
- One (1) original and five (5) copies of Certificate of Training Completion issued by the Employer for execution of the Employer's Personnel training (applicable to training only); or
- Six (6) original certificate of interim payment showing the following detailed informations: Value of completed Works of the Contract; Deduction amount of Advance Payment; Payment application value after deductions of the above-mentioned amounts agreed by the Employer and the Contractor (duly signed and stamped by both Parties).

e. Payment of the CAR, EAR Insurances

The Employer shall pay the Price of the Insurance as actual insurance premium amount paid by the Contractor to the insurer under the Insurance Contract, and in any case, not exceeding the amount indicated in the Contract Price Schedules.

- Fifty percent (90%) of the Price of the Insurance (excluding VAT) and one hundred percent (100%) of the VAT amount as indicated in the VAT invoice shall be paid within thirty (30) days after the Insurance Contract has become effective and valid, and the Contractor submits the Application for Interim Payment with the following supporting documents:
  - The Contractor's claim for payment in one (1) original;
  - One (1) original and five (5) copies of the VAT invoice;
  - Certified copy of the Insurance Contract between the Contractor and the Insurer;
  - Certified copy of the Insurance Certificate;
  - Copy of the VAT Invoice issued by the Insurer to the Contractor;

The Contractor shall be responsible for all the preparations and arrangements in respect of personnel, tools, storage, and coverage to protect the Goods.

Simultaneously with such payment, the advance payment security mentioned above shall be reduced proportionately.

The schedule of shipment shall be in complete satisfaction of and reasonably suitable for the schedule of construction, installation, and other services of the Works. The Employer shall reserve the right to delay payments for the shipment which is determined by The Employer as unreasonably early delivery compared to the Contractor's implementation schedule specified in the Time Schedule of Contract. Such delay shall not be considered as delayed payment and the sub-Clause 8.7 *[Delayed Payment]* hereunder shall become inapplicable.

For all aforementioned payments, the Contractor is responsible for providing other documents as required (if any) by the lender who grants credit and/or money to the Employer."

For avoidance of doubt, calculating the payment period, Saturdays and Sundays shall be included; however, any official public holidays in Vietnam, including the Tet (Lunar New Year) holidays, shall be excluded from such calculation.

Sub-Clause 8.5 Release of Retention Money

Replace the entire content of Clause 8.5 with:

"The total value of the Retention Money under the Contract is **ten (10) percent of the Contract Price excluding import tax and VAT**.

For the avoidance of doubt, the following items must be completed and acceptable to the Employer before making any payment of Retention Money to the Contractor:

- Employer's claim under Sub-Clause 13 [*Claims*];
- Contractor's claim under Sub-Clause 13 [*Claims*];
- Extension of time under Sub-Clause 6.4 [*Extension of Time for Completion*];
- Commercial deviations occurred during Contract performance.

When the Employer approves commercial deviation of the Contract, in the event that the total value of goods, constructions and services after commercial deviation is different from the total value of the issued VAT invoices, the Contractor shall issue respective adjusted VAT invoices. The amount of commercial deviation (excluding import tax and VAT) and the difference in import tax and VAT amounts (in case of downward adjustment) shall be offset or deducted from the Retention Money before releasing.

Payment of Retention Money shall be made as follows:

(a) Fifty percent (50%) of Retention Money shall be paid after offset or deduction of the commercial deviation within thirty (30) days against the Contractor's presentation of the following documents:

- The Contractor's claim for payment in one (1) original;
- One (1) original and five (5) copies of Provisional Acceptance Certificate for the Works issued by the Employer;
- One (1) original and five (5) copies of the VAT invoice for commercial deviation amount;
- Warranty Security with the value of 5% of the Contract Price.
- Completion of all minor outstanding work and defects which will not substantially affect the use of the Works for their intended purpose enclosed in PAC documents in accordance with the EPC contract's

requirements with confirmation by the Employer.

(b) Fifty percent (50%) of Retention Money shall be paid within thirty (30) days against the Contractor's presentation of the following documents:

- One (1) original and five (5) copies of Final Payment Certificate and Final Acceptance Certificate for the Works issued by the Employer;
- One (1) original and five (5) copies of Contractor's signed invoice.

Prior to any payment, the Employer shall deduct any amounts payable by the Contractor to the Employer (if any).

If necessary as the Contractor's proposal, the Employer may consider releasing the remaining Retention Money provided that the Contractor shall submit a Security of Retention Money with respectively proposed value and in the form of an irrevocable and unconditional guarantee payable on demand and issued by a bank acceptable to the Employer, either (a) by a bank located in the country of the Employer, or (b) directly by a foreign bank branch lawfully operated in Vietnam. The content of the Retention Money Security shall be subjected to the Employer's approval.

In case of remedy or replacement of Goods, the respective warranty period of such goods and equipment shall be extended for an appropriate period specified in the Technical Requirements, Scope of Work and Programme after the Employer's acceptance of such remedy and replacement.

If technical defects or damages occur during the warranty period and the cause is determined to be the Contractor's fault, the Contractor shall be responsible for remedy and replacement fully and promptly at all costs of according to the Employer's required time. Before carrying out the remedy, the Contractor shall give the plan and cause to the Employer for the coordination of implementation. In case of exceeding the specified time as required, the Contractor intentionally delays the remedy, the Employer has the right to hire other organizations to perform and the Contractor shall bear all these relevant costs.

At the time of 28 days before the expiry date of the Warranty Security, if the Contractor has not completely overcome the above shortcomings, the Contractor shall extend the guarantee period with the full value of the warranty security in accordance with the time agreed between the two parties to remedy the shortcomings and submit to the Employer at least 21 days before the expiration of the Contract Performance Guarantee. In the event that at the time of 28 days before the expiry date of the warranty guarantee, if the Contractor fails to extend the guarantee, the Employer has the right to confiscate the warranty security.

Clause 9: TAKING-OVER

Replace the entire content of Clause 9.1 with the following:

Sub-Clause 9.1 Test on Completion

9.1.1 Contractor's Obligations

The Contractor shall carry out the Tests on Completion in accordance with this

Clause after providing the documents in accordance with Sub-Clause 4.7.5 [*As-Built Documents*] and Sub-Clause 4.7.6 [*Operation and Maintenance Manuals*].

The Contractor shall give to the Employer not less than 07 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Employer shall instruct.

The Tests on Completion shall be carried out in the following sequence of the design, procurement, manufacture, delivery to site, construction, installation, testing, tunning, pre-commissioning, commisioning, reliability run, performance tests, which shall include the specified operational tests to demonstrate that the Works or Section can be operated safely and as specified, under all available operating conditions.
During reliability run, when the Works are operating under stable conditions, the Contractor shall give notice to the Employer that the Works are ready for any other Tests on Completion, including performance tests to demonstrate whether the Works conform with criteria specified in the Employer's Requirements and with the Performance Guarantees.

Reliability run shall not constitute a taking-over under Clause 9 [*Taking-Over*]. Unless otherwise stated in the Conditions of Contract, any product produced by the Works during reliability run shall be the property of the Employer.

In considering the results of the Tests on Completion, appropriate allowances shall be made for the effect of any use of the Works by the Employer on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed each of the Tests on Completion described as above, the Contractor shall submit a certified report of the results of these Tests to the Employer.

9.1.2 Delayed Tests

If the Tests on Completion are being unduly delayed by the Contractor, the Employer may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Employer.

If the Contractor fails to carry out the Tests on Completion; within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. These Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

9.1.3 Retesting

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 9.1.5 [*Rejection*] shall apply, and the Employer or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions. If the retesting cause the Employer to incur additional costs, the Contractor shall subject to Clause 13 [*Claims*] pay these costs to the Employer.

During commissioning and tuning, if the unit tripped leading to load reject and shutdown more than one (01) time, that caused by the Contractor, next restarts the unit for Contractor testing purposes shall be subject to the Contractor 's costs and expenses for such restart.

The payment for liquidated damage corresponding to the restart status of the power plant's units is specified as follows:

Liquidated Damage = Fuel Consumption for Start-up x Fuel Price.

- Fuel Consumption for Cold Star-up (if the unit is shut down for more than 144 hours) shall be: 217,4 tons.
- Fuel Consumption for Warm Start-up (if the unit is shut down for more than 40 hours) shall be: 108,7 tons.
- Fuel Consumption for Hot Start-up (if the unit is shut down for more than 05 hours) shall be: 68,6 tons.

Note:

Fuel Consumption shall be based on the start-up condition (Cold, Warm, Hot) that is applied to the unit’s shut-down duration accordingly.

Fuel price is DO price (VND/tone) announced by Petrolimex in Quang Ninh province at the time closest to the time the unit restart.

9.1.4 Failure to Pass Tests on Completion

The Contractor guarantees that during the Tests on Completion, the Works and a all parts thereof shall attain the Performance Guarantees as stated in the Bidding Document (“Performance Guarantees”) subject to and upon the conditions therein specified.

If the Guaranteed Performance Parameters are not achieved during the first Performance Test, the Contractor shall carry out corrective measures and conduct Performance Test at its own cost within accepted period and settlement by the Employer.

If the ESP system or any part thereof fails to satisfy any applicable Performance Guarantees after ESP, however, provided that the Works or any part thereof attain the Minimum Performance Requirements then subject to the Employer’s approval option, the Contractor shall:

(i) making such adjustments, modifications or additions at Contractor’s own expense as shall be necessary to achieve the applicable Performance Guarantees and repeating the applicable Tests on Completion to demonstrate such achievement; or

(ii) paying to the Employer as liquidated damages the amount specified as follows:

The payment for liquidated damage for every 01mg/Nm3 higher than the minimum Performance Guarantee Parameter of dust emissions at the ESP outlet while other criteria are met the requirements on minimum Performance

Guarantee Parameter corresponding to:

- For 300 Unit: being 1,260,000,000 VND
- For 330 Unit: being 1,330,000,000 VND

Maximum Liquidate damage under this Sub-Clause: 10% Contract Price of ESP

c) If the Works, or a Section do not attain the Performance Guarantees as stated in in the Bidding Document ("Performance Guarantees") or the Guaranteed Performance Parameters of dust emissions at the ESP outlet are not achieved and being higher than 10mg/Nm3. The Employer shall be entitled to apply the remedies set out below, without prejudice to any other rights under the Contract.

(i) Require the Contractor to remove the non-compliant part of the Works or Plant and reinstate the system to its original configuration prior to installation at its own cost and risk and within period and method accepted by the Emloyer ensuring existing Plant's safety operation;

(ii) Simultaneously, the Contractor shall reimburse to the Employer all amounts previously paid or advanced in respect of such part of the Works or Plant and set off any amount due from the Contractor under this Clause against any monies due or to become due to the Contractor under the Contract or under any other contract or arrangement between the Parties.

(iii) The Contract termination in this case cause the Employer to incur additional costs, the Contractor shall subject to Clause 13 [*Claims*] pay these costs to the Employer.

9.1.5 Rejection

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or workmanship is found to be defective or otherwise not in accordance with the Contract, the Employer may reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

If the Employer requires this Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Employer to incur additional costs, the Contractor shall subject to Clause 13 [*Claims*] pay these costs to the Employer.

Sub-Clause 9.2 – Taking-Over Certificate

Amend and supplement the respective provisions related to Taking-Over Certificate as follows:

"If the Employer is satisfied with the results of Tests on Completion and Performance Guarantee Tests that have been successfully completed, the Employer shall within seven (7) days, after receipt of results, make an announcement stating the date on which the Works are deemed to have been

completed (Completion Date) and such part(s) are taken over or used by the Employer (Taking-Over Date).

For the avoidance of doubt, the following items must be completed and acceptable to the Employer before taking over of the Works:

(a) All commissioning and testing activities have been successfully completed;

(b) Performance Tests have been successfully completed within the acceptance limits specified in the Contract;

(c) All Permits, Licenses and Certificates for which the Contractor will be responsible are complete and available as required by the Local regulatory Authorities in accordance with the Contract.

(e) A completion punch list of minor outstanding work and defects (including NCRs) which do not affect the safe and reliable operation of the Plant is established with the proposed schedule to complete the outstanding work and defects;

(f) The spare parts (if any) already supplied and handed over according to Contract Documents;

(g) Warranty procedure for Employer's approval.

If the Employer is not satisfied, then the Employer shall notify the Contractor in writing of any defects and/or deficiencies within seven (7) days after receipt of the report and the above procedure will be repeated.

As soon as possible after the Contractor has completed the 30-day Reliability Run without prejudice to the foregoing, the Contractor shall

(a) carry out the Performance Tests and repeats thereof, and

(b) complete all minor outstanding items

to ascertain whether the Works can attain the Performance Guarantees so that the Works are fully in accordance with the requirements of the Contract.

In case the Contractor does not complete all above obligations, Employer has right but not obligation to undertake such completion and deduct the costs thereof from any amount owing to the Contractor.

The procedure to issue Provisional Acceptance Certificate (PAC) by the Employer shall be as follows:

The Employer shall, within 42 days after receiving the Contractor's application:

(a) issue the Provisional Acceptance Certificate to the Contractor, stating the date on which the Works were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works for their intended purpose (either until or whilst this work is completed and these defects are remedied); or

(b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Provisional Acceptance Certificate to

be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

For the avoidance of doubt, the following items must be completed and acceptable to the Employer before PAC issuance of the Works:

(a) Training is completed in accordance with the Contract;

(b) As-built drawings/documents, Operation and Maintenance Manuals have been successfully completed are submitted properly and sufficiently in accordance with the Contract;

(c) The Delay Penalties and Liquidated Damages shall be resolved in accordance with Sub-Clause 6.5 [*Delay Damages*] and Sub-Clause 9.6 [*Performance Guarantees*]."

Clause 11: RISK AND RESPONSIBILITY

Sub-Clause 11.3 Indemnities

Replace the entire content of Clause 11.3 as follows:

11.3.1 Indemnities by Contractor

The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all third party claims, damages, losses and expenses (including legal fees and expenses) in respect of.

(a) bodily injury, sickness, disease or death of any person whatsoever arising out of or in the course of or by reason of the Contractor's execution of the Works, unless attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents; and

(b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss:

  (i) arises out of or in the course of or by reason of the Contractor's execution of the Works, and

  (ii) is attributable to any negligence, willful act or breach of the Contract by the Contractor, the Contractor's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

The Contractor shall also indemnify and hold harmless the Employer against all acts, errors, or omissions by the Contractor in carrying out the Contractor's design obligations that result in the Works (or Section or major item of Plant, if any), when completed, not being fit for the purpose(s) for which they are intended under Sub-Clause 4.1 [*General Obligations*].

11.3.2 Indemnities by Employer

The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all third party claims, damages, losses and expenses (including legal fees and expenses) in respect of:

(a) bodily injury, sickness, disease or death, or loss of or damage to any property other than the Works, which is attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents; and

(b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of any event described under of Sub-Clause 4.3 [*Contractor's Care of the Works*].

11.3.3 Limitation of Liability

Limitation of Liability shall be one hundred percent (100%) of the Contract Price.

Sub-Clause 11.4 Taxes and Duties

The Contractor and his approved Subcontractors shall be responsible for paying and declaring all taxes, duties, tariffs, fees including but not limited to import, excise and other taxes and charges payable in connection with the Contract in accordance with the applicable Laws of the Socialist Republic of Vietnam. The Contract Price includes all those applicable taxes, duties, tariffs, fees and charges.

The Contractor shall issue VAT invoices to the Employer and declare VAT for all works done and accepted in accordance with the programme.

The Contractor shall fully take responsibility for the declaration and payment of taxes, fees, and charges, as well as retroactively collect taxes and penalties (if any) related to the Contractor's obligations for tax, fee, and charge declarations and payments to the relevant competent authorities. In case the competent authorities request the Employer to pay taxes, fees, and charges on behalf of the Contractor, the Contractor shall be responsible for reimbursing those the Employer within 42 days from the date the Employer issues a written request for reimbursement.

The Contractor shall be responsible for liaising with the tax competent authorities and issuing invoices, tax declarations, tax payments as instructed by the tax authorities.

The Contractor shall be deemed to be familiar with all the current regulations of the Socialist Republic of Vietnam and apply instructions as stipulated in the Bidding Document. During the Contract execution, should the policy on VAT is changed or adjusted by the authorities at the time of payment, and the Contractor is able to provide valid documentation clearly identifying the resulting tax amount, the difference in VAT due to such changes shall be adjusted in accordance with the provisions of this Contract.

Clause 12: INSURANCE

Sub-Clause 12.1 Extent of Cover

The Contractor shall be the insuring party, at its own cost, with the duration of insurance from the Effective Date of the Contract to the end of the warranty period. Details reference to Appendix 1 – Insurance Requirements.

Clause 13: CLAIMS

Sub-Clause 13.1 Right to Claim

To replace term "to the Engineer:" to "to the Engineer and the other Party"

Sub-Clause 13.2 Claim Procedure

To replace the entire content of Sub-Clause 13.2 with the following:

"13.2.1. Within twenty-eight (28) days after receipt of the claim, the claim Party shall provide the supporting particulars and evidences on the contents believed that the other Party's claim fails to comply with the signed Contract, if the supporting particulars and evidences are not convincing or reasonable, the other Party's claims shall be accepted. If the claim Party has no comments out of this period, it is deemed to have accepted the content of claim raised by the other Party.

13.2.2. The claims of each Party shall be delivered to the correct transaction or communication address agreed by the Parties in the contract. The claims that are not resolved by the contracting parties shall be settled in accordance with the provisions under Clause 14".

Clause 14: DISPUTES

Sub-Clause 14.1 Adjudication

Not applicable Sub-Clause 14.1

Sub-Clause 14.2 Arbitration

To replace the content of Sub-Clause 14.2.1 with the following:

"Not applicable Sub-Clause 14.2.1."

To replace the content of Sub-Clause 14.2.2 with the following:

"14.2.2 Unless otherwise settled amicably, Any dispute arising out of or in relation with this contract shall be resolved by arbitration at the Vietnam International Arbitration Centre (VIAC) in accordance with its Rules of Arbitration:

(a) the number of arbitrators shall be three (03).

(b) the place of arbitration shall be Ho Chi Minh City, Vietnam.

(c) the governing law of the contract shall be the substantive law of Vietnam.

(d) the language to be used in the arbitral proceedings shall be English.

The arbitral award shall be final and binding upon the Parties."

APPENDICES

Appendix 1 - INSURANCE REQUIREMENTS

Without limiting the obligations or liabilities of either Party under the Contract, the Contractor, at its own cost, shall procure and maintain all insurance policies required by applicable Vietnamese laws and regulations on construction and insurance that are required for contractors in relation to the performance of the Works, including but not limited to:

(a) Professional Liability Insurance;

(b) Insurance for:

- materials, supplies, construction equipment, and personnel of the Contractor; and
- materials, supplies, construction equipment provided by the Owner for Contractor implementing the Works; and
- personnel of the competent authorities who visit/participate/attend relevant meetings at Site;

(c) Third-Party Liability Insurance;

(d) All Risks Cargo Insurance, of which the insurance coverage shall be one hundred and ten percent (110%) of the CIP-at-Site Costs of Equipment/Materials;

(e) Insurance during inland transportation to the Site;

(f) Contractor's Plant and Machinery Insurance;

(g) Employer's Personnel Liability Insurance for the Employer's personnel present at the Site;

(h) Statutory Workers Insurance for all workers on the Site.

(k) Constructions All Risks and Erection All Risks Insurance (The Contractor shall insure and keep insured in the joint names of the Contractor and the Employer from the Commencement Date until the end of the Defects Liability Period for the Works)

The Contractor shall, at its own expense, be responsible for procuring and maintaining the above-mentioned insurance for a period from the commencement of relevant work until the end of the Defects Liability Period or until the relevant works are completed, in accordance with applicable laws. The Contractor shall be liable for all amounts or loss (including but not limited to any loss equal to or lower than deductibles) not insured or not recovered from the insurers. All expenses incurred in connection with extend the validity and/or revise the insurance contracts shall be borne by the Contractor."

Construction and Erection All Risks Insurance shall be provided by insurance company that is legally established and licensed to operate in Vietnam,

The Contractor shall not make any changes to any terms or conditions of the Insurance Contract without the prior consent of the Employer. The Contractor shall promptly notify the Employer in writing within thirty (30) days if their insurer makes or intends to make any such changes.

The Contract Price shall be deemed to include the necessary cost for the Contractor to procure Construction and Erection All Risks Insurance. Payment of insurance premium shall be made by the Emoloyer based on the actual premium amount paid by the Contractor to the insurer under the Insurance Contract, and in any case shall not exceed the insurance amount indicated in the Contract Price Schedule. Upon payment for any insurance premium, the Contractor shall promptly submit to the Owner the copies of payment receipts or confirmations from the insurer showing that the premium has been paid.

For the Consortium, the leader of the Consortium or a designated member of the Consortium shall be responsible for procuring the Construction and Erection All Risks Insurance for the Works and carrying out related insurance procedures in the event of an insured occurrence.

If the Contractor fails to comply with any of the conditions of the insurances procured under the Contract, the Contractor shall indemnify the Owner against all direct losses and claims (including legal fees and expenses) arising from such non-compliance. The Contractor shall also be responsible for:

(a) Notifying the insurer of any changes in the nature, scope, or execution plan of the Works; and

(b) Ensuring that the insurances procured under the Contract are valid and adequate at all times during the Contract execution period.

In the event of an insured occurrence, the Contractor shall, at its own expense, promptly take all necessary remedial and loss mitigation measures to ensure the progress and quality of the Works in accordance with the Contract. The insurance beneficiary shall subsequently assign to the Contractor the right to claim insurance benefits for any losses or damages that have been mitigated or remedied at the Contractor’s expense.

The Contractor shall be liable for all amounts or loss (including but not limited to any loss equal to or lower than deductibles) not insured or not recovered from the insurers. All expenses incurred in connection with extend the validity and/or revise the insurance contracts shall be borne by the Contractor.

Insurance procurement by the Contractor shall comply with the regulations of Vietnam.

Construction and Erection All Risks Insurance Contract shall be in accordance with the requirements set out in Table below and approved by the Owner prior to the Contractor’s execution of Contract with the Insurer. The Contractor is requested to submit the drafted Construction and Erection All Risks Insurance Contract to the Owner for consideration at least 30 days before construction start.

The following contents may be modified, subject to instructions or request of the Employer.

(a) Covering physical loss or damages to the Facilities at the Site, occurring prior to completion of the Facilities, with an extended maintenance coverage for the Contractor’s liability in respect of any loss or damage occurring during the warranty period (defect liability period) while the Contractor is on the Site for the purpose of performing its obligations during the defect liability period.

Details:

Amount [in currency(ies)]	Deductible limits [in currency(ies)]	Parties insured [names]	From [place]	To [place]

(b) Covering bodily injury or death suffered by third parties (induding the Employer's personnel) and loss of damage to property (including the Employer's property and any parts of the Facilities that have been accepted by the Employer) occurring in connection with the supply and installation of the Facilities.

or

[*The Contractor is required to take out and maintain at its own cost the following insurances as prescribed in Vietnamese laws and terms and conditions below:*]

Insurance product	Construction all risks insurance and Third party liability insurance
Requested by	Contractor
Parties insured	The Employer, the Contractor, Subcontractors and other parties with interests involved in the project and tangible works at site thereof are insured
Beneficiary	Contractor
Insured project	**……..Power Plant Project**
Location	…….Commune, …….. District, ……..Province, Vietnam
Scope of work	All works
Insurance term	…… months (including testing & operating time) from the effective date of EPC contract until the insurance contract is made or applied plus 12 months Defects Notification Period in according to MR004.
Benefits	Part 1 – All risks in construction Including but not limited to the following: a) Works of Contract (long-term and temporary works including all supply and equipment or any of work items provided by the Contractor); b) Salaries and costs for ganger, architect, surveyor, consultant, project management, manager, and technician … (but not exceed the sum of money stipulated by competent authorities for the case of damage), legal expenses, and all fees, costs for making plan, determine of quantity, listing insured assets, bid opening, and control coverage after damage (but not apply for cost of claim

	document preparation); c) The cost of cleanup and the cost for the movement, clearance or demolition debris, materials, property (including but not limited to the removal, release or demolition of any benefits under this insurance that are no longer appropriate to expected purposes), including the implementation of temporary repairs, rehabilitation, continuing the original working condition. Part 2 – Third Party Liability Covering bodily injury or death suffered by third parties and loss of damage to property occurring in connection with the insured project.
Insured value	Part 1 – Installation All Risks Insurance *Notes: Insured value shall be determined before the signing of Contract.* Part 2 – Third Party Liability Liability limitation: Bodily injury and damage to property indemnity: USD500,000 for any one occurrence with an unlimited number of occurrences occurring in the insurance term.
Deductible Limits	Part 1 - Physical Damage - For major equipment: USD50,000/case in connection with testing, commissioning, reliable operation; risks and maintenance of manufacturer. - For force majeure events: USD50,000/case; - For other work items: USD50,000/case in connection with commissioning, taking over, reliable operation; risks and maintenance of manufacturer - USD25,000/case in connection with other occurrences. Part 2 – Third Party Liability - USD25,000/case in connection with cases of damage to property only.
Terms and Conditions	According to terms and conditions of Munich Re standard in terms of Erection All Risks Insurance Policy and amendments as follows: 1) Cover for loss or damage due to Strike, Riot and Civil Commotion (Limit of Indemnity: USD1,000,000 for any one occurrence) (001) 2) Cover for cross liability (002) 3) Extended maintenance cover (24 months) (004)

	4) Construction and/or erection time schedule (260 days) (005) 5) Cover for extra charges for overtime, night work, work on public holidays and express freight (Limit of Indemnity: [10%] over repairs costs, a maximum of USD1,000,000 for any one occurrence) (006) 6) Cover for extra charges for airfreight (Limit of Indemnity: [10%] over repairs costs, a maximum of USD500,000 for any one occurrence) (007) 7) Warranty concerning structures in earthquake zones (008) 8) Property in off-site storage (Limit of Indemnity: USD1,000,000 for any one occurrence, location to be notified) (013) 9) Existing property or property belonging to or held in care, custody or control by the insured (Limit of Indemnity: USD1,000,000 for any one occurrence) (119) 10) Cover for testing of machinery and installations (01 months, in which testing time of each work item is 04 weeks) (100) 11) Cover for designer's risk (only for construction/erection) (115) 12) Vibration, removal or weakening of support (Deductible limits = limit of indemnity USD1,000,000 for any one occurrence) (120) 13) Piling foundation and retaining wall works (121) 14) Manufacturer's risk (200) *** LEG 3 Designer's risk (to be used for machinery and equipment) 15) Fire-fighting facilities (206) 16) Camps and stores (Limit of Indemnity: USD1,000,000 for any one occurrence) (207) 17) Underground cables and pipes (Deductible limits = limit of indemnity USD250,000 for any one occurrence) (208) 18) Safety measures with respect to flood (Limit of indemnity: USD250,000 for any one occurrence) (221) 19) Removal of debris (Limit of indemnity: 10% of assessed loss and maximum USD1,000,000 for any one occurrence) (MR0025) 20) Weather aggregate (72 hours) 21) Exclusion of war and terrorism (NMA2919) 22) Automatic reinstatement of sum insured

	23) Marine Fifty/Fifty 24) Price variation/Escalation (15%) 25) Costs of reducing losses (Limit of indemnity: USD1,000,000 for any one occurrence; to be limited for actual losses) 26) Plans/Drawings and documents (Limit of indemnity: USD1,000,000 for any one occurrence) 27) Independent loss adjusters (Crawford, Cunningham, Mclarens) 28) Payment on account (50%) 29) Total asbestos exclusions 30) Industrial pollution and dust exclusions 31) Clarification clause 32) Risk survey EPI65 33) Adjustments of insurance premiums at the expiry time 34) Disclosure of statement and auto repair (Limit of indemnity: USD1,000,000 for any one occurrence) 35) Cover for Facilities after taking over and being put into operation 36) Special condition concerning wet risks (Munich Re 14118); 37) Off-site fabrication (Limit: USD1,000,000 per any one occurrence and in aggregate) 38) Cost of temporary repair (Limit: USD1,000,000 per any one occurrence and in aggregate); 39) MR114 – Serial losses (100%, 80%, 60%) 40) Cessation of work (90 days) 41) Breach of Conditions Clause 42) Breach of Warranties Clause 43) Error and Omission Clause 44) Loss Notification Clause 45) Mis-description Clause 46) Waiver of Subrogation Clause 47) Currency Clause 48) Loss payee clause 49) Automatic increase of SI (15%) 50) Cost of Claims Preparation and Professional Fees Clause,

	(Limit USD 500,000 any one occurrence) 51) Cost of Temporary Protection Clause (Limit USD 500,000 any one occurrence) 52) Fire Brigade and Extinguishing Expenses Clause (Limit USD 500,000 any one occurrence) 53) Inland Transit Clause, Limit USD 1,000,000 any one occurrence 54) Dismantling and Re-erection Costs (Limit USD 1,000,000 any one occurrence) 55) Unexploded bomb subject to bomb clearance certificate issued by appropriate authority (Limit USD 1,000,000 any one occurrence and in aggregate) 56) Employees and Representatives of The Employer Clause (Limit: USD15,000/person/ any one occurrence and USD 150,000 any one occurrence and in aggregate during period of insurance) 57) Loading and Unloading Clause. 58) Visitors/Guests Liability Clause (Limit: USD15,000 /person/ any one occurrence and USD 150,000 any one occurrence and in aggregate during period of insurance). 59) Exclusion of Loss of or Damage to Crops, Forests and Cultures. 60) Excluding Political Risks.
Insurance premium rate	_____%
Total premium	[To be inserted] (Excluding VAT) (VND)
Payment terms	[to be discussed]

[To be inserted by the Contractor]

Construction and Erection All Risks Insurance Contract shall be in accordance with the requirements set out in Appendix 1 - Insurance Requirements of the Contract and approved by the Employer prior to the Contractor's execution of contract with the insurer. The Contractor is requested to submit the drafted Construction and Erection All Risks Insurance Contract to the Employer for consideration at least 30 days before construction start.

Appendix 2: Performance Guarantee

Part 3. CONDITIONS OF CONTRACT

CHAPTER XI. CONTRACT FORMS

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Form No. 24 - LETTER OF ACCEPTANCE AND NOTIFICATION OF AWARD

[Location and date]

_____

To: _____ *[insert name and address of the successful Contractor, hereinafter referred to as "the Contractor"]*

Re: Letter of Acceptance and Notification of Award.

Pursuant to Decision No. _____ dated _____ of the Employer *[insert the Employer 's name]*, (hereinafter referred to as "the Employer "] in terms of approval for result of selection of contractor for _____ *[insert name of package]*, the Employer notifies you that the Employer has accepted your Bid and award the contract for execution of the *[name and number of package]* with the contract price of_____ *[insert successful bid price specified in the decision on approval for results of Contractor selection]* with the contract duration of *[insert the contract duration]*.

Request the legal representative of the Supplier to enter into the Contract with the Employer according to the following plan:

- Contract finalization time: _____, in/at_____;
- Contract conclusion time: ,in/at,_____ enclosed with the Contract Agreement Draft.

Request the Supplier to carry out the Performance Security as prescribed in form No. 28 of Chapter XI - Contract Forms included in the Bidding Documents with an amount of _____ and validity period of _____ *[as specified in Sub-Clause 4.2 Performance]*.

This Notification is an integral part of the Contract. Upon the receipt of this Notification, the Supplier must send us a Notification of acceptance of the Contract completion and carry out the Performance Security as required at the current capacity of the Supplier as specified in the Bidding Documents. The Employer shall reject the Contract conclusion with the Supplier if the capacity of the Supplier fails to satisfy the requirements of the package.

If the Supplier fails to conclude or refuse to conclude the Contract or carry out the Performance Security in conformity with the above requirements *[according to scope and nature of the package to stipulate deadline for Performance Security, contract fmalization and conclusion not later than 28 days, from the date of letter of acceptance and notification of award]*, the Supplier shall be rejected and returned the bid security.

Legal representative of Employer
[Full name, position, signature and seal]

Attachments: Contract Agreement Draft

Form No. 25 - CONTRACT AGREEMENT

Identification number:….

THIS AGREEMENT is made in … on _____

BETWEEN

POWER GENERATION CORPORATION 1 (hereinafter called the "Employer") a company established and operating pursuant to the Enterprise Law of the Socialist Republic of Vietnam having its registered office at 22 Duong Dinh Nghe Street, Cau Giay Ward District, Hanoi Capital, Vietnam; represented by EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1;

Transaction address:

EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1

Address: 32 Ngo Thoi Nhiem, Xuan Hoa Ward, Ho Chi Minh City, Vietnam

Tel: (84.28) 62907101

AND

[The Contractor] (hereinafter called the Contractor), an organization established under the law [...] and having its head office at [...] .

Transaction address:

…….

Address: …..

Tel: ……..

WHEREAS

The Employer desires to engage the Contractor to the ____*[insert the package's name]* mentioned, enumerated and reffered to in the Contract Documents and other relevant correspondence annexed hereto (hereinafter called the "Works") on the basic of an EPC Contract and the Contractor has agreed to such engagement upon and subject to the terms and conditions hereinafter appearing.

NOW IT IS HEREBY AGGRED as follows:

Article 1: Contract Documents

1.1 The following documents shall constitue the contract between the Employer and the Contractor, and each shall be read and construed as an integral part of the Contract:

Part I: Contract Agreement and Appendies to this Contract Agreement;

Part II: Minutes of Contract Negotiation;

Part III: Decision on approval for Bidder selection results;

Part IV: Conditions of Contract;

1. General Conditions of Contract
2. Special Conditions of Contract

Part V: Bidding Document and amending documents thereof;

Part II: Bid Proposal and clarifying documents thereof provided by the successful Bidder;

Part VII: Other enclosed documents (if any)

1.2 Order of Precedence:

In the event of any ambiguity or conflict amongst the Contract Document listed above, the order of precedence shall be the order in which the Contract Documents are listed in Articles 1.1 (Contract Documents) above.

Any other documents to be added during the performance of the Contract shall be explanatory to and prioritized as the corresponding part of the Contract Documents.

1.3 Definitions

Italicised words and phrases used herein shall have the same meanings as ascrible to them in the Conditions of Contract.

Article 2: Contract Price and Terms of Payment

2.1 The **GRAND TOTAL** shall be the aggregate of **USD… / VND…** (say in words:…);

Whereas:

(1) EPC Contract Price

(2) Taxes and Duties

Details of the **GRAD TOTAL** shall be reffered to the Appexdix 2 of Contract Agreement.

The EPC Contract Price specified in Article 2.1 includes the supply of essential spare parts, maintenance tools and instruments required to the Final Acceptance by the ~~Owne~~Employer of Uong Bi Thermal Power Plant.

2.2 The terms of payment are stipulated in the Appendix 3 of Contract Agreement and relevant Conditions of Contract.

Article 3. Effective Date

3.1 The Contractor shall enter into full force and effect on the date when all of the following conditions have been fullfilled ("Effective Date"):

(a) This Contract has been officially signed by the Employer and the Contractor;

(b) The Contractor has submitted Performance Security and Advance Payment Security in accordance with the Contract;

Article 4. Time for Completion

In accordance with the terms and conditions set forth in the Contract, Time for Completion shall be …. days from the Effective Date of the Contract.

Article 5. Notices

All notices to be given under the Contract shall be sent to the Employer's representative or the Contractor, as the case may be, at the address set forth below:

To the Employer's Representative

EVNGENCO1 Projects Management Board – The Branch of Power Generation Corporation 1 (EVNGENCO1PMB)

Attention: Mr. Nguyen The Thong– Deputy Director.

Address: 32 Ngo Thoi Nhiem, Xuan Hoa Ward, Ho Chi Minh City, Vietnam

Tel: (84.28) 62907101.

To the CONTRACTOR

…….

Attention: …

Address: ….

Tel: ….

or such other addresses as are notified pursuant to the Contract.

IN WITNESS WHEREOF, the Employer and the Contractor have caused this Contract to be duly executed by their duly authorised repretative on the day and year first above written.

Singed by, for and on behalf of the Employer

[Signature]

[Position]

Singed by, for and on behalf of the Contractor

[Signature]

[Position]

Form No. 26 - PERFORMANCE SECURITY

Security No.:

Date:

Name and address of the bank:

To: POWER GENERATION CORPORATION 1

…

Ha Noi

VIETNAM

Dear Sirs,

WHEREAS our client, ..., having its registered office at: ..... hereinafter called "the Principals") have entered into a Contract known as Contract No. ..... dated..... (hereinafter called the "Contract") with POWER GENERATION CORPORATION 1, having its registered office at: _____ (hereinafter called "the Beneficiary") for ____*[insert the package's name]* (hereinafter called the "Works") and the Contract requires the provision by the Principals of performance security equivalent to ten (10) percent of the Contract Price as a security for the due fulfillment by the Principals of their obligations under the Contract.

NOW THEREFORE WE (*Name of the Bank*), having our registered office at: (*Address of the Bank*) (hereinafter called the "Guarantor") hereby agree to issue the above mentioned performance security on behalf of the Principals and are held and firmly bound unto the Beneficiary in a sum not exceeding U.S. Dollars ..... (US$ .....) and/or Vietnamese Dong ……. (VND……) for the payment of which sum we bind ourselves and our assigns by these presents.

NOW THE CONDITION of the present Performance Security is, that we shall be entitled to rely and shall rely upon the demand of the Beneficiary presented thereunder and on behalf of the Principals irrevocably and unconditionally undertake to pay you up to the maximum amount mentioned above, notwithstanding any contestation or protest by the Principals or by the Guarantor or by any other third party, any amount specified hereunder upon receipt of your first written demand accompanied by your duly signed statement that the Principals have failed to fulfil any of his obligations (including warranty obligations during Defects Notification Period) under the

Contract, indicating clearly the Principals' fault.

For the purpose of verification your claim shall be sent to us through one of our correspondent banks.

Our payment thereunder shall be made to the bank account designated by the Beneficiary free and clear of, and without deduction by reason of any or all present or future taxes, levies, imposts, duties, fees or withholdings, whatsoever, imposed or collected with respect thereto.

Our liability under this Performance Security will be reduced by the amounts paid to the Beneficiary thereunder.

The Guarantor shall not be discharged or released from this Performance Security by any arrangement between the Principals and the Beneficiary with or without the consent of the Guarantor or by any alteration in the obligations undertaken by the Principals or by any forbearance whether as to payment, time, performance or otherwise, but the Guarantor shall be entitled to be informed of such arrangements or alteration.

This Performance Security shall be effective upon issuance and shall remain in force and effect until thirty (30) days after the issuance of the Final Acceptance Certificate for the Works in accordance with the said Contract.

This Performance Security shall be governed by the laws of Vietnam and shall be subject to the Uniform Rules for Demand Guarantees (2010 revision) of the International Chamber of Commerce (Publication No. 758).

Given under our hand the date first above mentioned.

Signed, sealed and delivered)

by the said Guarantor in the)

presence of) .....

Name: .....

(Designation) .....

(Witness)

Name:.....

Banker's Seal .....

Designation: .....

Form No. 27a - ADVANCE PAYMENT SECURITY

Guarantee No.:

Date:

Name and address of the bank:

To: POWER GENERATION CORPORATION 1

…

Ha Noi

VIETNAM

Dear Sirs,

WHEREAS our client, ..., having its registered office at: ..... hereinafter called "the Principals") have entered into a Contract known as Contract No. ..... dated..... (hereinafter called the "Contract") with POWER GENERATION CORPORATION 1, having its registered office at: bbbbbbbbbbbbbbbbbbbbbbbbbbbb# (hereinafter called "the Beneficiary") for the ____*[insert the package's name]* (hereinafter called the "Works") and the Contract requires the provision by the Principals of an advance payment guarantee as a security for the due repayment by the Principals of the advance payment.

NOW THEREFORE WE (*Name of the Bank*), having our registered office at: (*Address of the Bank*) (hereinafter called the "Guarantor") hereby agree to issue the above mentioned advance payment guarantee on behalf of the Principals and are held and firmly bound unto the Beneficiary in a sum not exceeding U.S. Dollars ..... (US$ .....) and/or Vietnamese Dong ……. (VND……..…) for the payment of which sum we bind ourselves and our assigns by these presents.

This Guarantee shall be reduced pro rata in proportion to the value of the plant/equipment delivered and the work performed upon receipt of confirmation letter from the Beneficiary.

NOW THE CONDITION of the present Guarantee is, that we shall be entitled to rely and shall rely upon the demand of the Beneficiary presented thereunder and on behalf of the Principals irrevocably and unconditionally undertake to pay you up to the maximum amount mentioned above, notwithstanding any contestation or protest by the Principals or by the Guarantor or by any other third party, any amount specified hereunder upon receipt of your first written demand accompanied by your duly signed

statement that the Principals have failed to fulfil any of his obligations under the Contract, indicating clearly the Principals' fault.

For the purpose of verification your claim shall be sent to us through one of our correspondent banks.

Our payment thereunder shall be made to the bank account designated by the Beneficiary free and clear of, and without deduction by reason of any or all present or future taxes, levies, imposts, duties, fees, or withholdings, whatsoever, imposed or collected with respect thereto. Our liability under this Guarantee will be reduced by the amounts paid to the Beneficiary thereunder.

The Guarantor shall not be discharged or released from this Guarantee by any arrangement between the Principals and the Beneficiary with or without the consent of the Guarantor or by any alteration in the obligations undertaken by the Principals or by any forbearance whether as to payment, time, performance or otherwise, but the Guarantor shall be entitled to be informed of such arrangements or alteration.

This Guarantee shall be effective upon receipt of the advance payment into account of the Principals with us and shall remain in force and effect until thirty (30) days after the advance payment has been repaid prior to the issue of the Provisional Acceptance Certificate as stated in the said Contract.

This Guarantee shall be governed by the laws of Vietnam and shall be subject to the Uniform Rules for Demand Guarantees (2010 revision) of the International Chamber of Commerce (Publication No. 758).

Signed, sealed and delivered)

by the said Guarantor in the)

presence of) .....

Name: .....

.....

(Designation)

.....

(Witness)

Name:.....

Banker's Seal .....

Designation: .....

Form No. 27b - WARRANTY SECURITY

Guarantee No.:

Date:

Name and address of the bank:

To: POWER GENERATION CORPORATION 1

Address: ……..

Dear Sirs,

WHEREAS our client, ..., having its registered office at: ..... hereinafter called "the Principals") have entered into a Contract known as Contract No. ..... dated..... (hereinafter called the "Contract") with POWER GENERATION CORPORATION 1, having its registered office at: _____ (hereinafter called "the Beneficiary") for ____*[insert the package's name]* (hereinafter called the "Works");

We have the honor to inform you that we issue our letter of guarantee in favor of yourselves for account of …… (hereinafter referred to as the Contractor) for the sum of (input the Amount) being ….. percent (…%) of the Contract Amount for Contract No. …… dated (input the date) for the execution of Package No.....

Guarantee amount is payable against the Beneficiary's written demand accompanied by their statement certifying that the Contractor has failed to comply with warranty obligation and payment liability of inspection Delay Damages as per the Contract. We undertake to make payment irrevocably and unconditionally under this letter of guarantee upon our receipt of your first written demand.

As between the Bank and the Beneficiary, a notice in writing as aforesaid shall be conclusive evidence of the Principal's default of the warranty obligations in accordance with the Contract.

This guarantee expires on (input the date) or the expiry of Defect Liability Period for the Plant, whichever comes later. All claims under this guarantee must be submitted to us not later then said expiry date, after which guarantee becomes automatically null and void.

This guarantee is subject to Uniform Rules for Demand Guarantees, ICC Publication No. 758 (2010).

Yours faithfully,

(Authorized Signature)

(Input Bank Name)

Form No. 28 - PROVISIONAL ACCEPTANCE AND TAKINGOVER CERTIFICATE

Date: _____

Bidding Letter No.: _____

[Contract name]

To: *[Name and Address of the Contractor]*

Pursuant to the Contract signed between the Company and the Employer dated *[ ]*, regarding the [*short description of the Works*], we would like to announce that the following Works/work items of the Works have achieved the Parameters warranties upon the request on the date stated below:

1. Description of the Works or work items: [*description]*

2. Date of provisional acceptance and takingover: *[ ]*

This confirmation letter does not waive your obligation to complete the entire Works under the Contract or your warranty obligations during the warranty period.

Best Regards,

_____

Position

(Project Manager)

Form No. 29 - FINAL ACCEPTANCE CERTIFICATE

Date: _____

Bidding Letter No.: _____

[Contract name]

To: *[Name and Address of the Contractor]*

Pursuant to the Contract signed between the Company and the Employer dated *[ ]*, regarding [*short description of the Works*], we would like to inform that the following items of the Works have been completed on the date stated below herein, and subject to the conditions of the Contract, the Employer takes over these items together with the responsibility for their care and bears the risks related to damage or loss from the date stated below.

1. Description of the Works or work items: [*description]*

2. Completed date: *[ ]*

However, please complete as soon as possible the remaining items listed in the list attached to this letter.

This letter does not waive your obligation to complete the Works under the Contract or warranty obligations during your warranty period.

Best Regards,

_____

Position

(Project Manager)

Form No. 30 - EMPLOYER'S REQUEST ON THE ADDITION, ADJUSTMENT OF WORK ITEMS

(The Employer's name and logo)

To: *[The Contractor's name and address]*

Recipient: *[Name and title]*

Contract name: *[Contract name]*

Contract No.: *[Contract No.]*

Based on the above Contract, please prepare and submit the Contractor's proposal on the addition and adjustment of the work items listed below within [ ] days from the date stated in this letter [*or specific date]*.

1. Name of addition, adjustment: *[….]*

2. Reference number of Request for addition, adjustment: *[……...]*

3. Brief description of addition and adjustment: *[Description]*

4. Works and/or number of items of materials and equipment related to addition, adjustment:

5. Reference number of drawings and/or technical documents:

Drawing/Document No. Description

6. Particular conditions or special requirements for additional or adjusted items: *[Description]*

7. General conditions:

(a) The Contractor is requested to offer additional costs (if any) or reduced costs due to the addition or adjustment of work items to the Employer.

(b) The proposed cost must be attached to the request of the contract performance extension period (if any) to complete the addition and adjustment of the work items.

(c) If the Contractor does not agree on the addition, adjustment of work items due to incompatibility with other terms of the Contract or because the safety requirements of the

Works are not guaranteed, the Contractor is requested to specify the Contractor's proposal.

(d) The manpower and equipment necessary to the Contractor to perform the required increase or decrease in workload.

(e) The Contractor is not allowed to carry out the addition, adjustment of work items without the written approval of the Owner for such addition, adjustment as well as related costs.

Legal representative of the Employer
[write name, position, sign and seal]

Form No. 31 - CONTRACTOR'S PROPOSAL ON THE ADDITION, ADJUSTMENT OF WORK ITEMS

(*The Contractor's name and logo*)

To: *[The Employer's name and address]*

Contract name: *[Contract name]*

Contract No.: *[Contract No.]*

Based on the Employer's request for the addition and adjustment No. *[…]*, by this letter, we would like to submit our proposal as follows:

1. Name of additional or adjusted items: *[Name]*

2. Additional, adjusted proposal No.:*[Reference number of this proposal]*

3. Brief description of the additional and adjusted items: *[Description]*

4. Reasons of addition, adjustment: *[Reason]*

5. Works and/or items of materials and equipment related to additional/adjusted items: *[…]*

6. Drawing number and/or referenced technical document for additional/adjusted item:

Drawing/ Document No. Description

7. Increased/decreased cost for Contract Price from the addition and adjustment:[1]

	(Value)
(a) Material	_____
(b) Major construction equipment	_____
(c) Workers at site (Total hours ___)	_____
(d) Sub-Contracts	_____
(e) Material and auxiliary labors	_____

[1] *The cost is calculated in the currency specified in the Contract*

(f) Supervision at construction site _____

(g) Salary for staff at the office

Management consultants ____ hour _____ wage/hour

_____

Project Consultants ____ hour _____ wage/hour

_____

Consultants in equipment ____ hour _____ wage/hour

_____

Consultants in Procurement ____ hour _____ wage/hour

_____

Assistant ____ hour _____ wage/hour

_____

Total ____ hour _____

_____

(h) Other expenses (computer, travel, etc.) _____

(i) Administrative expenses, ____% of work items _____

(j) Taxes and customs fees _____

Total package value of the additional, adjusted items

_____

[Sum of items from (a) to (j)]

9. Time added to the Time for Completion due to the addition, adjustment

10. Guaranteed parameters adjustment

11. Adjustment of other terms and conditions of the Contract

12. Validity of this proposal: within *[…]* days from the date the Employer receives the proposal

13. Other conditions:

(a) The Employer is requested to notify about the acceptance, comment or disapproval of

this proposal within *[…]* days from the date of this proposal receipt.

(b) The increased and/or decreased value will be calculated and adjusted for the Contract Price.

Legal representative of the Contractor
[write name, position, sign and seal]

Form No. 32 - REQUEST FOR CLARIFICATION

(optional use in accordance with Sub-Clause 1.5.1 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient ☐ **Engineer**

☐ **Employer**

☐ **Contractor**

Herewith, the undersigned gives notice to the other Party and the Engineer of a conflict, ambiguity or discrepancy between the documents, or within a document, forming the Contract as described below:

.....

.....

.....

In accordance with the Conditions of Contract, it is the obligation of the Engineer to issue the necessary clarification or instruction.

…… *[date]*

☐Employer ☐Contractor *[tick the relevant box].*

Form No. 33 - NOTICE OF ACCESS TO THE SITE

(optional use in accordance with Sub-Clause 2.1.1 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Contractor**

☐ Right of access to, and possession of, the Site is/was given to the Contractor:

on …… *[date]*

☐ Right of access to, and possession of, the following part(s) of Site is/was given to the Contractor:

The part(s):……

on …….*[date]*

The above right of access and possession are given

☐ exclusively to the Contractor

☐ not exclusively to the Contractor

The Contractor is reminded that it shall be responsible for any access to, and/or possession and use of, any such area (such as access routes) located outside the Site that it may require.

….[date]
Employer

Form No. 34 -ENGINEER'S INSTRUCTION

(optional use in accordance with Sub-Clause 3.3.1 of the Conditions of Contract)

Communication reference: ……

Contract number:

.....

Contract title:

.....

Employer:

.....

Engineer: .....

Contractor: .....

Recipient **Contractor**

The Contractor is instructed as follows:

.....

.....

.....

……*[date]*

☐ Employer ☐ *authorised person or assistant acting on behalf of the Engineer - state name and position*

Form No. 35 -REQUEST FOR CONSENT TO SUBCONTRACT

(In accordance with Sub-Clause 4.4.1 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Employer**

The Contractor intends to subcontract the following part(s) of the Works:

Part(s)	Description	Proposed subcontractor(s)

Relevant supporting documentation
is attached.
For this(these) part(s) of the Works:

☐ There is no subcontractor named in the Contract.

☐ There was(were) (a) named subcontractor(s) in the Contract, but the Contractor now intends to subcontract this work to the aforementioned ☐ additional ☐ substitute *[tick the relevant box]* subcontractor(s).

☐ the intended date of subcontract is ……

☐ the intended commencement date of this work on Site is ……

The Contractor is aware that it shall be responsible for the acts or defaults of any of its subcontractors, and any of their agents or employees, as if they were the acts or defaults of the Contractor.

The Engineer is requested to confirm its consent.
……
…*[date]* Contractor

Form No. 36 - REQUEST FOR CONTRACTOR'S DOCUMENTS REVIEW

(In accordance with Sub-Clause 4.6.1 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Engineer**

Herewith, the Contractor submits for the Engineer's review the following Contractor's Documents:

.....

.....

The Contractor is aware that it shall not commence execution of such parts of the Works corresponding to the submitted Contractor's Documents until the Engineer gives (or is deemed to have given) its No-Objection to these.

The review period shall not exceed 14 *[if applicable, replace by the number of days set out in the Specification]* ..... days, calculated from the date of receipt of this notice.

……
…[date]
Contractor

Form No. 37 -NOTICE OF THE CONTRACTOR'S DOCUMENTS REVIEW

(In accordance with Sub-Clause 4.6.1 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Contractor**

The Engineer has reviewed the following Contractor's Documents:

.....

.....

(List the document reviewed, including design/drawings (if any), either here or refer to an attachment if necessary)

With regards to the aforementioned Contractor's Documents, the Engineer notifies that it has:

☐ No-Objection, without comments and the Contractor may proceed with the execution of the corresponding Works.
or

☐ No-Objection, with the following comments: .....

[refer to an attachment if necessary]

☐ The Contractor is reminded that it may proceed with the execution of the corresponding Works, but nevertheless shall resubmit the commented Contractor's Documents taking into account the Engineer's comments as necessary at its risk and cost.
or

☐ The Contractor's Documents fail to comply with the Contract for the following reasons:

.....

.....

[refer to an attachment if necessary]

The Contractor shall, at its risk and cost, promptly rectify and resubmit the Contractor's Documents to the Engineer for review in accordance with Sub-Clause 4.6.1.……

……*[date]* Engineer

Form No. 38 - NOTICE OF READINESS FOR INSPECTION

(optional use with Sub-Clause 5.4.1)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Engineer**

The Contractor herewith gives notice that the following part(s) of the Works is/are ready to be covered, put out of sight, or will be packaged for storage of transport.

If the Engineer wishes to do, the Engineer is required to carry out any examination, inspection, measurement or testing without any unreasonable delay, at the latest before: .....

Description of the part(s) of the Works under this notice:

.....

.....

.....

……*[date]* Contractor

Form No. 39 - INSTRUCTION TO REMEDY

(In accordance with Sub-Clause 5.5.1 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Contractor**

The ☐ Engineer ☐ Employer *[tick the relevant box]* herewith instructs the Contractor to

☐ Replace the following Plant or Materials which is not in accordance with the Contract:

.....;
or

☐ Remedy the following defect or damage in the Works or the Contractor's Documents (as the case may be):

.....

.....

The Contractor shall comply with this instruction as soon as practicable, but the remedial work shall be completed no later than ……. [specify a reasonable time] days after receiving this instruction.

The Contractor shall comply with this instruction at its own risk and cost, provided that the Contractor is responsible for the defect or damage. Otherwise, this instruction shall constitute a Variation, and Sub-Clause 7.1.1 (a) shall apply.

……
…[date]

Engineer

Form No. 40 - REQUEST FOR PROGRAMME REVIEW

(In accordance with Sub-Clause 6.2.1 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Engineer**

Herewith, the Contractor submits (in the form stated in the Contract Data) for the Engineer's review:

☐ the initial programme in accordance with Sub-Clause 6.2.1

or

☐ a revised programme in accordance with Sub-Clause 6.2.1

Unless the Engineer, within 14 days after the date of this notice, gives notice to the Contractor specifying to what extent the programme does not comply with the Contract. The Contractor shall proceed in accordance with that programme, subject to the Contractor's other obligations under the Contract.

The Contractor is aware the Employer can rely on the programme when planning their activities.

……

…*[date]* Contractor

Form No. 41 - NOTICE OF PROGRAMME NON-COMPLIANCE

(In accordance with Sub-Clause 6.2.1 & 6.2.2 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Contractor**

☐ The Engineer herewith gives notice that the received programme (submitted under Request No. ……..) does not comply with the Contract to the following extent:

.....

.....

.....

or

☐ The Engineer herewith gives notice that the previous programme (submitted under Request No. ……...) has become inconsistent with the actual progress or with the Contractor's obligations due to the following:

.....

.....

☐ The Engineer request the Contractor to submit a revised programme taking into account the aforementioned ☐ noncompliance ☐ inconsistencies [*tick the relevant box*].

……*[date]*

Engineer

Form No. 42 - NOTICE OF AN EXCEPTIONAL EVENT

(In accordance with Sub-Clause 6.6.1 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient ☐ **Employer**

☐ **Contractor**

We, ☐ Contractor ☐ Employer *[tick the relevant box]* consider ourselves to be prevented from performing (an) obligation(s) under the Contract by an Exceptional Event. We consider the following event or circumstance:

.....

.....

qualifies as an Exceptional Event under the Contract and, due to such Exceptional Event, the performance of the following obligation(s) is(are) or will be prevented.

.....

.....

With reference to Sub-Clause 6.6.1, we herewith give Notice of the above Exceptional Event.

We are aware that, based on this notice, we shall be excused from performance of the above obligations only for so long as the Exceptional Event prevents their performance.

We are also aware that we shall however not be excused from performance of our other obligations under the Contract, including the obligations to make payments due to the other Party under the Contract. We will give further notice in case the Exceptional Event has further effects on any other obligations.

…… *[date]*

☐ Employer ☐ Contractor *[tick the relevant box]*

Form No. 43 - INSTRUCTION OF A VARIATION

(In accordance with Sub-Clause 7.1.1 (a) of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Contractor**

Herewith, the Engineer instructs the Contractor in accordance with Sub-Clause 7.1.1 (a) to execute the following Variations:

.....

.....

.....

(see attachment for further description)

The Contractor shall proceed with the required change described in this Variation Instruction with due expedition and without delay, and shall submit a proposal for adjustment to the Time for Completion and the Contract Price, if any.

The valuation of the Variation shall be carried out in accordance with Sub-Clause 7.2 [Valuation of Variations]; and in accordance with Sub-Clause 7.1.1 (a), such valuation shall not be a condition precedent for the execution of the Variation.

……
…[date]
Engineer

Form No. 44 - REQUEST FOR A VARIATION PROPOSAL

(In accordance with Sub-Clause 7.1.1 (b) of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Contractor**

The Engineer requests the Contractor to submit a proposal for the following potential Variation:

.....

.....

.....

[refer to supporting documentation if required]

The Contractor's proposal shall include the following as applicable:

a) the Contractor's description of the varied work

b) the Contractor's proposal for adjustment to the Time for Completion

c) the Contractor's proposal for adjustment to the Contract Price

d) any other comment the Contractor believes is necessary for valuation.

The proposal shall be submitted as soon as practicable but preferably on or before ……..... *[date]*.

……

…[date]

Engineer

Form No. 45 - REQUEST FOR ADVANCE PAYMENT

(In accordance with Sub-Clause 8.2.1 & 8.2.2 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Employer**

Herewith, the Contractor applies for advance payment in accordance with Sub-Clause 8.2.1.

The amount of the advance payment, as stated in the Contract Data, is …… *[insert amount].*

The currency for payment is ….....……. *[insert currency for payment].*

We enclose our statement/invoice to that effect.

As specified in the Contract Data:

☐ there shall be no advance payment guarantee.

or

☐ the advance payment guarantee is attached to this request in the full amount of the advance payment, and from a third party to which the Employer ☐ has given ☐ has to give *[tick the relevant box]* consent and in the form annexed to the Particular Conditions agreed by the Employer *[tick the relevant box].*

……*[date]*
Contractor

Form No. 46 - INTERIM PAYMENT CERTIFICATE (IPC)

(In accordance with Sub-Clause 8.4.1 of the Conditions of Contract)

Communication reference ……..

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Employer**

State Amounts in the currency(ies) stated in the Contract Data	Contractor's Statement	Engineer's Assessment
Value of the Works executed, and the Contractor's Documents produced, up to the time mentioned in statement no. ……., dated ……. [state number and date] (including Variations (if any) but excluding items described in sub-paragraphs (b) to (f) below)		
Amount to be deducted for retention, calculated by applying the percentage of retention stated in the Contract Data to the value under (a) above until the amount so retained by the Employer reaches the limit of retention money (if any) stated in the Contract Data		
Amount to be deducted for repayment of the advance payment, calculated by applying the percentage stated in the Contract Data (if not stated: 25%) to the value under (a) above until the advance payment has been repaid in full		
Any amounts to be added and/or deducted for Plant and Materials delivered to the Site, using the percentage (if any) of the Cost of Plant and Materials, and at the times, as stated in the Contract Data	*Additions*	*Additions*
	Deductions	*Deductions*
Any other additions and/or deductions which have become due under the Contract or otherwise.	*Additions*	*Additions*
	Deductions	*Deductions*

Deduction of the amounts certified in all previously payment certificates	*(the cumulative amount previously certified deducted here)*	*(the cumulative amount previously certified deducted here)*
Total amount due under this IPC *(details of corrections and/or modification to the amounts in the Contractor's statement, if any, are attached to this IPC)*		

Net amount(s) to be paid ……. [*state amount(s) and currency(ies)*] to the following bank account:

Account holder …… Bank ….....……. Bank account (IBAN)…….....….

VAT amount(s) to be paid …… [*state amount(s) and currency(ies)*] to the following bank account(s): - *if applicable*-

Account holder …….. Bank ……..…….. Bank account (IBAN)…… .....…….

Nothing in this IPC shall be deemed to indicate the Engineer or the Employer's acceptance, approval, consent or notice of No-objection to any corresponding part of the Works or Contractor's Documents.

…… *[date]*

Form No. 47 - FINAL STATEMENT

(In accordance with Sub-Clause 8.6.2 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Employer**

The DNP under the Contract has expired on ……..... *[date]*, and all outstanding work and remedying of defects were completed on ……..... *[date]*

The net amount(s) finally under the Contract is (are) ……. [*insert amount(s) and currency(ies)*], and all supporting documents substantiating this amount are attached hereto.

A discharge is attached to this Final Statement, which confirms that the above amount(s) represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract.

……
…*[date]* Contractor

Form No. 48 - DISCHARGE

(In accordance with Sub-Clause 8.6.2 of the Conditions of Contract)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Employer**

Capitalized terms used in this discharge shall have the meanings ascribed to them in the Contract, unless otherwise defined herein.

We refer to Sub-Clause 8.6.2 and confirm that the amount(s) of…… (…….) [state amount(s) and currency(ies) in figures and words], stated in the final statement, to which this discharge is attached, represent(s) full and final statement of all moneys due to the Contractor under or in connection with the Contract.

In consideration of the Employer's payment of the above stated amount(s), and of the return by the Employer of any security provided by the Contractor under the Contract, the Contractor hereby unconditionally and irrevocably releases and discharges the Employer from any and all obligations, liablilities, claims, damages, actions, causes of action, losses, expenses, proceedings and claims for relief of every kind and nature existing, claimed to exist, or which can ever hereafter arise in respect of events or circumstances existing or having occurred up to and including the date of this discharge in relation to the Works performed under or in connection with the Contract.

Without in any way limiting or prejudicing the foregoing, the Contractor hereby acknowledges, warrants and agrees that:

1. all sums due, or to become due, and all debits, accounts, damages, obligations, claims and demands of every nature and kind arising out of or related to the Contract, are accounted for and satisfied by payment of the above stated amount(s);

2. there are no unsettled claims for injuries to, or death of, any person, or damage to, or destruction of, any property, in any manner arising out of or related to the Contract;

3. The Employer shall pay the amount(s) certified under the attached final statement issued pursuant to Sub-Clause 8.6.2 in reliance on the warranties and releases contained in this discharge; and

4. The Employer's payment of such amount(s) does not relieve the Contractor from any of its continuing obligations, risks and/or liabilities under the Contract or otherwise.

…… *[date]* Contractor

Form No. 49 - NOTICE OF READINESS FOR TESTS ON COMPLETION

(optional use in accordance with Sub-Clause 9.1 of the Conditions of Contract)

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Engineer**

It is the Contractor's intention to carry out tests on completion for the following ☐ part(s) of the Works

☐Section *[tick the relevant box]*, as stated in the Contract:

.....

On date ……..…….*[but not earlier than 7 days after submission of this notice]*

☐ all documents as required under the Contract prior to commencing the tests on completion:

☐ are attached to this notice.

☐ will be submitted prior to the commencement of the tests on completion for the relevant

☐ part(s) of the Works ☐ Section *[tick the relevant box]*.

Unless otherwise agreed, tests on completion shall be carried out within 7 days after the above-indicated date or on such other day or days, as the Engineer shall instruct.
The Contractor's method statements on how to conduct the tests on completion are attached to this notice for the Engineer's consent. If consent was already given, the attachments are provided for the records only.

……*[date]*
Contractor

Form No. 50 - INSTRUCTION TO SUSPEND

(In accordance with Sub-Clause 10.1.1 of the Conditions of Contract)

Communication reference: ……

Contract number:

.....

Contract title:

.....

Employer:

.....

Engineer: **.....**

Contractor: **.....**

Recipient **Contractor**

Herewith, the Engineer instructs the Contractor to:

☐ a) suspend progress of all the Works

or

☐ b) suspend progress of the following part(s) of the Works

.....

The suspension shall take effect on ……. *[date]*
The cause(s) of suspension is(are) the following:

.....

.....

[date]

……
Engineer

Form No. 51 - NOTICE OF FAILURE TO INSURE

(In accordance with Sub-Clause 12.2.1 of the Conditions of Contract - assuming the Contractor is the insuring Party)

Communication reference: ……

Contract number: .....

Contract title: .....

Employer: .....

Engineer: .....

Contractor: .....

Recipient **Contractor**

The Contractor has failed to:

☐ a) effect or maintain the following insurances referred to in Sub-Clause 12.1 *[Extent of Cover]*, namely:

....

or

☐ b) provide satisfactory insurance certificate(s) or policies evidencing that the following requested insurances are effective or maintained, namely:

.....

Pursuant to Sub-Clause 12.2.1 the Employer may after 14 days from the date of this notice, and without prejudice to any other right or remedy, arrange the missing insurance cover and pay the premiums due. In this case, the Employer shall recover such premiums as a deduction of the amount(s) certified to payment under Sub-Clause 8.4 *[Interim Payments]* and/or Sub-Clause 8.6 [*Final Payment]*, without any requirement to proceed under Clause 13 *[Claims]*. Sub-Clause 12.2.2 shall apply.

……
…*[date]* Employer