

**Project Management Unit for Investment and Construction of Civil
and Industrial Works – Nghe An Province- Viet Nam**

BIDDING DOCUMENTS

(International Competitive Bidding)

(One Stage – Two Envelopes)

**Tender: Engineering- Procurement, Installation of Technology Equipment, and
Construction (EPC) of Wastewater Treatment System – Project: Investment
in Construction of Waste and Wastewater Treatment System for Hospitals in
Nghe An Province using ODA Loan from German Government**

Tender number: KfW-04-NA

**Subproject: Investment in construction of waste and wastewater treatment systems for
hospitals in Nghe An Province using ODA loan from the German Government.**

**Project: Strengthening Provincial Health Systems Project. Component II: Hospital Water
Supply, Wastewater Disposal and Waste Management in 5 Provinces and Viet
Duc Hospital (Hanoi)**

BMZ No.: 2010 65 465

KfW Procurement No. 513265

October, 2025

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Decision approved the Bidding Document:

Bidding Documents Preparation Consultant

Viet Vuong Construction, Investment and Consultant JSC



TỔNG GIÁM ĐỐC
Phùng Đức Cầu

Employer

Project Management Unit for Investment and Construction of Civil and Industrial Works – Nghe An Province



Vương Đình Nhuận

Invitation for Bids

Country: Vietnam

Tender: **Engineering, Procurement, Installation of Technology Equipment, and Construction (EPC)**

Tender Number: KfW-04-NA

Subproject: Investment in construction of waste and wastewater treatment systems for hospitals in Nghe An Province using ODA loan from the German Government.

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Date:

1. The Government of Socialist Republic of Vietnam has received financing from KfW toward the cost of the Strengthening Provincial Health Systems Project, Component II: Hospital Water Supply, Wastewater Disposal and Waste Management in 5 Provinces and Viet Duc Hospital (Hanoi), and intends to apply part of the proceeds toward payments under the contract under the contracts named above.
2. The Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects now invites sealed Bids from eligible Bidders for Package 04: Engineering, procurement, installation of technology equipment and construction (EPC) for wastewater treatment. The implementation period is 08 months for EPC work, and followed by 12 months for operation and maintenance of Wastewater Treatment Plants (WWTP).
3. Bidding will be conducted by means of the International Competitive Bidding (ICB) in the form of 'single stage – two envelopes' procedure as specified in KfW's Guidelines for the Procurement of Consulting Services, Works, Plant, Goods and Non-Consulting Services in Financial Cooperation with Partner Countries ("KfW Guidelines").
4. Only eligible bidders with the following key qualifications should participate in this bidding:
 - **Experience requirements:**
 - At least one (1) WWTP EPC contract or combined contracts (separated contracts of detail design, procurement of goods, and construction) with value of at least 23,700,000,000 VND (or equivalent to 830,000 EUR) in the last 5 years.
 - At least one (1) design/engineering contract for a hospital wastewater treatment plant with a design capacity of at least 200 m³/day with the collection line using a garbage separation module device.
 - At least one (1) civil works and equipment installation contract for a hospital wastewater treatment plant using garbage separation module and SCADA software connected to computer with capacity of at least 200 m³/day-night.
 - At least one (1) contract for operation or maintenance for a hospital wastewater treatment plant with design capacity of at least 200 m³/day for a minimum of 1 year.

- **Financial requirements:**

- The Bidder must have the minimum average annual turnover from consultancy, procurement of goods, and construction of 2,400,000 EUR (or the equivalent in VND) in 2022, 2023 and 2024.
- The Bidder must demonstrate access to, or availability of, financial resources such as high liquidity assets, lines of credit, and other financial means (other than any contractual advance payments) to meet financial resources of 500,000 EUR (or the equivalent in VND)

Interested eligible Bidders may obtain further information from Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects, address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An Province (Mr. Vuong Dinh Nhuan; Email: mbpna10.03.2020@gmail.com) and at the same time send a copy to the Consultant Unit: Viet Vuong Construction, Investment and Consultant JSC, Address: Lot S09, 6th floor, VIWASEEN Office Building, No. 48 To Huu, Dai Mo Ward, Hanoi, Vietnam, email: hungdaitran@gmail.com

5. A complete set of Bidding Documents is available to interested Bidders starting from 28 October 2025 at Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects, address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An Province. To purchase the Invitation for Bids, eligible Bidders should:

- Submit a written request to Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects
- Pay a non-refundable fee of Euro 200 (or equivalent in VND applied selling rate of Vietcombank on the same day), by cash, bank draft or check to following bank account:

Name of Account Holder: Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects

Account number: 3739.0.1096739.00000

Bank's name: State Treasury Region XI – Department of Operation 2

Address: No.12, Phan Kinh road, Truong Vinh ward, Nghe An province.

The Bidding Documents may also be sent to Bidder through courier for an additional free of Euro 50. No liability will be accepted for loss or late delivery.

6. A soft copy of bidding document may be downloaded from <http://muasamcong.mpi.gov.vn/>. However, only bidders completed payment of the fee mentioned in Item 5 above before the deadline for bid submission are considered. The bidders are requested to provide Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects and the Consultant Unit with bidders' contact details, including bidder's name, address, name of the authorized person, email address, telephone number, and fax number (if any).

7. A pre-bid meeting will be held on 12 November 2025 at Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects, address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An Province. Site visits to some project locations will be organised on the same day.

8. Bids must be delivered to the address below:

Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects, address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An Province, Vietnam

at or before 9:30 AM on 02nd December 2025 Late Bids will be rejected. All Bids must be accompanied by a Bid Security.

9. Bids will be opened immediately at Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects after the deadline for bid submission in the presence of bidders' representatives who choose to attend.

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ABBREVIATIONS

BDS	Bid Data Sheet
BOD ₅	Biological Oxygen Demand
BS	British Standard
COD	Chemical Oxygen Demand
CPM	Critical Path Method
CW	Constructed Wetland
Decree 214/CP	Government's Decree No. 214/2025/ND-CP dated August 04, 2025 on guidelines for the Law on Investment in terms of selection of contractors
DIN	German Institute of Standardisation
DNP	Defects Notification Period
DONRE	Department of Natural Resources and Environment
DS	Dry Solids
EHS	Environmental, health & safety
EMP	Environmental Management Plan
EPC	Engineering-Procurement of goods-Construction
EUR	Euro
GCC	General Conditions of Contract
GRP	Glass-reinforced Plastic
HCW	Healthcare Waste
ISO	International Organization for Standardization
ITB	Instructions to Bidders
Law on Bidding	Law on Bidding No. 22/2023/QH15 dated June 23, 2023 of the National Assembly
M&E	Mechanical & Electrical
MBBR	Moving Bed Biofilm Reactor
MBR	Membrane Bio-Reactor
O&M	Operation & maintenance
OHS	Occupational Health and Safety
P&ID	Piping & Instrumentation Diagram

PCC	Particular Conditions of Contract
PFD	Process Flow Diagram
SBR	Sequence Batch Reactor
SCADA	Supervisory Control And Data Acquisition
SHCW	Solid Healthcare Waste
SS	Stainless Steel
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
USD	US Dollar
UV	Ultra-Violet
VDH	Viet Duc Hospital
VND	Vietnamese Dong
WW	Wastewater
WWTP	Wastewater Treatment Plant

PART 1. BIDDING PROCEDURES

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Section I. Instruction to Bidders (ITB)

<p>1. Scope of Bid</p>	<p>1.1. The Employer indicated in the BDS, issues these Bidding Documents for the EPC tender as specified in Part 2 – Employer’s Requirements.</p> <p>1.2. The name and number of the tender is prescribed in the BDS.</p> <p>1.3. Contract implementation duration shall comply with the BDS.</p>
<p>2. Sources of Funds</p>	<p>Sources of Funds to be used for the package are specified in the BDS.</p>
<p>3. Corrupt and Fraudulent</p>	<p>3.1 KfW requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Annex 2 of Part 1.</p> <p>3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents to provide information and permit KfW or an agent appointed by KfW to inspect on site all accounts, records and other documents relating to bid submission and contract performance (in the case of award), and to have them audited by auditors or agents appointed by KfW.</p>
<p>4. Eligible Bidders</p>	<p>4.1 A Bidder may be a private entity or a government-owned entity — subject to ITB 4.3 — or any combination of such entities in the form of a joint venture (“JV”) under an existing agreement or with the intent to enter into such an agreement supported by a Letter of Intent. In the case of a Joint Venture:</p> <ul style="list-style-type: none"> (a) unless otherwise specified in the BDS, all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms, and (b) the JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless specified in the BDS, there is no limit on the number of members in a JV. <p>4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this procurement process, if the Bidder:</p> <ul style="list-style-type: none"> (a) Directly or indirectly controls, is controlled by or is under common control with another Bidder; or (b) Receives or has received any direct or indirect subsidy from another Bidder; or (c) Has the same legal representative as another Bidder; or (d) Has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or (e) Participates in more than one bid in this bidding process, both as an individual firm and as a JV member. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one Bid; or

	<p>(f) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or</p> <p>(g) Any of its affiliates has been hired (or is proposed to be hired) by the Employer as Engineer for the Contract implementation; or</p> <p>(h) Has a close business or family relationship with a professional staff of the Employer (or of the project implementing agency, or of a recipient of a part of the funds) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the KfW throughout the procurement process and execution of the contract.</p> <p>4.3 The KfW's eligibility criteria to bid are described in Annex 1 to Part 1, Eligibility Criteria.</p> <p>4.4 A Bidder shall not be under suspension from bidding by the Employer as the result of the execution of a Bid–Securing Declaration.</p> <p>4.5 A Bidder shall provide such evidence of eligibility satisfactory to the Employer, as specified in ITB 12 or as the Employer shall reasonably request.</p>
<p>5. Contents of Bidding Documents</p>	<p>5.1. The Bidding Documents consists of Notice of Updates of Bidding Documents (if any) and Parts 1, 2, and 3 in conjunctions with any Addendum issued in accordance with ITB 7 (if any).</p> <p>5.2. The Invitation for Bids issued by the Employer is not part of the Bidding Document.</p> <p>5.3. The Employer is not responsible for the accuracy and completeness of the Bidding Documents and their addenda, minutes of pre-Bid meeting (if any) or documents on amendments to Bidding Documents as specified in ITB 7 if they were not provided by the Employer. Where there is inconsistency in documents acquired by the Bidder, the documents issued by the Employer shall prevail.</p> <p>5.4. The Bidder shall examine all instructions, forms, terms, and specifications in terms of the Employer's Requirements, financial requirements and other requirements in the Bidding Documents to prepare Bids with all information or documentation required by the Bidding Documents.</p>
<p>6. Clarification of Bidding Documents, Site Visit, Pre-Bid Meeting</p>	<p>6.1. A prospective Bidder requiring any clarification of the Bidding Documents shall contact the Employer in writing or ask questions in the pre-Bid meeting (if any) as specified in ITB 6.4. The Employer will respond in writing to any request for clarification, provided that such request is received no later than a given days prior to the deadline for submission of Bid as specified in BDS. The Employer shall forward copies of its response to all those who have acquired the Bidding Documents directly from it, including a description of the inquiry but without identifying its source. Should the Employer deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under ITB 7 and ITB 21.2.</p>

	<p>6.2. The Bidder is advised to visit and examine the site and its surroundings and obtain for itself on its own responsibility all information that may necessary for preparing the Bid and entering into a Contract. All cost for site visit shall be at the Bidder’s own expenses.</p> <p>6.3. The employer will allow the Bidder and any of its personnel or agents to enter upon its premises and lands for the purpose of a site visit, provided that the Bidder, its personnel, and agents commit to the Employer and its personnel and agents being released and indemnified from and against all liability in respect thereof. The Bidder, its personnel, and agents will be responsible for all risks such as accidents, loss or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the site inspection. In exceptional circumstances, the Employer shall organize, provide the Bidder with guidelines for site visit as specified in BDS.</p> <p>6.4. The Employer shall hold a Pre-Bid Meeting if provided for in the BDS, where necessary. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised in connection with the Bidding Documents. The Bidder is requested, as far as possible, to submit any question in writing, to reach the Employer before the pre-Bid meeting.</p> <p>The Employer will prepare minutes of the Pre-Bid Meeting which include: questions from Bidders (without identifying the source), and the responses given by the Employer. The minutes of the Pre-Bid Meeting will be transmitted to all Bidders who have acquired the Bidding Documents from the Employer. Should the Employer deem it necessary to amend the Bidding Documents as a result of a Pre-Bid Meeting, it shall do so following the procedure under ITB 7, the minutes of the Pre- Bid Meeting is different from the addendum of Bidding Documents. Absence from the Pre-Bid Meeting is not a reason for disqualifying a Bidder.</p>
<p>7. Amendment of Bidding Documents</p>	<p>7.1. At any time prior to the deadline for submission of Bid, the Employer may amend the Bidding Documents by issuing an addendum.</p> <p>7.2. Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents directly from the Employer.</p> <p>7.3. Each addendum shall be sent to all Bidders who have obtained the Bidding Documents directly from the Employers within a given time as specified in the BDS. To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may extend the deadline for submission of Bid, pursuant to ITB 21.2. The Bidder must notify the Employer of the receipt of the addendum in writing, by post, via fax or email.</p>
<p>8. Cost of Bidding</p>	<p>The Bidder shall bear all costs associated with the preparation and submission of its Bid. In any case, the Employer shall not be responsible or liable for those costs.</p>
<p>9. Language of Bid</p>	<p>The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Employer, shall be written in the language specified in the BDS.</p>
<p>10. Documents comprising the Bid</p>	<p>The Bid includes Technical Proposal and Financial Proposal, which comprise the following:</p>

	<p>10.1. Technical Proposal includes administrative documents, legal documents, qualification documents, technical proposals of the Bidder as required by Bidding Documents. In particular:</p> <ul style="list-style-type: none"> (a) Letter of Technical Bid in accordance with ITB 11 ; (b) Declaration of Undertaking in the format provided in Section IV, Bidding Forms; (c) Joint venture agreement (for any Bidder in a joint venture) using form 03 Section IV - Bidding Forms; (d) Bid Security, in accordance with ITB 18; (e) Documentary evidence of Bidder's eligibility in accordance with ITB 4.1; (f) Document providing eligibility of the authorized signatory of the Bid, in accordance with ITB 19.3; (g) Documentary evidence in accordance with ITB 12 establishing the Bidder's qualifications and experience; (h) Technical Proposal in accordance with ITB 13. <p>Technical Bids are unpriced bids and shall contain no prices or price schedules or other reference to rates and prices for completing the facilities. Technical Bids containing such price information will be rejected.</p> <p>10.2. Financial Proposal shall include the following:</p> <ul style="list-style-type: none"> (a) Letter of Financial Bid and tables to be completed with all information as specified in ITB 11; (b) Financial Proposal and Schedules completed in accordance with ITB 11 and ITB 14. <p>10.3. Alternative Bids, in accordance with ITB 15; in conjunction with Financial Proposal related to the Alternative Bids (if any);</p> <p>10.4. Any other document specified in the BDS.</p>
<p>11. Letter of Technical Bid, Letter of Financial Bid, Bidding Forms and Schedules</p>	<p>The Bidder shall submit the Letter of Technical Bid and Letter of Financial Bid, and respective Schedules using forms provided in Section IV - Bidding Forms.</p>
<p>12. Documents Establishing the Qualifications and Experience of the Bidder</p>	<p>The Bidder shall fill essential information in the forms mentioned in Section IV – Bidding Forms to establish the Bidder's qualifications and experience to perform the Contract in accordance with Section III - Evaluation and Qualification Criteria. The Bidder shall prepare original documents for verification at the request of the Employer. In case of application of the prequalification, if there is any change to the information about the Bidder's qualification between the Bid and the prequalification document which has been evaluated, Bidder shall provide updated information, if there is no change in the Bidder's qualification and experience, Bidder shall issue a written commitment to satisfy all the package's criteria.</p>
<p>13. Technical Proposal</p>	<p>The Bidder shall furnish a Technical Proposal including a statement of work implementation method, equipment, personnel, implementation schedule and any other information as stipulated in Section IV - Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidder's proposal to meet the work requirements and the completion time.</p>

<p>14. Bid Prices and Discounts</p>	<p>14.1. Bid Price means the price to be quoted in the Letter of Financial Bid, including the total price of the Bid (excluding any discounts offered) to perform the package, in accordance with Part 2 – Employer’s Requirements.</p> <p>14.2. The Bidder shall submit the Bid with all lots and items specified in ITB 1.1 and the Bid unit price and amount of all lots and items shall be stated in columns "Description" in the Summary of Bid Price and Bill of Quantities for each item or component prescribed in Forms No. 20, 21, 22 Section IV - Bidding Forms. In case the Bidder inserts no value or inserts “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 additional payment from the Employer during the contract performance, except for total price quoted by item or component.</p> <p>14.3. 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 “List of Goods” and “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 20.2 and ITB 20.3. The Letter of Discount shall be preserved as part of the Financial Proposal and opened together with the Financial Proposal.</p> <p>14.4. The Bidder shall be accountable for their unit price to perform tasks as required by the Bidding Document, if the Bid Price is unusual, the Employer may request the Bidder to clarify the proportion of unit price in accordance with ITB 25.</p> <p>The Bid Price quoted by the Bidder shall include all taxes, fees and charges (if any) determined at 28 days prior the deadline for submission of Bid. In case the Bid Price is not inclusive of taxes, fees and charges (if any), the Bid of the Bidder shall be rejected.</p> <p>14.5. Bid Price of the Bidder is fixed. If price adjustment is permitted during the contract execution time as specified in Conditions of Contract, the Bidder must propose the price adjustment using the Form of Section IV – Bidding Forms according to Escalation Formula prescribed in Section X – Particular Conditions of Contract.</p>
<p>15. Alternative Bids</p>	<p>15.1. Alternative Bids shall only be considered if it is indicated in the BDS of the Bidding Documents that Bidder can propose Alternative Bids.</p> <p>15.2. The Alternative Bids shall only be considered if the main option proposal is evaluated as responsive and the Bidder is ranked the first. In this event, the Bidder must provide all essential information about: description, drawings, technical specifications, delivery schedule and other relevant information to enable the Employer to evaluate the Alternative Bid. The evaluation of Alternative Bids shall comply with Clause 6 in Section III – Evaluation and Qualification Criteria.</p>
<p>16. Currencies of Bid and Payment</p>	<p>The currency of the Bid and the currency of payments are specified in the BDS.</p>

<p>17. Period of Validity of Bids</p>	<p>17.1. The Bid including Technical Proposal and Financial Proposal shall remain valid for the period which is not shorter than the period specified in the BDS. Any Technical Proposal or Financial Proposal which has a shorter period of validity shall not be further considered.</p> <p>17.2. In exceptional circumstances, prior to the expiration of the Bid validity period, the Employer may request Bidders to extend the period of validity of their Bids (including the period of validity of Technical Proposal and Financial Proposal), at the same time, Bid Security will be requested to be extended with a corresponding period (equivalent to the extended validity period of Bid plus 30 days). If a Bidder refuses to extend its Bid validity as required, the Bid shall not be further evaluated and its Bid security will be returned. The Bidder who accepts to extend the Bid validity is not permitted to modify any content of the bid. The request and the responses for extension shall be made in writing.</p>
<p>18. Bid Security</p>	<p>18.1. When submitting a Bid, the Bidder shall furnish a Bid Security before the deadline for submission of Bids in the form of either a letter of credit or a bank guarantee from a bank, a credit institution lawfully operating in Vietnam using Form No. 04 of Section IV – Bidding Forms or in another form provided that it contains essential contents. In the event that the validity period of the Bid is extended as prescribed in ITB 17.2, the Bid Security is also extended with the same validity period.</p> <p>In case of a joint venture, the Bid Security will be made following one of two methods below:</p> <ul style="list-style-type: none"> (a) Every JV Party may perform separate Bid Security provided that the total value of the Bid Security is not lower than that mentioned in ITB 18.2; If the Bid Security of one Joint Venture member is considered as invalid, the Bid of the Joint Venture shall not be further evaluated. If any JV's member violates the Law on Bidding leading to the fact that its Bid Security is not returned as prescribed in ITB 18.5, the Bid Security of all JV members shall not be returned. (b) All JV members conclude an agreement in which one member will be responsible for its Bid Security and for Bid Security of other members in the Joint Venture. In this case, the Bid Security shall be in the name of the Joint Venture or the JV member in charge provided that the total value is not lower than that mentioned in ITB 18.2. If any JV Party violates the Law on Bidding leading to the fact that its Bid Security is not returned as prescribed in ITB 18.5, the Bid Security shall not be returned. <p>18.2. Value, currency and validity period of the Bid Security shall be specified in the BDS.</p> <p>18.3. A Bid Security shall not be considered as valid in one of the following cases: it has lower value, shorter validity period as required in ITB 18.2, inaccurate Employer's name (beneficiary), non-original paper and invalid signature or accompanying of disadvantaged conditions to the Employer.</p> <p>18.4. The Bid Security of unsuccessful Bidders shall be either returned or released within the period as prescribed in the BDS, from the date on which the notification of the Bidder selection is sent.</p> <p>With regards to the successful Bidder, the Bid Security shall be returned or released after the Bidder provides the Performance Security.</p> <p>18.5. The Bid Security shall not be returned in one of the following cases:</p>

	<ul style="list-style-type: none"> (a) The Bidder withdraws its Bid (including Technical Proposal or Financial Proposal) after the deadline for submission of Bid and during the period of Bid validity; (b) The Bidder violates the Law on Bidding which leads to the Bid cancellation as prescribed in ITB 39.1; (c) The Bidder fails to furnish the Performance Security as prescribed in ITB 41; (d) The Bidder fails to or refuses to negotiate the Contract, within a period of 05 days from the date of receipt of notification of contract negotiation except for Force Majeure cases; (e) The Bidder fails or refuses to finalize and sign the Contract, within a period as mentioned in the notification of contract award sent by the Employer except for Force Majeure cases.
<p>19. Format and Signing of Bid</p>	<p>19.1. The Bidder shall prepare the documents comprising the Bid which include: 1 original copy of Technical Proposal and 1 original copy of Financial Proposal as described in ITB 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”.</p> <p>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”, “SUBSTITUED TECHNICAL PROPOSAL PHOTOCOPY”, “SUBSTITUED FINANCIAL PROPOSAL ORIGINAL”, “SUBSTITUED FINANCIAL PROPOSAL PHOTOCOPY”.</p> <p>If there is an Alternative Bid as prescribed in ITB 15, 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”.</p> <p>19.2. The Bidder shall be responsible for the discrepancy between the original and the copies. In the event of any discrepancy between the original and the copies 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 copies that leads to change to the rank of the Bidder, the Bid shall be rejected.</p> <p>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, clarification documents, Price Schedule and other forms specified in Section 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 Section 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.</p>

	<p>19.4. If the Bidder is a Joint Venture, the Bid must bear the signatures of legal representatives of all JV members or the Party that represents the Joint Venture according to the Joint Venture agreement. In order to ensure that all JV members are legally bound, the Joint Venture agreement must bear the signatures of legal representatives of all JV members.</p> <p>19.5. Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the Bid.</p>
<p>20. Sealing and Marking of Bids</p>	<p>20.1. The Technical Proposal and the Financial Proposal are to be submitted simultaneously in two separate envelopes (two-envelope procedure). The Technical Proposal envelope contains the original and the copies and clearly marks it “TECHNICAL PROPOSAL”. The Financial Proposal envelope contains the original and the copies and clearly marks it “FINANCIAL PROPOSAL”.</p> <p>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 marked as: “MODIFIED TECHNICAL PROPOSAL”, “SUBSTITUTE TECHNICAL PROPOSAL”, “MODIFIED FINANCIAL PROPOSAL”, “SUBSTITUTE FINANCIAL PROPOSAL”.</p> <p>If the Bidder has an Alternative Bid which contains Technical Proposal and Financial Proposal, it shall be put into a separate envelope and clearly mark it “ALTERNATIVE TECHNICAL PROPOSAL”.</p> <p>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.</p> <p>20.2. The outer envelopes shall:</p> <ul style="list-style-type: none"> (a) bear the name and address of the Bidder; (b) be addressed to the Employer in accordance with ITB 21.1; (c) bear the name of the procurement in accordance with ITB 1.2; and (d) bear a warning: “Do not 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 open before the time and date of Financial Proposal opening” regarding envelopes of Financial Proposal, Modified Financial Proposal, or Substitute Financial Proposal (if any). <p>20.3. If the envelopes are not sealed or the seals thereof are lost during the process they are transferred to the Employer, or they are not marked as required in ITB 20.1. and ITB 20.2, Bidder shall bear responsibilities for any consequences or disadvantages thereof. The Employer will assume no responsibility for the confidentiality of the Bid if the Bidder fails to comply with above regulations.</p>
<p>21. Deadline for the submission of bids</p>	<p>21.1. Bids must be received by the Employer by hand or courier at the address and no later than the deadline for submission of Bid specified in the BDS. The Employer shall receive Bids of all Bidders submitted before the deadline for submission of Bid, including those who haven’t yet bought or received the Bidding Documents from the Employer. Any Bidder that has not bought the Bidding Documents must pay the Employer an amount</p>

	<p>equal to the selling price for a set of Bidding Documents before their Bid envelopes are received.</p> <p>21.2. The Employer may extend the deadline for submission of Bid by amending the Bidding Documents in accordance with ITB 7. In such case, all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.</p>
22. Late Bids	<p>The Employer shall not consider any Bid that arrives after the deadline for submission of bids. Any Bid received by the Employer after the deadline for submission of bids shall be declared late, rejected and returned unopened to the Bidder.</p>
23. Withdrawal, Substitution, and Modification of Bids	<p>23.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice in accordance with ITB 10, duly signed by a legal representative or an authorized representative, and shall include a copy of the Power of Attorney in accordance with ITB 19.3. The corresponding substitution or modification of the Bid must accompany the respective written notice and ensure to meet the following conditions:</p> <ul style="list-style-type: none"> (a) To be prepared and submitted in accordance with ITB s 19 and ITB 20, and in addition, the respective envelopes shall be clearly marked “MODIFIED TECHNICAL PROPOSAL” or “MODIFIED FINANCIAL PROPOSAL” or “SUBSTITUTED TECHNICAL PROPOSAL” or “SUBSTITUED FINANCIAL PROPOSAL”, or “WITHDRAWAL”; and (b) To be received by the Employer prior to the deadline prescribed for submission of bids, in accordance with ITB 21.1. <p>23.2. Bids requested to be withdrawn in accordance with ITB 23.1 shall be returned unopened to the Bidders.</p> <p>23.3. No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of Bid validity specified by the Bidder on the Letter of Bid or any extension thereof.</p>
24. Confidentiality	<p>24.1. Information relating to the evaluation of bids, and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until publication of the Bidder selection result. In any case, no information mentioned in the Bid of the successful Bidder is disclosed to any other Bidders, except for information disclosed at the Technical Proposal and Financial Proposal opening session.</p> <p>24.2. Except for case of the Bid clarification prescribed in ITB 25 and the negotiation of contract, the Bidder is not permitted to contact the Employer on any matter related to its Bid and the package from the Bid opening time until the publication of Bidder selection result.</p>
25. Clarification of Bids	<p>25.1. After opening Technical Proposal and Financial Proposal, the Bidder is responsible for clarifying Technical Proposal and Financial Proposal at the request of the Employer. Any request for clarification of the Employer and any response of the Bidder shall be made in writing. In the event that there is missing documentary evidence establishing the Bidder’s qualifications in the Technical Proposal Document, the Employer shall request the Bidder to clarify and supplement that documentary evidence. Regarding Technical and Financial Proposals mentioned in Technical Proposal and Financial Proposal, the clarification shall ensure not to change essential information about the Bid submitted and Bid price. The</p>

	<p>Bidder must notify the Employer of the receipt of the request for Bid clarification in writing, by post, via fax or email.</p> <p>25.2. The Clarification of Bids between the Bidder and the Employer shall be made in writing.</p> <p>25.3. The Clarification of Bids shall only be made between the Employer and the Bidder having the Bid that needs clarifying. The contents of the Clarification of Bids shall be treated as an integral part of the Bid by the Employer. With regards to clarifications that may directly affect the evaluation of Bidder's qualification, technical requirements or financial requirements, if the deadline for clarification expires, but the Bidder fails to send any clarification or the clarification does not satisfy the requirements of the Employer, the Employer shall evaluate the Bid sent prior to the deadline for submission of Bid by the Bidder.</p> <p>25.4. If necessary, the Employer shall request possibly successful Bidders to clarify their Bids. Record of the Clarification of Bids shall be kept. The Clarification of Bids shall be provided objectively and transparently.</p>
<p>26. Deviations, Reservations, and Omissions</p>	<p>During the evaluation of Bids, the following definitions apply:</p> <p>26.1. "Deviation" means a difference from the requirements specified in the Bidding Documents;</p> <p>26.2. "Reservation" means the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents;</p> <p>26.3. "Omissions" means the failure to submit part or all of the information or documentation required in the Bidding Documents.</p>
<p>27. Determination of Bid Responsiveness</p>	<p>27.1. The Employer shall determine a bid's responsiveness as prescribed in ITB 10.</p> <p>27.2. A substantially responsive Bid means one that meets all the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:</p> <ul style="list-style-type: none"> (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 Documents, the Employer's rights or the Bidder's obligations under the proposed Contracts; or (b) if rectified, would unfairly affect the competitive position of other Bidders whose Bids are substantially responsive to requirements of the Bidding Document. <p>27.3. The Employer shall examine all technical aspects of the Bid submitted in accordance with ITB 13, in particular, to confirm that all criteria prescribed in Part 2 – Employer's Requirements, have been met without any material deviation, reservation or omission.</p> <p>27.4. If a Bid is not substantially responsive to the requirements of the Bidding Documents, it shall be rejected and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.</p>
<p>28. Nonmaterial Nonconformities</p>	<p>28.1. Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid that do not constitute a material deviation, reservation or omission.</p> <p>28.2. Provided that a Bid is substantially responsive, the Employer may request that the Bidder submit necessary information or documentation,</p>

	<p>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 price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.</p> <p>28.3. Provided that a Bid is substantially responsive, the Employer shall rectify nonmaterial nonconformities which are quantifiable related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes among Bids only, to reflect the price of a missing or nonconforming item or component.</p>
<p>29. Subcontractor</p>	<p>29.1. The Contractor is entitled to enter into agreements with subcontractors mentioned in the list as prescribed in Form 18(a) of Section IV – Bidding Forms. There is no change to the responsibilities of the primary Contractor in spite of employment of any subcontractor. The Contractor shall be responsible for quantity, quality, schedule and other responsibilities performed by the subcontractor. The subcontractor’s qualifications shall not be considered during the contractor’s Bid evaluation (unless Bidding Documents allow employing special subcontractors). The Contractor is required to meet all qualification requirements (not considering qualification of subcontractors).</p> <p>If the Contractor does not propose any subcontractor for any task, the whole package shall be under responsibilities of the Contractor. If any subcontractor is employed during the performance of the contract, the Contractor shall be accused of conducting “Contract transfer”.</p> <p>29.2. The Contractor may employ subcontractors to perform works of which total value performed by subcontractor does not exceed the given percentage (%) in the Bid Price as specified in BDS.</p> <p>29.3. The Contractor is not allowed to employ subcontractor to perform other tasks mentioned in the Bid; Any replacement or supplement of subcontractors other than those mentioned in the Bid or the employment of subcontractors exceeding the value specified in ITB 29.2 will be conducted when there is reasonable and legitimate reasons and being accepted by the Employer. The employment of subcontractors to perform other works, beyond the list of subcontractors mentioned in the Bid without the Employer’s consent shall be accused of conducting “Contract transfer”.</p> <p>29.4. The Employer may permit the Contractor to employ special subcontractor as prescribed in the BDS. The Contractor shall make a list of special subcontractors with qualifications and work experience using form 18(b) of Section IV – Bidding Forms. The Employer shall evaluate the special subcontractor’s qualifications according to the criteria prescribed in Clause 2.3 - Qualification Criteria in Section III – Bid Evaluation Criteria. If the special subcontractor does not meet the requirements of the Bidding Document and the Contractor’s qualification and experience fail to satisfy and perform tasks given to the special subcontractor, the Bid shall be considered as non-responsive.</p>
<p>30. Preferences in Bidder selection</p>	<p>30.1. Rules for preferences:</p> <p>(a) After preferences are determined, if prospective Bids are equally ranked, the Bidder has proposed the highest domestic costs or has employed more local labour (over total amount of wages payable prescribed in the Bid) shall be given preferences;</p>

	<p>(b) If the Bidder is eligible for more than one incentive, only the highest incentive is accepted in accordance with the Bidding Documents;</p> <p>(c) The preferences shall be determined according to all Bidder's proposals of consultancy, procurement of goods, and construction.</p> <p>30.2. Entities eligible for preferences and determination of preferences are set out in BDS.</p>
<p>31. Technical Proposal Opening</p>	<p>31.1. Except for cases prescribed in ITB 22 and ITB 23, all Technical Proposals received prior to the deadline for submission of Bid shall be opened and read out information prescribed in ITB 31.3 by the Employer. The Technical Proposal opening shall be held in public at the address, date and time specified in the BDS in the witness of representatives from the Bidders and relevant agencies and organizations. The Technical Proposal opening shall be conducted regardless of the presence or absence of any Bidder's representative.</p> <p>31.2. In case Bidder requests to withdraw or substitute the Bid, the Employer will first open and read out information in the envelopes marked "WITHDRAWAL", the corresponding Bid shall not be opened, but returned to the Bidder. No Bid withdrawal shall be permitted and the Technical Proposal is still opened unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal.</p> <p>Next, envelopes marked "SUBSTITUTED TECHNICAL PROPOSAL" shall be opened and read out and exchanged with the corresponding Technical Proposal being substituted; the initial Technical Proposal envelope shall not be opened and returned to the Bidder. No Technical Proposal Substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution.</p> <p>Envelopes marked "MODIFIED TECHNICAL PROPOSAL" shall be opened and read out with the corresponding Technical Proposal. No Modified Technical Proposal shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at the Bid opening. Only Technical Proposals that are opened and read out at the Technical Proposal opening shall be considered further.</p> <p>31.3. The Bid opening shall be conducted to every Technical Proposal or Alternative Substitute Technical Proposal according to the alphabetical order of the Bidders' names and following procedures:</p> <p>(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;</p> <p>(b) Original copy of the Technical Proposal, Modified Technical Proposal (if any) or Substitute Technical Proposal (if any) shall be opened and read out with the following information: the name of the Bidder, the validity period of Technical Proposal, the performance period and the value and validity period of the Bid Security and other details as the Employer may consider appropriate.</p> <p>(c) Number of photocopies of Technical Proposal and relevant information, including Alternative Bid (if any) shall be read out;</p>

	<p>(d) The representative of the Employer shall countersign original copy of Letter of Bid of Technical Proposal, Power of attorney (if any), Joint Venture Agreement (if any), Bid Security. No Bid shall be rejected at Bid opening except for late bids, in accordance with ITB 22.</p> <p>(e) The Employer and Bidders shall reach a consensus on how to seal the envelopes marked “FINANCIAL PROPOSAL”, “MODIFIED FINANCIAL PROPOSAL”, “SUBSTITUTE FINANCIAL PROPOSAL”. After sealing, the Employer shall preserve envelopes in conformity with the management regime of confidential document until the Financial Proposals opening session as prescribed in ITB 33.</p> <p>31.4. The Employer shall prepare a record of the Bid opening that shall include information as prescribed in ITB 31.3. The record of Technical Proposal opening shall be countersigned by the representatives of Bidders participating in the Technical Proposal opening. The missing of Bidder’s signature does not affect the meaning and validity of the record. A copy of the record shall be distributed to all Bidders who participated in the Bid opening.</p>
<p>32. Technical Proposal Evaluation</p>	<p>32.1. The Employer shall apply criteria mentioned in this Section and method for evaluation prescribed in BDS to evaluate the Technical Proposals. Any other criterion or method other than those mentioned above shall not be permitted to apply.</p> <p>32.2. Inspection and evaluation of the validity of the Technical Proposal:</p> <p>(a) The inspection and evaluation of the validity of the Technical Proposal shall comply with Clause 1 of Section III - Evaluation and Qualification Criteria;</p> <p>(b) The Bidders having valid Technical Proposals shall be considered further for qualification and experience</p> <p>32.3. Qualification evaluation:</p> <p>(a) The evaluation of Bidder’s qualification shall comply with Clause 2 of Section III –Bid Evaluation Criteria;</p> <p>(b) The Bidders satisfying the qualification requirements shall be further technically considered.</p> <p>32.4. Technical evaluation:</p> <p>(a) The Technical evaluation shall comply with Clause 3 of Section III –Bid Evaluation Criteria;</p> <p>(b) The Bidders satisfying technical evaluation shall be considered further with Financial Proposal as prescribed in Clause 4 and Clause 5 of Section III –Bid Evaluation Criteria.</p> <p>32.5. The list of technically responsive Bidders shall be approved in writing. The Employer shall send the List to all Bidders who have submitted Bids and which contains invitations of Bidders satisfying technical requirements to open Financial Proposal, together with time and location of opening the Financial Proposal.</p>
<p>33. Financial Proposal Opening</p>	<p>33.1. The Financial Proposal opening shall be held in public at the address, date and time specified in the Notification of List of Bidders satisfying the technical requirements, in the witness of representatives from Bidders, relevant agencies and organizations. The Financial</p>

	<p>Proposal opening shall be conducted regardless of the presence or absence of any Bidder's representative.</p> <p>33.2. At the Financial Proposal opening, the Employer shall announce the List of Bidders satisfying technical requirements and then check seals of the envelopes marked "FINANCIAL PROPOSAL", "MODIFIED FINANCIAL PROPOSAL", "SUBSTITUTE FINANCIAL PROPOSAL".</p> <p>33.3. In case of the "SUBSTITUTE FINANCIAL PROPOSAL, the Employer will first open, and read out information in the envelopes marked "SUBSTITUE FINANCIAL PROPOSAL"; the initial Financial Proposal will be replaced by the corresponding Substitute Financial Proposal, and returned unopened to the Bidder. No Financial Proposal substitution shall be permitted unless the corresponding substitution notice contains valid documentary evidence that the signatory is a legal representative of the Bidder.</p> <p>Envelopes marked "MODIFIED FINANCIAL PROPOSAL" shall be opened and read out with the corresponding Financial Proposals. No Financial Proposal modification shall be permitted unless the corresponding modification notice contains valid documentary evidence that the signatory is legal representative of the Bidder. Only envelopes that are opened and read out at the Financial Proposal opening shall be considered further.</p> <p>33.4. The Financial Proposal opening shall be conducted to every Financial Proposal according to the alphabetical order of the Bidders' names and the following procedures:</p> <ul style="list-style-type: none"> (a) Original copy of the Financial Proposal, Modified Financial Proposal (if any) or Substitute Financial Proposal (if any) shall be opened and read out with the following information: the name of the Bidder, validity period of Financial Proposal, Bid Prices of Letter of Financial Bid, the Bid Prices mentioned in the Bid Price Summary of Bid Price, value of discounts (if any), and other details as the Employer may consider appropriate. Only discounts read out at the Financial Proposal opening shall be considered further; (b) Quantity of photocopies of Financial Proposal and other details shall be read out; (c) A representative of the Employer shall countersign original copy of Financial Proposal and Letter of Discount (if any). No Financial Proposal of a Bidder whose name is mentioned in the List of Bidders satisfying the technical requirements shall be rejected at Financial Proposal opening. <p>33.5. The Employer shall prepare a record of the Financial Proposal opening that shall include information prescribed in ITB 33.2, ITB 33.3 and ITB 33.4. The record of Financial Proposal opening shall be countersigned by the representatives of the Bidders participating in the Financial Proposal opening. The missing of a Bidder's signature does not affect the meaning and validity of the record. A copy of the record shall be distributed to all Bidders who satisfy the technical requirements.</p>
<p>34. Financial Proposal Evaluation and Ranking of Bidders</p>	<p>34.1. The Employer shall apply criteria mentioned in this Section and method for evaluation prescribed in BDS to evaluate the Financial Proposals. Any other criterion or method other than those mentioned above shall not be permitted to apply.</p> <p>34.2. Inspection and evaluation the validity of the Financial Proposals:</p>

	<p>(a) The inspection and evaluation of the validity of the Financial Proposals shall comply with Clause 4 of Section III – Bid Evaluation Criteria;</p> <p>(b) The Bidders having valid Financial Proposals shall be considered further and ranked.</p> <p>34.3. Detailed evaluation of Financial Proposal and ranking of Bidders:</p> <p>(a) Detailed evaluation of Financial Proposals shall comply with Clause 5 Section III – Bid Evaluation Criteria.</p> <p>(b) After carrying out detailed evaluation of Financial Proposal, the Employer shall approve the List of ranking of Bidders. The first-ranking Bidder shall be invited to enter into negotiation. The ranking of Bidders shall comply with the BDS.</p>
<p>35. Negotiation</p>	<p>35.1. According to the decision on approval for the List of ranking of Bidders, the Employer shall invite the first-ranking Bidder to enter into negotiation. The contract negotiation is based on:</p> <ul style="list-style-type: none"> - Bid evaluation report; - The Bid and Clarification of Bids (if any) submitted by the Bidder; - Bidding Documents. <p>35.2. Contract negotiation contents:</p> <p>(a) Negotiate about undetailed, unclear, unsuitable contents or nonconformities between the Bidding Documents and the Technical Proposal, Financial Proposal; about different contents in the Technical Proposal or Financial Proposal possibly leading to disputes or affecting the duties of contracting parties during the performance of the contract;</p> <p>(b) Negotiate about proposals for amendments or alternative bids it is permitted in the Bidding Documents that the Bidder can offer an alternative bid;</p> <p>(c) Negotiate about personnel:</p> <p>In the negotiation process, the Bidder is not permitted to replace key personnel as proposed in the Technical Proposal to hold positions such as: design manager, survey manager, construction site commander, unless Bid evaluation period lasts longer than prescribed period or a force majeure event occurs that key personnel proposed cannot participate in the contract execution. In this case, the Bidder is entitled to replace other personnel provided that be expected personnel shall have equivalent or better qualification, experience acquired by the proposed personnel and the Bid price does not change;</p> <p>(d) Negotiate about issues incurred during the Bidder selection (if any) to complete the detailed contents of the package;</p> <p>(e) Negotiate about nonmaterial nonconformities prescribed in ITB 28;</p> <p>(f) Negotiate about other essential contents.</p> <p>35.3. During the contract negotiations, both parties shall make a draft contract document; terms and conditions, and contract appendices, including detailed lists of Scope of Supply, Price Schedule and Performance Schedule.</p> <p>35.4. If the negotiation is not successful, the Employer shall invite the Bidder ranked next to contract negotiation; if the negotiations with the next</p>

	Bidders are not successful, the Employer shall consider cancelling the bidding as prescribed in ITB 39.1.
36. Conditions for successful Bidder	<p>A Bidder shall be proposed for contract award when following conditions are satisfied:</p> <p>36.1. The Bidder has a valid Bid;</p> <p>36.2. The Bidder is qualified as required in Clause 2 of Section III – Bid Evaluation Criteria;</p> <p>36.3. The Bidder has a satisfactory technical proposal as prescribed in Clause 3 of Section III – Bid Evaluation Criteria;</p> <p>36.4. The omission deviation is not more than 10% of the Bid Price;</p> <p>36.5. The Bidder meets requirements as prescribed in the BDS.</p>
37. Publishing of Bidder selection result	<p>37.1. Before the deadlines prescribed in the BDS, the Employer shall send notifications of Bidder selection result to related Bidders by post or fax and post it on national bidding network or the Vietnam Public Procurement Review Journal as prescribed. The notification of Bidder selection result shall consist of the following contents:</p> <ul style="list-style-type: none"> (a) Name and number of package; (b) Name of the successful Bidder; (c) Address of the successful Bidder; (d) The awarded price; (e) Type of contract; (f) Contract implementation duration; (g) List of unsuccessful Bidders and brief explanation of reason why each Bidder was not selected. <p>37.2. In case of bidding cancellation as prescribed in paragraph a) of ITB 39.1, the explanation for the bidding cancellation shall be provided in the notification of Bidder selection result.</p> <p>37.3. After the notification of the Bidder selection result has been published as prescribed in ITB 37.1, if any unsuccessful Bidder requests for clarification, the Employer shall, within 05 working days but before contract signing date, give written response to the Bidder.</p>
38. Letter of Acceptance and Notification of Award	<p>Together with the notification of Bidder selection result, the Employer shall send Letter of Acceptance and Notification of Award, including requirements pertaining to performance security, time for completion and conclusion of contract prescribed in Form 26 of Section XI – Contract Forms to the successful Bidder, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily. The Letter of Acceptance and Contract Award shall be an integral of the Contract documents. In the event that the successful Bidder fails to complete and conclude the contract or furnish the Performance Security before the deadline mentioned in the Letter of Acceptance and Contract Award, such Bidder shall be rejected and not being entitled to get the Bid Security returned as prescribed in paragraph e) of ITB 18.5.</p>
39. Bidding cancellation	<p>39.1. The Employer shall notify the bidding cancellation in the following cases:</p> <ul style="list-style-type: none"> (a) All Bids fail to meet requirements mentioned in the Bidding Documents; (b) Objectives and scope of investment as specified in the Bidding Documents have been changed;

	<p>(c) Bidding Documents fail to comply with the Laws on Bidding or other regulations of relevant law provisions leading to the fact the successful Bidder does not satisfy the requirements to perform the package or project.</p> <p>(d) There is any evidence for corrupt, fraudulent or conclusive practice, or taking advantage of positions, powers aiming to interfere illegally in a bidding process to falsify results of Bidder selection.</p> <p>39.2. Any organization or individual violating the Law on Bidding leading to bidding cancellation (as prescribed in paragraph c) and paragraph d) of ITB 39.1) must compensate relevant contracting parties and face penalties as prescribed by the law.</p> <p>39.3. In case of bidding cancellation as prescribed in ITB 39.1, within 5 working days, the Employer shall return or release the Bid Security to Bidders, unless Bidders violate regulations as prescribed in paragraph d) of ITB 39.1.</p>
<p>40. Conditions for signing of contract</p>	<p>40.1. The Bid of the Bidder shall remain valid at the time of signing of contract.</p> <p>40.2. At the time of signing of contract, the successful Bidder shall be determined to have technical and financial qualification and competence 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, the Letter of Acceptance and Contract Award sent before and invite the next ranking Bidder to a contract negotiation.</p> <p>40.3. The Employer shall ensure conditions related to advance and payment capital, project site and other essential conditions to perform the contract on schedule.</p>
<p>41. Performance Security</p>	<p>41.1. Before the effective date of the contract, the successful Bidder shall furnish the Performance Security in the form of a Bank Guarantee issued by a bank or a credit institution lawfully operating in Vietnam with all contents and requirements as prescribed in Section X - Special Conditions of Contract. The Bidder shall, if applicable, use the Bank Guarantee form prescribed in Form 28 of Section XI - Contract Forms or another form which is approved by the Employer.</p> <p>41.2. The Bidder shall be not returned the Performance Security in one of the following cases:</p> <ul style="list-style-type: none"> (a) Refusal to perform the contract on the effective date of the contract. (b) Violation of terms and conditions of the contract; (c) c) Performance of the contract behind schedule and refusal to extend the validity period of the Performance Security.
<p>42. Handling complaints in bidding</p>	<p>When their lawful rights and interests are affected, the contractor, agency, or organization shall have the right to petition the competent person, the investor, or the bidding party to re-examine the issues during or as a result of the contractor selection process in accordance with Articles 89, 90, and 91 of the Bidding Law.</p> <p>In case of petition to the Investor, the Contractor, Agency or Organization shall send the petition directly to the address specified in the BDS. In case</p>

	of petition to the Competent Authority, the Contractor shall send the petition to the address specified in the BDS .
43. Monitoring Bidder selection progress	When any act or content un-accordant with the Law on Bidding is detected, the Bidder shall notify organizations or individuals of monitoring Bidder selection progress as prescribed in the BDS .

Section II. Bid Data Sheet (BDS)

ITB 1.1	The Employer is: Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects
ITB 1.2	<p>Project's name: Strengthening Provincial Health Systems Project, Component II: Hospital Water Supply, Wastewater Disposal and Waste Management in 5 Provinces and Viet Duc Hospital (Hanoi)</p> <p>Subproject name: Investment in construction of waste and wastewater treatment systems for hospitals in Nghe An Province using ODA loan from the German Government.</p> <p>The tender name: Engineering - Procurement, Installation of Technology Equipment, and Construction (EPC) of Wastewater Treatment System – Project: Investment in Construction of Waste and Wastewater Treatment Systems for Hospitals in Nghe An Province using ODA Loan from German Government</p> <p>The number of the tender is: KfW-04-NA</p>
ITB 1.3	Contract duration: 08 months for Engineering - Procurement, Installation of Technology Equipment, and Construction (EPC) of Wastewater Treatment System, followed by 12 months for WWTP operation and maintenance.
ITB 2	<p>Sources of Funds:</p> <p>ODA loan from Kreditanstalt für Wiederaufbau (KfW) (German Development Bank); and local counterpart fund (Government fund), specifically:</p> <ul style="list-style-type: none"> - The ODA loan from KfW will pay for the costs of equipment, construction, 12 months WWTP O&M, international consultants, and contingency. - Local budget counterpart fund will pay for the costs of project management, national consultants, taxes and other costs.
ITB 4.2	<p>Assurance of competitiveness in bidding shall be prescribed as follows:</p> <ul style="list-style-type: none"> - The Bidder and Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects do not hold shares or stakes of each other. - The Bidder and the consultant do not hold stake of each other; the Bidder and the consultant do not hold shares or stake of any firm. - Consulting firms who prepare or verify or appraise feasibility study report, Front End Engineering Design (FEED) for such package are excluded from bidding. <p><u>Feasibility Study Report was prepared by:</u></p> <p>Trung Do Consulting and Construction Joint Stock Company (Cong ty Co phan Tu van va Xay dung Trung Do)</p> <p>Address: Hamlet 6, Van Hien Commune, Nghe An Province</p> <p><u>Feasibility Study Report was appraised by:</u></p> <p>Nghe An Department of Finance</p> <p>Address: No. 368 V.I Lenin Street, Truong Vinh Ward, Nghe An Province</p> <p><u>Project Management Consultant:</u></p> <p>Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects</p>

	<p>Address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An</p> <p><u>Tender Document was prepared and Bidders proposals will be evaluated by:</u></p> <p>Viet Vuong Construction, Investment and Consultant JSC</p> <p>Address: Lot S09, 6th floor, VIWASEEN Office Building, No. 48 To Huu, Dai Mo Ward, Hanoi, Vietnam</p>
ITB 6.1	<p>For clarification purposes only, the Employer's address is:</p> <p>Attention: Mr. Vuong Dinh Nhuan Position: Director</p> <p>Recipient: Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects</p> <p>Address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An province.</p> <p>Country: Vietnam</p> <p>Telephone (for courier delivery only): +84-2383.846.590</p> <p>Email address: mbpna10.03.2020@gmail.com</p> <p>As well as in copy to the Consultant:</p> <p>Electronic mail address: hungdaitran@gmail.com</p> <p>The email subject shall indicate the name and identification number of this tender.</p> <p>The Employer shall receive the Request for Clarification of Bidding Documents not later than 21 days before the deadline for submission of Bid.</p>
ITB 6.3	<p>The Employer will organize a site visit to the following sites:</p> <ul style="list-style-type: none"> - existing WWTP at Quynh Luu District General Hospital; Hamlet 13, Quynh Thach, Quynh Van Ward, Nghe An Province - project site at Do Luong District General Hospital; Hamlet 3 Da Son, Do Luong Commune, Nghe An Province <p>Time: 11h00 AM, following the pre-bid meeting</p> <p>Date: 12/11/2025</p> <p>The Bidder's participation in the site visit is optional.</p> <p>Due to the number of project locations and distance from Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects, only the above listed sites will be visited officially after the pre-bid meeting. The Bidders are recommended to visit the project site at Tan Ky District Health Center (Block 4, Tan Ky Commune, Nghe An Province) during the bidding period to familiarise themselves with the situation on site.</p>
ITB 6.4	<p>A Pre-Bid Meeting will take place:</p> <p>Time: 9h00 AM</p> <p>Date: 12/11/2025</p> <p>Place: Meeting Hall of Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects; No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An</p> <p>The Bidder's participation in the pre-bid meeting is optional.</p>

ITB 7.3	<p>The Employer shall send Amendment of Bidding Documents to all Bidders who have received the Bidding Documents from the Employer at least 15 days before the deadline for submission of Bid.</p> <p>In case the time for sending Amendment of Bidding Documents does not comply with above regulations, the Employer shall extend the corresponding deadline for the submission of bids.</p>
ITB 9	<p>The Bid, as well as all correspondence and documents related to the Bid exchanged by the Bidder and the Employer shall be written in: English</p> <p>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. In case of absence of the translation, the Employer may request the Bidder to supplement when necessary.</p>
ITB 10.1	<p>The Bidder shall submit the following documents in conjunction with the Technical Proposal:</p> <ol style="list-style-type: none"> 1. Letter of Technical Bid in accordance with ITB 11 (Form 01) 2. Declaration of Undertaking (Form 01a) 3. Power of Attorney (Form 02) 4. JV agreement (Form 03), where applicable 5. Bid Security (Form 04) 6. Bidder's Information Sheet (Form 05a) 7. JV Members Information Sheet (Form 05b) 8. A brief profile of the company/ consortium/ joint venture (max.5 pages) 9. Certificate of registration as excerpt from the commercial register incl. English translation, in case the document's language is not English 10. Organisational chart of the Bidder's company 11. Information on the ownership structure of the Bidder's company 12. List of companies in charge of package work (Form 06) 13. Previous Contract Non-Fulfilment Records (Form 07) 14. Pending Litigation (Form 08) 15. Historical Financial Situation of Bidder (Form 09) 16. Average Annual Turnover from engineering, procurement of goods and construction activities (Form 10) 17. Financial Resources (Form 11) 18. Monthly financial resources for contracts being executed (Form 12) 19. Similar contracts (Form 13) 20. Work Items performed by Subcontractors (Form 18a) 21. Written confirmation of origin of supply and equipment and eligibility of services in accordance with ITB 4 22. Copy of a valid quality management certification (ISO 9001:2015 or equivalent) 23. Copy of valid certificate of construction activity capacity of grade III or higher in the field of design and construction of technical infrastructure¹ 24. Site organisation and Method statement in accordance with Form No. 18e 25. List of Equipment (Form 17) 26. Proposed Personnel for Key Positions (Forms 14, 15 and 16) 27. Time schedule / Work plan 28. Process Description WWTP 29. Process Flow Diagram WWTP 30. Preliminary plant layout drawing WWTP

¹ In the case of foreign bidders, this certification is applicable to one of their national JV partners only.

	<p>31. Technical Data Sheets of M&E Equipment (Form 18f) 32. Preliminary calculation of electricity consumption 33. Technical Process and Performance Guarantee (Form 18c) 34. Method statement testing & commissioning 35. Method statement O&M incl. schedule for 1 year & staffing schedule 36. O&M cost calculation 37. O&M Price Schedule and Guarantee (Form 18d) 38. Outline of proposed training measures for Employer's O&M staff 39. The Bidder shall provide a softcopy of its Technical Proposal.</p> <p>Copies of documents, such as degrees, certificates, and contracts submitted with technical proposal need to be notarised.</p>
ITB 10.2	<p>The Bidder shall submit the following documents in conjunction with the Financial Proposal:</p> <ol style="list-style-type: none"> 1. Letter of Financial Bid (Form 19a and 19b) 2. Financial Proposal and Schedules (Forms 20, 21 and 22) 3. The Bidder shall provide a softcopy of its Financial Proposal.
ITB 14.4	<p>The evaluation of the Bids will be done on net basis i.e. taxes, customs and other duties stated will not be calculated in the financial bid evaluated. Therefore, taxes, import duties, fees and charges applicable shall be stated separately.</p> <p>The Contractor and its sub-Contractors are responsible for meeting all tax liabilities arising out of the Contract as specified in Appendix 5 to Particular Conditions of Contract.</p>
ITB 14.5	Price adjustment is not applicable.
ITB 15.1	Alternative Bid shall not be considered.
ITB 16	<p>- The currency(ies) of the Bid shall be: EUR and VND</p> <p><i>Domestic costs shall be quoted in VND, costs incurred outside the Employer's country related to the package shall be quoted in foreign currency.</i></p> <p>- Currency of payment of a work item must correspond to the Currency of Bid of such work item. Domestic costs are only paid in VND.</p> <p>- The single currency to which different currencies of all Bid prices are converted (target currency) for the purposes of evaluation and comparison of Bidding Documents is: EUR (<i>according to the selling rate of Vietcombank (http://www.vietcombank.com.vn/) published 28 days prior to the date of technical bids opening.</i>)</p>
ITB 17.1	The Bid validity period (Technical Proposal and Financial Proposal) shall be: \geq 150 days, from the deadline for submission of Bids.
ITB 18.2	<p>- Value and currency of the Bid Security: 25,000 Euro (Twenty five thousand Euro);</p> <p>- The validity period of the Bid Security: \geq180 days, from the deadline for submission of Bid.</p>
ITB 18.4	The Bid Security of the unsuccessful Bidders may be either returned or released within 20 days, from the date on which the results of Bidder selection are announced.
ITB 19.1	The number of copies of the Bid is: 03 <i>copies</i> . The number of copies of the Bid and the number of copies of modified or substitute Bid are the same.

	The Bidder shall submit separate softcopies (CD or USB flash drive) of the Technical and the Financial Proposal together with each hardcopy.
ITB 21.1	For Bid submission purposes, the Employer's address is: Attention: Mr. Vuong Dinh Nhuan Position: Director Recipient: Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects Address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An province. Country: Vietnam Telephone (for courier delivery only): +84-2383.846.590 Email address: mbpna10.03.2020@gmail.com The deadline for submission of Bid is: 9:30 AM, date 02 month December 2025
ITB 29.2	Maximum value for subcontractor: 30% of Bid Price of the Bidder.
ITB 29.4	Not permitted
ITB 30.2	not applicable
ITB 31.1	The Technical Proposal opening shall take place at: 10:00 AM, date 02/12/ 2025 at Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects; No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An province.
ITB 32.1	Method for evaluating Technical Proposal: a) Qualification evaluation: pass/fail; b) Technical evaluation: <i>Weighted Scoring Method as prescribed in Clause 3 of Section III - Evaluation and Qualification Criteria;</i>
ITB 34.1	Financial evaluation: <i>Tech- and Cost-based selection.</i>
ITB 34.3	b) Ranking of Bidders: <i>The Bidder having the highest collective score shall be ranked first.</i>
ITB 36.5	<i>The Bidder having the highest collective score.</i>
ITB 37.1	Time limit for sending notification of results of Bidder selection is 05 working days, from the date on which the Bidder selection result is approved by the Employer and by the funding agency (KfW).
ITB 42	- Mailing address of the Employer: Attention: Mr. Vuong Dinh Nhuan Position: Director Recipient: Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects Address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An province Country: Vietnam Telephone (for courier delivery only): +84-2383.846.590 Email address: mbpna10.03.2020@gmail.com

	<p>- Mailing address of the competent person: Nghe An Provincial People Committee Address: 3 Truong Thi, Truong Vinh ward, Nghe An Telephone: +84-2383844 522</p> <p>- Mailing address of the Advisory board: Nghe An Department of Finance Address: No. 368 V.I Le Nin, Truong Vinh Ward, Nghe An Province Telephone: +84-238-3844636 Fax: +84-238-3844 974</p>
ITB 43	<p>Address of the organization or individual in charge of the monitoring procurement procedure: Nghe An Department of Finance Address: No. 368 V.I Le Nin, Truong Vinh Ward, Nghe An Province Telephone: +84-238-3844636 Fax: +84-238-3844 974</p>

Section III. Bid Evaluation Criteria

- Without Prequalification -

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1. Inspecting and evaluating the validity of the Technical Proposal

1.1. Inspecting the Technical Proposal

- a) Inspect the quantity of photocopies of the Technical Proposal;
- b) Inspect the documents of the original Technical Proposal, consisting of: Letter of Technical Bid, joint venture agreement (if any), power of attorney to sign the Letter of Bid (if any); Bid Security; documents proving the Bidder's qualifications; technical proposal; and other documents of the Technical Bid as prescribed in ITB 10;
- c) Inspect the consistency between the original copy and photocopies to serve the thorough evaluation of the Technical Proposal.

1.2. Evaluating the validity of the Technical Proposal

A Technical Proposal is considered valid when all of the conditions below are satisfied:

- a) There is original copy of Technical Proposal;
- b) There is a Letter of Technical Bid bearing the signature and seal (if any) by of the legal representative of the Bidder. Regarding Joint Venture, Letter of Bid shall bear the signature and seal (if any) of the legal representative of every JV's member or the head of the Joint Venture authorized to sign the Letter of Bid according to the Joint Venture agreement;
- c) The duration of the contract implementation mentioned in the Letter of Bid shall conform to the Technical Proposal and the requirements in the Bidding Documents;
- d) The validity period of the Technical Proposal satisfies requirements as prescribed in ITB 17.1;
- e) There is a Bid Security of which value and validity period, the Employer's name (beneficiary) complies with ITB 18.2 and not infringe upon regulations of ITB 18.3.
- f) The Bidder shall not have its name included in two or multiple Technical Proposals as a Contractor (a single entity or a JV's member) for the same package.
- g) The Joint Venture agreement shall bear signature and seal (if any) of the legal representative of each JV's member and specify detailed tasks and estimated percentage thereof performed by each JV's member using the form 03 of Section IV – Bidding Forms;
- h) Bidder is eligible as prescribed in ITB 4.1.
- i) The commitment forms as prescribed by KfW are duly signed and validated (Declaration of Undertaking and its Annexes).

Any Bidder having valid Technical Proposal shall be considered further with qualification and experience. Any Bidder having invalid Technical Proposal shall have its Bid rejected without further consideration.

2. Qualification criteria

Qualification of a Joint Venture shall be total qualifications of all JV's members, provided that each JV's member is qualified to perform their tasks assigned in the Joint Venture (except for the annual turnover as specified in Clause 2.1); if any JV's member is not qualified to perform their tasks assigned in the Joint Venture, the Joint Venture shall be considered not qualified.

The qualified Bidder is the one satisfying all criteria specified in Clauses 2.1 and Clause 2.2 of this Section.

Non-qualified Bidder's Bid shall be rejected without further consideration.

Note on verified documents for similar contracts to be submitted with the Bid: The Bidder shall include notarised copies of the following:

- *Contract (including cost break down appendix)*
- *Completion and handing over for use minutes if the contract is completed*
- *Certification of the Employer on the completion of 80% or more if the contract is under implementation*

Failure to provide sufficient supporting documents may result in disqualification of the Bidder. In case of necessity, the Employer will request the Bidder to present the original documents for verification to the evaluation committee.

2.1. Qualification evaluation criteria

The evaluation of Bidder's qualification and experience will be conducted basing on the following table of criteria:

TABLE OF QUALIFICATION CRITERIA

Criteria			Compliance requirements				Required document
No.	Description	Requirement	Single entity	Joint Venture			
				All members combined	Each JV's member	At least one JV's member	
1	Previous Contract Non-fulfilment Records	From January 1, 2022 to the deadline for submission of Bid, the Bidder did not fail to perform any contract ⁽¹⁾ .	Must meet requirement	Not applicable	Must meet requirement	Not applicable	Form No. 07
2	Pending litigation	All pending litigations shall be treated as resolved against the Bidder and so shall in total not represent more than 50% of the Bidder's net worth. (Net asset value = Total assets – Liabilities).	Must meet requirement	Not applicable	Must meet requirement	Not applicable	Form No. 08
3	Financial requirements						
3.1	Historical Financial Performance	Submission of financial statements from 2022 to 2024 to demonstrate the current soundness of the Bidder's financial position. The net asset value of the Bidder in the year 2024 shall be positive.	Must meet requirement	Not applicable	Must meet requirement	Not applicable	Form No. 09 enclosed with supporting documents

Criteria			Compliance requirements				Required document
No.	Description	Requirement	Single entity	Joint Venture			
				All members combined	Each JV's member	At least one JV's member	
3.2	Average Annual Turnover from engineering, procurement of goods and construction	<p>Minimum average annual turnover from engineering, procurement of goods, and construction of 2,400,000 EUR (or the equivalent in VND⁽⁴⁾) in 2022, 2023, 2024.</p> <p>The annual turnover shall be calculated as total payments received for contracts of engineering, procurement of goods, and construction within the year.</p>	Must meet requirement	Must meet requirement	not applicable	Must meet 40% of the requirement	Form No. 10
3.3	Financial Resources	The Bidder must demonstrate access to, or availability of, financial resources such as high liquidity assets ⁽²⁾ , lines of credit, and other financial means (other than any contractual advance payments) to meet financial resources of 500,000 EUR (or the equivalent in VND ⁽⁴⁾).	Must meet requirement	Must meet requirement	not applicable	Must meet 40% of the requirement	Forms No. 11 and 12
4	Project Experience						
4.1	Experience in performing EPC package	A minimum number of one (1) similar contract ⁽⁴⁾ with value of at least 23,700,000,000 VND (Twenty-three billion seven hundred million VND equivalent to 830,000 EUR) which is completed or almost completed ($\geq 80\%$ scope of work) as main Bidder or member of Joint venture or subcontractor ⁽³⁾ in the last 5 years.	Must meet requirement	Must meet requirement	Not applicable	Not applicable	Form No. 13

Criteria			Compliance requirements				Required document
No.	Description	Requirement	Single entity	Joint Venture			
				All members combined	Each JV's member	At least one JV's member	
		In case of member of Joint Venture or subcontractor, only the scope of work implemented by Bidder will be counted as his experience.					
4.2a	Specific experience in WWTP (design)	At least one (1) contract including design/engineering of a hospital wastewater treatment plant with design capacity of at least 200 m ³ /day with the collection line using a garbage separation module device	Must meet requirement	Must meet requirement	Not applicable	Must meet requirement	Form No. 13
4.2b	Specific experience in WWTP (construction)	At least one (1) contract including construction and equipment installation of a hospital wastewater treatment plant using garbage separation module and Scada software connected to computer with design capacity of at least 200 m ³ /day-night..	Must meet requirement	Must meet requirement	Not applicable	Must meet requirement	Form No. 13
4.3	Experience in O&M contracts	At least one (1) contract for operation and maintenance of a hospital wastewater treatment plant with design capacity of at least 200 m ³ /day for a minimum of 1 year	Must meet requirement	Must meet requirement	Not applicable	Must meet requirement	Form No. 13
5	Quality Management						
5.1	Quality Management Certification	The Bidder's company shall be currently certified in quality management in accordance with latest version of ISO 9001 and ISO 14001 and ISO 45001:2018 or equivalent.	Must meet requirement	Must meet requirement	Not applicable	Lead member must meet requirement	Copy of ISO certificate (or equivalent)

Notes:

(1) Non-fulfilment contracts 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.

Non-fulfilled contracts shall not include the contracts that the Employer's decisions are rejected by settlement of disputes. Non-fulfilled contracts shall be determined according to all information about the dispute or litigation that is settled in conformity with the terms of settlement of disputes as mentioned in the corresponding contracts and the Bidder could not file any complaint.

(2) High liquidity 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.

(3) In case the Bidder provides contract references which he performed as a JV member (not the lead partner) or subcontractor, only the Bidder's share/portion of the overall contract value shall be considered for evaluating the Bidder's eligibility within this criterion. The respective details have to be filled in Form No. 13.

(4) For the purpose of evaluation of the references and financial capabilities to EUR the conversion date of the contract signing date for project references (according to the selling rate of Vietcombank (<https://www.vietcombank.com.vn>))

(4) Similar contract means either EPC contract or combination of individual contracts, including 01 detail design contract, 01 procurement of goods contract, and 01 construction contract related to the medical wastewater sector. In case the Bidder offers many similar contracts, the contract with the biggest value will be considered for evaluation (maximum 02 contracts for each work)

(5) In the case of foreign bidders, this certification is applicable to one of their national JV partners only.

2.2. Qualification criteria for technical capacity⁽¹⁾

a) Personnel for key positions for EPC and operation:

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

No.	Position (*)	Number of Staff [No.]
1	Project manager	1
	A - Design	
2	Design Manager of water supply and drainage	1
3	Wastewater Engineer	1
4	Civil Engineer	1
5	Mechanical Engineer	1
6	Electrical / Automation / SCADA Engineer	1
	B - Construction	
7	Construction site manager	1
8	Construction supervisor (WWTP)	1
9	Quality Control & Quality Assurance Expert	1
10	Environmental, Social, Health and Safety (ESHS) Officer	1
	C - Operation	
11	WWTP Plant Manager	1
	D - Support staff	
12	Interpreter Vietnamese - English and vice versa	1

(*) Bidder's proposed personnel must hold appropriate practicing certificates, if required, as stipulated by relevant GOV's laws²

The Bidder shall provide details of the proposed key personnel and their experience records using Forms 14, 15 and 16 of Section IV – Bidding Forms.

² Applicable to national positions only.

b) Equipment to perform the works:

The Bidder must demonstrate its availability of below equipment to perform the works:

No	Equipment Type	Characteristic	Min. Number Required
1	Concrete mixing machine	Concrete production $\geq 2 \text{ m}^3/\text{h}$	03
2	Excavator	$\geq 1 \text{ m}^3$ (bucket capacity)	01
3	Plate compactor	$\geq 120 \text{ kg}$ vibrating plate 45 to 60 cm	03
4	Mobile crane 1	min. lifting capacity $\geq 3 \text{ t}$	01
5	Mobile crane 2	min. lifting capacity $\geq 30 \text{ t}$	01
6	Truck	min. loading capacity $\geq 7.5 \text{ t}$	02
7	Dump truck	$> 1.5 \text{ m}^3$	02
8	Compact Loader	$\geq 0.3 \text{ m}^3$ (bucket capacity, e.g. Bobcat)	01
9	Backhoe Loader	$\geq 1.0 \text{ m}^3$ (bucket capacity)	01
10	ESHS Equipment	Personnel safety equipment such as hard head (helmet), safety shoes, warning vest, welding shields, gloves etc.	For every person on site incl. PMU staff
11	Steel Welding	Welding machines for Steel	03
12	Rebar Bending Machine	Rebar diameter 4mm to 40mm	03

The Bidder shall provide further details of proposed items of equipment to perform the package using the Form No. 17 of Section IV - Bidding Forms.

Notes:

(1) If the Bidder is a parent company (namely a corporation), it must declare specific tasks assigned to subsidiary companies using the Form No. 06 of Section 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. Special subcontractors

Not applicable

3. Technical evaluation criteria

Technical evaluation criteria shall be established on Weight Scoring System as below.

Criterion no.	Areas	Maximum Points	Minimum Points
1	Key Staff	100	75% of Maximum point
2	Wastewater Treatment Plants	600	75% of Maximum point

Criterion no.	Areas	Maximum Points	Minimum Points
3	Operation & Maintenance (O&M) for WWTPs	300	75% of Maximum point
TOTAL		1000	750

Within the three above-mentioned areas a number of sub-criteria were formulated and will be weighted in form of score points. To be classified as technical responsive Bidder, the Bidder must achieve an evaluation result of minimum 75% of the possible points for each of the aforementioned areas. The maximum total result is 1000 points. The Bid having total score (as well as the score of each area) equal or more than the minimum score shall be determined technically responsive and considered further in financial aspect.

The evaluation result of the Technical Evaluation including scoring and recommendation will be summarized in a Technical Evaluation Report for the Employer's and KfW's approval.

After obtaining KfW's "no objection" on the Technical Evaluation Report, the Employer will invite the Bidders who have submitted a substantially responsive proposal to attend the opening of the "Financial Proposal". The date, time and location of the opening of Financial Proposals will be advised in writing by the Employer in reasonable time.

For all other Bidders who did not pass the technical evaluation, their Financial Proposals will be returned unopened after contract award.

DETAILED TECHNICAL EVALUATION TABLE

Criterion	Description	Max. points	Document required
Criterion 1	KEY STAFF	100	
Sub-Criterion 1-1	Project manager	15	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 10 years	15	
	≥ 7 years to < 10 years	12	
	≥ 5 years to < 7 years	5	
	< 5 years	0	
Sub-Criterion 1-2	Design Manager of water supply and drainage	10	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 5 years	10	
	≥ 3 years to < 5 years	8	
	≥ 2 years to < 3 years	5	
	< 2 years	0	

Criterion	Description	Max. points	Document required
Sub-Criterion 1-3	Wastewater Engineer	10	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 5 years	10	
	≥ 3 years to < 5 years	8	
	≥ 2 years to < 3 years	5	
	< 2 years	0	
Sub-Criterion 1-4	Civil Engineer	5	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 5years	5	
	≥ 3 years to < 5 years	4	
	≥ 2 years to < 3 years	2	
	< 2 years	0	
Sub-Criterion 1-5	Mechanical Engineer	5	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 5 years	5	
	≥ 3 years to < 5 years	4	
	≥ 2 years to < 3 years	2	
	< 2 years	0	
Sub-Criterion 1-6	Electrical / Automation / SCADA Engineer	10	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 5 years	10	
	≥ 3 years to < 5 years	8	
	≥ 2 years to < 3 years	5	
	< 2 years	0	
Sub-Criterion 1-7	Construction site manager	10	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 5 years	10	
	≥ 3 years to < 5 years	8	
	≥ 2 years to < 3 years	5	
	< 2 years	0	

Criterion	Description	Max. points	Document required
Sub-Criterion 1-8	Construction supervisor (WWTP)	10	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 5 years	10	
	≥ 3 years to < 5 years	8	
	≥ 2 years to < 3 years	5	
	< 2 years	0	
Sub-Criterion 1-9	Quality Control & Quality Assurance Expert	5	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 3 years	5	
	≥ 2 years to < 3 years	4	
	≥ 1 year to < 2 years	1	
	< 1 year	0	
Sub-Criterion 1-10	Environmental, Social, Health and Safety (ESHS) Officer	5	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 3 years	5	
	≥ 2 years to < 3 years	4	
	≥ 1 year to < 2 years	1	
	< 1 year	0	
Sub-Criterion 1-11	WWTP Plant Manager	10	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 3 years	10	
	≥ 2 years to < 3 years	8	
	≥ 1 year to < 2 years	5	
	< 1 year	0	
Sub-Criterion 1-12	Interpreter Vietnamese - English and vice versa	5	Form no. 14, 15, 16
	Works Experience Similar Position [Years]		
	≥ 3 years	5	
	≥ 2 years to < 3 years	4	
	≥ 1 year to < 2 years	1	
	< 1 year	0	

Criterion	Description	Max. points	Document required
Criterion 2	WASTEWATER TREATMENT PLANTS (WWTPs)	600	
	<p>Technical compliance (must meet criteria)</p> <p>The WWTP design capacity shall be as follows:</p> <ul style="list-style-type: none"> • 100 m³/day for Tan Ky health centre • 200 m³/day for Do Luong hospital • 300 m³/day for Quynh Luu hospital. <p>In case of offered capacities being less than the afore mentioned figures, technical score of this criteria is zero (0) points.</p> <p>Guaranteed quality of treated water: at least match with Vietnamese standard, column A, QCVN 28:2010/BTNMT. The Bidder shall get zero (0) points for the Criterion 2 if effluent quality is not guaranteed accordingly (Form No. 18c).</p>	<p>zero (0) points if req. not fulfilled</p> <p>zero (0) points if req. not fulfilled</p>	See related sub-criteria
	Requirements for the quality of key manufacturing equipment including: pressure filter and odor treatment system: manufactured to meet standards ISO 9001:2015; ISO 14001:2015; ISO 45001:2018.	zero (0) points if req. not fulfilled	
	<p>Control system:</p> <p>Control cabinets: manufactured to meet standards: ISO 9001:2015; ISO 14001:2015; ISO 45001:2018.</p> <p>SCADA software system connects computers for remote control and monitoring.</p>	zero (0) points if req. not fulfilled	
	<p>The construction location of WWTP at the hospitals must be consistent with the master plan approved by competent authorities. Available WWTP footprints at hospital are:</p> <p>(excluding pitfalls):</p> <ul style="list-style-type: none"> • 140-250 m² for Tan Ky health centre • 200-300 m² for Do Luong hospital • 300-400 m² for Quynh Luu hospital. <p>If Bidder requires a higher foot print of WWTP the technical score of this criterion is zero (0) points.</p> <p>The Bidder's technical proposal shall be compared with the Part B. Wastewater Component, Section VII. Technical specification to evaluate its compliance</p> <p>The Bidder shall provide the documents listed under column "Document required" as part of his Technical Proposal to be evaluated and receive the points as per the below split:</p>	zero (0) points if req. not fulfilled	

Criterion	Description	Max. points	Document required
	<ul style="list-style-type: none"> - 100% of maximum points of each Sub-Criterion if the proposal is fully responsive to the requirement or better - 80% of maximum points of each Sub-Criterion if the proposal is majorly responsive to the requirement. - 60% of maximum points of each Sub-Criterion if the proposal is only partially responsive to the requirement - 0 points of each Sub-Criterion if the proposal is not acceptable. 		
	<p>Implementation progress: Contract duration: 08 months for EPC, followed by 12 months for WWTP operation and maintenance.</p> <p>If the Bidders propose the equipment that is different to the ones mentioned in the Basic Design, the Bidders are responsible for contents that need to be approved for adjustments, in the meantime ensure the implementation progress mentioned in item 1, Section VI: Implementation Schedule</p>	zero (0) points if req. not fulfilled	
Sub-Criterion 2-1	Site organization and method statement including quality and quantity management	60	
	Technical plausibility	40	Method statement Time schedule / Work plan
	Completion of Works in given time as per the Employer's Requirements	20	Time schedule / Work plan
Sub-Criterion 2-2	Treatment process Preliminary design of all treatment components for hospital wastewater treatment and sludge treatment/disposal considering hydraulic load, pollution load and the required effluent standards:	140	
	Compliance with Technical Specifications with regards to WWTP capacity, effluent quality, electricity consumption	50	Form 18 (c)
	Technical feasibility and plausibility of proposed treatment process	50	Process description, Process Flow Diagram
	Sufficiency of proposed redundancy of M&E equipment in accordance with the Technical Specifications.	20	Form 18 (f)

Criterion	Description	Max. points	Document required
	References of similar operating WWTPs applying the proposed treatment technology	20	Form 13
Sub-Criterion 2-3	Plant dimensioning Preliminary dimensioning of all treatment components for hospital wastewater treatment and sludge treatment / disposal considering hydraulic load, pollution load and the required effluent standards:	70	
	Compliance with Technical Specifications with regards to plant location and plot size (footprint)	30	Preliminary plant layout drawing
	Technical feasibility and plausibility of proposed plant components dimensioning	40	Process description, Process Flow Diagram
Sub-Criterion 2-4	Energy efficiency Calculation and proof of annual operational costs for the treatment of one (1) cubic meter of wastewater with the specific energy consumption	60	
	Compliance with Technical Specifications on electricity consumption	40	Form 18 (c), Preliminary calculation of electricity consumption
	Technical plausibility of calculation of the electricity consumption	20	Preliminary calculation of electricity consumption
Sub-Criterion 2-5	Technical data sheets of M&E equipment for the following: <ol style="list-style-type: none"> 1. Inlet pumping station 2. Equalization tank pumping 3. Biological treatment facilities: Mixer, air blower, submersible pump, Microbiological Carrier 4. Slurry pump, lamella plate 5. Pressure filter pump 6. Pressure filtration device 7. Mixer, chemical dosing pump 8. Instrumentation 9. Control carbinet system using SCADA software connecting to computer for remote control and monitoring 10. Odour control system 11. Garbage separation module 	130	

Criterion	Description	Max. points	Document required
	General compliance of proposed equipment with Technical Specifications	50	Form 18 (f)
	Quality of selected equipment with regards to material, design life, warranty in accordance with the Technical Specifications	40	Form 18 (f)
	Provision of certificates issued by equipment suppliers proving suitable quality of the selected equipment in accordance with the Technical Specifications	20	Attachments to Form 18 (f)
	Selection of equipment for its purpose (<i>"fit for purpose"</i>)	20	Form 18 (f)
Sub-Criterion 2-6	Requirements for Civil Works	60	
	Compliance with the Technical Specifications	20	Method statement
	Technical Plausibility of the method statement for civil works	40	Method statement
Sub-Criterion 2-7	Testing and Commissioning	40	
	Compliance with the Technical Specifications	20	Method statement for testing & commissioning
	Technical plausibility of the method statement for testing & commissioning	20	Method statement for testing & commissioning
Sub-Criterion 2-8	Quality of documents (completeness, structure, comprehensiveness, etc.)	40	

Criterion	Description	Max. points	Document required
Criterion 3	OPERATION & MAINTENANCE (O&M) FOR WWTP	Total 300	
	<p>Technical compliance</p> <p>The Bidder shall provide the documents listed under column "Document required" as part of his Technical Proposal to be evaluated and receive the points as per the below split:</p> <ul style="list-style-type: none"> - 100% of maximum points of each Sub-Criterion if the proposal is fully responsive to the requirement or better - 80% of maximum points of each Sub-Criterion if the proposal is majorly responsive to the requirement. 	zero (0) points if req. not fulfilled	See related sub-criteria

Criterion	Description	Max. points	Document required
	- 60% of maximum points of each Sub-Criterion if the proposal is only partially responsive to the requirement, - 0 points of each Sub-Criterion if the proposal is not acceptable. The Bidder shall get zero (0) points if any sub-Criterion is evaluated not acceptable.		
Sub-Criterion 3-1	O&M method statement	80	
	Plausibility / Ensuring of proper O&M of the WWTP ensuring sustainable operation	80	Method statement O&M O&M schedule for 1 year
Sub-Criterion 3-2	O&M Staff, Qualifications and Staffing Schedule	50	
	Compliance with the Technical Specifications	50	Forms 14,15, 16
Sub-Criterion 3-3	O&M Manual Draft O&M Manual (or alternatively the final O&M Manual of a similar WWTP and sewer network in operation operated by the Bidder):	50	
	Technical plausibility of O&M manual structure and content	30	O&M Manual
	Compliance with the Technical Specifications	20	O&M Manual
Sub-Criterion 3-4	O&M Cost Calculations	50	
	Technical plausibility of O&M calculation	20	O&M cost calculation
	Compliance with the Technical Specifications	15	O&M cost calculation
	Provision of guaranteed annual O&M costing table	15	Form 18 (d)
Sub-Criterion 3-5	Effluent monitoring	40	
	Provision of maintenance and monitoring tools as per the Technical Specifications	40	Method statement O&M
Sub-Criterion 3-6	Quality of documents (completeness, structure, comprehensiveness, etc.)	30	

4. Inspecting and evaluating the validity of the Financial Proposal

4.1. Inspecting the Financial Proposal

- a) Inspect quantity of photocopies of Financial Proposal;
- b) Inspect the documents of the original Financial Proposal, consisting of: Letter of Financial Bid, Bid Price Summary of Bid Price, Bill of Quantities and other documents in the Financial Proposal as specified in ITB 10;
- c) Inspect the uniformity of contents between original copy and photocopies to serve the detailed evaluation of Financial Proposal.

4.2. Evaluating the validity of the Financial Proposal

A Financial Proposal is considered valid when all of the conditions below are satisfied:

- a) There is an original copy of Financial Proposal;
- b) There is a Letter of Financial Bid bearing signature and seal (if any) of the legal representative of the Bidder. In case of a joint venture, Letter of Bid shall bear the signature and seal (if any) of the legal representative of every JV's member or the head of the joint venture authorized to sign the Letter of Bid according to the joint venture agreement;
- c) The Bid Price mentioned in the Letter of Bid must be detailed, fixed in both figure and words, and in conformity with the total Bid Price mentioned in the Bid Price Summary of Bid Price. There must be only one Bid Price which does not cause any disadvantage condition to the Employer or the Employer;
- d) The validity period of Financial Proposal satisfies requirements as prescribed in ITB 17.1.

The Bidder having valid Financial Proposal shall be considered Financial Proposal in detail. Any Bidder having invalid Financial Proposal shall be rejected without further consideration.

5. Financial evaluation criteria

The collective evaluation criteria shall be established according to the combination between quality- and cost-based criteria. According to the scope and nature of each package, technical-score rate and cost-score rate shall be determined as following:

Step 1. Determine Bid price;

Step 2. Correct errors (comply with Notes (1));

Step 3. Adjust deviation (comply with Notes (2));

Step 4. Determine Bid price after error correction and adjustment of deviation and minus discount (if any);

Step 5. Determine price score:

The price score shall be determined according to Bid price after error correction and adjustment of deviation and discount minus (if any). In particular:

Considered price score = [Lowest price x 1,000]/Considered price

Where:

- Considered price score: score of the price of the considered Financial Proposal;

- Lowest price: lowest Bid price after error correction and adjustment of deviation and minus discount (if any) of a Financial Proposal;
- Considered price: lowest Bid price after error correction and adjustment of deviation and minus discount (if any) of a Financial Proposal;

Step 6. Determine collective score:

Considered collective score = (K x considered technical score + G x considered price score) + ΔUD

Where:

- Considered technical score: score determined at the technical evaluation step;
- Considered price score: score determined at the cost evaluation step;
- K: percentage of technical-score mentioned in the collective scale system;
- G: percentage of cost-score mentioned in the collective scale system;
- K + G = 100%. Technical-score rate (K) = 70% and cost-score rate (G) = 30%
- ΔUD: an extra score given to an entity eligible for preferences prescribed in ITB 30 (if any).

Step 7. Rank Bidders:

The Bid having the highest collective score shall be ranked first.

After obtaining the KfW's "no objection" on the Financial Evaluation Report, the Employer will invite the Bidder who is evaluated as first ranking for contract negotiation. The date, time and location of the opening of Financial Proposals will be advised in writing by the Employer in reasonable time. The result of contract negotiation with draft contract shall be submitted to KfW for no-objection.

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 inserted no value or inserted "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 tender, the Bidder shall be responsible for performing these work items in conformity with the Bidding Documents' requirements without any payment from the Investor during the contract performance.

b) Other errors:

- If a total price is fully filled but the equivalent unit price is left 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 left 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 left 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 Documents, such discrepancy shall be the deviation related to Scope of Supply which shall be adjusted as prescribed in the Step 3;

- Physical unit errors: correct units in conformity with the Bidding Documents' requirements;

- Unit errors: replace “.” (stop) with “,”(comma) and vice versa in conformity with the Vietnamese unit. If the Employer 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 may request that the Bidder submits 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:

a) If there is a deviation from Scope of Supply, the deficiency shall be added and the redundancy shall be subtracted according to the equivalent unit price in the Financial Proposal;

If there is a deviation in a work item of Financial Proposal of a Bidder without unit price, the highest equivalent unit price among those of other Bidders considered further after technical evaluation;

If only one Bidder is considered further after technical evaluation, the adjustment of deviation shall be carried out according to the equivalent unit price in the Financial Proposal of such Bidder.

b) If the Bidder has a Letter of Discount, the correction and adjustment of deviation shall be carried out according to the Bid Price without deduction of the discount. The percentage (%) of deficient deviation shall be determined according to the Bid Price specified in the Letter of Bid.

Section IV. Bidding Forms

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A. BIDDING FORMS OF TECHNICAL PROPOSAL**Form No. 01****LETTER OF TECHNICAL BID⁽¹⁾**

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]

To: ____ [insert the complete and accurate name of the Employer as specified in ITB 1.1. of Section 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.

We hereby declare that:

1. We only participate in this Bid as the Contract.
2. We are not undergoing dissolution process, are not thrown into bankruptcy, and insolvency as prescribed by law.
3. We do not commit violations against regulations on assurance of competitiveness in bidding.
4. We are not involved in corrupt, fraudulent or conclusive practice and other violations against law on bidding.
5. Every information provided herein is truthful to be the best of our knowledge.

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

This Letter of Technical 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 and the Bidder, effective period of the Bid, which bears the signature and seal (if any) and of the Bidder's legal representative.

(3) 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 ITB 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 ITB 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 02 provided in this Section) 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). In case of a joint venture, the Letter of Bid shall be signed by legal representative of every JV'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 Section. Each JV's member may give authorization similarly to an independent Bidder. If the Bidder is awarded with the contract, Bidder must present certified true copies of these documents to the Employer before contract signing. If information provided is found inaccurate, the Bidder will be considered fraudulent as prescribed in ITB 3.

(6) If a foreign Bidder has no seal, it must furnish a certification issued by a competent agency that the signature in the Letter of Bid and any other documents of the Bid belongs to its legal representative.

Declaration of Undertaking

Reference name of the Application/Offer/Contract: ("Contract")³

To: ("Project Executing Agency")

1. We recognise and accept that KfW only finances projects of the Project Executing Agency ("PEA")⁴ subject to its own conditions which are set out in the Funding Agreement it has entered into with the PEA. As a matter of consequence, no legal relationship exists between KfW and our company, our Joint Venture or our Subcontractors under the Contract. The PEA retains exclusive responsibility for the preparation and implementation of the Tender Process and the performance of the Contract.
2. We hereby certify that neither we nor any of our board members or legal representatives nor any other member of our Joint Venture including Subcontractors under the Contract are in any of the following situations:
 - 2.1) being bankrupt, wound up or ceasing our activities, having our activities administered by courts, having entered into receivership, reorganisation or being in any analogous situation;
 - 2.2) having been convicted by a final judgment or a final administrative decision or a preliminary investigation/charge is pending against us for involvement in a criminal organisation, money laundering, terrorist-related offences, child labour or trafficking in human beings, or have been subject to (financial) sanctions and/or embargo provisions by the United Nations, the European Union or the Federal Republic of Germany. This exclusion criterion is also applicable to legal persons whose shares (or the majority thereof) are owned or de facto controlled by natural or legal persons against whom such judgments, administrative decisions, (financial) sanctions and/or embargoes have been imposed and – in the case of (financial) sanctions and/or embargoes – these restrictive measures continue to apply;
 - 2.3) having been convicted by a final court decision or a final administrative decision by a court, the European Union, national authorities in the Partner Country or in Germany for Sanctionable Practice in connection with a Tender Process or the performance of a Contract or for an irregularity affecting the EU's financial interests (*in the event of such a conviction, the Applicant or Bidder shall attach to this Declaration of Undertaking supporting information showing that this conviction is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction*);
 - 2.4) having been subject, within the past five years to a contract termination fully settled against us for significant or persistent failure to comply with our contractual obligations during such Contract performance, unless this termination was challenged and dispute resolution is still pending or has not confirmed a full settlement against us;
 - 2.5) not having fulfilled the applicable fiscal obligations with regard to the payment of taxes at the respective tax residence and in the country of origin of the PEA (*contractors based in Annex 1 countries (<https://www.consilium.europa.eu/de/policies/eu-list-of-non-cooperative-jurisdictions/>) must submit a fully completed and legally countersigned declaration of tax conformity (Appendix1 to the Declaration of Undertaking) in addition to the Declaration of Undertaking at the time*

³ Capitalised terms used, but not otherwise defined in this Declaration of Undertaking have the meaning given to such term in KfW's "Guidelines for the Procurement of Consulting Services, Works, Goods, Plant and Non-Consulting Services in Financial Cooperation with Partner Countries".

⁴ The PEA means the purchaser, the employer, the client, as the case may be, for the procurement of Consulting Services, Works, Plant, Goods or Non-Consulting Services.

of award of the contract/contract review. This shall become an integral part of the contract. Failure to submit may result in exclusion from the awarding procedure. For contractors based in countries not listed as Annex I countries, only the Declaration of Undertaking must be submitted, and not the declaration of tax conformity;

2.6) being subject to an exclusion decision of the World Bank or any other multilateral development bank and being listed on the website <http://www.worldbank.org/debarr> or respectively on the relevant list of any other multilateral development bank (*in the event of such exclusion, the Applicant or Bidder shall attach to this Declaration of Undertaking supporting information showing that this exclusion is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction*); or

2.7) being guilty of misrepresentation in supplying the information required as condition to participation in this Tender Procedure.

3. We hereby certify that neither we, nor any of the members of our Joint Venture or any of our Subcontractors under the Contract are in any of the following situations of conflict of interest:

3.1) being an affiliate controlled by the PEA or a shareholder controlling the PEA, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;

3.2) having a business or family relationship with a PEA's staff involved in the Tender Process or the supervision of the resulting Contract, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;

3.3) being controlled by or controlling another Applicant or Bidder, or being under common control with another Applicant or Bidder, or receiving from or granting subsidies directly or indirectly to another Applicant or Bidder, having the same legal representative as another Applicant or Bidder, maintaining direct or indirect contacts with another Applicant or Bidder which allows us to have or give access to information contained in the respective Applications or Offers, influencing them or influencing decisions of the PEA;

3.4) being engaged in a Consulting Services activity, which, by its nature, may be in conflict with the assignments that we would carry out for the PEA;

3.5) in the case of procurement of Works, Plant or Goods:

i. having prepared or having been associated with a Person who prepared specifications, drawings, calculations and other documentation to be used in the Tender Process of this Contract;

ii. having been recruited (or being proposed to be recruited) ourselves or any of our affiliates, to carry out works supervision or inspection for this Contract;

4. If we are a state-owned entity, and compete in a Tender Process, we certify that we have legal and financial autonomy and that we operate under commercial laws and regulations.

5. We undertake to bring to the attention of the PEA, which will inform KfW, any change in situation with regard to points 2 to 4 here above.

6. In the context of the Tender Process and performance of the corresponding Contract:

6.1) neither we nor any of the members of our Joint Venture nor any of our Subcontractors under the Contract have engaged or will engage in any Sanctionable Practice or violate the Guidelines during the Tender Process and in the case of being awarded a Contract will engage in any Sanctionable Practice during the performance of the Contract;

6.2) neither we nor any of the members of our Joint Venture or any of our Subcontractors under the Contract shall acquire or supply any equipment nor operate in any sectors under an embargo of the United Nations, the European Union or Germany; and

6.3) we commit ourselves to complying with and ensuring that our Subcontractors and major suppliers under the Contract comply with international environmental and labour

standards, consistent with laws and regulations applicable in the country of implementation of the Contract and the fundamental conventions of the International Labour Organisation⁵ (ILO) and international environmental treaties. Moreover, we shall implement environmental and social risks mitigation measures when specified in the relevant environmental and social management plans or other similar documents provided by the PEA and, in any case, implement measures to prevent sexual exploitation and abuse and gender based violence.

7. In the case of being awarded a Contract, we, as well as all members of our Joint Venture partners and Subcontractors under the Contract will, (i) upon request, provide information relating to the Tender Process and the performance of the Contract and (ii) permit the PEA and KfW or an auditor appointed by either of them, and in the case of financing by the European Union also to European institutions having competence under European Union law, to inspect the respective accounts, records and documents, to permit on the spot checks and to ensure access to sites and the respective project.
8. In the case of being awarded a Contract, we, as well as all our Joint Venture partners and Subcontractors under the Contract undertake to preserve above mentioned records and documents in accordance with applicable law, but in any case for at least six years from the date of fulfillment or termination of the Contract. Our financial transactions and financial statements shall be subject to auditing procedures in accordance with applicable law. Furthermore, we accept that our data (including personal data) generated in connection with the preparation and implementation of the Tender Process and the performance of the Contract are stored and processed according to the applicable law by the PEA and KfW.

Name: _____ In the capacity of: _____

Duly empowered to sign in the name and on behalf of⁶: _____

Signature:

Dated:

⁵ In case ILO conventions have not been fully ratified or implemented in the Employer's country the Applicant/Bidder/Contractor shall, to the satisfaction of the Employer and KfW, propose and implement appropriate measures in the spirit of the said ILO conventions with respect to a) workers grievances on working conditions and terms of employment, b) child labour, c) forced labour, d) worker's organisations and e) non-discrimination.

⁶ In the case of a JV, insert the name of the JV. The person who will sign the application, bid or proposal on behalf of the Applicant/Bidder shall attach a power of attorney from the Applicant/Bidder.

Appendix 1

Declaration of tax conformity – binding confirmation for legal persons

Name of company

I hereby confirm with my signature that:

1. I am authorised to make this declaration on behalf of the above company;
2. the company properly pays all taxes in accordance with the tax laws of the country in which the company is domiciled;
3. the company is not currently nor has been in the past involved in any legal proceedings concerning the taxation of the company;
4. the company will duly pay taxes that may arise from the provision of contracted services;
5. all information and statements provided in advance are complete, accurate in terms of content and currently correct.

.....
(Place) (Date)

.....
(Name of the consultant)

.....
(Signature(s))

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]:

[- Sign the Letter of Technical Bid and Letter of Financial Bid;

- Sign the Joint venture agreement (if any);

- Sign correspondence, documents to exchange with the Employer during the bidding process, including the request for Clarification of Bidding Documents, clarification of Bids or 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 the Bidder is selected]⁽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

[Full name, position, signature and seal]

Authorizer

[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 in conjunction with the Letter of Bid as prescribed in ITB 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.

JOINT VENTURE AGREEMENT⁽¹⁾

[Location and date]_____

Package: *[insert name of the package]*Project's name: _____*[insert the project's name]*Pursuant to⁽²⁾ _____*[the Law on Bidding No. 43/2013/QH13 dated November 26, 2013];*Pursuant to⁽²⁾ _____ *[the Government's Decree No. 63/2014/NĐ-CP dated June 26, 2014 on implementation of some Articles on contractor selection of the Law on Bidding];*In response to Bidding Documents for _____ *[insert name of package]* dated _____
[insert date written on the Bidding Documents];

Representatives of signatories to the joint venture agreement include:

Name of JV's Member _____*[insert name of each JV's Member]*

Mr./Ms. _____

Position: _____

Address: _____

Phone number: _____

Fax: _____

Email: _____

Account: _____

TIN: _____

Power of Attorney No. _____ dated _____ *(in case of authorization).*

The Parties have reached a consensus on entering into a joint venture agreement with the following contents:

Article 1. General rules1. Parties voluntarily establish this joint venture to participate in the process of bidding for _____
[insert name of package] of _____ *[insert name of project]*.2. Official name of the joint venture used in every transaction related to the package with the consent of all members: _____ *[insert the agreed name of the joint venture]*.

3. Every JV's member is committed not to unilaterally participate or establish a joint venture with another JV's member to participate in this package. If being awarded with the contract, all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms and no JV's member is entitled to refuse to fulfil the duties and obligations prescribed in the contract except for a written consent of other members. Any JV's member of the 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 dutiesAll members unanimously to undertake joint and separate responsibility to execute _____ *[insert name of package]* of _____ *[insert name of project]* as follows:

1. Leading JV's member of the joint venture

All parties unanimously authorize _____ [*insert name of a party*] as the leading JV's member of the joint venture who represents the joint venture to perform the following tasks⁽³⁾:

[- Sign the Letter of Technical Bid and Letter of Financial Bid]. Sign correspondences, documents to exchange with the Employer during the bidding process, including the request for Clarification of Bidding Documents, clarification of Bids; requests for Bid withdrawal, modification or substitutions;

- Provide Bid Security for the 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. All parties have reached a consensus on tasks assignment to JV's members as specified in the table below⁽⁴⁾:

No.	Name	Tasks	Proportion of value to Bid price)
1	Name of leading JV's member	- ____ - ____	- ____% - ____%
2	Name of second JV's member	- ____ - ____	- ____% - ____%
....
Total		All tasks of the package	100%

Article 3. Effect of Joint venture agreement

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

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

- All parties have fulfilled their duties and finalize the contract;

- The agreement is unanimously terminated by all parties;

- The joint venture is not awarded with the contract;

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

The joint venture agreement is made into _____ copies with equal legal value, each party keeps _____ copies.

LEGAL REPRESENTATIVE OF LEADING JV'S MEMBER

[full name, position, signature and seal]

LEGAL REPRESENTATIVE OF JV'S MEMBER

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

Notes:

- (1) According to the scope and nature of the package, this Joint venture agreement may be amended. The project's name and package's name must be clarified accurately and sufficiently as prescribed in **BDS ITB 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 JV's member, common and private responsibilities of JV's member, including the leading JV's member

BID SECURITY⁽¹⁾

Beneficiary: *[Insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

BID GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[Insert name and address of the bidder, which in the case of a joint venture shall be the name and address of the joint venture]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of *[Insert project, object of the contract/brief description of the works]* under International Competitive Bidding No. *[Insert ICB number]*.

Waiving all objections and defences, we, as Guarantor, hereby irrevocably and independently undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[Insert guarantee amount and currency in words and figures]* upon receipt by us of the Beneficiary's first demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) Has withdrawn its Bid during the period of bid validity set forth in the Applicant's Bid Submission Form (the Bid Validity Period"); or
- (b) Having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period, (i) has failed to sign the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee shall expire not later than *[Insert expiry date]*¹¹.

By this date we must have received any claims for payment by letter or encoded telecommunication.

It is understood that you will return this guarantee to us on expiry or after payment of the total amount to be claimed hereunder.

This guarantee is governed by the laws of Viet Nam

Place, date

Guarantor's authorized signature(s)

Notes:

- (1) The format of the Bid security shall be in the form of a bank guarantee and shall be issued by a reputable bank or financial institution selected by the bidder. If the institution issuing the security is

¹¹ Pursuant to ITB Clause 18.2 the guarantee must be valid for at least 30 days beyond the bid validity.

located outside Vietnam, it shall have a correspondent financial institution located in the country of the borrower to make it enforceable.

(2) The Bidder may have one of the following names:

- Name of the Joint Venture, for example A Bidder and B Bidder enter into a Joint Venture to make a bid, their name shall be "A and B Joint Venture";
- Name of the member in charge of the Bid Security for the Joint Venture or another member in the Joint Venture, for example, A + B + C Joint Venture makes a bid, if their Joint Venture agreement assigns A Bidder to furnish Bid Security for the Joint Venture, the Joint Venture's name shall be "A Bidder (on behalf of A + B + C Joint Venture)";
- Name of every Joint Venture member separately furnishing the Bid Security.

BIDDER QUALIFICATION

In order to prove the qualification to perform the contract as specified in Clause 2 Section III – Bid Evaluation Criteria, the Bidder must provide the necessary information using the following forms:

Form 05(a)**BIDDER INFORMATION**

Date: _____

Number and name of package: _____

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

Form 05(b)**JOINT VENTURE MEMBER INFORMATION FORM⁽¹⁾**

Date: _____

Number and name of Tender: _____

Bidder's name:
JV's Member name:
JV's Member Country of Registration:
JV's Member Year of Establishment:
JV's Member Legal Address in Country of Registration:
JV'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, an 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) In case of a Joint Venture, each Joint Venture member shall declare information using this Form.

Form No. 06

LIST OF COMPANIES IN CHARGE OF TENDER WORKS⁽¹⁾

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

Notes

(1) If the Bidder is a parent company (namely a corporation), it must declare specific tasks assigned to subsidiary companies, associate companies. The qualification of the Bidder shall be evaluated according to the value and volume of work performed by the parent company, subsidiary companies, 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. 07**PREVIOUS CONTRACT NON-FULFILMENT RECORDS⁽¹⁾**

Bidder's name: _____

Date: _____

JV's member name (if any): _____

Previous contract non-fulfilment records prescribed in Clause 2.1 of Section III –Bid Evaluation Criteria			
<input type="checkbox"/> No concluded contract without fulfilment from January 1, ___[year] prescribed in criterion 1 in the Financial Qualification Criteria in Clause 2.1 of Section III –Bid Evaluation Criteria.			
<input type="checkbox"/> At least one concluded contract without fulfilment from January 1, ___[year] prescribed in criterion 1 in the Financial Qualification Criteria in Clause 2.1 of Section III –Bid Evaluation Criteria.			
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/Project Owner's name: Address: Reasons for contract non-fulfilment:	

Notes:

(1) The Bidder must declare accurately and truthfully history of unfinished contracts; any unfinished contract being not declared shall be considered "fraudulent" and rejected.

In case of a Joint Venture, each joint venture member shall declare information using this Form.

Form No. 08

PENDING LITIGATION⁽¹⁾

Bidder's name: _____

Date: _____

JV's member name (if any) : _____

Pending litigation			
<p>Choose one of two information below:</p> <p><input type="checkbox"/> No pending litigation.</p> <p><input type="checkbox"/> Description of pending litigation in which the Bidder is a litigant (or each JV' member is a litigant in case of a JV).</p>			
Year	Matter in Dispute	Value of Pending Claim	Value of Pending Claim as a Percentage of Net Worth

Notes:

(1) The Bidder must declare accurately and truthfully involved lawsuits; any involved law suit being not declared shall be considered "fraudulent" and rejected.

In case of a Joint Venture, each JV' member shall declare information using this Form.

Form No. 09

FINANCIAL SITUATION OF BIDDER⁽¹⁾

Bidder's name: _____

Date: _____

JV's member name (if any): _____

Financial Data for Previous 3 Years⁽²⁾		
2022	2023	2024

Information from Balance Sheet

Total Assets			
Total Liabilities			
Net worth (Net assets value)			
Current Assets			
Current Liabilities			
Working Capital			

Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			

Attached are copies of financial statements (balance sheets including all related notes, and income statements) for last 3 years⁽³⁾, as indicated above, complying with the following conditions:

1. All such documents reflect the financial situation of the Bidder or JV's member, and not subsidiary or parent companies.
2. Historic financial statements must be complete, including all notes to the financial statements as prescribed.
3. Historic 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;

Notes:

- (1) In case of a Joint Venture, each JV' member shall declare information using this Form.
- (2) The number of columns in the Table must correspond to the period of time prescribed in criterion 3.1 Financial Qualification Criteria Clause 2.1 of Section III – Bid Evaluation Criteria
- (3) The period of time above must correspond to the period of time prescribed in criterion 3.1 Financial Qualification Criteria Clause 2.1 of Section III – Bid Evaluation Criteria.

Form No. 10**AVERAGE ANNUAL TURNOVER FROM ENGINEERING, PROCUREMENT OF GOODS AND CONSTRUCTION ACTIVITIES⁽¹⁾**

Each Bidder or a JV's member must fill in this form.

Information supplied should be the Annual Turnover of the Bidder or each JV's member in terms of the engineering, procurement of goods, and construction for each year for contracts in progress or completed.

Annual Turnover Data for the Last 3 Years⁽²⁾	
Year	Amount
2022	
2023	
2024	
Average Annual Turnover⁽³⁾	

Notes:

(1) In case of a Joint Venture, each JV' member must fill in this form.

(2) The Employer shall insert the period of time prescribed in criterion 3.2 Financial Qualification Criteria Clause 2.1 of Section III – Bid Evaluation Criteria.

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

Form No. 11**FINANCIAL RESOURCES⁽¹⁾**

Specify proposed sources of financing, such as high liquidity assets⁽²⁾, 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 Section.

Financial Resources of Bidder		
No.	Source of financing	Amount
1		
2		
3		
4		
5		
...		
Total financial resources of Bidder		

Notes:

(1) Every Bidder or JV's member shall provide information about their financial resources, enclosed with documentary evidence.

Expected financial resources shall be determined by the following formula:

$$\mathbf{NLTC = TNL - DTH}$$

Where:

- NLTC is the proposed sources of financing to perform the contract:
- TNL is total financial resources of the Bidder (specified in this form);
- DTH 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 Clause 2.1 of Section III – Bid Evaluation Criteria.

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 Clause 2.1. of Section III – Bid Evaluation Criteria during the contract duration, the Bidder shall be considered satisfying financial requirements for the package and not required to declare information using this Form and Form No. 12.

(2) High liquidity 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.

Form No. 12

MONTHLY FINANCIAL RESOURCES FOR CONTRACTS IN PROGRESS⁽¹⁾

No.	Contract's name	Contact person of the Employer (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						
...						
Total monthly financial resources required for contracts in progress (DTH)						

Notes:

(1) Each Bidder or JV's member shall provide information below to calculate all required financial resources, which is all value of: (i) current commitments of the Bidder (or each joint venture member) in all contracts being executed or to be executed; (ii) required financial resources of the considered contract by the Employer. In addition, the Bidder shall provide information about any other financial obligation likely substantially affecting the execution of the considered contract if 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.

SIMILAR CONTRACTS

Similar Contracts	
The Contract Agreement No. _____ dated _____	Information:
Date of Award of Contract: _____	Finish date: _____
Total Contract Price	_____
For JV's member or subcontractor, insert its contribution in total contract price	Value as a percentage of total contract price Amount: _____
Employer's/Project Owner's name: Address: Phone number/Fax: Email:	
Description of similar characteristics prescribed in criterion 4 Financial Qualification Criteria Clause 2.1 of Section III(2) –Bid Evaluation Criteria.	
Similar characteristics required ⁽¹⁾ <input type="checkbox"/> 4.1 Experience in performing EPC package <input type="checkbox"/> 4.2 Specific experience in WWTPs (design and construction) <input type="checkbox"/> 4.3 Experience in O&M contracts	<i>Similar characteristics of completed contracts⁽²⁾</i>

Notes:

(1) The Employer must specify scope, complexity, methods, technology, or other characteristics of the contracts as specified in Part 2 – Employer's Requirements.

(2) The Bidder must specify similar characteristics of the similar contracts to demonstrate their responsiveness.

Form No. 14**TABLE OF PROPOSED PERSONNEL FOR KEY POSITIONS**

For every position prescribed in this Form, the Bidder shall declare detailed information according to Forms 15 and 16 of this Section.

The Bidder shall propose personnel for key positions having qualifications satisfying requirements prescribed in paragraph a) Clause 2.2 of Section III – Bid Evaluation Criteria and be available to perform the package; no personnel being in charge of another package with the same working time is proposed in this Table. If the declaration is not truthful, the Bidder shall be considered as fraudulent.

1	Position: <i>[insert detailed position in charge]</i>
	Name <i>[insert the employee's name for key position]</i>
2	Position: <i>[insert detailed position in charge]</i>
	Name <i>[insert the employee's name for key position]</i>
3	Position:
	Name
4	Position:
	Name
5	Position:
	Name
....	Position:
	Name

Form No. 15**CURRICULUM VITAE OF PERSONNEL FOR KEY POSITION**

The Bidder shall provide adequate information required below and enclose certified true photocopies of relevant degrees, certificates.

Position		
Personnel information	Name	Date of birth:
	Professional qualifications	
Present work	Employer's name	
	Employer's address	
	Phone number:	Contact person (manager/personnel officer)
	Fax:	Email:
	Job title	Years with present employer

Form No. 17**LIST OF EQUIPMENT**

The Bidder shall provide adequate information to demonstrate clearly that it has the capacity to meet the requirements for the major equipment listed in paragraph b) Clause 2.2 of Section III – Bid Evaluation Criteria and be available to perform the project. No equipment being proposed of another project with the same schedule is proposed in this Table. If the declaration is not truthful, the Bidder shall be considered as fraudulent.

The equipment must be owned by the Bidder or may be rented provided that the Bidder may demonstrate clearly that it has the capacity to meeting the requirements of the project. If an item of equipment is rented, a lease of equipment and documents proving the ownership of the lessor are required. A separate form shall be prepared for each item of equipment as follows:

Item of equipment		
Equipment information	Name of manufacturer	Model
	Capacity	Year of manufacture
	Functions	Origin
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

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

Owner	Name of owner	
	Address of owner	
	Telephone:	Contact name and title
	Fax:	Telex
Agreements	Details of rental/lease/manufacture agreements specific to the project	

Form 18 (a)

WORK ITEMS 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) In case of employment of subcontractors, then fill in this form.

(2) Indicate name of subcontractor(s). In case names of subcontractors are not determined, this column may be leaved 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 certified true copy of such document

Form 18 (b).

LIST OF SPECIAL SUBCONTRACTORS⁽¹⁾

NOT APPLICABLE

Form No. 18 (c)

TECHNICAL PROCESS AND PERFORMANCE GUARANTEE

The Contractor shall give the functional guarantees for the facilities specified herein:

Required treatment capacity

The Bidder must ensure and guarantee the required treatment capacity as described in the Technical Specifications and below:

Performance Guarantee Treatment Capacity (as required by the Technical Specifications)			Performance Guarantee
Parameter	Unit	Value	Value offered by the Bidder
Daily design treatment capacity of Tan Ky hospital WWTP	m ³ /day	100	
Daily design treatment capacity of Do Luong hospital WWTP	m ³ /day	200	
Daily design treatment capacity of Quynh Luu hospital WWTP	m ³ /day	300	

Required Effluent Quality from WWTP

The Bidder must ensure that the requirements for effluent limits meet the National Technical Regulation on Health Care Wastewater Standard QCVN 28:2010/BTNMT, as indicated in the Technical Specifications.

The Bidder shall provide the corresponding value for each effluent parameter of the proposed wastewater treatment system in the right column of the following table.

Performance Guarantee Effluent Quality (as required by the Technical Specifications)			Performance Guarantee
Parameters	Unit	Value of C	Value of C
		A	Values offered by the Bidder
1. pH		6.5 - 8.5	
2. BOD ₅	mg/l	30	
3. COD	mg/l	50	
4. Total Suspended Solid (TSS)	mg/l	50	
5. Sulfur (S ²⁻ , calculated as H ₂ S)	mg/l	1.0	
6. Ammonium (NH ₄ ⁺ , calculated as N)	mg/l	5	
7. Nitrates (NO ₃ ⁻ , calculated as N)	mg/l	30	
8. Phosphate (PO ₄ ³⁻ , calculated as P)	mg/l	6	
9. Oil and grease	mg/l	10	

Performance Guarantee Effluent Quality (as required by the Technical Specifications)			Performance Guarantee
Parameters	Unit	Value of C	Value of C
		A	Values offered by the Bidder
10. Alpha radioactivity	Bq/l	0.1	
11. Beta radioactivity	Bq/l	1.0	
12. Total coliform	MPN/ 100ml	3000	
13. Salmonella	Bacteria/ 100 ml	KPHD	
14. Shigella	Bacteria/ 100 ml	KPHD	
15. Vibrio cholera	Bacteria/ 100 ml	KPHD	
<p><i>Note:</i></p> <ul style="list-style-type: none"> - A category: regulates the C value of parameters and pollutants as a basis for calculating the maximum allowable value apply to hospital wastewater discharged to water sources used for domestic water supply purposes; - Allowable threshold (C_{max}) = C * K; - For the parameters: pH, Total coliform, Salmonella, Shigella, Vibrio cholera in hospital wastewater: K=1 <p>K is the coefficient of size and type of each medical facility (Quỳnh Lưu – K=1,2; Đô Lương – K=1,0; Tân Kỳ - K=1,2)</p>			

Electricity Consumption of WWTPs

The Bidder must ensure to not exceed the respective specific and monthly energy consumption as described in the Technical Specifications.

The Bidder shall provide the corresponding values for the specific as well as the monthly electricity consumption for the proposed wastewater treatment system in below table.

	Unit	Performance guarantee as per Technical Specifications	Performance guarantee offered by the Bidder
Tan Ky hospital WWTP (100m³/d)			
Specific electricity consumption	[kWh/m ³]	≤ 1.15	
Max. monthly electricity consumption	[kWh/month]	≤ 3,450	

	Unit	Performance guarantee as per Technical Specifications	Performance guarantee offered by the Bidder
Do Luong hospital WWTP (200m³/d)			
Specific electricity consumption	[kWh/m ³]	≤ 1.15	
Max. monthly electricity consumption	[kWh/month]	≤ 6,900	
Quynh Luu hospital WWTP (300m³/d)			
Specific electricity consumption	[kWh/m ³]	≤ 1.15	
Max. monthly electricity consumption	[kWh/month]	≤ 10,350	

Place, Date
Signature of Bidder
 [Full name, position, signature and seal]

Form No. 18 (d)

O&M PRICE SCHEDULE AND GUARANTEE

The Bidder shall state and guarantee the annual O&M costs that contain the following cost items:

Note: for each of the 3 WWTPs a separate O&M price schedule and guarantee has to be submitted!

WWTP [insert WWTP Name]	
Cost Items	Calculated annual costs in VND
Personnel (in line with Bill No. 3)	
Travel costs and accommodation for staff	
Energy / electricity	
Chemicals	
Spare parts and consumables	
Laboratory analysis to verify performance guarantees	
Other utilities such as fresh water	
Dewatered sludge disposal	
Transportation / vehicles	
Rental for machineries (if any)	
Reporting / printing costs	
Training and education measures	
Insurance fees	
Others (if any)	
Total costs	
contingencies (5% of the total O&M costs)	
Total annual O&M costs	

Note: Other items may be included in the list if considered relevant by the Bidder. Administration costs shall be included into the personnel costs. The Contractor shall indicate his quoted unit prices for O&M in the Bid form.

The total annual O&M costs as stated above are hereby guaranteed.

Place, Date

Signature of Bidder
[Full name, position, signature and seal]

Form No. 18 (e)

SITE ORGANIZATION AND METHOD STATEMENT INCLUDING QUALITY AND QUANTITY MANAGEMENT

The Bidder shall provide information and/or schedule showing the order in which the Bidder intends to carry out the Works including the anticipated timing of each stage of the performance of the Contract including but not limited to:

- a) mobilisation of the Contractor's Plant and Equipment;
- b) execution of each key construction activity including anticipated construction rates and estimated timing for commencement and completion;
- c) sequencing of work activities, also considering that the daily operation of the hospital shall not be affected by the Works;
- d) details relating to the sources of the key materials, estimated transportation distances for the materials;
- e) testing & commissioning;
- f) time schedule / work plan for construction (incl. critical path)
- g) O&M activities;
- h) O&M schedule for 1 year;
- i) Draft O&M manual;
- j) Proposed rehabilitation measures for existing WWTP
- k) other information as the Tenderer deems relevant or appropriate.

Form No. 18 (f)

TECHNICAL DATA SHEET OF M&E EQUIPMENT

Note: This form shall be filled for each equipment of the new WWTPs

The following data sheet shall be filled for each electromechanical equipment of the WWTP offered by the Bidder.

This shall include the following equipment (where applicable):

1. Collection tank pump, sluice gate, coarse screening
2. Equalization tank pumping
3. Biological treatment facilities: Submersible mixer, air blower, submersible pump
4. Slurry pump, lamella plate
5. Pressure filter pump
6. Pressure filtration system
7. Submersible mixer, chemical dosing pump
8. Instrumentation
9. Control cabinet system using SCADA software to connect to computer for remote control and monitoring
10. Odour & noise control
11. Garbage separation module

M&E equipment item:	<i>[fill the name of the item, e.g. screen, pump, mixer, flow meter, etc.]</i>
Application:	<i>[fill information on where the equipment will be applied such as pumping station, aeration tank, etc.]</i>
Type:	<i>[fill the type of equipment, e.g. automatic bar screen, wet installed submersible pump, eccentric screw pump, centrifugal blower, etc.]</i>
Capacity:	<i>[fill the capacity of the equipment in m³/h, kg/h, for pumps also incl. pump head, etc.]</i>
Numbers:	<i>[fill the number of proposed equipment incl. how many duty and standby items are provided, e.g. 1 duty + 1 standby]</i>
Manufacturer:	<i>[fill the name of the manufacturer]</i>
Country of origin:	<i>[fill the country of origin]</i>
Material:	<i>[fill the material of the different parts of the equipment, e.g. stainless steel AISI 316, etc.]</i>
Power requirement:	<i>[fill the power rating in kW]</i>

In accordance with Section VII, Employer's Requirements, clause 14 the Bidder shall attach to this sheet separately for each item either:

- a certificate issued by the equipment supplier to substantiate the suitability of the selected equipment for the capacity and quality of the WWTP to be built under this contract; or

- respective references showing the successful application of this equipment in Vietnam or in other countries under similar conditions as in Vietnam; and
- a statement of the warranty granted for the equipment in accordance with international standards.

B. BIDDING FORMS OF FINANCIAL PROPOSAL**Form 19 (a)****LETTER OF FINANCIAL BID⁽¹⁾**

(applicable to the Bidder who has no discount offer or has 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]*

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 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 figures and words, and in conformity with the total Bid Price mentioned in the Summary of Bid Price. There is must be only one Bid Price which does not cause any disadvantage condition to the Employer or the Employer. 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 ITB 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 ITB 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 02 provided in this Section) 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). In case of a joint venture, the Letter of Bid shall be signed by legal representative of every JV's member, unless the leading member may sign the Letter of Bid according to the joint venture agreement as mentioned in Form 03 of this Section. Each JV's member may give authorization similarly to an independent Bidder. If the Bidder is selected, 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 3.

(6) If a foreign Bidder has no seal, it must furnish a certification issued by a competent agency that the signature in the Letter of Bid and any other documents of the Bid belongs to its legal representative.

Form 19 (b).**LETTER OF FINANCIAL BID⁽¹⁾***(applicable to the Bidder who has no 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]*To: *[insert the complete and accurate name of the Employer]*

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 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 Summary of Bid Price. There is must be only one Bid Price which does not cause any disadvantage condition to the Investor or the Employer. 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 ITB 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 Clause 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 Section) 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). In case of a joint venture, the Letter of Bid shall be signed by legal representative of every JV's member, unless the leading member may sign the Letter of Bid according to the joint venture agreement as mentioned in Form 03 of this Section. Each JV's member may give authorization similarly to an independent Bidder. If the Bidder is selected, 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 3.

(7) If a foreign Bidder has no seal, there must be a certification issued by a competent agency that the signature in the Letter of Bid and any other documents of the Bid belongs to its legal representative.

Form No. 20

SUMMARY OF BID PRICE

Project's name: Project's name: Strengthening Provincial Health Systems Project. Component II: Hospital Water Supply, Wastewater Disposal and Waste Management in 5 Provinces and Viet Duc Hospital (Hanoi)

Subproject: Investment in construction of waste and wastewater treatment systems for hospitals in Nghe An Province using ODA loan from the German Government.

The package's name: Engineering - Procurement, Installation of Technology Equipment, Construction (EPC) of Wastewater Treatment System – Project: Investment in Construction of Waste and Wastewater Treatment Systems for Hospitals in Nghe An Province using ODA Loan from German Government

General Summary	Technical Criteria, Technical Instructions	Page	Amount	
			Local currency (VND)	Foreign currency (EUR)
Bill No.1: General Items				
Bill No. 2: Wastewater Treatment Plants and collection system				
Bill No. 3: Operation & Maintenance (O&M) for all WWTPs				
Bid Price Before Taxes (Total work value from Bill No.1 to 3)		(A)		
Goods import tax		(B)		
Value Added Tax (VAT)		(C)		
Total tax value¹² (B+C)		(D)		
Bid Price After Taxes (A+D)		(E)		

Notes:

- Bill of Quantities (Bill No. 1, 2, ...n) shall be made and completed according Forms 22 and bill of quantities.

¹² All other taxes apart from import taxes and duties and VAT shall be included in the overhead cost calculation and will not be subject to any separate remuneration, in line with Appendix 5 to the Particular Conditions of Contract – Management of taxes, fees and charges, Part 3 of the tender documents.

SCHEDULES OF PAYMENT CURRENCIES**Schedule A: Plan A***[To be used with the price converted to local currency]***Item or component:** *[insert name of Section of the Work]*

Currency's Name	A Amount	B Exchange Rate (to Local Currency)	C Local Currency Equivalent C=A x B	D Percentage of Net Bid Price (NBP) $\frac{100 \times C}{NBP}$
Local Currency		1.00		
Foreign Currency #1				
Foreign Currency #2				
Net Bid Price (NBP) – Bid Price excluding provisional sum				100.00
Provisional Sums Expressed in Local Currency	N/A		N/A	
BID PRICE (including provisional sum)				

Schedule B: Plan B

[To be used with price not converted to local currency]

Item or component:[insert name of Section of the Work]

Name of Currency	Amount
Local Currency: _____	
Foreign currency #1: _____	
Foreign currency #2: _____	

BILL OF QUANTITIES**Bill No. 1: General Items**

Item No.	Description	Unit	Quantity	Local Currency		Foreign Currency	
				Unit Price	Amount	Unit Price	Amount
101	Insurances <i>(in accordance with Part 3, Section X, Appendix 1)</i>	L.S.	1				
102	Provision of equipped site offices incl. running costs	L.S.	1				
103	Environmental, Health & Safety (EHS) Provisions	L.S.	1				
104	Interpreter & Translation services (Vietnamese - English and vice versa)	L.S.	1				
	Total for Bill No. 1 (carried forward to Summary of Bid Price, p.____)						

L.S. = Lump Sum

Bill No. 2: Construction / Rehabilitation of Wastewater Treatment Plants and collection systems

Item No.	Description	Unit	Quantity	Local Currency		Foreign currency	
				Unit Price	Amount	Unit Price	Amount
201	New construction of Do Luong District General Hospital WWTP						
201.1	Preparatory works (as per Section VII, Technical Specifications clause 8)	L.S.	1				
201.2	Engineering services (design)	L.S.	1				
201.3	Equipment (incl. procurement and installation)	L.S.	1				
201.4	Civil works	L.S.	1				
201.5	Testing & commissioning	L.S.	1				
	Sub-total for new construction of Do Luong District General Hospital WWTP						
202	New construction of Tan Ky Health Centre WWTP						
202.1	Preparatory works (as per Section VII, Technical Specifications clause 8)	L.S.	1				
202.2	Engineering services (design)	L.S.	1				
202.3	Equipment (incl. procurement and installation)	L.S.	1				
202.4	Civil Works	L.S.	1				
202.5	Testing & commissioning	L.S.	1				
	Sub-total for new construction of Tan Ky Health Centre WWTP						
203	Rehabilitation of Quynh Luu District General Hospital WWTP						
203.1	Preparatory works (as per Section	L.S.	1				

	<i>VII, Technical Specifications clause 8)</i>						
203.2	Engineering services (design)	L.S.	1				
203.3	Equipment (incl. procurement and installation)	L.S.					
203.4	Civil Works	L.S.	1				
203.5	Testing & commissioning	L.S.	1				
	Sub-total for rehabilitation of Quynh Luu District General Hospital WWTP						
	Total for Bill No. 2 (carried forward to Summary of Bid Price, p.____)						

L.S. = Lump Sum

Bill No. 3: Operation & Maintenance (O&M) for all WWTPs

Item No.	Description	Unit	Quantity	Local Currency		Foreign currency	
				Unit Price	Amount	Unit Price	Amount
300 Operation & Maintenance (O&M) for Do Luong District General Hospital WWTP							
301	Personnel costs						
301.1	Plant manager	M/M	2				
301.2	Operator	M/M	12				
301.3	02 Unskilled workers, 12 M/M per person	M/M	24				
301.4	Travel costs, accommodation for staff	Months	12				
302	Operation cost						
302.1	Energy/ Electricity	Months	12				
302.2	Chemicals	Months	12				
302.3	Spare parts and consumables	Months	12				
302.4	Laboratory analysis to verify performance guarantees	Months	12				
302.5	Other utilities such as fresh water	Months	12				
302.6	Dewatered sludge disposal	Months	12				
302.7	Transportation / vehicles	Months	12				
302.8	Rental for machineries (if any)	Months	12				
302.9	Reporting / printing costs	Months	12				
302.10	Training and education measures	Months	12				
302.11	Insurance fees	Months	12				
302.12	Others (if any)	Months	12				
	Sub-total for O&M costs						

Item No.	Description	Unit	Quantity	Local Currency		Foreign currency	
				Unit Price	Amount	Unit Price	Amount
303	Contingencies (5% of the total O&M costs (items 301 and 302)	LS	1				
304	Maintenance & monitoring equipment as per Employer's Requirements	Lot	1				
Sub-total for O&M of Do Luong District General Hospital WWTP							
310 Operation & Maintenance (O&M) for Tan Ky Health Centre WWTP							
311	Personnel costs						
311.1	Plant manager	M/M	2				
311.2	Operator	M/M	12				
311.3	02 Unskilled workers, 12 M/M per person	M/M	24				
311.4	Travel costs, accommodation for staff	Months	12				
312	Operation cost						
312.1	Energy/ Electricity	Months	12				
312.2	Chemicals	Months	12				
312.3	Spare parts and consumables	Months	12				
312.4	Laboratory analysis to verify performance guarantees	Months	12				
312.5	Other utilities such as fresh water	Months	12				
312.6	Dewatered sludge disposal	Months	12				
312.7	Transportation / vehicles	Months	12				
312.8	Rental for machineries (if any)	Months	12				

Item No.	Description	Unit	Quantity	Local Currency		Foreign currency	
				Unit Price	Amount	Unit Price	Amount
312.9	Reporting / printing costs	Months	12				
312.10	Training and education measures	Months	12				
312.11	Insurance fees	Months	12				
312.12	Others (if any)	Months	12				
Sub-total for O&M costs							
313	Contingencies (5% of the total O&M costs (items 311 and 312))	LS	1				
314	Maintenance & monitoring equipment as per Employer's Requirements	Lot	1				
Sub-total for O&M of Tan Ky Health Centre WWTP							
320 Operation & Maintenance (O&M) for Quynh Luu District General Hospital WWTP							
321	Personnel costs						
321.1	Plant manager	M/M	2				
321.2	Operator	M/M	12				
321.3	02 Unskilled workers, 12 M/M per person	M/M	24				
321.4	Travel costs, accommodation for staff	Months	12				
322	Operation cost						
322.1	Energy/ Electricity	Months	12				
322.2	Chemicals	Months	12				
322.3	Spare parts and consumables	Months	12				
322.4	Laboratory analysis to verify performance guarantees	Months	12				
322.5	Other utilities such as fresh water	Months	12				

Item No.	Description	Unit	Quantity	Local Currency		Foreign currency	
				Unit Price	Amount	Unit Price	Amount
322.6	Dewatered sludge disposal	Months	12				
322.7	Transportation / vehicles	Months	12				
322.8	Rental for machineries (if any)	Months	12				
322.9	Reporting / printing costs	Months	12				
322.10	Training and education measures	Months	12				
322.11	Insurance fees	Months	12				
322.12	Others (if any)	Months	12				
	Sub-total for O&M costs						
323	Contingencies (5% of the total O&M costs (items 321 and 322))	LS	1				
324	Maintenance & monitoring equipment as per Employer's Requirements	Lot	1				
	Sub-total for O&M of Quynh Luu District General Hospital WWTP						
	Total for Bill No. 3 (carried forward to Summary of Bid Price, p.____)						

M/M = Man-month

Annex 1 to Part 1: Eligibility Criteria

1. Consulting Services, Works, Goods, Plant and Non-Consulting Services are eligible for KfW financing regardless of the country of origin of the Contractors (including Subcontractors and suppliers for the execution of the Contract), except where an international embargo or sanction by the United Nations, the European Union or the German Government applies.
2. Applicants/Bidders (including all members of a Joint Venture and proposed or engaged Subcontractors) shall not be awarded a KfW-financed Contract if, on the date of submission of their Application/Offer or on the intended date of Award of a Contract, they:
 - 2.1 are bankrupt or being wound up or ceasing their activities, are having their activities administered by courts, have entered into receivership, or are in any analogous situation;
 - 2.2 have been
 - (a) convicted by a final judgement or a final administrative decision or subject to financial sanctions by the United Nations, the European Union and/or the German Government for involvement in a criminal organisation, money laundering, terrorist-related offences, child labour or trafficking in human beings; this criterion of exclusion is also applicable to legal Persons, whose majority of shares are held or factually controlled by natural or legal Persons which themselves are subject to such convictions or sanctions;
 - (b) convicted by a final court decision or a final administrative decision by a court, the European Union or national authorities in the Partner Country or in Germany for Sanctionable Practice during any Tender Process or the performance of a Contract or for an irregularity affecting the EU's financial interests, unless they provide supporting information together with their Declaration of Undertaking (Form available as Appendix to the Application/Offer which shows that this conviction is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction;
 - 2.3 have been subject within the past five years to a Contract termination fully settled against them for significant or persistent failure to comply with their contractual obligations during Contract performance, unless this termination was challenged and the dispute resolution is still pending or has not confirmed a full settlement against them;
 - 2.4 have not fulfilled applicable fiscal obligations regarding payments of taxes either in the country where they are constituted or the PEA's country;
 - 2.5 are subject to an exclusion decision of the World Bank or any other multilateral development bank and are listed in the respective table with debarred and cross-debarred firms and individual available on the World Bank's website or any other multilateral development bank unless they provide supporting information together with their Declaration of Undertaking which shows that this exclusion is not relevant in the context of this Contract or
 - 2.6 have given misrepresentation in documentation requested by the PEA as part of the Tender Process of the relevant Contract.
3. State-owned entities may compete only if they can establish that they (i) are legally and financially autonomous, and (ii) operate under commercial law. To be eligible, a state-owned entity shall establish to KfW's satisfaction, through all relevant documents, including its charter and other information KfW may request, that it: (i) is a legal entity separate from their state (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to their state, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt.

Annex 2 to Part 1: KfW Policy – Sanctionable Practice – Social and Environmental Responsibility

1. Sanctionable Practice

The PEA and the Contractors (including all members of a Joint Venture and proposed or engaged Subcontractors) must observe the highest standard of ethics during the Tender Process and performance of the Contract.

By signing the Declaration of Undertaking the Contractors declare that (i) they did not and will not engage in any Sanctionable Practice likely to influence the Tender Process and the corresponding Award of Contract to the PEA's detriment, and that (ii) in case of being awarded a Contract they will not engage in any Sanctionable Practice.

Moreover, KfW requires to include in the Contracts a provision pursuant to which Contractors must permit KfW and in case of financing by the European Union also to European institutions having competence under European law to inspect the respective accounts, records and documents relating to the Tender Process and the performance of the Contract, and to have them audited by auditors appointed by KfW.

KfW reserves the right to take any action it deems appropriate to check that these ethics rules are observed and reserves, in particular, the rights to:

- (a) reject an Offer for Award of Contract if during the Tender Process the Bidder who is recommended for the Award of Contract has engaged in Sanctionable Practice, directly or by means of an agent in view of being awarded the Contract;
- (b) declare misprocurement and exercise its rights on the ground of the Funding Agreement with the PEA relating to suspension of disbursements, early repayment and termination if, at any time, the PEA, Contractors or their legal representatives or Subcontractors have engaged in Sanctionable Practice during the Tender Process or performance of the Contract without the PEA having taken appropriate action in due time satisfactory to KfW to remedy the situation, including by failing to inform KfW at the time they knew of such practices.

KfW defines, for the purposes of this provision, the terms set forth below as follows:

Coercive Practice	The impairing or harming, or threatening to impair or harm, directly or indirectly, any person or the property of the person with a view to influencing improperly the actions of a person.
Collusive Practice	An arrangement between two or more persons designed to achieve an improper purpose, including influencing improperly the actions of another person.
Corrupt Practice	The promising, offering, giving, making, insisting on, receiving, accepting or soliciting, directly or indirectly, of any illegal payment or undue advantage of any nature, to or by any person, with the intention of influencing the actions of any person or causing any person to refrain from any action.
Fraudulent Practice	Any action or omission, including misrepresentation that knowingly or recklessly misleads, or attempts to mislead, a person to obtain a financial benefit or to avoid an obligation.
Obstructive Practice	Means (i) deliberately destroying, falsifying, altering or concealing evidence material to the investigation or the making of false statements to investigators, in order to materially impede an official investigation into allegations of a Corrupt Practice, Fraudulent Practice, Coercive Practice

or Collusive Practice, or threatening, harassing or intimidating any Person to prevent them from disclosing their knowledge of matters relevant to the investigation or from pursuing the investigation, or (ii) any act intended to materially impede the exercise of KfW's access to contractually required information in connection with an official investigation into allegations of a Corrupt Practice, Fraudulent Practice, Coercive Practice or Collusive Practice.

Sanctionable Practice Any Coercive Practice, Collusive Practice, Corrupt Practice, Fraudulent Practice or Obstructive Practice (as such terms are defined herein) which is unlawful under the Financing Agreement.

2. Social and Environmental Responsibility

Projects financed in whole or partly in the framework of Financial Cooperation have to ensure compliance with international Environmental, Social, Health and Safety (ESHS) standards (including issues of sexual exploitation and abuse and gender based violence) Contractors in KfW-financed projects shall consequently undertake in the respective Contracts to:

- (a) comply with and ensure that all their Subcontractors and major suppliers, i.e. for major supply items comply with international environmental and labour standards, consistent with applicable law and regulations in the country of implementation of the respective Contract and the fundamental conventions of the International Labour Organisation¹³ (ILO) and international environmental treaties and;
- (b) implement any environmental and social risks mitigation measures, as identified in the environmental and social impact assessment (ESIA) and further detailed in the environmental and social management plan (ESMP) as far as these measures are relevant to the Contract and implement measures for the prevention of sexual exploitation and abuse and gender-based violence.

¹³ In case ILO conventions have not been fully ratified or implemented in the Employer's country the Applicant/Bidder/Contractor shall, to the satisfaction of the Employer and KfW, propose and implement appropriate measures in the spirit of the said ILO conventions with respect to a) workers grievances on working conditions and terms of employment, b) child labour, c) forced labour, d) worker's organisations and e) non-discrimination.

PART 2. EMPLOYER'S REQUIREMENTS

Section V. Project and package introduction

Section VI. Implementation schedule

Section VII. Technical Specifications

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Abbreviations

BOD ₅	Biological Oxygen Demand
BS	British Standard
COD	Chemical Oxygen Demand
CPM	Critical Path Method
CW	Constructed Wetland
DIN	German Institute of Standardisation
DNP	Defects Notification Period
DO	Dissolved Oxygen
DONRE	Department of Natural Resources and Environment
DS	Dry Solids
EHS	Environmental, health & safety
EMP	Environmental Management Plan
EPDM	Ethylene propylene diene terpolymer
GRP	Glass-reinforced Plastic
HDPE	High-density polyethylene
ISO	International Organization for Standardization
LLDPE	Linear low-density polyethylene
MBBR	Moving Bed Biofilm Reactor
MBR	Membrane Bio-Reactor
O&M	Operation & maintenance
OHS	Occupational Health and Safety
P&ID	Piping & Instrumentation Diagram
PFD	Process Flow Diagram
PLC	Programme Logic Controller
SBR	Sequence Batch Reactor
SCADA	Supervisory Control And Data Acquisition
SLD	Single Line Diagram
SS	Stainless Steel
SVI	Sludge Volume Index
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
UV	Ultra-Violet
VDH	Viet Duc Hospital

WW Wastewater

WWTP Wastewater Treatment Plant

Note:

Where mentioned VS means the most recent Vietnamese Standard, and DIN means the most recent German Standard. BS means British Standard.

Section V. Project and Package Introduction

1. Project general information

a) Project:

- Project's name: Strengthening Provincial Health Systems Project. Component II: Hospital Water Supply, Wastewater Disposal and Waste Management in 5 Provinces and Viet Duc Hospital (Hanoi) (BMZ No.: 2010 65 465)
- Subproject name: Investment in construction of waste and wastewater treatment systems for hospitals in Nghe An Province using ODA loan from the German Government.
- Employer: Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects
- Sources of Funds: ODA fund from KfW (Kreditanstalt für Wiederaufbau) and local counterpart fund (Government fund)
- **Investment decision:**
 - + Decision No. 6331/QD.UBND-CNMT dated 30/12/2015 of Nghe An PPC on approval of Feasibility Study Report of "Investment in construction of waste and wastewater treatment systems for hospitals in Nghe An Province" financed by ODA loan from German Government.
 - + Decision No. 5367/QD-UBND of Nghe An PPC dated 25 December 2019 on Approval of the adjustment and procurement plan of the project: "Investment in construction of waste and wastewater treatment systems for hospitals in Nghe An Province" financed by ODA loan from German Government.
 - + Resolution No. 67/NQ-HDND dated August 29, 2024 of the People's Council of Nghe An province on adjusting the investment policy for the construction of wastewater and waste treatment systems for hospitals in Nghe An province, using ODA loans from the German Government.
 - + Decision No. 3645/QD-UBND dated December 30, 2024 of the People's Committee of Nghe An province on approving the adjustment of the Feasibility Study Report of the project: Investment in the construction of wastewater and waste treatment systems for hospitals in Nghe An province using ODA loans from the German Government.
 - + Decision No. 2938/QD-UBND dated September 15, 2025 of the People's Committee of Nghe An province on approving the adjustment of the Feasibility Study Report of the project: "Investment in construction of wastewater and waste treatment systems for hospitals in Nghe An province using ODA loans from the German Government"
 - + Decision No. 492/QD-BQLDA dated September 22, 2025 of the Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects on approving the Contractor Selection Plan (Phase 2) for the Project: Investment in construction of wastewater and waste treatment systems for hospitals in Nghe An province using ODA loans from the German Government
 - +
- Tender No.: KfW-04-NA

b) Locations:

- Do Luong General Hospital, Hamlet 3 Da Son, Do Luong ward, Nghe An Province
- Tan Ky Health Centre, Area 4, Tan Ky ward, Nghe An Province
- Quynh Luu General Hospital, Hamlet 13, Quynh Thach Commune, Quynh Van ward, Nghe An Province

c) Project level:

- Level of work: Infrastructure Work, Level ...
- Scale and main technical solution:
 - + Project scale: construction of wastewater treatment system for Tan Ky Health Centre (capacity of 100m³/day-night); Do Luong General Hospital (capacity of 200m³/day-night); and improvement

and rehabilitation of wastewater treatment system of Quynh Luu General Hospital (capacity of 300m³/day-night).

+ Main technical solution: the detailed contents referred to Clause 6, Article 1 of Decision No. 5367/QD-UBND dated December 25, 2019; and Clause 2, Article 1 of Decision No. 2938/QD-UBND dated September 15, 2025 of Nghe An PPC.

2. Package general information

a) Scope of works

Engineering – Procurement, installation of technology equipment and construction (EPC) of wastewater treatment system – Project: Investment in construction of waste and wastewater treatment systems for hospitals in Nghe An Province, using ODA loan from the German Government.

The Bidder is supposed to design, build and operate wastewater treatment plant and collection system for the treatment of hospital wastewater of Do Luong District General Hospital (design capacity of 200m³/d) and Tan Ky Health Centre (design capacity of 100m³/d) in Nghe An Province;

The Bidder is supposed to design, rehabilitate and operate the wastewater treatment plant and collection system for the treatment of hospital wastewater of Quynh Luu District General Hospital (capacity of 300m³/d) in Nghe An Province ;

The Bidder should base his proposal on the approved basic design.

The works will be awarded under an Engineering, Procurement and Construction contract (EPC) including an operation & maintenance phase.

During the construction / rehabilitation period, the Bidder shall provide temporary treatment of wastewater from the WWTP of Quynh Luu Hospital.

Part of this package is also the supply of maintenance and monitoring equipment for the O&M of the sewer systems and the WWTPs.

Transfer of operation from the Contractor to the Employer will take place after the contractual operation phase. The operation phase shall be 1 (one) year, starting with the day of final acceptance of testing and commissioning of the treatment plant.

b) Completion duration

08 months for Engineering, Procurement and Construction (EPC), followed by 12 months for WWTP operation and maintenance.

Section VI. Implementation Schedule

1. Project Duration

Contract duration: 08 months for Engineering, Procurement and Construction (EPC), followed by 12 months for WWTP operation and maintenancen.

2. Schedule of Package and Milestones Requirement

The Bidders shall provide detailed schedules for this EPC package with work items and their significant milestones as the basis for determining the schedule of acceptance, forward and synchronization with other project activities as well as -related to penalties in the Contract.

Significant milestones are listed in the table below:

No.	Work item	Start	Finish
1	Detailed Design for new WWTPs / design documents (description of rehabilitation measures, technical details and drawings) for existing WWTP	From the effectiveness date of the contract	02 months from the start ¹
2	Procurement and construction of 3 Hospital Wastewater Treatment Plants	From the effectiveness date of the contract	08 months from the start
3	Operation & Maintenance (O&M) for the 3 WWTPs	Right after WWTPs are tested, commissioned and approved by Employer	12 months from the operation start (testing)

Table 1: Schedule and milestones for project implementation

¹ The 1st milestone of detailed design not include the design approval time from the local authorities.

Section VII. Technical Specifications

A. General Provisions

1 Scope of Work

Please refer to Section V, clause 2.

2 Employer's scope of work

The Employer will support the Contractor to obtain all necessary approvals / permits from relevant stakeholders.

3 The Site

The exact scope, size and locations of the Works are described in the following sections. Section VIII - Drawings has the general layouts of the individual project sites.

The Bidder shall consider that construction works at site are to be implemented while the hospital is operating and the construction works shall not interrupt the daily hospital activities. The Bidder shall show in his proposal how he intends to manage the construction works during the ongoing hospital operation.

3.1 Site visit

The Bidder is advised to visit and examine the Site and its surroundings, and must obtain for himself on his own responsibility all information which may be necessary for preparing the Tender and entering into a Contract.

The Employer accepts no responsibility for providing any indication of relevant aspects, or access to appropriate areas, which a competent Bidder may consider necessary for the preparation of a Tender.

The Bidder shall be deemed to have visited the Site to comprehensively examine and make enquiries as to the physical conditions on and adjacent to the Site, public roads and car parks, soil and sub soil conditions, access and restrictions to access. Arrangements for making such site visits shall be made by contacting the Employer and providing names and designation of the persons who will visit and identification of any equipment the Bidder wish to bring. Specific written permission will be required from the Employer to bring to and use any equipment on the site.

3.2 Access to Site

Access to Site is under the responsibility of the Contractor. The Contractor shall observe all rules and regulations regarding the use of public access roads or providing his own access roads. The cost of constructing his own access roads, maintaining all necessary safety measures and temporary structures and making any necessary repairs, replacements or similar operations and all or any other costs required by reason of his use of such roads shall be borne by the Contractor and the Contractor shall save harmless and indemnify the Employer and the Employer's Representative in respect of all claims, demands, proceedings, damages, costs, charges, and expenses whatever arising out of or in relation to, any such operation or interference.

3.3 Precautions and Making Good of Damages for Existing Structures

All injury to the surface of the land, roads, telephone lines, electric cables or wires, sewers, water or other pipes or to the underground, etc., where disturbed by the Works shall be repaired and reinstated by the

Contractor at the Contractor's expense. All such making good shall be subject to the approval of the Employer.

4 Environmental, Health & Safety (EHS) Provisions

4.1 Health & Safety Provisions

The international or local safety rules shall be used as general reference during the Works.

The Contractor shall have on his staff at the Site an Officer dealing only with the tasks regarding safety and protection against accidents of all staff and labour as well as the staff, equipment, offices and other facilities of the Employer's Representative and the Employer on the Site. This Officer shall be qualified for this work and shall have the authority to issue instructions and shall take protective measures to prevent accidents. The Safety Officer shall deploy a team specifically set up by the Contractor for these purposes.

During demolition and removal work, no damage or destruction shall be caused to the neighbouring structures. All necessary safety precautions shall be taken before demolition and removal works.

At locations where construction machines operate such as cranes, etc., necessary and proper warning signs and lights shall be provided and maintained for the duration of construction.

Either the Safety Officer or Construction Manager of the Contractor shall carry the Responsibility of Technical Execution under current laws and regulations as required by the Local Authorities. If this responsibility has been provisionally undertaken by others in advance, then the Contractor shall take over this (these) responsibility(ies), as soon as the Contract is awarded to himself.

Due precautions shall be taken by the Contractor, and at his own cost, to ensure the safety of his staff and labour in addition to the staff, equipment, offices and other site facilities of the Employer's Representative and the Employer, and in collaboration with and to the requirements of the local health authorities, to ensure, that medical staff, first aid equipment and stores, sick bay, are available at the camps, housing, and on the Site at all times throughout the period of the Contract and that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements.

Security of the Works; all his staff and labour and the staff equipment and offices of the Employer's Representative and the Employer shall be provided and maintained by the Contractor, and a security team consisting of necessary security guards shall be in close contact with the Security Forces of the City and act in strict accordance with the rules and instructions thereof.

The Contractor and his Sub-Contractors shall convey, store and make use of all, dangerous petroleum, acetylene, carbide of calcium and other similar materials provided by them for use in or on the Works in strict accordance with the provisions of all laws, orders and regulations that are in force at the site or may be issued from time to time by the Government.

4.2 Environmental Management

All issues relating to Environmental Management is to comply fully with Vietnamese Law.

Within 14 days of receipt of the Letter of Acceptance, the Contractor shall submit his Environmental Management Plan (EMP) in which the requirements in the contract's EMP shall be incorporated.

The Contractor's EMP shall also contain the Environmental Monitoring Program based on the requirements in the contract's EMP.

The EMP shall be approved by the Employer's Representative and the Local Departments of Natural Resources and Environment (DONRE) before commencement of construction.

The Contractor shall keep all working areas in a clean and hygienic condition, and shall provide and maintain sanitary conveniences for use of the persons employed in the Works to the extent, in the manner and at such places as approved by the Employer's Representative and by any Government health authority concerned. All persons connected with the Works shall be enjoined to use these conveniences. Sewage shall be disposed of in a hygienic manner.

The Contractor shall make arrangement for the transportation, storage and handling of fuels in a safe manner to protect the public in accordance with the laws and security regulations of Vietnam.

The Contractor shall take every precaution to prevent fire occurring on or about the site and working areas. The Contractor shall comply with the laws and regulations of the appropriate Government authority relating to fires and shall provide firefighting equipment, which the Employer's Representative considers to be suitable and adequate, ready to use in the Works under construction, including his labour camps and ancillary buildings. The Contractor shall maintain such equipment and such additional firefighting equipment as may be required, in good working condition until the Works are accepted by the Employer.

The Contractor shall extinguish promptly any fire which may occur on the site wherever the fire may originate. In this regard, he shall employ all requisite equipment and manpower for firefighting up to the limits of his equipment and manpower employed at the site including the equipment and manpower of his subcontractors.

All appliance and facilities which are possibly subject to lightning strikes shall be electrically grounded and the effectiveness of such grounding shall be periodically checked by the Contractor.

The Contractor shall provide a person qualified in first aid at all working hours on the site and working areas.

The Contractor shall be responsible for the security of the Works and shall provide and maintain continuously an adequate security force to fulfil these obligations. The duties of the Contractor's security force shall include, but not be limited to, maintenance of order on the sites, provision of all lighting, fencing, guards and all other measures necessary for the protection of the Works, all material delivered to the site, the public, and all persons employed in connection with the Works, continuously throughout working and non-working periods, including nights, weekends and holidays, for the duration of the Contract.

5 Contractor's Administrative Arrangements

The Contractor shall set up an efficient and well-qualified project team for proper execution and timely completion of the Works. The team shall be as approved by the Employer during Contract Negotiations. All advanced project management techniques shall be utilised for the completion of the Works within the strictly limited period. Necessary components of the Project Team shall be located at the Site. Any personnel proposed to replace the personnel named in the Contractor's bid shall have qualifications and experiences equivalent or higher than the one proposed in the bid.

The Bidder shall propose as part of his Technical Proposal a suitable concept for Site Administration which will be approved by the Employer during Contract Negotiation. Such approvals shall not relieve the Contractor of his contractual obligations for proper administration of the Works to the satisfaction of the Employer's Representative.

The Contractor's financial management system shall have to work very efficiently for timely completion of the Contract within the strictly limited period as stipulated in the Contract Documents. The Contractor shall set up his financial management and site accounting team by employing a necessary number of well qualified and well experienced cost engineers, quantity surveyors, technicians etc. The Contractor's invoicing systems shall be prepared by computer and in such content and form as may be prescribed by

the Employer's Representative. The Contractor's Financial Management Team shall be in close contact with the Project Control Team of the Employer's Representative. It is the obligation of the Contractor to facilitate the Project Control services of the Employer's Representative and to assist him thereof.

6 Documents and Drawings

All project documents shall be provided by the Contractor in English and Vietnamese language, whereas the English version shall be prevailing in case of any discrepancies.

The Contractor shall prepare the technical documents and drawings for the project in order to receive the necessary permits in accordance with the Vietnamese regulations.

The Contractor shall provide the technical drawings during the different design stages according to the following specifications:

Overview/Landscape Drawings:	1:1000 / 1:500 / 1:200
Preliminary Designs:	1:200 / 1:100
Structural Planning:	1:200 / 1:100
Detailed Designs:	1:100 / 1:50
As-Built-Drawings:	1:100 / 1:50
Shop Drawings:	1:50 / 1:20
Blue Prints (individual components):	1:10 / 1:5 / 1:1

Throughout all design documents the Contractor shall use unified and unambiguous labelling and coding system for all structures, equipment, pipelines, etc.

The Bidder shall be deemed to take into consideration the time and cost effect of this the situation during the preparation of his Bid and shall review all designs and other documents with due care and diligence. Furthermore, the Contractor shall during the first month of the construction period review all designs and any other document with due care and diligence and shall inform the Employer's Representative promptly about his findings with regard to any missing and/or inconsistent documents which might affect timely completion of the Works on Site, within 30 days after receiving the Notice to Commence, in order to remedy the adverse effect of the omissions or inconsistencies (if any).

Any application received later than the above specified deadline shall not grant an entitlement to an extension of time to the Contract Period.

6.1 Bidding stage / Preliminary design

The Bidder shall prepare and submit to the Employer the following documents and drawings as part of the Technical Proposal:

- Process description
- Preliminary design and sizing calculations
- Equipment list
- Technical data sheets for the main M&E components
- Draft layout drawings
- Preliminary hydraulic calculation & hydraulic profile
- Process flow diagram (PFD)
- Piping and instrumentation diagrams (P&IDs)

- Electromechanical details
- Draft civil guideline drawings of treatment facilities

The drawings provided as part of the Tender Documents are to be used for bidding purposes only. The drawings show the Works to be carried out in accordance with the Contract as definitely and in as much detail as is possible at the time of tendering. The Contractor may use the Tender Drawings for placing preliminary orders for materials or for preparing drawings of temporary works. However, the tender drawings shall not be used as a basis for fabrication of equipment or for construction of the Works.

6.2 Detailed Design

A program for the preparation of the technical documents of the detailed design as well as materials and equipment shop drawings shall be submitted to the Employer's Representative together with the first Work Schedule before placing orders. The dates of the technical documents and drawings to be submitted for the review by the Employer's Representative and the dates the drawings are to be returned in order to ensure that a particular work segment does not start later than the programmed work start date, shall also be indicated for each item. Sufficient time shall be allowed for the first review, revision, re-submittal and final examination of each shop drawing.

The detailed design shall include the following documents as a minimum:

- Process description
- Process design and sizing calculations
- Equipment list for electromechanical equipment incl. measurement & instrumentation
- Technical submittals of M&E components
- Layout drawings
- Piping routing within the plant limits
- Hydraulic calculation & hydraulic profile
- Process flow diagram (PFD)
- Piping and instrumentation diagrams (P&IDs)
- Mechanical equipment details
- Electrical calculations and drawings incl. Single-Line-Diagrams (SLD), PLC/wiring diagrams, cable routing, lighting, earthing and lightning protection, etc.
- Civil works calculations and drawings incl. structural details, reinforcement, scaffolding, architectural drawings, wastewater collecting pipe system, internal yard and roads, pavement details, landscaping etc.

6.3 Execution Design

The Contractor shall prepare all technical documents and drawings incl. shop and/or working drawings necessary for execution of the Works. The execution design and shop and/or working drawings shall be executed in such detail that not only can the Works can be executed on Site, but also later maintenance and fault-finding.

Approval by the Employer's Representative of shop and/or working drawings shall neither relieve the Contractor of any of his obligations under the Contract, nor relieve him of correcting any errors found subsequently in the approved drawings and in the Works on the Site or elsewhere associated therewith.

The drawings shall be prepared according to the materials approved by the Employer's Representative, based on the documents, samples and models as submitted by the Contractor and as approved by the Employer's Representative.

The Contractor shall start to prepare the execution design and shop and/or working drawings, related with the production details of the Works within the terms of the Contract with reasonable promptness and in orderly sequence so as to cause no delay in the work. No portion of work requiring a shop drawing or sample submission shall be commenced until the submission has been approved by the Employer's Representative.

Shop drawings not stamped "approved" or "approved as noted" by the Employer's Representative will not be permitted on the Project site.

6.4 As-Built Drawings and Manuals

"As-built Drawings" shall be prepared by the Contractor including Operation and Maintenance Manuals of the Plant incorporated in the Permanent Works, under the related clauses of the Conditions of Contract.

During the execution of the Works on the Site, the Contractor shall record all information necessary for preparing as-built drawings. Neatly marked-up drawings and other documents covering the Permanent Works as completed shall be made available to the Employer's Representative at any time during construction.

Marked-up drawings shall be kept up to date and submitted monthly to the Employer's Representative for approval, as the Works are completed, together with final quantities thereof. Submission shall be in hard copies.

The Contractor shall submit complete sets of instructions and manuals to Employer's Representative for approval describing the installed Plant in order to facilitate operation and maintenance, together with the "As-built Drawings".

The manuals shall include but not be limited to:

- Layout drawings
- Schematic and wiring diagrams
- Detailed descriptions
- Specific operation instructions
- Specific maintenance instructions
- Detailed record of all types of tests
- Component list specified for all installed Plant
- Manufacturers' electromechanical equipment manuals.

All information in these manuals shall apply specifically to the Plant and equipment being supplied, and they shall be free from irrelevant matters such as might be contained in the manufacturer's general literature.

The as-built documentation shall include all architectural and engineering disciplines including structural, civil, electrical and mechanical drawings, and operation and maintenance manuals. The final version of the as-built drawings in six hard copies and one transparent copy of each and the final version of manuals in five copies in English shall be provided within one month after issuing the Taking-Over Certificate.

They shall incorporate the Employer's Representatives' comments and all the modifications/revisions effected during construction.

The submission shall also include USB flash drive(s) in Auto CAD and Microsoft Word. Each copy shall be durably bound in a volume or volumes depending on bulk, and the transparent copies shall have a suitable protective cover/box.

All material except drawings shall be A3/A4 size. Drawings shall be on international A size sheets, and drawings shall be marked as "AS-BUILT".

To enable the Contractor to prepare the As-Built drawings for the works executed by the previous Contractor, the Employer's Representative shall provide the Contractor with marked-up drawings.

No payment shall be made for as-built drawings and operation and maintenance manuals since they are deemed to be included in the overheads of the Contractor.

7 Special Technical Specifications for Mobilization and Demobilization

7.1 Mobilization

The Contractor is allowed and responsible to install and use for completion of works so much temporary works as he may think proper, such as offices, dormitories, barracks, dining rooms, fences, septic tanks, etc. The Contractor shall be deemed to have inspected and examined the site and its surrounding and information available in connection available therewith.

The Contractor shall submit to the Employer's Representative, a construction site final layout plan showing the site office, quality control laboratory, closed and open storage facilities and areas. Following the approval of the plan, the site office construction (if any) shall start.

The Contractor shall be responsible for the safety, maintenance, cleaning, and cooling/heating of the site existing and new offices. The Contractor shall keep his site office and other facilities operational until the end of the Contract and shall not remove or relocate it to any other place unless otherwise approved by the Employer's Representative.

Storage of construction equipment and materials in the site office shall not be allowed. These shall be stored at locations indicated on the construction site layout plan.

Facilities such as fire extinguishers, generators (if deemed necessary), WC's, illumination, water supply, etc. in the site office to be constructed within the construction site, shall be provided and operated by the Contractor.

In addition to those items stated above, the Contractor shall provide adequate telephone lines open to long distance communication, fax machine, computer(s), printer(s), photocopier and wide-band internet connection for Employer's and Employer's Representative's site office with necessary stationery and consumables during the execution of the work.

At the Contractor's site office, adequate office machines and a secretary shall be provided for attaining proper management and technical services.

7.2 Demobilization

Demobilization covers dismantling of all the facilities that were built by the awarded Contractor, after completing construction works unless stated otherwise. The facilities for the Employer and the Employer's Representative shall not be removed without the permission of the Employer. It is the Contractors' responsibility to demobilize his facilities such as constructional plant, quality control laboratories (if any), workshops and all other related equipment and properties and cleaning of the construction site and other works stated in the Specification documents.

Following expiration of the Defects Liability Period and the completion of all outstanding works, the Contractor shall, subject to the Employer's Representative's consent, remove any remaining temporary buildings and other facilities and reinstate the area to leave it clean and tidy. These final demobilization activities shall be completed prior to the Employer's Representative's approval of the Contractor's Final Statement.

However, upon the request of the Employer, the contractor may leave the facilities for the use of the Employer. In this case, the demobilization cost payment (if any) will be cancelled and the price for the subject facilities will be negotiated by the Employer and the Contractor.

8 Preparatory Works

8.1 Care of Water

The Contractor shall be responsible for the removal of all water encountered during the execution of the whole of the Works.

The Contractor shall design, construct and maintain all temporary diversion and protective works which are necessary for construction and to prevent surface water, groundwater and river water from entering excavations and filling work. The Contractor shall furnish all materials, machines and labour as required below.

The Contractor shall be responsible for and shall repair and re-construct, at his expense, any damage of the works caused by water, floods or by his failure to protect the works in accordance with the Specifications of this Clause.

Where it is required that construction shall proceed with flow of water in rivers, canals, sewers etc., the Contractor shall be responsible for isolating the works to be constructed from the flow of water. Suitable drains or other temporary diversion and protection works shall be constructed without interruption or interference with the flow of water in the rivers, canals, etc. and without impeding normal local boat traffic. The Contractor shall construct sufficient temporary works as described above to deal adequately with surface and ground water sources to enable the construction of the Works to the satisfaction of the Consultant.

8.2 Clearing and Grubbing

The Contractor shall carry out leveling and grubbing of the areas directed by the Consultant in accordance with this Clause.

The extent of the area for clearing and grubbing shall be agreed by the Consultant prior to commencement by the Contractor.

8.3 Care of Site Supplies (water, power, telephone, internet, etc.).

The Contractor shall ensure that there is an adequate supply of water to the sites where water is required during the construction.

The Contractor shall be responsible for providing at the sites, all electric power required for his construction activities, his office, his labour camps, the Employer's Representative's site office (if any) and any other areas where electric power is required.

The Contractor shall supply, install and maintain telephone (fixed line and mobile), facsimile and internet facilities for the use of the Employer's Representative and the Contractor and for communications between various parts of the site.

For communication with parts of the site where mobile phone reception is unavailable, the Contractor shall provide hand/held radios for the use of the supervisory staff of both the Contractor and the Employer's Representative

The Contractor shall be responsible for payment of all costs in relation to providing telecommunication systems including the cost of all hardware, connection fees, line rental telephone usage (fixed line), SIM and internet service provider charges.

8.4 Temporary site facilities

For the purposes of this Clause, temporary facilities shall mean those parts of the temporary works required for the purposes of the establishment, gaining and maintaining access to the site and continuing obligations for managing the site as described hereunder. Other temporary works which are associated with the executions of the Works such as shoring, formwork, etc. are addressed elsewhere.

The Contractor shall, as far as practicable, lay out the temporary works within the sites.

All temporary facilities shall be provided, installed, operated, maintained and subsequently removed by the Contractor, except as otherwise provided in the Contract.

The Contractor's proposal for the erection of all temporary facilities shall be in accordance with the proposals submitted with his Tender or with such modifications as approved by the Employer's Representative from time to time.

Unless otherwise directed or approved by the Employer's Representative, all temporary works constructed by the Contractor shall be removed and the area made safe, vegetation and natural drainage reinstated all to the satisfaction of the Employer's Representative prior to the end of the Defects Notification Period.

Before acceptance of the Works by the Employer the Contractor shall restore the land and roads occupied by the temporary facilities to a condition to the satisfaction of the Employer's Representative.

The Bidder shall include in his proposal the provision of a furnished site office for the site supervision consultant deployed by the Employer.

8.5 Demolition and Protection Works

In case demolition works are required in accordance with Section VII, Clause 3 of the Technical Specifications, respective works have to be approved by the Consultant in writing.

The Contractor shall take every care and precaution to protect from damage any objects and structures, including houses, buildings, fences or trees, which are situated within the vicinity of the site.

Any property situated in close proximity to the works shall be protected against any damage which could be caused by vehicles, subsidence, vibration, etc. Any damage caused shall be repaired by the Contractor to conform to the condition of the property prior to damage and to the satisfaction of the Consultant.

8.6 Site investigations and necessary surveys

The Contractor shall perform all required site investigations prior to the construction works including but not limited to topographical survey, geotechnical survey, hydraulic modelling, etc.

9 Construction Machinery

The construction machines of the Contractor shall be at least as proposed in the Technical Proposal of the Contractor and as approved by the Employer during Contract Negotiation and by the Employer's Representative during the Construction. Such approvals shall not relieve the Contractor of his contractual

obligations for proper execution and timely completion of Works to the satisfaction of the Employer's Representative.

It is the obligation of the Contractor to supply additional machines to the Site at his own expense to achieve full completion in time.

In respect of any machine in general, which the Contractor shall be required to have available at Site for execution of the Works he shall make his own arrangements for foreign exchange, import formalities, customs, transport to the Site of Works and all other formalities whatsoever at his own cost and responsibility, in accordance with requirements of the present Bid.

The Bidder shall provide further details of proposed items of equipment using the relevant form sheet (Section IV, Bidding Forms, form No. 17).

10 Work Schedules

The Bidder shall provide a Work Schedule as part of his Technical Proposal in accordance with below mentioned requirements.

The Contractor shall prepare and submit a Work Schedule under the following principles including Critical Path showing all the works to be carried out within the context of the project, within the 14 days following the date of the Notice to Commence, and shall obtain the consent of the Employer's Representative. The Contractor, during the course of the construction shall implement the approved work schedule, again according to the principles stated below, shall follow the implementation of the Works and shall update the said schedule at each month interval from the Date of Commencement and resubmit it for the consent of the Employer's Representative. This will not alter the duties and responsibilities of the Contractor and no time extension and/or interest payments will be given to the Contractor for the late payment of his monthly certificates due to his own fault.

The Work Schedule to be arranged in the Gantt chart format shall be prepared by using the software, "Microsoft Project" in its latest version widely used with computers (PC's).

The Work Schedule to be prepared by the Contractor to the detail requested by the Employer's Representative shall consist of the following diagrams and reports:

- a. GANTT diagram incl. critical path of the project
- b. Activity reports (according to earliest and latest work starting dates and so as to indicate the activities themselves)
- c. Materials report
- d. Machinery/equipment report
- e. Labour/personnel report
- f. Payment Schedule

The program shall directly provide the basis for the interim progress payments and cash flow indicators. However, progress payments shall be prepared in spreadsheet format, to conform to the Employer's requirements.

The Works within the terms of the Contract shall be shown individually in the work program according to the names and production numbers used in the project and the work program shall further include the mobilization, the establishment of the site facilities, the surveys, setting-out of the Works and the production/approval of the manufactured items, material samples and approvals, as separate activities.

Following the Employer's Representative's consent to the work schedule, which will be prepared by the Contractor according to the conditions mentioned above, the work schedule shall be diligently monitored

by the Contractor and the progress of the activities shall be entered into the work program and into the work monitoring reports shall be taken from the computer on a monthly basis and shall be submitted to the Employer's Representative together with the monthly work progress reports.

The said monthly work progress/monitoring reports will show the delays on an activity basis, on the critical path and the measures taken by the Contractor in relation to such delays, the material delivered to the site during that month and the machinery/equipment and labour used by the Contractor.

If the first and the following revisions of the program are not acceptable to the Employer's Representative, then the program shall be continuously revised and shall be resubmitted until it is accepted by the Employer's Representative. The acceptance of the program shall not be delayed in any unreasonable manner.

The fact that the revised work schedule is consented to by the Employer's Representative does not relieve the Contractor from his responsibilities under the terms of the Contract. The fact that the work periods are extended or the works are not completed within the times set forth in the Contract due to shortcomings of the Contractor and the fact that such delays are reflected in the program in a realistic manner and the work schedule thus revised and consented to by the Employer's Representative, does not grant an extension of time to the Contractor in any way. The Contractor is obliged to prepare the work schedules in a realistic manner and he shall also be responsible for taking all measures to ensure the realisation of the works according to the schedule.

11 Work Progress Reports

The Employer's Representative shall receive a monthly work progress report from the Contractor within the first seven (7) days of the month following the month during which the works are carried out.

The Contractor shall clearly indicate but shall not be limited to include in the Monthly Work Progress Report the procured materials, used machinery/ equipment and labour, problems faced at the site, divergences from the approved work schedule and other facts as deemed necessary. If there are any divergences in the Work Schedule, the causes shall be clearly indicated and whether or not such divergences cause any delays shall be stated. If there are delays according to the approved Work Schedule, then the causes of these delays shall be indicated and documented. Furthermore, if there are any delays, the Contractor shall provide information in his report on the measures he intends to take in order to compensate for the said delays.

Each work progress report shall include a list which shows the numbers and actual starting and completion dates and activity numbers of the completed activities, a list showing the work still in progress with their starting dates and the number of days required for their completion and a list of the activities which should have started within that month according to their work start dates but which have not started. Furthermore, a materials approval table showing the materials submitted for approval during that month and those which have been approved shall also be attached to the report.

The Contractor shall not be able to submit his progress payment statement for the month in question to the Employer's Representative, unless the Monthly Work Progress report has already been submitted.

The necessary critical path method (CPM) outputs where the actual status of the activities is superimposed on their planned status shall be appended to the Monthly Work Progress Report in order to show the current status of the project.

12 Construction and Progress Photographs

The Contractor shall be responsible for the supply of the necessary construction photographs.

The photographs of the whole site and various sections shall be taken before the commencement of Works and immediately submitted to the Employer's Representative. During the progress of the work, the Contractor shall ensure that the necessary number of pictures (minimum 20 pictures) are taken which should give a sufficient record of the activities undertaken on the site and shall submit them together with the Monthly Work Progress Reports. In addition, a necessary number of pictures shall be submitted to give a sufficient record of progress of the interior works. Once all construction work is completed, the same sites shall be photographed again and shall be submitted together with the Contractors' Completion Certificate.

The pictures shall be taken, in such a manner in order to show clearly the chronological work progress on the Site and shall be of good quality and in colour. The originals of all the pictures shall be properly filed together with an explanation about the view shown in the picture including location/orientation and the date the picture was taken

The Contractor shall submit two albums including all the monthly photographs taken together with their originals and information on where the pictures were taken etc. to the Employer's Representative together with his Statement at Completion.

The copyright of the photographs shall remain with the Employer.

13 Standards of Material, Workmanship and Works

Materials, workmanship and all works inside and outside shall conform to the International Standards as determined by the Employer's Representative. The latest revision or edition of the Standards in respect of the tender date shall be used.

The Employer's Representative may approve the substitution of other equivalent National Standard Specifications provided that a statement of the exact nature of the deviation or substitution and complete specifications for the materials to be used, shall be submitted to Employer's Representative to obtain his written approval before ordering or using the material in the Permanent Works.

Where available, the materials shall be selected from among those having firstly ISO Certificates; secondly certificates issued by approved equivalent international organizations or test reports issued by approved international or national laboratories.

14 Equipment Supplier

International suppliers should provide certificates about capacity and quality of WWTP equipment or references about the successful application of this equipment under similar conditions as in Vietnam.

Local producers of wastewater treatment equipment who want to supply material have to provide references of successful application of their equipment with the demanded capacity in Vietnam or abroad.

Suppliers providing equipment manufactured out of Vietnam, must be from EU/G7 countries have to commit to providing authentic spare parts, guarantee and technical support services within 48 hours since receiving the Employer's request.

The equipment supplier shall give minimum warranty for the equipment supplied as per international standards. The Bidder shall ensure to provide equipment only from suppliers who have a local presence in Vietnam to implement the warranty services or who can guarantee availability of necessary spare parts on short-notice.

15 Legal Permissions, Permits

This part of the Specification covers the acquisition of legal permissions to be obtained before and after the construction and relevant fees to be paid to the Municipal and Governmental Authorities on behalf of the Employer.

The Contractor shall be responsible for obtaining the necessary permits, visas, etc., as per the Vietnamese laws and regulations and for paying the relevant fees, if any, on behalf of the Employer.

Actual cost (if any) will be reimbursed to the Contractor upon submission of invoices, vouchers etc. with his monthly statements.

16 Other Requirements

16.1 Additional Supervision Cost during DNP

The Contractor will continuously have available a team consisting of minimum one civil, one electrical and one mechanical technician subject to the approval of the Employer's Representative, at his own cost, during the defects notification period. This team will be responsible on a daily basis for investigating and finding solutions to any complaints which may be raised by the Beneficiaries.

16.2 Sufficiency of Equipment

The Contractor shall include provisions of any precautions necessary to continue uninterrupted working throughout the rainy and extremely hot period.

B. Wastewater Component

17 Particular Specifications for Wastewater Treatment

17.1 Works Requirements

The Works shall include design / engineering, procurement, construction, supply and installation of equipment, testing and commissioning as well as operation of wastewater treatment plants (WWTPs) incl. the following WWTP components and treatment steps:

1. Collection tank pump, sluice gate, coarse screening
2. Equalization tank pumping
3. Biological treatment facilities: Submersible mixer, air blower, submersible pump
4. Slurry pump, lamella plate
5. Pressure filter pump
6. Pressure filtration system
7. Submersible mixer, chemical dosing pump
8. Instrumentation
9. Control cabinet system using SCADA software to connect to computer for remote control and monitoring
10. Odour & noise control
11. Garbage separation module

The demolition of the existing wastewater facilities and site clearance works will be done by the Employer.

17.2 Process Design Requirements

17.2.1 Wastewater Treatment Technology

The Bidder shall propose the design for a WWTP with treatment technology that is considered “Best Practice” and is deemed suitable to treat the wastewater to the standards.

“Best Practice” is hereby defined as a technology that has been shown by experience (in Vietnam or abroad) to produce optimal results in hospital wastewater treatment and that is established or proposed as a standard suitable for widespread adoption and must conform to the officially approved basic design.

However, as part of the technical proposal the Bidder has to provide a detailed process description, a complete process dimensioning of all WWTP components in a checkable form, a complete hydraulic calculation, and technical specifications of the proposed material and equipment.

The Contractor has to accept full liability for the functionality, performance, potential environmental impacts, operation costs and OHS issues of his selected treatment technology. Related information and proof has to be provided in the technical and financial offers, and will be tracked during the testing, commissioning and operation phase of 1 year.

Membrane technology (such as MBR) is not qualified for tendering as the beneficiaries do not have necessary skills to operate such technology.

17.2.2 Design process

Description of technology design process of hospital wastewater treatment plant and wastewater collection system:

1. Survey and input data collection:

Waste source data: flow, wastewater characteristics

Applicable standards: QCVN 28:2010/BTNMT (medical wastewater,...)

Design conditions: land area, electricity supply, water supply,..

2. Identify treatment objectives;
3. Selection and recommendation of treatment technology;
4. Calculation and selection of the scope of works
5. Selection of equipment
6. Design of technology and electricity
7. Design of architecture and structure
8. Cost estimate

17.2.3 Design life

It is important that the Bidder's design considers the required "Design life time" which is defined under this clause and the design horizon defined in Clause 17.3:

- Civil works: 50 years minimum
- Mechanical equipment: 15 years minimum
- Electrical equipment: 12 years minimum
- SCADA equipment: 12 years minimum

If for parts of the equipment a shorter life cycle time as indicated is identified, this shall be clearly indicated, and the required reinvestment costs must be included as reinvest or as maintenance costs. Examples are:

- Microbiological Carrier
- DO, pH electrode
- Other consumables,...

17.2.4 Plant Components

The Bidder shall give a clear explanation on the selected plant components and plant equipment in order to determine the suitability and advantages of this choice.

Special Employer's requirements and limitations are defined for the plant components as follows:

17.2.4.1 Inlet structure

The Bidder is requested to design and build an inlet structure for the incoming wastewater flow which shall be distributed to the pump sumps of the inlet pumping station.

The pump sumps must be designed and constructed in such a manner that settleable solids are directly led to the pumps and cannot settle in inaccessible parts of this structure. An access to the level of the inflowing wastewater is required and service water must be provided.

17.2.4.2 Coarse screens

The Bidders shall provide manually cleaned coarse screens in front of the pumps of the inlet pumping station with at least 20mm bar spacing. Submerged parts of the screens shall be of SS 304 or better quality to suit hospital wastewater characteristics.

17.2.4.3 Fine Screens

Fine screening shall be installed upstream of the inlet pumps at the equalization tank. Fine screens shall have 6 mm bar spacing or smaller. Submerged parts of the screens shall be of SS 304 or better quality to suit hospital wastewater characteristics.

Climbing screens of the heavy duty type are proposed and other screen types which are selected by the Bidders as their choice will be compared in terms of function, robustness, and material qualities with climbing type screens. Hand raked fine screens are accepted. Washing and compacting of screenings is obligatory and respective washer and compacter unit shall be provided.

17.2.4.4 Inlet Pumping Station

Inlet pumping (lifting) stations must be equipped with all devices to replace broken pumps from above (installation of pump elevators).

17.2.4.5 Fat, oil, grease removal

Fat, oil, grease removal is mandatory (grease traps before discharging into the collection system).

17.2.4.6 Emergency Bypass

An emergency bypass of the inflow shall be available. This bypass shall pass through the temporary water storage pond and will be recirculated for treatment before discharged into the environment.

17.2.4.7 Pressure filter

- Material: SUS 304, thick 4mm
- Pressure filter must have an automatic filter backwash valve. Manufactured to meet standards ISO 9001:2015; ISO 14001:2015; ISO 45001:2018.

17.2.4.8 Disinfection

For disinfection, chlorination using hypochlorite shall be the preferred option in accordance with international standards.

The chlorination system shall either use calcium hypochlorite ($\text{Ca}(\text{OCl})_2$) or sodium hypochlorite (NaOCl). The use of chlorine gas is not permitted due to high requirements on operators skills and potential risks to the health of operators and environment.

The Bidder shall provide a complete system for the disinfection unit incl. the preparation of the solution at the required percentage of available chlorine, storage and mixing tanks, feeding equipment, dosing pumps, instrumentation, etc.

Dosing of the ready solution shall be at a suitable dosing point where sufficient blending of the hypochlorite with the secondary effluent is guaranteed, i.e. a static mixer or a point with otherwise sufficient turbulences.

In the case of using hypochlorite the Bidder has to foresee adequate storage of the chemicals as the sodium hypochlorite solution as well as the calcium hydrochlorite are sensitive to light and heat and are both corrosive.

17.2.4.9 Electrical, instrumentation, automation and control system

The Bidder shall include in his proposal all required electrical works and equipment for powering of the WWTP (and if necessary the pumping station) including but not limited to transformers, cabling, switchgears, electrical panels for mechanical equipment, distribution boards.

The Bidder shall include in his proposal all required works and equipment for the WWTP to operate in fully automated way ensuring control and effectiveness of the treatment process based on actual wastewater quality and quantity measured.

This shall include but not limited to the instrumentation and sensors for online and offline measurements of wastewater parameter, MCCs, PLCs, SCADA system hardware architecture and related software.

SCADA software connecting to computer for remote control and monitoring.

Flow measurement

A mechanical flow measurement, flanged connection, maximum working temperature of 50 degree C.

17.2.4.10 Requirement for the Specific Equipment:

The Contractor is obliged to carry out the supply and installation of specific equipment for the Wastewater Treatment Plants. The proposed scope of work is described in the Feasibility Study of the Project: Investment in construction of waste and wastewater treatment systems for hospitals in Nghe An Province using ODA loan from the German Government.

The general requirements for the quantity of specific equipment for the WWTP are based on the results of the above Feasibility Study and are summarized below, so that the Contractor can understand the complexity of the work. However, the Contractor is responsible for preparing the construction design that is suitable to the actual site conditions, complying with current regulations, standards and norms to ensure the hospital wastewater is treated to meet the value C - column A of QCVN 28:2010/BTNMT. The Contractor is responsible for supplying and installing complete equipment according to the approved construction design drawings, the entire construction volume is included in the proposed bid price.

No.	Item	Unit	Location of installation			Total
			Tân Kỳ	Đô Lương	Quỳnh Lưu	
I	Waste treatment tank system					
1	Collection tank					
-	Sluiceway	set	1	1	1	3
-	Trash screen	set	1	1	1	3
-	Submersible pump for collection tank	Set	2	2	2	6
-	Water level meter (Float level sensor)	Set	1	1	1	3
2	Equalization tank					

-	Submersible pump for Equalization tank	set	2	2	2	6
-	Water level meter (Float level sensor)	set	1	1	1	3
-	Submersible agitator	set	2	2	2	6
3	Anaerobic tank					
-	Microbial carrier	m2	4.95	4.95	6.3	
-	Substrate holder	sys	1	1	1	3
4	Anoxic tank					
-	Submersible mixer	set	2	2	2	6
-	Mixer stand	set	2	2	2	6
5	AO-MBBR system					
-	AO-MBBR	set	3	3	4	10
-	MBBR	m3	15	15	20	50
-	Disc diffuser	ea	48	48	64	160
-	Circulation pump	set	6	6	8	20
-	Air blower	ea	2	2	3	7
6	Secondary settling tank					
-	Mud circulation pump	set	2	2	2	6
7	Buffer tank					
-	Pump for water treatment	set	2	2	2	6
-	Water level meter (Float level sensor)	set	1	1	1	3
8	Filter system					
-	Pressure filter system	set	2	2	2	6
9	Disinfection tank					
-	Outlet pump	set	2	2	2	6
-	Water level meter (Float level sensor)	set	1	1	1	3
-	Water flow meter	ea	1	1	1	3
10	Operation house					
-	Chemical tank NaOH, Nutrient, PAC, Chlorine	ea	3	3	3	9
-	Chemical dosing pump NaOH, Nutrient, Chlorine	set	6	6	6	18
-	Chemical mixer for tank NaOH, Nutrient, Chlorine	set	3	3	3	9
-	Chemical mixer shaft for tank NaOH, Nutrient, Chlorine	set	3	3	3	9
-	Rack	sys	1	1	1	3

-	Water level meter (Float level sensor)	set	3	3	3	9
11	Emergency tank					
-	Submersible pump of emergency tank	set	2	2	2	6
-	Water level meter (Float level sensor)	set	1	1	1	3
12	Control cabinet system, electrical cables, technology pipeline					
-	Control cabinet system	sys	1	1	1	3
-	Electrical cables	sys	1	1	1	3
-	Technology pipeline system	sys	1	1	1	3
II	Measurement equipment for system operation monitoring					
1	pH meter	set	1	1	1	3
2	DO meter	set	1	1	1	3
III	Odor control system					
1	Scrubber	hệ	1	1	1	3
2	Exhaust fan	set	1	1	1	3
IV	Garbage separator					
1	Garbage separator Module	set	10	6	6	22

In case the Contractor proposes the above equipment, the following requirements shall be applied:

No.	Name of equipment	Technical requirements	Origin
I	Waste treatment tank system		
1	Collection tank		
-	Sluiceway	Dimension: B x H = (350 x 350) mm. Material: SUS 304. Design-made.	Việt Nam/G7
-	Trash screen	Outer layer: trash screen D6 mm; space 15-20 mm. Dimension: B x L x H = (550 x 350 x 425) mm. Inner layer: Type of basket, mesh: 15-20 mm. Dimension: B x L x H = (500 x 340 x 625) mm. Material: SUS 304.	Việt Nam/G7

No.	Name of equipment	Technical requirements	Origin
		Design-made.	
-	Submersible pump for collection tank	Type: Submersible pump. Qmax = 0,335 m ³ /min. Hmax = 11,5 m. Discharge outlet: 50 mm. Capacity: 0,75 Kw; 380 V/ 3ph/ 50 Hz. Protection level: IP68. Liquid temperature: 0- 40°C. Wing type: With trash cutting wing. Solids handling: (31 x 27) mm. Material: Cast iron body and wings. Stainless steel shaft. Oil Lifter: Ensure continuous engine lubrication and extend pump life. Standard cable: 6 m.	G7
-	Water level meter (float level sensor)	Type: Float. 03 level (02 floats). Material: PP. Protection level: IP68.	G7
2	Equalization tank		
-	Submersible pump for Equalization tank	Type: Submersible pump. Qmax = 0,263 m ³ /min. Hmax = 9 m. Discharge outlet: 50 mm. Capacity: 0,4 Kw; 380 V/ 3 ph/ 50 Hz. Protection level: IP68. Weight (excluding cable): 25 kg. Liquid temperature: 0 – 40 °C. Wing type: Semi-open Solids handling: (35 x 22) mm. Material: Cast iron body and wings. Stainless steel shaft. Oil Lifter: Ensure continuous engine lubrication and extend pump life.	G7

No.	Name of equipment	Technical requirements	Origin
		Standard cable: 6 m.	
-	Water level meter (Float level sensor)	Type: Float. 03 level (02 floats). Material: PP. Protection level: IP68.	G7
-	Submersible mixer	Capacity: 0,75 kW, 380 V/ 3 ph/ 50 Hz. Engine: 4 poles, 1.410 v/p. Flow: 3,6 m ³ /min. Impeller diameter: 190 mm. Material: Cast iron body and wings. Stainless steel shaft. Protection level IP68. Fluid temperature 0-40 degree.	G7
3	Anaerobic tank		
-	Microbial carrier	Type: D150 spherical microbial media Dimension: D = 150 mm. Material: PP plastic. Colour: White On-process temperature: 5 – 50 °C. Contact surface area > 180 m ² /1m ³ . Quantitative: 300 quả /1m ³ .	G7
-	Substrate holder	Material: Inox 304. Khung bằng (V50 x 3) mm. Stainless steel mesh (50 x 50) mm, 1.5 mm fiber. Design-made.	Việt Nam/G7
4	Anoxic tank		
-	Submersible mixer	Capacity: 0,25 kW/ 380 V. Engine: 4 poles, 1.420 v/p. Flow: 2 m ³ /min. Impeller diameter: 155 mm. Material: Cast iron body and wings. Stainless steel shaft. Protection level IP68. Fluid temperature 0 – 40 độ.	G7

No.	Name of equipment	Technical requirements	Origin
-	Mixer stand	Material: Inox 304. Design-made. Including: Lifting chain Inox 304.	Việt Nam/G7
5	AO-MBBR system		
-	AO-MBBR	Material tank: Fiberglass reinforced composite Technology: produced on an automated reciprocating line. Dimension: (D2,5 x L8) m. Effective volume (m3): 50±1. Thickness: ≥ 8 mm. Tensile strength: ~128,1 Mpa. Module of elasticity: ~11.231,7 Mpa. Module of flexural: ~9.080,1 MPa.	Việt Nam/ EU/G7
-	MBBR	Material: Polyolefin. Shape: Cylinder.. Dimension: Column diameter 15 ±2 mm, Length: 15 ±2 mm. Density: 150 ±15 kg/m3. Roughness:60-85% N Load : 2 ~ 3 kg/m3. BOD load: 15 kg/m3. Surface area: 800 m2/m3 – 1.000 m2/m3. Proportion: 0,98 ~ 1 kg/m3. Quantity: 10 m3.	G7
-	Disc diffuser	Disc diameter: 268 mm. Operating diameter: 218 mm. Operating flow: 1,5 - 8 m3/h. Max flow= 10 m3/h. Connection type: Thread3/4" NPT (27 mm). Manufacturing material (Standard): Disc membrane: EPDM F053A. Base plate: Fiberglass reinforced PP plastic.	G7
-	Circulation pump	Qmax = 0,263 m3/min. Hmax = 9 m. Discharge outlet: 50 mm. Capacity: 0,4 Kw; 380 V/ 3 ph/ 50 Hz. Protection level: IP68.	G7

No.	Name of equipment	Technical requirements	Origin
		Weight (excluding cable): 25 kg. Liquid temperature: 0 – 40 °C. Wing type: Semi-open . Solids handling: Solids handling: (35 x 22) mm. Material: Cast iron body and wings. Stainless steel shaft. Oil Lifter: Ensure continuous engine lubrication and extend pump life. Standard cable: 6 m.	
-	Air blower	Blower head Q = 2,43 m ³ / min, H = 3,5 m. Exhaust pipe diameter: DN 65. Accessories included: Silencer, one-way valve, belt cover, pressure gauge, pulley, belt, base frame, flexible joint.. Engine: Capacity: 4,0 Kw/ 3 pha/ 380 V. Vòng tua: 1.670 rpm.	G7
6	Secondary settling tank		
-	Mud circulation pump	Type: Submersible pump. Q _{max} = 0,263 m ³ /min. H _{max} = 9 m. Discharge outlet: 50 mm. Capacity: 0,4 Kw; 380 V/ 3 ph/ 50 Hz. Protection level: IP68. Weight (excluding cable): 25 kg. Liquid temperature: 0 – 40 °C. Wing type: Semi-open . Solids handling: Solids handling: (35 x 22) mm. Material: Cast iron body and wings. Stainless steel shaft. Oil Lifter: Ensure continuous engine lubrication and extend pump life. Standard cable: 6 m.	G7
7	Buffer tank		

No.	Name of equipment	Technical requirements	Origin
-	Pump for water treatment	Type: Horizontal shaft pump Capacity: 2,2 kW/ 380 V. Q = 6 - 24 m ³ /h. H = 28,5 – 14,8 m. Discharge outlet: 32 mm. Intake: 50 mm. Material: Cast iron body and wings. Stainless steel shaft AISI 304. Insulation level: Level F. Protection level: IP 55.	EU/G7.
-	Water level meter (Float level sensor)	Type: Float. 03 level (02 floats). Material: PP. Protection level: IP68.	EU/G7
8	Filter system		
-	Pressure system filter	Material: SUS304 dày 4 mm. Dimension: (D1.000 x 2.900) mm. filter material:: Quartz sand D (0,7 – 1,6 mm); Thickness 1.100 mm. Gravel support layer: D20 – 40 mm. Thickness 200 mm. manufactured meets the standards: ISO 9001:2015; ISO 14001:2015; ISO 45001:2018	Việt Nam/G7
9	Disinfection tank		
-	Outlet pump	Type: Submersible pump. Q _{max} = 0,44 m ³ /min. H _{max} = 12 m. Capacity: 0,75 Kw, 380 V/ 3 ph/ 50 Hz. Protection level: IP68. Dimension DxRxH: (263 x 250 x 439) mm. Weight (excluding cable): 25 kg. Liquid temperature: 0 – 40 °C. Wing type: Semi- open (bán hở). Solids handling: (45 x 20) mm. Material: Cast iron body and wings. Oil Lifter: Ensure continuous engine lubrication and extend pump	G7

No.	Name of equipment	Technical requirements	Origin
		life. Standard cable included: 6 m.	
-	Water level meter (Float level sensor)	Type: Float. 03 level (02 floats). Material: PP. Protection level: IP68.	EU/G7.
-	Water flow meter	Size: DN50. Connection type: Flange. On-process temperature: Max 50 độ C. Working pressure: 16 Bar. Body: Cast iron.	G20/htđ
10	Operation house		
-	Chemical tank NaOH, Nutrient, PAC, Clorine	Volume: 500 L. Material: PE	Việt Nam/G7
-	Chemical dosing pump NaOH, Nutrient, Clorine	Type: Diaphragm pump. Flow: 0 - 23 lít/h. pressure: 12 bar. Capacity: 0,25 kW/ 3 pha/ 380 – 400 V/ 50 Hz. Pump head: PP, Pump diaphragm: PTFE. Engine Protection Level: IP55. Insulation level: Class F.	Việt Nam/G7
-	Chemical mixer for tank NaOH, Nutrient, Clorine	Type: Gear motor. Motor: 0,37 kW (4P - B5). gear ratio: $i = 44,22$. output speed: $n_2 = 31,7$ rpm. Torque: $M_2 = 108$ Nm. Service factor: $sf = 1,49$. Output shaft: Male shaft $D = 25$ mm. Mounting type: Flange $F = 200$ mm, mounting position V5. Voltage: 3 phase 230/400V, Class F - 50 Hz-IP55.	G7
-	Chemical mixer shaft for tank NaOH, Nutrient, Clorine	Material: Inox 304. Design-made.	Việt Nam/G7
-	Rack	engine support bracket. Việt liệu: SS400, dày 3mm.	Việt Nam/G7

No.	Name of equipment	Technical requirements	Origin
		Design-made.	
-	Water level meter (Float level sensor)	Type: Float. 01 level alarm (01 float). Material: PP. Protection level: IP68.	G7
11	Emergency tank		
-	Submersible pump for emergency tank	Type: Submersible pump. Qmax = 0,263 m3/min. Hmax = 9 m. Discharge outlet: 50 mm. Capacity: 0,4 Kw; 380 V/ 3 ph/ 50 Hz. Protection level: IP68. Weight (excluding cable): 25 kg. Liquid temperature: 0 - 40°C. Wing type: Semi-open . Solids handling: Solids handling: (35 x 22) mm. Material: Cast iron body and wings. Stainless steel shaft. Oil Lifter: Ensure continuous engine lubrication and extend pump life. Standard cable: 6m.	G7
-	Water level meter (Float level sensor)	Type: float Material: PP Protection level: IP68	G7
12	Control cabinet system, electrical cables, technology pipeline		
-	Control system cabinet	Power source 380 V, 50 Hz, 3 Pha. Electrical cabinet made of powder coated steel. Main materials: Attomat, Thermal relay, contactor. Variable Frequency Drive: Can be installed and programmed on a computer. Internal PLC programmable inverter. The inverter can save data in software, which can be installed on the computer.. Standards: IEC/EN 61800-3, EN 61000-6-2, EN 61000-6-4, EN 61000-3-2, IEC 60068-2-64, IEC 60068-2-6, IEC 60068-2-27, IEC	Việt Nam/G7

No.	Name of equipment	Technical requirements	Origin
		<p>60028-2-29</p> <p>Control device PLC.</p> <p>SCADA software system connecting to computers for remote control and monitoring.</p> <p>Light, switch, button, intermediate relay, alarm.</p> <p>Timer, real-time timer, power transfer switch 220 VAC/ 24 VDC.</p> <p>Amperemeter, fuse.</p> <p>Manufactured meets the standards: ISO 9001:2015; ISO 14001:2015; ISO 45001:2018</p>	
-	Electrical cables	<p>Electrical cables Cu/XLPE/PVC.</p> <p>Conduit, cable tray, accessories.</p> <p>Quantity guaranteed to complete the entire project.</p>	Việt Nam/G7
-	Technology pipeline system	<p>Air pipe: Inox SUS 304/ PPR/ u.PVC.</p> <p>Pressure filter pipe: u.PVC.</p> <p>Wastewater pipe, sludge pipe: uPVC.</p> <p>Other accessories: one-way valve, butterfly valve, ball valve, flexible joint, elbow, tee...</p> <p>Bracket, mounting plate, rawplug and other accessories: SUS 304.</p> <p>Quantity guaranteed to complete the entire project.</p>	Việt Nam/G7
II	Measurement equipment for system operation monitoring		
1	pH meter	<p>Type: pH measurement and control.</p> <p>Measuring range: 0..14.</p> <p>Output signal: 4..20 mA.</p> <p>Power supply: AC 100 to 240 V \pm10%.</p> <p>Measuring cable: 5 m.</p> <p>Including: Transmitter + sensor.</p>	Việt Nam/G7
2	DO meter	<p>Type: DO measurement and control.</p> <p>Measuring range: 0..20 mg/l.</p> <p>Output signal: 4..20 mA.</p> <p>Including: Transmitter + sensor</p>	G7
III	Odor control system		
1	Scrubber	<p>Material: FRP, thick 6 mm.</p> <p>Dimension: D x H = (600 x 2.100) mm.</p> <p>Filter material: activated carbon.</p> <p>Manufactured meets the standards: ISO 9001:2015; ISO</p>	Việt Nam/G7

No.	Name of equipment	Technical requirements	Origin
		14001:2015; ISO 45001:2018	
2	Exhaust fan	Type: centrifugal fan. Capacity: 0,75 kW. Voltage: 380 v, 50 Hz. Air flow: Q = 1.500 – 1.800 m ³ /h. Pressure: H = 800 pa. Speed: N = 2P.	Việt Nam/G7
IV	Garbage separator		
1	Garbage separation Module	Designed with Inox 304, including 2 main parts. Outer plate: Material: Inox 304. Dimension: (a x b x h) = (55 x 55 x 60) cm. Frame: steel V Inox 304, spec. (V25 x 25), thick 2,0 mm. Side plates are made of Inox 304, diameter 0,2, thick 2 mm, grid spacing dimension (2 x 2) cm. Inner plate: Material: Inox 304. Dimension: (a x b x h) = (50 x 50 x 58) cm. Frame: steel V Inox 304, spec. V20x20, thick 2,0 mm Side plates are made of Inox 304, diameter 0,2, thick 2 mm, grid spacing dimension 1,5x1,5 cm Operation structure: Outer plate and inner plate runs on Inox 304 rails through a rotating shaft mechanism.	Việt Nam/G7

17.2.5 Biological wastewater treatment

17.2.5.1 Activated Sludge Technologies - Technology AAO-MBBR

The following limitations and Employer's Requirements must be considered in plant design and process dimensioning:

The design must have a scientific basis and comply with current regulations and standards.

The following design steps (construction drawing design) must comply with and be consistent with the main contents and technical parameters approved in the previous design step (basic design).

17.2.6 Sludge treatment

The sludge will be stored, dewatered, thickened and periodically pumped according to regulations.

17.2.7 Odor Control

The Contractor shall provide odor control and odor treatment solutions play an important role. Therefore, all items of the plant that can emit odor/or noise must be closed. Especially for the inlet of the wastewater treatment plant, anaerobic tank, anoxic tank...it is expected to generate a lot of odor, so it is necessary to install odor treatment equipment.

17.3 Basic Data, Criteria and Parameters for Design and Dimensioning

The treatment plant shall be designed and constructed according to the expected raw wastewater quality and quantity estimated for the project horizon 2035.

17.3.1 Wastewater quality

Basic data for the dimensioning of the treatment plants is given below. The raw wastewater quality shall be as per information provided under this document. No other pollutants that may affect, inhibit or even harm the biological treatment shall be considered to be treated within the scope of the Contractor. Such substances as disinfectants and other liquid hospital waste are considered to be pre-treated by the Employer prior to discharge into the hospital sewer network connected to the WWTP to be built under this Contract.

For the Bid preparation the wastewater parameters and values only as indicated in the table below shall be considered and shall be the basis for contractual agreements.

Parameter	Unit	Expected Average Value	Remarks
Average WW temperature	Degree Celsius	20 - 30	Seasonal Variability
pH	--	7.0 – 8.0	
BOD ₅	mg/l	160,92	
COD	mg/l	304,05	
Total Suspended Solid (TSS)	mg/l	187,75	
Sulfur (S ²⁻ , calculated as H ₂ S)	mg/l	5,65	
Ammonium (NH ₄ ⁺ , calculated as N)	mg/l	89,50	
Nitrates (NO ₃ ⁻ , calculated as N)	mg/l	18,62	
Phosphate (PO ₄ ³⁻ , calculated as P)	mg/l	18,57	
Oil and grease	mg/l	8,45	
Alpha radioactivity	Bq/l	0	
Beta radioactivity	Bq/l	0	
Total coliform	MPN/ 100ml	13.000	

Table 2: Assumed raw wastewater quality before treatment (for all hospitals)

17.3.2 Required Effluent Quality

Wastewater treatment must meet effluent limits according to National Technical Regulation on Health Care Wastewater Standard QCVN 28:2010/BTNMT, as indicated in the table below. For this project, Column A shall apply:

Parameters	Unit	Value of C		Testing method
		A	B	
1. pH		6.5 – 8.5	6.5 - 8.5	TCVN 6492:1999 (ISO 10523:1994)
2. BOD ₅	mg/l	30	50	TCVN 6001 - 1:2008
3. COD	mg/l	50	100	TCVN 6491:1999 (ISO 6060 : 1989)
4. Total Suspended Solid (TSS)	mg/l	50	100	TCVN 6625:2000 (ISO 11923:1997)
5. Sulfur (S ²⁻ , calculate as H ₂ S)	mg/l	1.0	4.0	TCVN 6637:2000 (ISO 10530:1992)
6. Ammonium (NH ₄ ⁺ , calculated as N)	mg/l	5	10	TCVN 5988:1995 (ISO 5664:1984)
7. Nitrates (NO ₃ ⁻ , calculated as N)	mg/l	30	50	TCVN 6180:1996 (ISO 7890 - 3 : 1988)
8. Phosphate (PO ₄ ³⁻ , calculated as P)	mg/l	6	10	TCVN 6494 – 2: 2000 (ISO 10304 -2 : 1995)
9. Oil and grease	mg/l	10	20	US EPA Method 1664
10. Alpha radioactivity	Bq/l	0.1	0.1	TCVN 6053:1995 (ISO 9696:1992)
11. Beta radioactivity	Bq/l	1.0	1.0	TCVN 6291:1995 (ISO 9697:1992)
12. Total coliform	MPN/ 100ml	3000	5000	TCVN 6187-1:2009 (ISO 9308 - 1:2000) TCVN 6187 - 2:1996 (ISO 9308 - 2:1990)
13. Salmonella	Bacteria/ 100 ml	KPHD	KPHD	TCVN 4829:2001
14. Shigella	Bacteria/ 100 ml	KPHD	KPHD	SMEWW 9260
15. Vibrio cholera	Bacteria/ 100 ml	KPHD	KPHD	SMEWW 9260
<i>Note:</i> - KPHD: undetectable;				

Parameters	Unit	Value of C		Testing method
		A	B	
<ul style="list-style-type: none"> - A category: regulates the C value of parameters and pollutants as a basis for calculating the maximum allowable value apply to hospital wastewater discharged to water sources used for domestic water supply purposes; - Allowable threshold (C_{max}) = C * K; - For the parameters: pH, Total coliform, Salmonella, Shigella, Vibrio cholera in hospital wastewater: K=1. K is the coefficient of size and type of each medical facility (Quỳnh Lưu – K=1,2; Đô Lương – K=1,0; Tân Kỳ - K=1,2) 				

Table 3: Discharge standard QCVN 28:2010/BTNMT

17.4 Technical Process and performance guarantees

The WWTP design of the Bidder shall ensure that the performance of the WWTP complies with legal requirements and does not exceed the agreed energy consumption.

The Bidder shall submit accordingly filled Form 18c (Technical Process and performance guarantee) in order to proof compliance with the requested performance standards.

17.4.1 Compliance with effluent standards

The Contractor shall provide evidence that the WWTP effluent quality is in compliance with the Vietnamese standards mentioned above.

2-hours composite samples shall be taken from the sampling points at the plant inlet and outlet and shall be analysed / verified by an accredited DONRE-laboratory. All wastewater parameters required to comply with under the Vietnamese Health Care Wastewater Standard QCVN 28:2010/BTNMT shall be tested.

A weekly analysis of the raw wastewater and the treated effluent shall be performed and recorded weekly by the Contractor. In addition, the raw wastewater and the treated effluent quality shall be analysed monthly by an accredited laboratory.

17.4.2 Electricity Consumption

The specific electricity consumption (kWh/month) and monthly electricity consumption respectively shall not exceed the following figures:

		Max. acceptable value		
Electricity consumption	Unit	MBBR (reference), 100m ³ /d	MBBR (reference), 200m ³ /d	MBBR (reference), 300m ³ /d
Specific electricity consumption	[kWh/m ³]	≤ 1,15	≤ 1,15	≤ 1,15
Max. monthly electricity consumption	[kWh/month]	≤ 3.450	≤ 6.900	≤ 10.350

Table 4: Requirements on electricity consumption for performance guarantee

The performance guarantee for electricity consumption shall be proven by monthly readings of the electricity meter at the end of each month of the operation phase in the presence of the Employer's Representative.

17.4.3 Consumption of Chemicals

The demand for chemicals for pH-value adjustments, precipitation, flocculation, disinfection etc. shall be minimized to the largest possible extent.

The Contractor is requested to calculate the quantity of the chemical required for the overall treatment process of the wastewater and sludge treatment line for the average flow as well as for maximum flow.

17.4.4 Odor Treatment

All potential odor emission points as defined above must be covered and polluted air from these structures shall be treated in order to avoid nuisance.

17.5 Interfaces

17.5.1 Connection Points to the Sewer Systems

The drawings in Section VIII, Drawings provide a defined connection point for connecting the effluent of the future WWTP to the existing public sewer system outside the hospitals's premises.

17.5.2 Connection to Utilities

Electricity supply for the operation of the WWTP shall be at the point defined in the technical drawings provided under Section VIII, Drawings.

Water supply for the operation of the WWTP shall be at the point defined in the technical drawings provided under Section VIII, Drawings.

17.6 Requirements for Civil Works

Design of all structural concrete shall be carried out in accordance with international standards as well as according to Construction Laws of Vietnam and applicable Vietnamese Regulations.

Vietnamese Standards

Earthworks:	
TCVN 4447:2012	Earthworks, Construction and Check Take-Over Standards
TCVN 9361:2012	Construction and Check Take-Over for Foundation Works
TCVN 9166:2012	Earth Structures, Rules for Execution by Compaction Method
TCVN 9165:2012	Technical Standards for Construction of Embankment by Compaction
QPTL.D1.74	Technical Standards for Execution and Check Take-Over for Surface Water Drainage and Groundwater Development Works
Canals:	
14-TCN 9:2013	Standards for Technology of Canal Construction
Concrete:	

TCVN 9115:2012	Concrete Structures and Reinforced Concrete Formwork, Construction and Check Take-Over Standards
TCVN 4453, 1995	Concrete Structures and Mass Reinforced Concrete, Construction and Check Take-Over Standards
TCVN 4314:2013	Construction Mortar, Technical Requirements
TCVN 5440, 1991	Concrete, Check and Evaluation of Durability - General Requirements
TCVN 5592, 1991	Concrete, Requirements for Curing
TCVN 6025, 1995	Concrete, Classification according to Crushing Strength
TCVN 9335:2012	Heavy Concrete, Non-destructive Method combined with Ultrasonic tests to define the Crushing Strength.
14-TCN 63-2002	Hydraulic Structures Concrete, Technical Requirements
14-TCN 64-2002	Hydraulic Structures Concrete Mixture, Technical Requirements
TCL58:2002	Hydraulic Structure, Concrete and Reinforcement Concrete, Construction and Check Take-Over Requirements
TCVN 8304:2009	Regulation for Execution of Concrete Works in dry and hot weather
Masonry and Brickwork:	
TCVN 4085:2011	Brick and Stone Structures, Construction and Check Take-Over Standards in the Construction
TCVN 4459, 1987	Guidelines for Mixing and Use of Mortar in Construction
14-TCN QPTL.2.71	12-85, Standards for Brick laying in Hydraulic Structures
14-TCN QPTL.2.66	12-85, Standards for Stone laying in Hydraulic Structures
Materials:	
TCXD 65, 1998	Regulations for using cement in Construction
14-TCN-F1-76	Technical Standards of Hydraulic Works Concrete and Materials
TCVN 2682, 2009	Portland Cement
TCVN 4033, 1995	Portland Pozzolan Cement, Technical Requirements
TCVN 6067, 2004	Portland Sulphate Resisting Cement
TCVN 6069, 2007	Portland Low Heat Cement
TCVN 6260, 2009	Portland Cement Mixture, Technical Requirements
TCVN 7570:2006	Material for concrete and mortar
TCVN 4506, 2012	Water for Mixing Concrete and Mortar, Technical Requirements
14-TCN-66-88	Cement for Hydraulic Structures Concrete, Technical Requirements
14-TCN-70-2002	Crushed Stone for Manual Structures Concrete, Technical Requirements
14-TCN-72-88	Water for Hydraulic Structures Concrete, Technical Requirements

14-TCN-68-88	Sand for Hydraulic Structures Concrete, Technical Requirements
TCXD 173, 1989	Additive KDT2 for Construction Concrete Mortar
14-TCN-114-2001	Cement and Additives in Hydraulic Construction, Regulations for Use
14-TCN-103, 1999	Additives for Concrete and Mortar, Definition and Classification
14-TCN-104, 1999	Chemical Additives for Concrete and Mortar, Classification and Technical Requirements
14-TCN-105, 1999	Additives for Concrete and Mortar, Classification and Technical Requirements
14-TCN-106, 1999	Additives for Concrete and Mortar, Classification and Technical Requirements
Steel:	
TCVN 1651, 1:2008	Reinforcement Steel – Part 1 Round Bar Steel
TCVN 5709, 2009	Hot Rolled Carbon Steel for structural construction
TCVN 1651-2:2008	Concrete Reinforcement Steel – Part 2 Rebar Steel
TCXD 227, 9392:2012	Arc Welded Reinforcement in Concrete
Geotextiles:	
14-TCN-90, 1995	Water Resources Construction, Regulations for Executing and Check Take-Over of Non-Deformable Joints
14-TCN-110, 1996	Design and Use of Geotextiles in Hydraulic Structures Convention of Maccaferri product & services, Vietnam, August 1996
14-TCN-91, 1996	Geotextiles, General Requirements on specimens and experiments
14-TCN-92, 1996	Geotextiles, Method for Defining Standard Thickness
Reinforced Concrete Piles:	
QPXD-26-65	Standards for Construction and Check–Take Over of Piling Works
TCXD 88, 1982	Piles, Site Testing
Mechanical and Steel Structures:	
QPTL-E-3-80	Standards for Manufacturing and Assembling Mechanical Equipment and Steelwork for Hydraulic Structures
32-TCN.F.6.74	Plain Gates, Technical Requirements
32-TCN.F.7.74	Gate Slots and Embedded parts of Gates in Hydraulic Structures
14-TCN-30-85 and 32-TCN.F.4.74	Hydraulic Structures, Permitted Tolerances in assembling Gantry crane structures in Hydroelectric Plants and Pumping Stations
QPTL.E.1.74	Standards for Management of Mechanical Manufacture and Assembling Technology
14-TCN-79-2004	Paint Protection for Mechanical Structures and Equipment in Hydraulic Structures
Equipment:	
TCVN 5639, 1991	Check Take-Over of Assembled Equipment, Basic Regulations

Environment, Safety, Commissioning:	
TCVN 2289, 1978	Manufacturing Process, General Requirements on Safety
TCVN 2290, 1978	Manufacturing Equipment, General Requirements on Safety
TCVN 2292, 1978	Painting Works, General Requirements on Safety
TCVN 2293, 1978	Wooden Works, General Requirements on Safety
TCVN 4068, 1985	Electrical Safety in Construction, General Requirements
TCVN 3146, 1986	Welding Works, General Requirements on Safety
TCVN 3255, 1986	Use of Explosives, General Requirements
TCVN 4424, 1986	Safety Technical Standards for Lifting Equipment
TCVN 4431, 1987	Safety Corridor, Technical Conditions
TCVN 5308, 1991	Safety Technical Standards in Construction
TCVN 4244:2005	Lifting Equipment, Design, Manufacturing and Technical Tests
TCVN 5295, 1995	Quality of Water, General Requirements for Protecting Surface Water from effects of Petroleum and Petroleum Production
QPTL-1-71	Maintenance Standards for Using Machines, Measurement Tools
QCVN 28/2010/BTNMT	National Technical Regulation on Healthcare Wastewater

Table 5: List of Vietnamese standards for civil works

Outdated standards from the list below shall be replaced by the latest version and accordingly considered by the Contractor.

Quality Control:

- Regulations for Certifying Laboratories.
- General Requirements for Laboratories in Field Areas.
- Laboratory shall be in accordance with the MOC regulations and the Contractor shall submit proposals to the Employer for review

Structural Works – General

Structural design and analysis

In his QA/QC Program, the Contractor shall define the procedures for preparation and approval of the structural designs.

During the Final Design, detailed design calculation for each individual structure, together with general arrangement drawings, reinforcement drawings and bar schedules, are subject to the checking and approval procedures as laid down in the QA/QC Program.

A statement explaining the principles of the design shall preface the detailed calculations and the type of analysis adopted any design references on which the design is based.

For a concrete structure, the class into which the structure has been placed for design purposes shall be stated.

For a superstructure framework, a separate statement shall be included explaining how overall stability has been achieved and whether reliance has been made on infilled walls, whether of brick, concrete or other material to provide stability.

All loads and structural wall sizes, including positions and sizes of any significant chases and openings shall be clearly indicated in the design calculations.

Treatment works structures

All structures and parts thereof shall be designed to withstand the loads from within the plant and its components, including dynamic effects where they occur. Such loads shall be clearly indicated in the design calculations.

Floor slabs in operating areas shall be designed for all permanent plant loads and other loads, which could take place during maintenance or repair work, but not less than 5 kN/m² over their total area. Maintenance walkways shall be designed for more than 2.5 kN/m².

Wind pressures shall be calculated in accordance with Vietnamese Standard.

Design shall allow for the effects of ambient temperatures and temperatures of contained liquids as well as the effect of direct sunlight.

Water loading

Structures shall be designed to resist water loading due to uplift. Forces on pump wells, tanks, channels, culverts and pipes shall be calculated according to the assumption that they are empty.

No reliance shall be placed upon side drains or under drains to lower the natural level of ground water locally in the vicinity of structures. Where structures are constructed above the natural ground water level and this is relied upon in the design, positive means of drainage shall be provided to prevent accidental uplift arising from leakage of contents or percolation of surface water into the backfill. In the case of structures, which are partially submerged, drainage shall be similarly provided above the designed maximum water level.

Where additional amounts of concrete beyond the normal structural design needs are introduced, for example for the purpose of gaining dead weight to counter the effects of buoyancy, any such addition to the concrete shall, as far as possible, be uniformly distributed among the substructure members.

The Contractor shall determine the maximum design external water level. Structures that may be water tested before backfilling shall also be designed for no external pressure from water or backfill together with maximum internal water pressure.

The design of walls for tanks, wet wells and the like shall allow for accidental filling of freeboard by water to the tops of the extended walls.

Concrete Structures

Standards

Structural concrete shall be designed in accordance with the applicable standards for:

- Concrete and reinforced concrete
- Pre stressed concrete; building components of normal concrete with restricted or full pre stressing.

Member thickness

The thickness of reinforced and pre-stressed concrete walls and slabs design to retain liquid shall not be less than that derived from the following constraints.

Reinforced concrete plane walls and slabs:

The thickness shall in no case be less than the design internal or external water pressure divided by 12.

Reinforced concrete vertical walls and slabs inclined at angles more than 15 degrees above the horizontal:

In cases where walls and slabs are 'external', i.e., surrounding the outside of a water containing structure so that leakage, would pass through the wall to or from foundations, drainage collection systems or places intended to be dry and accessible, the thickness shall be not less than 300 mm.

In cases where walls and slabs, reinforced on both faces, are 'internal' i.e., dividing the internal part of a structure so that leakage, would pass through the walls from one water-containing structure to another, the thickness shall be not less than 250 mm.

Classification of concrete structure

This classification shall apply equally to parts of structures, where more than one application of classes of concrete exists within a particular structure.

Structures are to be divided into classes with regard to environmental influence.

Requirements for control of cracking

Crack control for reinforced concrete structures are to be related to the different Classes.

Classes of concrete

These shall generally be based on the following table:

- B40 Structures exposed to waste water, sludge and post-tensioned pre stressed concrete.
- B30 Reinforced concrete not exposed to Wastewater or sludge including roads, mass concrete in benching anchor blocks etc.
- B20 Blinding concrete and mass concrete fill under foundations.

Reinforcement

The main reinforcement shall generally be of high-yield ribbed steel bars. Links to beams and columns shall be of plain round mild steel bars.

Concrete cover of outermost reinforcement bars and pre stressing ducts shall not be less than the following:

- Internal surfaces of slabs and walls in building superstructures where less than 300 mm thick in mild conditions of exposure: 30mm
- All other locations: 50mm

Bond, lap lengths and minimum radii of bends shall be in accordance with Vietnamese Standard.

Water stops and sealants

Expansion and contraction joints in watertight structures shall incorporate both water stops and surface sealers. A sealer shall always be provided on those faces in contact with water.

In expansion joints and complete contraction joints, internal water stops shall be of the hollow centre bulb type. Surface water stops shall be of the expansion type and will be permitted only beneath base slabs.

Joints in slabs and walls in contact with soil shall be provided with water stops, notwithstanding any protective membrane provided.

Joints in concrete

The positions of construction joints shall be indicated on the drawings and shall comply with the specifications.

In expansion joints, concrete faces shall be separated by a gap to accommodate estimated thermal expansion. Reinforcement shall be discontinuous and dowel bars provided with one half coated with bond breaking compound and the end provided with a compressible cap.

Equipment foundations

Mechanical and electrical items of equipment shall generally be mounted on concrete foundations constructed above the surrounding structural floor level. The foundations shall be designed to transmit the static and dynamic loads from the equipment into the concrete structure isolated from the main structure, but if necessary they shall be reinforced and tied to the main structural concrete.

Surface finishes

Finishes shall generally be provided as described below:

Formed Surfaces

Class F.1.:

- Surfaces against which further concrete is to be placed and surfaces to be permanently concealed by rendering, plastering, etc.
- Surfaces against which backfill is to be placed and which are not to receive a protective membrane.

Class F.2.:

- All surfaces permanently exposed to view, except where Class F.3 is required
- Surfaces either permanently or periodically in contact with stored, retained or flowing liquids. Surfaces against which a protective membrane is to be applied

Class F.3.:

- Surfaces prominently exposed to public view where good appearance is of special importance
- Any surface in contact with fast flowing water

Unformed Surfaces

Class U.1.:

- Surfaces of foundations, slabs and other structural members to be subsequently covered by further stages of concrete construction, bonded concrete toppings or cement/sand screed

Class U.2.:

- All surfaces permanently exposed to view, except where Class U.3 finish is required
- Surfaces either permanently or periodically in contact with stored, retained or flowing liquids
- Surfaces including those of blinding concrete, against which a membrane is to be applied

Class U.3.:

- For hard, smooth surfaces to slabs, walls, parapets and other structural members, where exposed to weathering.

Corrosion protection of concrete

Consideration shall be given to the corrosion potential of sewage and sludge and their products on concrete surfaces both above and below water level. In this respect especially the effect of hydrogen sulphide should be taken into account.

The Contractor shall take whatever measures are necessary (e.g., additional concrete in addition to the normal cover of the reinforcing steel or PVC lining) to satisfy the durability requirements of the design life of the structure.

Drawings

All concrete dimensions and any special requirements associated with design shall be included in the civil general arrangement drawings. No dimensions shall be given on the steel reinforcement drawings unless they are essential for steel fixing or the preparation of bar schedules. Information to be shown on the general arrangement drawings shall include:

- fills below structures and compaction requirements
- blinding concrete (at least 50mm to be provided under all foundations)
- concrete and surface finish classifications
- position and type of movement joints
- water stop details
- sequence of construction
- special tolerances, e.g., in relation to mechanical or electrical equipment

Drawings should be according to Vietnamese Standard.

Concrete Reinforcement Drawings

Special consideration shall be given to the spacing of bars and pre stressing steel to ensure that the concrete can be placed and consolidated without difficulty.

Wherever possible, distribution reinforcement in walls and slabs shall have staggered laps.

Scale of drawings shall be according to Vietnamese Standard, and if not mentioned the following scales shall be used:

- Walls and slabs 1 to 50 or 1 to 20
- Walls and slabs - sections 1 to 20
- Beams and columns - elevations 1 to 20
- Beams and columns - sections 1 to 20 or 1 to 10
- Where reinforcement details are complex and difficult to read, the larger scale shall be adopted.

Structural Steelwork

Codes and standards

Structural steelwork shall be designed in accordance with applicable Vietnamese Standard or according to BS 5450.

Deflection limits

When checking the deflections of a structure, the most adverse realistic combination and arrangement of unfactored loads shall be assumed.

The deflection of a building or part of a building shall be limited so as not to impair the strength or efficiency of the building or its contents, or be unsightly or cause damage to the finish, or inconvenience to the occupants.

Deflection of members listed in the table below shall not exceed the tabulated limits, unless the Contractor can demonstrate to the Employer's satisfaction that greater values would not be detrimental to the performance of the structure.

Deflection limit

Beams

Cantilevers

Beams carrying plaster finish

Roof beams not carrying plaster finish

Purlins and sheeting rails

Columns

Each storey, top of column, brick or plaster cladding

Deflections due to live loads

Length/180

Span/360

Span/200

To suit the characteristics of the sheeting

Horizontal deflection

Height/300

17.7 Testing and Commissioning

The Contractor shall provide a method statement on foreseen testing and commissioning procedures including dry testing, wet testing, initial start-up and trial period.

Testing and commissioning shall be carried out for:

1. individual items of equipment;
- 2.

3. complete process stages or sections thereof;
4. piping within the plant limits pressure and leakage testing.

Testing and commissioning will include, as a minimum:

1. factory performance tests and manufacturer's works acceptance tests of the major equipment items prior to delivery to site;
2. functional tests (dry and wet tests) to be conducted on the equipment on project sites during and after installation for manual and automated operation;
3. operational tests to be conducted on the equipment on project sites during and after installation;
4. performance tests during the trial period to operate each process stage until the required performance guarantees are met consistently and continuously;

Prior to testing and commissioning the Contractor shall make available to the Employer's Representative drafts of the equipment manuals, O&M manual incl. maintenance schedules.

18 Rehabilitation works of Quynh Luu District General Hospital

In addition of above-mentioned requirements, the rehabilitation works of Quynh Luu District General Hospital shall be included the follows:

18.1 Technical assessment

The Bidder is requested to carry out his own detailed investigations on the present performance of the WWTP to develop suitable and efficient rehabilitation measures that will ensure compliance of the WWTP effluent with the Vietnamese effluent standard. Taking and analysing samples over a reasonable period of time is advised and should be done by the Bidder on his own expenses.

At the end of the technical assessment the Contractor shall develop and submit a rehabilitation concept and design to the Employer.

18.2 Implementation of rehabilitation measures

Following the technical assessment, the Contractor shall

1. Compile a comprehensive list of actions, civil works and M&E equipment required for the rehabilitation of the Quynh Luu Hospital's WWTP
2. Compile a detailed time schedule for implementation.

Once the aforementioned design, lists and schedules have been approved by the Employer, the Contractor shall start construction, rehabilitation and retrofitting measures.

19 Operation and Maintenance

19.1 General Terms and Conditions

The Bidder shall be responsible for the operation and maintenance of the 3 WWTPs including sludge handling / treatment / disposal for a total period of 1 years, starting from the date of acceptance of works by the Employer.

The annual expenses for operation and maintenance shall be quoted separately by the Bidder as per the requirements listed below.

After the agreed O&M period, the Contractor shall handover the WWTPs to the Employer in a state that

- the plant is fully operational,

- effluent is complying with the standards requested in the Technical Specifications,
- chemicals shall be replenished for a period of 3 months from taking over by the Employer
- operators of the Employer are trained during operation for a period of at least 04 (four) weeks.

The following is to be handed over to the Employer at the end of the operation period:

- As-built drawings
- O&M manuals incl. equipment manuals and maintenance schedule
- complete plant diaries for the entire past O&M period
- all required chemicals for an operation period of at least 3 months (to be included in the financial proposal)
- all required equipment, tools and machineries for a sound O&M of the plant, including vehicles as suggested in the technical / financial proposal.

During the operation period the Contractor must execute all necessary actions to ensure orderly plant functionality, which includes:

1. Obligation to operate facilities, including liaison with any intake suppliers and off-takers
2. Obligation as to the maintenance and repair of the facilities
3. Testing the facilities on technical demand
4. Obligations as to staffing and training
5. Obligations as to reporting and the maintenance of records

The operator should be obliged to operate and maintain the plant at all times in accordance with:

1. All applicable laws and regulations
2. All applicable consents and regulations
3. Good Industry Practice or the standard of a Reasonable and Prudent Operator
4. All safety requirements
5. All manufacturers' recommendations

So as to:

- minimize any natural deterioration and normal wear and tear;
- maximize the operating return of the plant; and
- minimize forced outages (i. e. breakdowns).

19.2 O&M Staff, Qualifications and Staffing Schedule

The Bidder shall propose and subsequently deploy sufficient and qualified staff, at least according to the table below:

	Staff position and attendance	Remarks
Required staff	1 Plant manager 1 operator 1 unskilled worker	
Minimum staff in attendance	Plant Manager: monthly Operator: daily Workers: as required	Additional work force to be deployed if required

Table 6: Requirements on WWTP staffing during operation phase

The Bidder shall propose a detailed staffing schedule as part of the method statement.

The proposed staff shall have at the least the following qualifications:

Position	Tasks	Education	Remarks
Plant Manager	Overall responsibility for the plant's technical performance Decision making on general operation issues Monthly / annual reports on the WWTP's performance and appliance with standards Coordination with water authority Reporting to DoH and DoNRE	Vocational training of at least 2 years. Mechanical and electrical knowledge. Additional qualification on wastewater treatment, environmental protection, public health and performance monitoring required	Duty station: Headquarters and WWTP(s)
Plant Operator	Daily operation of the plant: recurring and revolving jobs that require sound, but basic knowledge on wastewater treatment Monitoring, data collection and record keeping ("Plant Diary")	Vocational training of at least 1 year. Mechanical and electrical knowledge. Comprehensive craftsmanship required (welding, moulding, etc.)	Duty station: WWTP(s)
Unskilled worker / trained on the job	Simple, recurring jobs that require little theoretical knowledge. Usually manual work (desludging, cleaning, sampling, etc.)	Trained on the job (at least 2 weeks training)	Duty station: WWTP(s) Tasks might be shared with watchman

Table 7: Requirements on qualification of WWTP staff for operation phase

19.3 O&M Manual

A comprehensive O&M Manual has to be prepared and used by the Contractor, containing at least the following items (table of content):

- Section 1- Routine Operation/Maintenance Procedures
 - start-up& shut-down operations
 - daily operations
 - routine operations
 - emergency flags
 - routine recordkeeping
 - equipment inventory
 - spare parts inventory
 - equipment repair/supply contact info
- Section 2 - O&M Protocol for wet weather conditions
- Section 3 - Emergency Response/Action Plan

Section 4 -	Waste Water Quality Monitoring Plan and Exceedance Response Procedures
Section 5 -	Employee Training
Section 6 -	Odor Complaint Form for odor prevention
Section 7 -	Standard Operation Procedures

19.4 O&M Cost Calculations

The Bidder shall calculate the annual O&M costs according to Bill no. 3 that contains the following cost items:

- Personnel costs
- travel costs and accommodation for staff
- energy / electricity costs
- chemicals
- spare parts & consumables
- costs for laboratory analysis to verify performance guarantees
- costs for other utilities such as fresh water
- costs for dewatered sludge disposal
- transportation / vehicles
- rental for machineries (if any)
- reporting / printing costs
- training and education measures
- insurance fees
- contingencies (5% of the total O&M costs)

Other items may be included in the list if considered relevant by the Bidder. Administration costs shall be included into the personnel costs. The Contractor shall indicate his quoted unit prices for O&M in the Bid form.

19.5 Training of the Employer's O&M staff

2 months before the end of 1-year operation and maintenance period, The Contractor shall provide training for the Employer's operation and maintenance (O&M) staff. The training shall not fall below a minimum of 30 full training days (6 weeks), and shall include the following:

- Participation of the Employer's staff during testing and commissioning of the WWTP
- Classroom training on the basic mechanical and biological treatment processes of the WWTP
- On the job training during operation incl. regular maintenance tasks, troubleshooting of non-performing plant or plant equipment
- EHS instructions on safe storing and handling of process chemicals and general safety on the WWTP site.

19.6 Maintenance and Monitoring Equipment

The following equipment as well as basic monitoring tools are required and shall be offered by the Bidder (Bill no. 3). Since provincial hospitals only operate simple sewer system, the required range of O&M tools is relatively limited:

O&M SEWER SYSTEM	Type / Brand / Remarks	Quantity
Telescope rod with dipper	for sampling	1
Mobile pump (submersible) - capacity: Q 22 l/s H 20 m		1
Hose for mobile pump, C 52, 80 m		1
Electric pipe and drain cleaning machine with high-speed rotator		1
Cold-water high-pressure cleaner with pipe cleaning equipment		1
First Aid Kit		1
O&M WASTEWATER TREATMENT PLANT		
Servicing/maintenance case with sludge level meter diameter 50 mm, pH measurement strips (100 pce/pack); spray bottle 500 ml, measuring cylinder 1000 ml, Imhoff cone 1000ml and cover lifter		1
Telescope rod with dipper	for sampling	1
Oxygen / pH meter with optical DO-probe with 1.5 m cable, bottle for storage and calibration, Micro-SD-Card with calibration data, software and full user manual. Protection class IP 67		1
First Aid Kit		1
ANALYTICS AND MONITORING		
Water Test Kit – photometric water analysis test kit incl. thermoreactor for water quality testing.	Covering all essential parameters of the waste water analysis, e.g. BOD ₅ , COD, total nitrogen, total phosphorus, etc.	1

Table 8: Maintenance and monitoring equipment

20 Particular Specifications for Sewer Network Construction and Rehabilitation

20.1 Works Requirements

The Bidder is supposed to carry out sewer rehabilitation works. The indicative scope of works is described in the feasibility study Investment construction of wastewater treatment system project for Nghe An hospitals using ODA loan from the German government. This includes the replacement and new construction of sewer sections, including the rehabilitation and new construction of manholes for the wastewater sewer system as well as additional house-connection if not existing and required.

General requirements on quantities of the Sewer Network Rehabilitation Component are based on the outcomes of the above mentioned FS and summarised below for reference and the Bidder is required to breakdown the quantity according to the basic design document):

Item		Location	Total
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New construction	Unit	Tan Ky	Do Luong	Quynh Luu	
uPVC DN200	m	822	474	274	1570
uPVC D90	m	115	106	74	295
HDPE 50/40	m	231	170	175	576
HDPE 32/25	m	482	551	639	1672
Joint nối uPVC D200	ea	7	7	4	18
Joint nối uPVC D90	ea	29	27	19	75
Manhole	ea	36	21	14	71

- Diameter of pipe: based on the contractors' hydraulic modelling
- Distance between manholes: approx. 30m
- Including the excavation works, installation works and reinstatement works.
- Pump station: (if required) acc. to the contractors' design setup

The Bidder is supposed to double-check the aforementioned items and quantities and come up with an improved concept if reasonable. All pipe diameters and lengths according to hydraulic modelling shall be defined by the contractor.

The Contractor shall implement detailed site survey in order to define the exact locations of house connections from existing buildings in the hospital, define required pipe diameters and carry out the connection to replaced sewers. The Bidder shall calculate hydraulic modelling to avoid too deep construction works and difficulties for later operation and maintenance works.

The necessity of investment of wastewater lifting station shall be defined in accordance to the needs of the hydraulic modelling.

20.2 Validating Material

No materials to be delivered to the site unless the materials and manufacturers have been reviewed by the Employer's Representative. Each document submitted to the Employer's Representative for review shall be fully worked-out in all aspects, including all information and data mentioned below and additional information necessary to assess the conformity with the requirements of the Contract in regard to the materials of proposed pipes. All the inadequate or partial explanations shall not be considered.

The submitted documents shall include, but not limited to the following:

1. The data in catalogues including technical standards, figures and a list of materials used for different items and accessories. The figures shall give a presentation detailed enough to use as a guidance document of component assembly and disassembly.
2. The complete assembly drawings of accessories, etc. with clearly marked sizes. This information shall give a detailed presentation able to make as a guidance document of assembly and disassembly and ordering...
3. List of pipes with all the following information for all pipes and fittings: application, pipe size, operating pressure, and wall thickness.
4. The manufacturer's instructions regarding transport, disassembly, maintenance, and assembly of pipes, fittings and other accessories.

20.3 Design of sewers

The design of the sewers shall be done according to Vietnamese standards, particularly using TCVN 6151:2002 Unplasticized Polyvinyl Chloride (uPVC) pipes standards.

20.4 General Requirements for Sewers

All sewers, elbows, couplings, and other similar materials shall be marked with the name or label of manufacturer, size, pressure, type, date of manufacture, angle of elbows etc. and all shall follow the applicable manufacture standards.

All bolts, nuts, gaskets, and similar accessories shall be determined as follows.

Ductile iron, stainless steel, uPVC and HDPE sewers and fittings shall be supplied to the site with sewer caps made of durable materials and installed at the factory. Caps made of normal paper or board shall not be accepted.

The following standards may apply for pipes and fittings:

1. Ductile iron (DI) pipes: ISO 2531-2009, ISO 10221:1993, ISO 10802:1992, BS EN 969:1996, BS EN 1563:1997, DIN 1693:1997
2. Stainless steel pipes: ASTM, SUS304, AISI304, BS4504-1:1989, ISO 7005-2 :1988. or equivalent.
3. Steel pipes: ASTM A53 or BS EN 10.255:2004, or KSD 3057 / SPP, or JIS G 3452 / SGP or other equivalent standards.
4. uPVC pipes: BS: 3505: 1986, ISO 4422, ISO 2531-2009, ASTM 2241, TCVN 6151:2002
5. Thick – wall HDPE pipes and fittings: ISO 4427:2007 or BS EN 12201:2011, SDR 17

Sewers and drains

Unplasticized PVC pipes and fittings for sewers and drains shall comply with one of the following standards:

- BS 4660 and 5481
- DIN 8061, 8062 and 19534
- ASTM 3034
- or a comparable Vietnamese standard

Pre cast concrete pipes

Pre cast concrete pipes and specials shall comply with Vietnamese Standard.

All pipes exceeding 400 mm nominal diameter shall be reinforced. Joints shall be of the flexible type, either socket and spigot or rebated design with rubber ring seals.

Pipes shall be made, using sulphate resistant cement.

20.5 Sewers and fittings

On pipe body manufacturer shall show the following contents:

- Name and Logo of the manufacturer – pipe specifications (outside diameter and sewer thickness) – pressure rating – materials – production standard.
- uPVC pipes manufactured according to BS: 3505: 1986

20.6 HDPE Sewers

Main raw materials for producing plastic sewers: grains of pure Polyethylene Resin (PE) of grade 80 (PE

80) or grade 100 (PE 100).

Applicable standard: ISO 4427 – 2007 PN10

Sewer thickness: suitable to the design requirements.

Sewer length: suitable to the design requirements and transport means (≥ 6 m)

On sewer body manufacturer shall show the following contents:

- Name and Logo of the manufacturer – sewer specifications (outside diameter and sewer thickness) – pressure rating – materials – production standard.

20.7 Excavation and Backfilling

Excavation:

Trenches for underground sewers, manholes and valve chambers shall be excavated to the line, grade and level as required by design. The Contractor shall avoid unnecessary openings of sewer excavation before installing the sewer line.

Backfilling:

Sewer lining and backfill of trench shall be made as shown on the approved Contractor's Design Drawings.

Backfill of sewer trenches shall be conducted in specified layers so as not to affect the alignment, slope, and stability of the sewer line. The backfill shall only be carried out by the approved materials of good quality such as exploited sand or approved excavated materials with a maximum liquid limit of less than 50%.

The Contractor shall keep backfilling in the required level and ensure that the surface after backfilling shall always be in good condition during the execution of the Contract. Any normal settlement after backfilling shall be compensated by the same type of materials to the required level. In places where the settlement endangers the life and property or travel of people, that work shall be conducted immediately on the day the Contractor is informed of the settlement. If that settlement is serious and shows that the backfill was conducted carelessly, the Contractor shall re-excavate to the required depth and backfill to the required standard.

If the Employer's Representative considers that the Contractor fails to comply any of the above requirements, the Employer's Representative may forbid the excavation of sewer trenches until satisfying with the progress schedule of sewer line installation and checking as well as the backfill of excavated trench.

20.8 Transport and storage of pipes

Transportation and handling of pipes

During transportation from the manufacturer to the Site, all pipes shall be protected to prevent damage to pipes or fittings. The pipes shall be protected from adjacent pipes by means of foam or straw cushioning or by timber frames. Pipes transported in uncreated bundles shall not contain smaller diameter pipes beside their bore unless the end caps have been designed by the manufacturer to cater for this situation.

All pipes shall be carefully unloaded, stacked and handled in accordance with the manufacturer's instructions. Pipes must not be dropped, scored or subjected to impact.

Those that have suffered surface or any other damage will be rejected.

Pipes with markings indicating the top of the pipe shall be lifted with their marking uppermost. Where a

slings are used, they shall not be less than 300 mm wide and shall be manufactured from flat canvas, synthetic fibre, webbing, jute, sisal or synthetic fibre rope, not metal. Chain or rope slings, hooks, etc., working on scissor or grab principles shall not be used.

Pipes shall be put into the trench one by one.

Storage of pipes

Where pipes are stacked on Site, the area shall be level and free from projections. If timber bearers are used, these shall be 80 mm in width and not more than 1 meter apart for pipes of up to 150 mm nominal diameter and 1.5 meters apart for pipes of above 150 mm nominal diameter. If bearers are not used, sockets on the bottom layer shall be let into the ground. When pyramid stacking is employed, the bottom layer of pipes shall be securely checked to prevent the stack from collapsing when further layers are added. Any stack shall not exceed 2 meters in height or two pipes in height whichever is greatest.

Pipes shall be stacked with sockets and spigots alternating and with sockets projecting to give barrel-to-barrel contact along their length; alternatively, pipes may be stacked rectangular, each layer as above but at right angles to the previous one, and the bottom layer checked to prevent the pipes rolling apart.

When pipes are strung out, they shall be laid on the ground free of rocks, boulders, etc. and excessive sagging or hogging must be avoided.

20.9 Pipe laying and bedding

Granular bedding material for rigid pipes shall consist of free draining, hard broken stone or gravel, free of dirt and dust. The material shall pass through a 25 mm sieve but be retained on a 5 mm sieve.

For pipes of 300 mm diameter and less, the material shall pass through a 12 mm sieve but be retained on a 5 mm sieve. In order to prevent silt intrusion in wet, fine-grained soils, one part of coarse sand shall be added to two parts of the above, or alternatively, a free-draining all-in material of equivalent grading may be provided.

Granular embedment material for flexible pipes shall comply with the above specification for rigid pipe bedding material and in addition shall have a compaction fraction value not exceeding 0.10

Selected fill shall comprise approved material selected from excavated material on the site. The material shall be reasonably uniform and completely free from clay lumps retained on a 75 mm sieve, from stones, etc., retained on a 25 mm sieve and from all vegetable matter, building rubbish and metals.

Material to be used for bedding and surrounding unprotected concrete pipes shall not contain more than 0.3 % sulphate expressed as sulphur trioxide nor shall it be obtained from a site where the ground water contains more than 0.01 % sulphate without approval.

20.10 Installation

General:

It is necessary to take all precautionary measures to protect sewers before installation, all sewers shall be checked for durability and cleanliness. Any materials having defects shall be marked and removed out of the site. Sewers, assembly details and other fittings shall be stored in warehouse in conformity with the requirements of manufacturer.

All devices, tools suitable for convenient and safe sewer handling and installation shall be used in conformity with the recommendation of the manufacturer. If any sewers were found to have defects after installing, they shall be removed and be replaced with good sewers by the Contractor at its own expense.

Sewers shall be lowered to the sewer trench so that the sewers and the trench are not damaged and so as to prevent soil and debris from falling to the trench bottom which has been prepared and into the sewers. Under no circumstance shall materials not be allowed to fall or throw down the sewer trench.

Special attention shall be paid to avoid damaging the anti-corrosive coating during installation.

Sewers, assembly details and other fittings shall be installed in the line and the grade indicated in the Contractor's drawings. The bottom elevation shall have a tolerance of plus or minus five (± 5) mm.

The unions and sleeve couplings shall be laid so that the end of sleeve rotates to the laying direction. The sleeve direction shown in the Contractor's drawing shall be only indicative and shall be adjusted according to this principle.

After each sewer is installed, the inside of the sewer shall be cleaned off all dirt and impurities. In places where the cleaning after installation is difficult because sewer size is too small, use an appropriate swab to drag forward, across each joint as soon as the connection is complete.

The sewer trench shall be kept dry and sewers shall not be laid once the condition of the sewer trench is inappropriate. Under no circumstance shall not let the water run through the sewer while installing.

Whenever installation of sewers is stopped, the open end of the sewer and assembly detail shall be closed tightly and securely with the cover to prevent water, soil or other substances from entering the sewer or assembly detail. The sewer line shall be fixed and protected against being shifted by any movement of backfill. In case water or any foreign materials enter the sewers or the sewer line is moved out of its position, the Contractor shall clean the sewers and re-install them at right position and bear all the costs.

The allowable distance between the top of this sewer line and / or underground installation and the bottom of the other sewer line / underground installation shall be not less than 100 mm.

uPVC sewers

The sewers shall be pushed into the coupling or socket manually or using a crowbar and wood block (minimum cross section 50 x 100 mm). Construction machinery used to lever the sewer during connection in conformity with the instructions of manufacturer. The manufacturer marks at the plain end of sewer to indicate the appropriate insertion of plain end of sewer into the sewer socket having a gasket. If the gasket is twisted or pushed out of the seating, the Contractor shall check items, repair and replace damaged parts, clean these items and repeat the steps of installation. During installation, the Contractor shall pay attention to both two sewer lengths so that they are arranged concentrically.

Sewers on the site shall be cut and chamfered to install as per the same manner as complete sewers of the plant. Use completely chamfered surface made by the plant as a guidance for cutting and chamfering on the site; ensure a suitable chamfer angle, reasonable chamfer depth; mark a proper portion of insertion and round a sharp edges with a knife or file.

Valve chambers

In situ reinforced concrete valve chambers shall be constructed in a way shown in the Contractor's drawings.

Brick work shall comply with the related provisions of Vietnamese standards. The inner surface of all brick chambers shall be plastered and rubbed smoothly by a trowel with cement mortar of minimum 15 mm thick.

Step iron and other iron items

Step irons to the top of manholes and valve chambers shall be shown in the Contractor's drawings. Step irons shall be installed firmly, in a straight line, both horizontally and vertically and comply with AISI 304 standard or equivalent standards.

20.11 Testing

Testing of sewers and manholes – general

Testing shall be carried out from manhole to manhole. Short branch drains connected to a main between manholes shall be tested as one system with the main sewer. Long branches shall be tested separately.

All sewer pipes shall be thoroughly cleaned out and tested. The Contractor shall give due notice of his intention to test any pipes.

Notwithstanding the satisfactory completion of any test, if there is any visible leakage of water from any pipe or joint, the pipe shall be replaced and/or the joint re-made as appropriate, and the test repeated until the leakage has stopped.

Water testing of sewers

Sewers up to and including 750 mm diameter shall be tested after laying, but before placing concrete and backfilling, and again after backfilling has been completed.

Suitable watertight plugs or stoppers adequately strutted shall be inserted in the low end of the sewer and in connections if necessary, followed by filling the pipe system with water. For small pipes a knuckle bend may be temporarily jointed in at the top end and a sufficient length of vertical pipe jointed to it so as to provide the required test head.

A test pressure of 1.2 meters head of water above the soffit of the sewer shall be applied at the high end but not more than 6 meters at the low end, by means of a standpipe. Steeply graded sewers shall be tested in stages where the above maximum head would be exceeded if the whole section were tested at once.

A period of one hour shall be allowed for absorption. The loss of water over a period of 30 minutes shall be measured by adding water from a measuring vessel at regular intervals of 10 minutes and noting the quantity required to maintain the original level in the standpipe. The average quantity of water added shall not exceed 0.5 litres per hour per linear meter per meter of nominal bore of the sewer.

Visual testing of sewers

Sewer pipelines shall for test purposes be visually inspected internally, before and after backfilling, and defects shall be remedied.

Testing of manholes and chambers

Manholes and chambers shall be water-tested on completion by inserting stoppers in each pipeline and filling the manhole or chamber to 0.5 meter below cover level. They will be deemed watertight if, after making due allowance for evaporation and absorption, the total drop in surface level does not exceed 10 mm in 24 hours. Visible leaks and workmanship, which is defective, shall be rectified notwithstanding the passing of the test for water tightness.

Infiltration testing of sewers

All sewers, manholes and inspection chambers shall be tested for infiltration on completion of the water or air as specified and of the backfilling and construction of complete lengths of sewer. All inlets to the system shall be effectively closed. Infiltration shall not exceed 2.5 litres per hour per lineal meter per meter of nominal bore and an overall limit of 1 litre per hour per lineal meter per meter of nominal bore measured over the whole of pipeline included in the Contract.

Cleaning sewers

On completion all sewers and manholes, etc. shall be thoroughly cleaned out and flushed with clean water. Non-man-entry pipes shall than be cleaned through with a rubber-tipped plunger the same size as the bore of the pipe to ensure that no obstacle is lodged in the pipe.

Final inspection of sewers

Prior to the issue of final completion all sewer lines and manholes shall be visually inspected.

Sewers shall be checked by visual means on each sewer length from manhole to manhole. A lamp shall be placed in the invert of the manhole such that the centre of its beam coincides with the centre of the pipe. The lamp beam shall be observed in full view from the next manhole to ensure that the sewer is clean, unobstructed and true to line and level.

Sewers which fail to pass test for water tightness, infiltration and visual inspection shall be taken up and be relayed.

20.12 Checking Sewer lines

The sewer line shall be checked for all length of sewer construction specified in the program approved by the Employer's Representative.

The Contractor shall provide necessary labour, materials, equipment and water to conduct the testing.

The Contractor shall provide all necessary means and equipment to transfer water into sewer lines for washing and checking, including pumps, pressure gauges, sewer caps, discharge sewers, as well as necessary stop blocks, struts to prevent the movement during washing and checking. All pressure sewer lines shall be washed and checked with a length of not exceeding 500 m. All non - pressure sewer lines shall be washed and checked between manholes with a distance of not exceeding 100 m. The Contractor shall notify the people of a test plan of any sewer line one week in advance.

The Contractor shall be responsible for ensuring the inspection without adversely affecting the designed strength of the concrete of thrust blocks.

C. Annex

Annex 1 – Feasibility study

Annex 2 - Vietnamese effluent standard (National Technical Regulation on Health Care Wastewater Standard QCVN 28:2010/BTNMT)

Annex 1– Feasibility study

Annex 2– National Technical Regulation on Health Care Wastewater (QCVN 28:2010/BTNMT)

Section VIII. Drawings

This Section lists drawings enclosed with the Bidding Documents(*).

<i>No.</i>	<i>Symbol</i>	<i>Name</i>	<i>Version/Published date</i>
1	-	<i>Technical drawings (part of the feasibility study)</i>	2025
2			
3			
...			

Notes:

(*): The Employer shall provide drawings available for approval (if any) with the following criteria:

- Ensure the legality and security needed;
- Provide as much information about the project for the bidders as possible to their best understanding for preparing bids.

-PART 3. CONDITIONS OF CONTRACT

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PART A: ENGINEERING, PROCUREMENT, CONSTRUCTION CONTRACT

Section IX. General Conditions of Contract

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The General Condition of Contract shall be those of the "Conditions of Contract for EPC/Turnkey Project", edition 1999, published by Federation International des Ingénieurs-Conseils (FIDIC).

1 General Provisions

- 1.1 Definitions In the Conditions of Contract ("these Conditions"), which include Particular Conditions and these General Conditions, the following words and expressions shall have the meanings stated. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.
- 1.1.1 The Contract
- 1.1.1.1 **"Contract"** means the Contract Agreement these Conditions, the Employer's Requirements, the Tender, and the further documents (if any) which are listed in the Contract Agreements.
- 1.1.1.2 **"Contract Agreement"** means the contract agreement referred to in Sub-Clause 1.6 [*Contract Agreement*], including any annexed memoranda.
- 1.1.1.3 **"Employer's Requirements"** means the document entitled employer's requirements, as included in the Contract, and any additions and modifications to such document in accordance with the Contract. Such document specifies the purpose, scope, and/or design and/or other technical criteria, for the Works.
- 1.1.1.4 **"Tender"** means the Contractor's signed offer for the Works and all other documents which the Contractor submitted therewith (other than these Conditions and the Employer's Requirements, if so submitted), as included in the Contract.
- 1.1.1.5 **"Performance Guarantees"** and **"Schedule of Payments"** mean the documents so named (if any), as included in the Contract.
- 1.1.2 Parties and Persons
- 1.1.2.1 **"Party"** means the Employer or the Contractor, as the context requires.
- 1.1.2.2 **"Employer"** means the person named as employer in the Contract Agreement and the legal successors in title to this person.
- 1.1.2.3 **"Contractor"** means the person(s) named as contractor in the Contract Agreement and the legal successors in title to this person(s).
- 1.1.2.4 **"Employer's Representative"** means the person named by the Employer in the Contract or appointed from time to time by the Employer under Sub-Clause 3.1 [*The Employer's Representative*], who acts on behalf of the Employer.
- 1.1.2.5 **"Contractor's Representative"** means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [*Contractor's Representative*], who acts on behalf of the Contractor.
- 1.1.2.6 **"Employer's Personnel"** means the Employer's Representative, the assistants referred to in Sub-Clause 3.2 [*Other Employer's Personnel*] and all other staff, labour and other employees of the Employer's Representative, and any other personnel notified to the Contractor, by the Employer or the Employer's Representative, as Employer's Personnel.
- 1.1.2.7 **"Contractor's Personnel"** means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and

- of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.
- 1.1.2.8 “**Subcontractor**” means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.
- 1.1.2.9 “**DAB**” means the person or three persons so named in the Contract, or other person(s) appointed under Sub-Clause 20.2 [*Appointment of the Dispute Adjudication Board*] or Sub-Clause 20.3 [*Failure to Agree Dispute Adjudication Board*].
- 1.1.2.10 “**FIDIC**” means the Federation Internationale des Ingenieurs-Conseils, the international federation of consulting engineers.
- 1.1.3 Dates, Tests, Periods and Completion
- 1.1.3.1 “**Base Date**” means the date 28 days prior to the latest date for submission of the Tender.
- 1.1.3.2 “**Commencement Date**” means the date notified under Sub-Clause 8.1 [*Commencement of Works*], unless otherwise defined in the Contract Agreement.
- 1.1.3.3 “**Time for Completion**” means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [*Time for Completion*], as stated in the Particular Conditions (with any extension under Sub-Clause 8.4 [*Extension of Time for Completion*]), calculated from the Commencement Date.
- 1.1.3.4 “**Tests on Completion**” means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [*Tests on Completion*] before the Works or a Section (as the case may be) are taken over by the Employer.
- 1.1.3.5 “**Taking-Over Certificate**” means a certificate issued under Clause 10 [*Employer’s Taking Over*].
- 1.1.3.6 “**Tests after Completion**” means the tests (if any) which are specified in the Contract and which are carried out under Clause 12 [*Tests after Completion*] after the Works or a Section (as the case may be) are taken over by the Employer.
- 1.1.3.7 “**Defects Notification Period**” means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [*Completion of Outstanding Work and Remedying Defects*], as stated in the Particular Conditions (with any extension under Sub-Clause 11.3 [*Extension of Defects Notification Period*]), calculated from the date on which the Works or Section is completed as certified under Sub-Clause 10.1 [*Taking Over of the Works and Sections*]. If no such period is stated in the Particular Conditions, the period shall be one year.
- 1.1.3.8 “**Performance Certificate**” means the certificate issued under Sub-Clause 11.9 [*Performance Certificate*].
- 1.1.3.9 “**day**” means a calendar day and “**year**” means 365 days.
- 1.1.4 Money and Payments
- 1.1.4.1 “**Contract Price**” means the agreed amount stated in the Contract Agreement for the design, execution and completion of the Works

- and the remedying of any defects, and includes adjustments (if any) in accordance with the Contract.
- 1.1.4.2 **“Cost”** means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.
- 1.1.4.3 **“Final Statement”** means the statement defined in Sub-Clause 14.11 [*Application for Final Payment*].
- 1.1.4.4 **“Foreign Currency”** means a currency in which part (or all) of the Contract Price is payable, but not the Local Currency.
- 1.1.4.5 **“Local Currency”** means the currency of the Country.
- 1.1.4.6 **“Provisional Sum”** means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [*Provisional Sums*].
- 1.1.4.7 **“Retention Money”** means the accumulated retention moneys which the Employer retains under Sub-Clause 14.3 [*Application for Interim Payments*] and pays under Sub-Clause 14.9 [*Payment of Retention Money*].
- 1.1.4.8 **“Statement”** means a statement submitted by the Contractor as part of an application for payment under Clause 14 [*Contract Price and Payment*].
- 1.1.5 Works and Goods
- 1.1.5.1 **“Contractor’s Equipment”** means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor’s Equipment excludes Temporary Works, Employer’s Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.
- 1.1.5.2 **“Goods”** means Contractor’s Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.
- 1.1.5.3 **“Materials”** means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.
- 1.1.5.4 **“Permanent Works”** means the permanent works to be designed and executed by the Contractor under the Contract.
- 1.1.5.5 **“Plant”** means the apparatus, machinery and vehicles intended to form or forming part of the Permanent Works.
- 1.1.5.6 **“Section”** means a part of the Works specified in the Particular Conditions as a Section (if any).
- 1.1.5.7 **“Temporary Works”** means all temporary works of every kind (other than Contractor’s Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.
- 1.1.5.8 **“Works”** mean the Permanent Works and the Temporary Works, or either of them as appropriate.
- 1.1.6 Other Definitions
- 1.1.6.1 **“Contractor’s Documents”** means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature supplied by the Contractor

under the Contract; as described in Sub-Clause 5.2 [*Contractor's Documents*].

- 1.1.6.2 **"Country"** means the country in which the Site (or most of it) is located, where the Permanent Works are to be executed.
- 1.1.6.3 **"Employer's Equipment"** means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the Employer's Requirements; but does not include Plant which has not been taken over by the Employer.
- 1.1.6.4 **"Force Majeure"** is defined in Clause 19 [*Force Majeure*].
- 1.1.6.5 **"Laws"** means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.
- 1.1.6.6 **"Performance Security"** means the security (or securities, if any) under Sub-Clause 4.2 [*Performance Security*].
- 1.1.6.7 **"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 as may be specified in the Contract as forming part of the Site.
- 1.1.6.8 **"Variation"** means any change to the Employer's Requirements or the Works, which is instructed or approved as a variation under Clause 13 [*Variations and Adjustments*].

1.2 Interpretation

In the Contract, except where the context requires otherwise:

- (a) words indicating one gender include all genders;
- (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- (d) "written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

1.3 Communications

Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices and requests, these communications shall be:

- (a) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Particular Conditions; and
- (b) delivered, sent or transmitted to the address for the recipient's communications as stated in the Contract. However:
 - (i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and

- (ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed.

1.4

Law and Language The Contract shall be governed by the law of the country (or other jurisdiction) stated in the Particular Conditions.

If there are versions of any part of the Contract which are written in more than one language, the version which is in the ruling language stated in the Particular Conditions shall prevail.

The language for communications shall be that stated in the Particular Conditions. If no language is stated there, the language for communications shall be the language in which the Contract (or most of it) is written.

1.5

Priority of Documents The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- (a) the Contract Agreement,
- (b) the Particular Conditions,
- (c) these General Conditions,
- (d) the Employer's Requirements,
- (e) the Tender and any other documents forming part of the Contract.

1.6

Contract Agreement The Contract shall come into full force and effect on the date stated in the Contract Agreement. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.

1.7

Assignment Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party:

- (a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and
- (b) may, as security in favour of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.

1.8

Care and Supply of Documents Each of the Contractor's Documents shall be in the custody and care of the Documents Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Employer six copies of each of the Contractor's Documents.

The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Employer's Requirements, the Contractor's Documents, and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.

If a Party becomes aware of an error or defect of a technical nature in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

1.9 Confidentiality Both Parties shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out obligations under it or to comply with applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Employer.

1.10 Employer's Use of Contractor's Documents As between the Parties, the Contractor shall retain the copyright and other intellectual Contractor's Documents property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.

1.11 Contractor's Use of Employer's Documents As between the Parties, the Employer shall retain the copyright and other Employer's intellectual property rights in the Employer's Requirements and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract.

They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

1.12 Confidential Details The Contractor shall not be required to disclose, to the Employer, any information which the Contractor described in the Tender as being confidential. The Contractor shall disclose any other information which the Employer may reasonably require in order to verify the Contractor's compliance with the Contract.

1.13 Compliance with Laws The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Particular Conditions:

- (a) the Employer shall have obtained (or shall obtain) the planning, zoning or similar permission for the Permanent Works, and any other permissions described in the Employer's Requirements as having been (or being) obtained by the Employer; and the Employer shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

- (b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licences and approvals, as required by the Laws in relation to the design, execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so.

1.14 Joint and Several Liability If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:

- (a) these persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract;
- (b) these persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons; and
- (c) the Contractor shall not alter its composition or legal status without the prior consent of the Employer.

2 The Employer

2.1 Right of Access to the Site The Employer shall give the Contractor right of access to, and possession of, all the Site parts of the Site within the time (or times) stated in the Particular Conditions. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Employer shall do so in the time and manner stated in the Employer's Requirements. However, the Employer may withhold any such right or possession until the Performance Security has been received.

If no such time is stated in the Particular Conditions, the Employer shall give the Contractor right of access to, and possession of, the Site with effect from the Commencement Date.

If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 *[Contractor's Claims]* to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 *[Extension of Time for Completion]*, and
- (b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 *[Determinations]* to agree or determine these matters.

However, if and to the extent that the Employer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

2.2 Permits, Licences or Approvals The Employer shall (where he is in a position to do so) provide reasonable assistance to the Contractor at the request of the Contractor:

- (a) by obtaining copies of the Laws of the Country which are relevant to the Contract but are not readily available, and
- (b) for the Contractor's applications for any permits, licences or approvals required by the Laws of the Country:
 - (i) which the Contractor is required to obtain under Sub-Clause 1.13 [*Compliance with Laws*],
 - (ii) for the delivery of Goods, including clearance through customs, and
 - (iii) for the export of Contractor's Equipment when it is removed from the Site.

2.3 Employer's Personnel

The Employer shall be responsible for ensuring that the Employer's Personnel and the Employer's other contractors on the Site:

- (a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [*Co-operation*], and
- (b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [*Safety Procedures*] and under Sub-Clause 4.18 [*Protection of the Environment*].

2.4 Employer's Financial Arrangements

The Employer shall submit, within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Employer to pay the Contract Price (as estimated at that time) in accordance with Clause 14 [*Contract Price and Payment*]. If the Employer intends to make any material change to his financial arrangements, the Employer shall give notice to the Contractor with detailed particulars.

2.5 Employer's Claims

If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, he shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [*Electricity, Water and Gas*], under Sub-Clause 4.20 [*Employer's Equipment and Free-Issue Material*], or for other services requested by the Contractor.

The notice shall be given as soon as practicable after the Employer became aware of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The Employer shall then proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) the amount (if any) which the Employer is entitled to be paid by the Contractor, and/or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [*Extension of Defects Notification Period*].

The Employer may deduct this amount from any moneys due, or to become due, to the Contractor. The Employer shall only be entitled to set off against or make any deduction from an amount due to the Contractor, or to otherwise claim against the Contractor, in accordance with this Sub-Clause or with sub-paragraph (a) and/or (b) of Sub-Clause 14.6 [*Interim Payments*].

3 The Employer's Administration

- 3.1 The Employer's Representative The Employer may appoint an Employer's Representative to act on his behalf under the Contract. In this event, he shall give notice to the Contractor of the name, address, duties and authority of the Employer's Representative.
- The Employer's Representative shall carry out the duties assigned to him, and shall exercise the authority delegated to him, by the Employer. Unless and until the Employer notifies the Contractor otherwise, the Employer's Representative shall be deemed to have the full authority of the Employer under the Contract, except in respect of Clause 15 [*Termination by Employer*].
- If the Employer wishes to replace any person appointed as Employer's Representative, the Employer shall give the Contractor not less than 14 days' notice of the replacement's name, address, duties and authority, and of the date of appointment.
- 3.2 Other Employer's Personnel The Employer or the Employer's Representative may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall not take effect until a copy of it has been received by the Contractor.
- Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [*Law and Language*]
- 3.3 Delegated Persons All these persons, including the Employer's Representative and assistants, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, Inspection, instruction, notice, proposal, request, test, or similar act by a delegated person, in accordance with the delegation, shall have the same effect as though the act had been an act of the Employer. However:
- (a) unless otherwise stated in the delegated person's communication relating to such act, it shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances;
 - (b) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Employer to reject the work, Plant or Materials; and
 - (c) if the Contractor questions any determination or instruction of a delegated person, the Contractor may refer the matter to the Employer, who shall promptly confirm, reverse or vary the determination or instruction.
- 3.4 Instructions The Employer may issue to the Contractor instructions which may be necessary for the Contractor to perform his obligations under the Contract. Each instruction shall be given in writing and shall state the obligations to which relates and the Sub-Clause (or other term of the Contract) in which the obligations are specified. If any such instruction constitutes a Variation, Clause 13 [*Variations and Adjustments*] shall apply.
- The Contractor shall take instructions from the Employer, or from the Employer's Representative or an assistant to whom the appropriate authority has been delegated under this Clause.

3.5
Determinations

Whenever these Conditions provide that the Employer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Employer shall consult with the Contractor in an endeavour to reach agreement. If agreement is not achieved, the Employer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Employer shall give notice to the Contractor of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination, unless the Contractor gives notice, to the Employer, of his dissatisfaction with a determination within 14 days of receiving it. Either Party may then refer the dispute to the DAB in accordance with Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*].

4 The Contractor

4.1

Contractor's
General
Obligations

The Contractor shall design, execute and complete the Works in accordance with the Contract, and shall remedy any defects in the Works. When completed, the Works shall be fit for the purposes for which the Works are intended as defined in the Contract.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

The Works shall include any work which is necessary to satisfy the Employer's Requirements, or is implied by the Contract, and all works which (although not mentioned in the Contract) are necessary for stability or for the completion, or safe and proper operation, of the Works.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations, of all methods of construction and of all the Works.

The Contractor shall, whenever required by the Employer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Employer.

4.2

Performance
Security

The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount and currencies stated in the Particular Conditions. If an amount is not stated in the Particular Conditions, this Sub-Clause shall not apply.

The Contractor shall deliver the Performance Security to the Employer within 28 days after both Parties have signed the Contract Agreement. The Performance Security shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.

The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract in the event of:

- (a) failure by the Contractor to extend the validity of the Performance Security as described in the preceding paragraph, in which event the Employer may claim the full amount of the Performance Security,
- (b) failure by the Contractor to pay the Employer an amount due, as either agreed by the Contractor or determined under Sub-Clause 2.5 [*Employer's Claims*] or Clause 20 [*Claims, Disputes and Arbitration*], within 42 days after this agreement or determination,
- (c) failure by the Contractor to remedy a default within 42 days after receiving the Employer's notice requiring the default to be remedied, or
- (d) circumstances which entitle the Employer to termination under Sub-Clause 15.2 [*Termination by Employer*], irrespective of whether notice of termination has been given.

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 to which the Employer was not entitled to make the claim.

The Employer shall return the Performance Security to the Contractor within 21 days after the Contractor has become entitled to receive the Performance Certificate.

4.3 Contractor's Representative

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.

Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Employer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked, or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Employer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.4 [*Instructions*].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Employer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative and all these persons shall be fluent in the language for communications defined in Sub-Clause 1.4 [*Law and Language*].

4.4 Subcontractors

The Contractor shall not subcontract the whole of the Works.

The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Where specified in the Particular Conditions, the Contractor shall give the Employer not less than 28 days' notice of:

- (a) the intended appointment of the Subcontractor, with detailed particulars which shall include his relevant experience,
- (b) the intended commencement of the Subcontractor's work, and
- (c) the intended commencement of the Subcontractor's work on the Site.

4.5 Nominated Subcontractors In this Sub-Clause, "nominated Subcontractor" means a Subcontractor whom the Subcontractors Employer, under Clause 13 *[Variations and Adjustments]*, instructs the Contractor to employ as a Subcontractor. The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Employer as soon as practicable, with supporting particulars.

4.6 Co-operation The Contractor shall, as specified in the Contract or as instructed by the Employer, allow appropriate opportunities for carrying out work to:

- (a) the Employer's Personnel,
- (b) any other contractors employed by the Employer, and
- (c) the personnel of any legally constituted public authorities,

who may be employed in the execution on or near the Site of any work not included in the Contract.

Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to incur Cost in an amount which was not reasonably foreseeable by an experienced contractor by the date for submission of the Tender. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.

The Contractor shall be responsible for his construction activities on the Site, and shall co-ordinate his own activities with those of other contractors to the extent (if any) specified in the Employer's Requirements.

If, under the Contract, the Employer is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Employer in the time and manner stated in the Employer's Requirements.

4.7 Setting Out The Contractor shall set out the Works in relation to original, points, lines and levels of reference specified in the Contract. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

4.8 Safety Procedures The Contractor shall:

- (a) comply with all applicable safety regulations,
- (b) take care for the safety of all persons entitled to be on the Site,
- (c) use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
- (d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 *[Employer's Taking Over]*, and

- (e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.
- 4.9
Quality Assurance
The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Employer shall be entitled to audit any aspect of the system.
- Details of all procedures and compliance documents shall be submitted to the Employer for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Employer, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.
- Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.
- 4.10
Site Data
The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on subsurface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date.
- The Contractor shall be responsible for verifying and interpreting all such data. The Employer shall have no responsibility for the accuracy, sufficiency or completeness of such data, except as stated in Sub-Clause 5.1 [*General Design Responsibilities*].
- 4.11
Sufficiency of the Contract Price
The Contractor shall be deemed to have satisfied himself as to the correctness and Sufficiency of the sufficiency of the Contract Price.
- Unless otherwise stated in the Contract, the Contract Price covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper design, execution and completion of the Works and the remedying of any defects.
- 4.12
Unforeseeable Difficulties
Except as otherwise stated in the Contract
- (a) the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works;
- (b) by signing the Contract, the Contractor accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works; and
- (c) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs.
- 4.13
Rights of Way and Facilities
The Contractor shall bear all costs and charges for special and/or temporary rights-of-way which he may require, including those for access to the Site. The Contractor shall also obtain, at his risk and cost, any additional facilities outside the Site which he may require for the purposes of the Works.
- 4.14
Avoidance of Interference
The Contractor shall not interfere unnecessarily or improperly with:
- (a) the convenience of the public, or

- (b) the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Employer or of others.

The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

4.15

Access Route

The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

Except as otherwise stated in these Conditions:

- (a) the Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- (b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- (c) the Employer shall not be responsible for any claims which may arise from the use or otherwise of any access route,
- (d) the Employer does not guarantee the suitability or availability of particular access routes, and
- (e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

4.16

Transport of Goods

Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall give the Employer not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- (b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
- (c) 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 Goods, and shall negotiate and pay all claims arising from their transport.

4.17

Contractor's Equipment

The Contractor shall be responsible for all Contractor's Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works.

4.18

Protection of the Environment

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Employer's Requirements, and shall not exceed the values prescribed by applicable Laws.

4.19 Electricity, Water and Gas The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require.

The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Employer's Requirements. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.

The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined in accordance with Sub-Clause 2.5 [*Employer's Claims*] and Sub-Clause 3.5 [*Determinations*]. The Contractor shall pay these amounts to the Employer.

4.20 Employer's Equipment and Free-Issue Material The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Employer's Requirements. Unless otherwise stated in the Employer's Requirements:

- (a) the Employer shall be responsible for the Employer's Equipment, except that
- (b) the Contractor shall be responsible for each item of Employer's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.

The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined in accordance with Sub-Clause 2.5 [*Employer's Claims*] and Sub-Clause 3.5 [*Determinations*]. The Contractor shall pay these amounts to the Employer.

The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Employer's Requirements. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the Employer of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection.

4.21 Progress Reports Unless otherwise stated in the Particular Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Employer in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.

Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

Each report shall include:

- (a) charts and detailed descriptions of progress, including each stage of design, Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection, testing, commissioning and trial operation;

- (b) photographs showing the status of manufacture and of progress on the Site;
- (c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
 - (i) commencement of manufacture,
 - (ii) Contractor's inspections,
 - (iii) tests, and
 - (iv) shipment and arrival at the Site;
- (d) the details described in Sub-Clause 6.10 [*Records of Contractor's Personnel and Equipment*];
- (e) copies of quality assurance documents, test results and certificates of Materials;
- (f) list of Variations, notices given under Sub-Clause 2.5 [*Employer's Claims*] and notices given under Sub-Clause 20.1;
- (g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
- (h) comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

4.22
Security of the
Site

Unless otherwise stated in the Particular Conditions:

- (a) The Contractor shall be responsible for keeping unauthorised persons off the Site, and
- (b) authorised persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by (or on behalf of) the Employer, as authorised personnel of the Employer's other contractors on the Site.

4.23
Contractor's
Operations on
Site

The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Employer as working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.

During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

Upon the issue of the Taking-Over Certificate for the Works, the Contractor shall clear away and remove all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

4.24 Fossils All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, upon discovery of any such finding, promptly give notice to the Employer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [*Extension of Time for Completion*], and
- (b) payment of any such Cost, which shall be added to the Contract Price.

After receiving this further notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.

5 Design

5.1 General Design Obligations The Contractor shall be deemed to have scrutinised, prior to the Base Date, the Obligations the 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 the 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 the Employer or otherwise, shall not relieve the Contractor from his responsibility for the design and execution of the Works.

However, the Employer shall be responsible for the correctness of the following portions of the Employer's Requirements and of the following data and information provided by (or on behalf of) the Employer:

- (a) portions, data and information which are stated in the Contract as being immutable or the responsibility of the 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.

5.2 Contractor's Documents The Contractor's Documents shall comprise the technical documents specified in the Employer's Requirements, documents required to satisfy all regulatory approvals, and the documents described in Sub-Clause 5.6 [*As-Built Documents*] and Sub-Clause 5.7 [*Operation and Maintenance Manuals*]. Unless otherwise stated in the Employer's Requirements, the Contractor's Documents shall be written in the language for communications defined in Sub-Clause 1.4 [*Law and Language*].

The Contractor shall prepare all Contractor's Documents, and shall also prepare any other documents necessary to instruct the Contractor's Personnel.

If the Employer's Requirements describe the Contractor's Documents which are to be submitted to the Employer for review, they shall be submitted accordingly, together with a notice as described below. In the following provisions of this Sub-Clause, (i) "review period" means the period required by the Employer for review, and (ii) "Contractor's Documents" exclude any documents which are not specified as being required to be submitted for review.

Unless otherwise stated in the Employer's Requirements, each review period shall not exceed 21 days, calculated from the date on which the Employer receives a Contractor's Document and the Contractor's notice. This notice shall state that the Contractor's Document is considered ready, both for review in accordance with this Sub-Clause and for use. The notice shall also state that the Contractor's Document complies with the Contract, or the extent to which it does not comply.

The Employer may, within the review period, give notice to the Contractor that a Contractor's Document fails (to the extent stated) to comply with the Contract. If a Contractor's Document so fails to comply, it shall be rectified, resubmitted and reviewed in accordance with this Sub-Clause, at the Contractor's cost.

For each part of the Works, and except to the extent that the Parties otherwise agree:

- (a) execution of such part of the Works shall not commence prior to the expiry of the review periods for all the Contractor's Documents which are relevant to its design and execution;
- (b) execution of such part of the Works shall be in accordance with these Contractor's Documents, as submitted for review; and
- (c) if the Contractor wishes to modify any design or document which has previously been submitted for review, the Contractor shall immediately give notice to the Employer. Thereafter, the Contractor shall submit revised documents to the Employer in accordance with the above procedure.

5.3 Contractor's Undertaking

The Contractor undertakes that the design, the Contractor's Documents, the execution and the completed Works will be in accordance with:

- (a) the Laws in the Country, and
- (b) the documents forming the Contract, as altered or modified by Variations.

5.4 Technical Standards and Regulations

The design, the Contractor's Documents, the execution and the completed Works shall comply with the Country's technical standards, building, construction and environmental Laws, Laws applicable to the product being produced from the Works, and other standards specified in the Employer's Requirements, applicable to the Works, or defined by the applicable Laws.

All these Laws shall, in respect of the Works and each Section, be those prevailing when the Works or Section are taken over by the Employer under Clause 10 [*Employer's Taking Over*]. References in the Contract to published standards shall be understood to be references to the edition applicable on the Base Date, unless stated otherwise.

If changed or new applicable standards come into force in the Country after the Base Date, the Contractor shall give notice to the Employer and (if appropriate) submit proposals for compliance. In the event that:

- (a) the Employer determines that compliance is required, and
- (b) the proposals for compliance constitute a variation,

then the Employer shall initiate a Variation in accordance with Clause 13 *[Variations and Adjustments]*.

5.5
Training

The Contractor shall carry out the training of Employer's Personnel in the operation and maintenance of the Works to the extent specified in the Employer's Requirements. If the Contract specifies training which is to be carried out before taking-over, the Works shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 *[Taking Over of the Works and Sections]* until this training has been completed.

5.6
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 5.2 *[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 10.1 *[Taking Over of the Works and Sections]* until the Employer has received these documents.

5.7
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 10.1 *[Taking Over of the Works and Sections]* 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.

5.8
Design Error

If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Contractor's Documents, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval, under this Clause.

6 Staff and Labour

6.1
Engagement of
Staff
and Labour

Except as otherwise stated in the Employer's Requirements, the Contractor shall and make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.

- 6.2 Rates of Wages and Conditions of Labour The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.
- 6.3 Persons in the Service of Others The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.
- 6.4 Labour Laws The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.
- The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.
- 6.5 Working Hours No work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless:
- (a) otherwise stated in the Contract,
 - (b) the Employer gives consent, or
 - (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Employer.
- 6.6 Facilities for Staff and Labour Except as otherwise stated in the Employer's Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Employer's Requirements.
- The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.
- 6.7 Health and Safety The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.
- The Contractor shall send, to the Employer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Employer may reasonably require.

6.8 Contractor's Superintendence Throughout the design and execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [*Law and Language*]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

6.9 Contractor's Personnel The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Employer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

6.10 Records of Contractor's Personnel and Equipment The Contractor shall submit, to the Employer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Employer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

6.11 Disorderly Conduct The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

7 Plant, Materials and Workmanship

7.1 Manner of Execution The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

- (a) in the manner (if any) specified in the Contract,
- (b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and
- (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

7.2 Samples The Contractor shall submit samples to the Employer, for review in accordance with the procedures for Contractor's Documents described in Sub-Clause 5.2 [*Contractor's Documents*], as specified in the Contract and at the Contractor's cost. Each sample shall be labelled as to origin and intended use in the Works.

7.3 Inspection The Employer's Personnel shall at all reasonable times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and

- (b) during production, manufacture and construction (at the Site and, to the extent specified in the Contract, elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

In respect of the work which Employer's Personnel are entitled to examine, inspect, measure and/or test, the Contractor shall give notice to the Employer whenever any such work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Employer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Employer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Employer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

7.4 Testing

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Employer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

The Employer may, under Clause 13 [*Variations and Adjustments*], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

The Employer shall give the Contractor not less than 24 hours' notice of the Employer's intention to attend the tests. If the Employer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Employer, and the tests shall then be deemed to have been made in the Employer's presence.

If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which the Employer is responsible, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [*Extension of Time for Completion*], and
- (b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.

The Contractor shall promptly forward to the Employer duly certified reports of the tests. When the specified tests have been passed, the Employer shall, endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Employer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

7.5
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 Sub-Clause 2.5 [*Employer's Claims*] pay these costs to the Employer.

7.6
Remedial Work

Notwithstanding any previous test or certification, the Employer may instruct the Contractor to:

- (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
- (b) remove and re-execute any other work which is not in accordance with the Contract, and
- (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.

If the Contractor fails to comply with any such instruction, which complies with Sub-Clause 3.4 [*Instructions*], the Employer shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [*Employer's Claims*] pay to the Employer all costs arising from this failure.

7.7
Ownership of
Plant and
Materials

Each item of Plant and Materials shall, to the extent consistent with the Laws of the Country, 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 Plant and Materials under Sub-Clause 8.10 [*Payment for Plant and Materials in Event of Suspension*].

7.8
Royalties

Unless otherwise stated in the Employer's Requirements, the Contractor shall pay all royalties, rents and other payments for:

- (a) natural Materials obtained from outside the Site, and
- (b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal areas within the Site are specified in the Contract.

8 Commencement, Delays and Suspension

- 8.1 Commencement of Works Unless otherwise stated in the Contract Agreement:
- (a) the Employer shall give the Contractor not less than 7 days' notice of the Commencement Date; and
 - (b) the Commencement Date shall be within 42 days after the date on which the Contract comes into full force and effect under Sub-Clause 1.6 [*Contract Agreement*].
- The Contractor shall commence the design and execution of the Works as soon as is reasonably practicable after the Commencement Date, and, shall then proceed with the Works with due expedition and without delay.
- 8.2 Time for Completion The Contractor shall complete the whole of the Works, end each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:
- (a) achieving the passing of the Tests on Completion, and
 - (b) completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking over under Sub-Clause 10.1 [*Taking Over of the Works and Sections*].
- 8.3 Programme The Contractor shall submit a time programme to the Employer within 28 days after the Commencement Date. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Unless otherwise stated in the Contract, each programme shall include:
- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each major stage of the Works,
 - (b) the periods for reviews under Sub-Clause 5.2 [*Contractor's Documents*],
 - (c) the sequence and timing of inspections and tests specified in the Contract, and
 - (d) a supporting report which includes:
 - (i) a general description of the methods which the Contractor intends to adopt for the execution of each major stage of the Works, and
 - (ii) the approximate number of each class of Contractor's Personnel and of each type of Contractor's Equipment for each major stage.
- Unless the Employer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel, shall be entitled to rely upon the programme when planning their activities.

The Contractor shall promptly give notice to the Employer of specific probable future events or circumstances which may adversely affect or delay the execution of the Works. In this event, or if the Employer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Employer in accordance with this Sub-Clause.

8.4 Extension of Time for Completion of The Contractor shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [*Taking Over of the Works and Sections*] is or will be delayed by any of the following causes:

- (a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [*Variation Procedure*]),
- (b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions, or
- (c) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Employer in accordance with Sub-Clause 20.1 [*Contractor's Claims*]. When determining each extension of time under Sub-Clause 20.1, the Employer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

8.5 Delays Caused by Authorities

If the following conditions apply, namely

- (a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the Country,
- (b) these authorities delay or disrupt the Contractor's work, and
- (c) the delay or disruption was not reasonably foreseeable by an experienced contractor by the date for submission of the Tender,

then this delay or disruption will be considered as a cause of delay under subparagraph (b) of Sub-Clause 8.4 [*Extension of Time for Completion*].

8.6 Rate of Progress

If, at any time:

- (a) actual progress is too slow to complete within the Time for Completion, and/or
- (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [*Programme*],

other than as a result of a cause listed in Sub-Clause 8.4 [*Extension of Time for Completion*], then the Employer may instruct the Contractor to submit, under Sub-Clause 8.3 [*Programme*], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Employer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [*Employer's Claims*] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

8.7
Delay Damages If the Contractor fails to comply with Sub-Clause 8.2 [*Time for Completion*], the Contractor shall subject to Sub-Clause 2.5 [*Employer's Claims*] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Particular Conditions, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Particular Conditions.

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 15.2 [*Termination by Employer*] prior to completion of the Works. 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.

8.8
Suspension of Work The Employer may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.

The Employer may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.

8.9
Consequences of Suspension If the Contractor suffers delay and/or incurs Cost from complying with the Employer's instructions under Sub-Clause 8.8 [*Suspension of Work*] and/or from resuming the work, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [*Extension of Time for Completion*], and
- (b) payment of any such Cost, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.

The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [*Suspension of Work*].

8.10
Payment for Plant and Materials in Event of Suspension The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/or Materials which have not been delivered to Site, if:

- (a) the work on Plant or delivery of Plant and/or Materials, has been suspended for more than 28 days, and

- (b) the Contractor has marked the Plant and/or Materials as the Employer's property in accordance with the Employer's instructions.

8.11

Prolonged
Suspension

If the suspension under Sub-Clause 8.8 [*Suspension of Work*] has continued for more than 84 days, the Contractor may request the Employer's permission to proceed. If the Employer does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Employer, treat the suspension as an omission under Clause 13 [*Variations and Adjustments*] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [*Termination by Contractor*].

8.12

Resumption of
Work

After the permission or instruction to proceed is given, the Parties shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension.

9 Tests on Completion

9.1

Contractor's
Obligations

The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4, [*Testing*] after providing the documents in accordance with Sub-Clause 5.6 [*As-Built Documents*] and Sub-Clause 5.7 [*Operation and Maintenance Manuals*].

The Contractor shall give to the Employer not less than 21 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.

Unless otherwise stated in the Particular Conditions, the Tests on Completion shall be carried out in the following sequence:

- (a) pre-commissioning tests, which shall include the appropriate inspections and ("dry" or "cold") functional tests to demonstrate that each item of Plant can safely under-take the next stage, (b);
- (b) commissioning 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; and
- (c) trial operation, which shall demonstrate that the Works or Section perform reliably and in accordance with the Contract.

During trial operation, 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.

Trial operation shall not constitute a taking-over under Clause 10 [*Employer's Taking Over*]. Unless otherwise stated in the Particular Conditions, any product produced by the Works during trial operation 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 in sub-paragraph (a), (b) or (c), the Contractor shall submit a certified report of the results of these Tests to the Employer.

9.2
Delayed Tests

If the Tests on Completion are being unduly delayed by the Employer, Sub-Clause 7.4 [*Testing*] (fifth paragraph) and/or Sub-Clause 10.3 [*Interference with Tests on Completion*] shall be applicable.

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.

9.3
Retesting

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [*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.

9.4
Failure to Pass
Tests on
Completion

If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [*Retesting*], the Employer shall be entitled to:

- (a) order further repetition of Tests on Completion under Sub-Clause 9.3;
- (b) if the failure deprives the Employer of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Employer shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [*Failure to Remedy Defects*]; or
- (c) issue a Taking-Over Certificate.

In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Employer as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Employer may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.5 [*Employer's Claims*] and Sub-Clause 3.5 [*Determinations*].

10 Employer's Taking Over

10.1
Taking Over of
the Works and
Sections

Except as stated in Sub-Clause 9.4 [*Failure to Pass Tests on Completion*], the Works shall be taken over by the Employer when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [*Time for Completion*] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.

The Contractor may apply by notice to the Employer for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.

The Employer shall, within 28 days after receiving the Contractor's application:

- (a) issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section 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 or Section 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 Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

If the Employer fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 28 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

10.2
Taking Over of
Parts of the
Works

Parts of the Works (other than Sections) shall not be taken over or used by the Employer, except as may be stated in the Contract or as may be agreed by both Parties.

10.3
Interference
with Tests on
Completion

If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Employer is responsible, the Contractor shall carry out the Tests on Completion as soon as practicable.

If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [*Extension of Time for Completion*], and
- (b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.

11 Defects Liability

11.1
Completion of
Outstanding
Work and
Remedying
Defects

In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fair wear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable thereafter, the Contractor shall:

- (a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Employer, and

- (b) execute all work required to remedy defects or damage, as may be notified by the Employer on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).

If a defect appears or damage occurs, the Employer shall notify the Contractor accordingly.

11.2
Cost of
Remedying
Defects

All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [*Completion of Outstanding Work and Remedying Defects*] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:

- (a) the design of the Works,
- (b) Plant, Materials or workmanship not being in accordance with the Contract,
- (c) improper operation or maintenance which was attributable to matters for which the Contractor is responsible (under Sub-Clauses 5.5 to 5.7 or otherwise), or
- (d) failure by the Contractor to comply with any other obligation.

If and to the extent that such work is attributable to any other cause, the Employer shall give notice to the Contractor accordingly, and Sub-Clause 13.3 [*Variation Procedure*] shall apply.

11.3
Extension of
Defects
Notification
Period

The Employer shall be entitled subject to Sub-Clause 2.5 [*Employer's Claims*] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or damage. However, a Defects Notification Period shall not be extended by more than two years.

If delivery and/or erection of Plant and/or Materials was suspended under Sub-Clause 8.8 [*Suspension of Work*] or Sub-Clause 16.1 [*Contractor's Entitlement to Suspend Work*], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/or Materials would otherwise have expired.

11.4
Failure to
Remedy
Defects

If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by (or on behalf of) the Employer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.

If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [*Cost of Remedying Defects*], the Employer may (at his option):

- (a) carry out the work himself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [*Employer's Claims*] pay to the Employer the costs reasonably incurred by the Employer in remedying the defect or damage;
- (b) agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [*Determinations*]; or

- (c) if the defect or damage deprives the Employer of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract or otherwise, the Employer shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

- 11.5
Removal of Defective Work
- If the defect or damage cannot be remedied expeditiously on the Site and the Employer gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.
- 11.6
Further Tests
- If the work of remedying of any defect or damage may affect the performance of the Works, the Employer may require the repetition of any of the tests described in the Contract, including Tests on Completion and/or Tests after Completion. The requirement shall be made by notice within 28 days after the defect or damage is remedied.
- These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [*Cost of Remedying Defects*], for the cost of the remedial work.
- 11.7
Right of Access
- Until the Performance Certificate has been issued, the Contractor shall have the right of access to all parts of the Works and to records of the operation and performance of the Works, except as may be inconsistent with the Employer's reasonable security restrictions.
- 11.8
Contractor to Search
- The Contractor shall, if required by the Employer, search for the cause of any defect, under the direction of the Employer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [*Cost of Remedying Defects*], the Cost of the search plus reasonable profit shall be agreed or determined in accordance with Sub-Clause 3.5 [*Determinations*] and shall be added to the Contract Price.
- 11.9
Performance Certificate
- Performance of the Contractor's obligations shall not be considered to have been completed until the Employer has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.
- The Employer shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Periods, 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 Performance Certificate accordingly:
- (a) the Performance 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 Sub-Clause, and
- (b) Sub-Clause 11.11 [*Clearance of Site*] and sub-paragraph (a) of Sub-Clause 14.14 [*Cessation of Employer's Liability*] shall be inapplicable.
- Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

11.10 Unfulfilled Obligations After the Performance Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

11.11 Clearance of Site Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.

If all these items have not been removed within 28 days after the Employer issues the Performance Certificate, the Employer may sell or otherwise dispose of any remaining items. The Employer shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.

Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Employer's costs, the Contractor shall pay the outstanding balance to the Employer.

12 Tests after Completion

12.1 Procedure for Tests after Completion If Tests after Completion are specified in the Contract, this Clause shall apply. Unless otherwise stated in the Particular Conditions:

- (a) The Employer shall provide all electricity, fuel and materials, and make the Employer's Personnel and Plant available;
- (b) the Contractor shall provide any other plant, equipment and suitably qualified and experienced staff, as are necessary to carry out the Tests after Completion efficiently; and
- (c) the Contractor shall carry out the Tests after Completion in the presence of such Employer's and/or Contractor's Personnel as either Party may reasonably request.

The Tests after Completion shall be carried out as soon as is reasonably practicable after the Works or Section have been taken over by the Employer. The Employer shall give to the Contractor 21 days' notice of the date after which the Tests after Completion will be carried out. Unless otherwise agreed, these Tests shall be carried out within 14 days after this date, on the day or days determined by the Employer.

The results of the Tests after Completion shall be compiled and evaluated by the Contractor, who shall prepare a detailed report. Appropriate account shall be taken of the effect of the Employer's prior use of the Works.

12.2 Delayed Tests If the Contractor incurs Cost as a result of any unreasonable delay by the Employer to the Tests after Completion, the Contractor shall (i) give notice to the Employer and (ii) be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine this Cost and profit.

If, for reasons not attributable to the Contractor, a Test after Completion on the Works or any Section cannot be completed during the Defects Notification Period (or any other period agreed upon by both Parties), then the Works or Section shall be deemed to have passed this Test after Completion.

12.3
Retesting

If the Works, or a Section, fail to pass the Tests after Completion:

- (a) sub-paragraph (b) of Sub-Clause 11.1 *[Completion of Outstanding Work and Remedying of Defects]* shall apply, and
- (b) either Party may then require the failed Tests, and the Tests after Completion on any related work, to be repeated under the same terms and conditions.

If and to the extent that this failure and retesting are attributable to any of the matters listed in sub-paragraphs (a) to (d) of Sub-Clause 11.2 *[Cost of Remedying Defects]* and cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 *[Employer's Claims]* pay these costs to the Employer.

12.4
Failure to Pass
Tests after
Completion

If the following conditions apply, namely:

- (a) the Works or a Section, fail to pass any or all of the Tests after Completion,
- (b) the relevant sum payable as non-performance damages for this failure is stated (or its method of calculation is defined) in the Contract, and
- (c) the Contractor pays this relevant sum to the Employer during the Defects Notification Period,

then the Works or Section shall be deemed to have passed these Tests after Completion.

If the Works, or a Section, fail to pass a Test after Completion and the Contractor proposes to make adjustments or modifications to the Works or such Section, the Contractor may be instructed by (or on behalf of) the Employer that right of access to the Works or Section cannot be given until a time that is convenient to the Employer. The Contractor shall then remain liable to carry out the adjustments or modifications and to satisfy this Test, within a reasonable period of receiving notice by (or on behalf of) the Employer of the time that is convenient to the Employer. However, if the Contractor does not receive this notice during the relevant Defects Notification Period, the Contractor shall be relieved of this obligation and the Works or Section (as the case may be) shall be deemed to have passed this Test after Completion.

If the Contractor incurs additional Cost as a result of any unreasonable delay by the Employer in permitting access to the Works or Plant by the Contractor, either to investigate the causes of a failure to pass a Test after Completion or to carry out any adjustments or modifications, the Contractor shall (i) give notice to the Employer and (ii) be entitled subject to Sub-Clause 20.1 *[Contractor's Claims]* to payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 *[Determinations]* to agree or determine this Cost and profit.

13 Variations and Adjustments

- 13.1
Right to Vary
- Variations may be initiated by the Employer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. A Variation shall not comprise the omission of any work which is to be carried out by others.
- The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Employer stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, (ii) it will reduce the safety or suitability of the Works, or (iii) it will have an adverse impact on the achievement of the Performance Guarantees. Upon receiving this notice, the Employer shall cancel, confirm or vary the instruction.
- 13.2
Value
Engineering
- The Contractor may, at any time, submit to the Employer a written proposal which (in the Contractor's opinion) will, if adopted, (1) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.
- The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [*Variation Procedure*].
- 13.3
Variation
Procedure
- If the Employer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:
- (a) a description of the proposed design and/or work to be performed and a programme for its execution,
 - (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [*Programme*] and to the Time for Completion, and
 - (c) the Contractor's proposal for adjustment to the Contract Price.
- The Employer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [*Value Engineering*] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.
- Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Employer to the Contractor, who shall acknowledge receipt.
- Upon instructing or approving a Variation, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine adjustments to the Contract Price and the Schedule of Payments. These adjustments shall include reasonable profit, and shall take account of the Contractor's submissions under Sub Clause 13.2 [*Value Engineering*] if applicable.
- 13.4
Payment in
Applicable
Currencies
- If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.
- 13.5
Provisional
Sums
- Each Provisional Sum shall only be used, in whole or in part, in accordance with the Employer's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Employer shall have instructed. For each Provisional Sum, the Employer may instruct:

- (a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [*Variation Procedure*]; and/or
- (b) Plant, Materials or services to be purchased by the Contractor, for which there shall be added to the Contract Price less the original Provisional Sums:
 - (i) the actual amounts paid (or due to be paid) by the Contractor, and
 - (ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the Contract.

The Contractor shall, when required by the Employer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

13.6
Daywork

For work of a minor or incidental nature, the Employer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the daywork schedule included in the Contract, and the following procedure shall apply. If a daywork schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods for the work, the Contractor shall submit quotations to the Employer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the daywork schedule specifies that payment is not due, the Contractor shall deliver each day to the Employer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Employer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Employer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [*Application for Interim Payments*].

13.7
Adjustments for
Changes in
Legislation

The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.

If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [*Extension of Time for Completion*], and
- (b) payment of any such Cost, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.

13.8 Adjustments for Changes in Costs If the Contract Price is to be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, the adjustments shall be calculated in accordance with the provisions in the Particular Conditions.

14 Contract Price and Payment

14.1 The Contract Price Unless otherwise stated in the Particular Conditions:

- (a) payment for the Works shall be made on the basis of the lump sum Contract Price, subject to adjustments in accordance with the Contract; and
- (b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs, except as stated in Sub-Clause 13.7 [*Adjustments for Changes in Legislation*].

14.2 Advance Payment The Employer shall make an advance payment, as an interest-free loan for mobilization and design, when the Contractor submits a guarantee in accordance with this Sub-Clause including the details stated in the Particular Conditions. If the Particular Conditions does not state:

- (a) the amount of the advance payment, then this Sub-Clause shall not apply;
- (b) the number and timing of instalments, then there shall be only one;
- (c) the applicable currencies and proportions, then they shall be those in which the Contract Price is payable; and/or
- (d) the amortisation rate for repayments, then it shall be calculated by dividing the total amount of the advance payment by the Contract Price stated in the Contract Agreement less Provisional Sums.

The Employer shall pay the first instalment after receiving (i) a Statement (under Sub-Clause 14.3 [*Application for Interim Payments*]), (ii) the Performance Security in accordance with Sub-Clause 4.2 [*Performance Security*], and (iii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer. Unless and until the Employer receives this guarantee, this Sub-Clause shall not apply.

The Contractor shall ensure that the 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. If the terms of the guarantee 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 guarantee until the advance payment has been repaid.

The advance payment shall be repaid through proportional deductions in interim payments. Deductions shall be made at the amortization rate stated in the Particular Conditions (or, if not so stated, as stated in sub-paragraph (d) above), which shall be applied to the amount otherwise due (excluding the advance payment and deductions and repayments of retention), until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [*Termination by Employer*], Clause 16 [*Suspension and Termination by Contractor*] or Clause 19 [*Force Majeure*] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

14.3
Application for
Interim
Payments

The Contractor shall submit a Statement in six copies to the Employer after the end of the period of payment stated in the Contract (if not stated, after the end of each month), in a form approved by the Employer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the relevant report on progress in accordance with Sub-Clause 4.21 [*Progress Reports*].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (f) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] and Sub-Clause 13.8 [*Adjustments for Changes in Cost*];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Particular Conditions to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Particular Conditions;
- (d) any amounts to be added and deducted for the advance payment and repayments in accordance with Sub-Clause 14.2 [*Advance Payment*];
- (e) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [*Claims, Disputes and Arbitration*]; and
- (f) the deduction of amounts included in previous Statements.

14.4
Schedule of
Payments

If the Contract includes a Schedule of Payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this Schedule:

- (a) the instalments quoted in the Schedule of Payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [*Application for Interim Payments*], subject to Sub-Clause 14.5 [*Plant and Materials intended for the Works*]; and

- (b) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than that on which the Schedule of Payments was based, then the Employer may proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine revised instalments, which shall take account of the extent to which progress is less than that on which the instalments were previously based.

If the Contract does not include a Schedule of Payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

14.5
Plant and
Materials
intended for the
Works

If the Contractor is entitled, under the Contract, to an interim payment for Plant and Materials which are not yet on the Site, the Contractor shall nevertheless not be entitled to such payment unless:

- (a) the relevant Plant and Materials are in the Country and have been marked as the Employer's property in accordance with the Employer's instructions; or
- (b) the Contractor has delivered, to the Employer, evidence of insurance and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to such payment. This guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [*Advance Payment*] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration.

14.6
Interim
Payments

No amount will be paid until the Employer has received and approved the Performance Security. Thereafter, the Employer shall within 28 days after receiving a Statement and supporting documents, give to the Contractor notice of any items in the Statement with which the Employer disagrees, with supporting particulars. Payments due shall not be withheld, except that:

- (a) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Employer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Employer may, by any payment, make any correction or modification that should properly be made to any amount previously considered due. Payment shall not be deemed to indicate the Employer's acceptance, approval, consent or satisfaction.

14.7
Timing
of
Payments

Except as otherwise stated in Sub-Clause 2.5 [*Employer's Claims*], the Employer shall pay to the Contractor:

- (a) the first instalment of the advance payment within 42 days after the date on which the Contract came into full force and effect or within 21 days after the Employer receives the documents in

accordance with Sub-Clause 4.2 [*Performance Security*] and Sub-Clause 14.2 [*Advance Payment*], whichever is later;

- (b) the amount which is due in respect of each Statement, other than the Final Statement, within 56 days after receiving the Statement and supporting documents; and
- (c) the final amount due, within 42 days after receiving the Final Statement and written discharge in accordance with Sub-Clause 14.11 [*Application for Final Payment*] and Sub-Clause 14.12 [*Discharge*].

Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.

14.8
Delayed
Payment

If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [*Timing of Payments*], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice, and without prejudice to any other right or remedy.

14.9
Payment
Retention
Money

of When the Taking-Over Certificate has been issued for the Works, and the Works have passed all specified tests (including the Tests after Completion, if any), the first half of the Retention Money shall be paid to the Contractor. If a Taking-Over Certificate is issued for a Section, the relevant percentage of the first half of the Retention Money shall be paid when the Section passes all tests.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be paid to the Contractor. If a Taking-Over Certificate was issued for a Section, the relevant percentage of the second half of the Retention Money shall be paid promptly after the expiry date of the Defects Notification Period for the Section.

However, if any work remains to be executed under Clause 11 [*Defects Liability*] or Clause 12 [*Tests after Completion*], the Employer shall be entitled to withhold the estimated cost of this work until it has been executed.

The relevant percentage for each Section shall be the percentage value of the Section as stated in the Contract. If the percentage value of a Section is not stated in the Contract, no percentage of either half of the Retention Money shall be released under this Sub-Clause in respect of such Section.

14.10
Statement at
Completion

Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Employer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [*Application for Interim Payments*], showing:

- (a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- (b) any further sums which the Contractor considers to be due, and
- (c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Employer shall then give notice to the Contractor in accordance with Sub-Clause 14.6 [*Interim Payments*] and make payment in accordance with Sub-Clause 14.7 [*Timing of Payments*].

14.11
Application for
Final Payment

Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Employer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Employer:

- (a) the value of all work done in accordance with the Contract, and
- (b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.

If the Employer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Employer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Employer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Parties and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Employer shall pay the agreed parts of the draft final statement in accordance with Sub-Clause 14.6 [*Interim Payments*] and Sub-Clause 14.7 [*Timing of Payments*]. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] or Sub-Clause 20.5 [*Amicable Settlement*], the Contractor shall then prepare and submit to the Employer a Final Statement.

14.12
Discharge

When submitting the Final Statement, the Contractor shall submit a written discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the out-standing balance of this total, in which event the discharge shall be effective on such date.

14.13
Final Payment

In accordance with sub-paragraph (c) of Sub-Clause 14.7 [*Timing of Payments*], the Employer shall pay to the Contractor the amount which is finally due, less all amounts previously paid by the Employer and any deductions in accordance with Sub-Clause 2.5 [*Employer's Claims*].

14.14
Cessation of
Employer's
Liability

The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- (a) in the Final Statement and also
- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [*Statement at Completion*].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

14.15
Currencies of
Payment

The Contract Price shall be paid in the currency or currencies named in the Contract Agreement. Unless otherwise stated in the Particular Conditions, if more than one currency is so named, payments shall be made as follows:

- (a) if the Contract Price was expressed in Local Currency only:
 - (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of

- exchange to be used for calculating the payments, shall be as stated in the Contract Agreement, except as otherwise agreed by both Parties;
- (ii) payments and deductions under Sub-Clause 13.5 [*Provisional Sums*] and Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] shall be made in the applicable currencies and proportions; and
 - (iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [*Application for Interim Payments*] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above;
- (b) payment of the damages specified in the Particular Conditions shall be made in the currencies and proportions specified in the Particular Conditions;
 - (c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;
 - (d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and
 - (e) if no rates of exchange are stated in the Contract, they shall be those prevailing on the Base Date and determined by the central bank of the Country.

15 Termination by Employer

15.1 Notice to Correct If the Contractor fails to carry out any obligation under the Contract, the Employer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.

15.2 Termination by Employer The Employer shall be entitled to terminate the Contract if the Contractor:

- (a) fails to comply with Sub-Clause 4.2 [*Performance Security*] or with a notice under Sub-Clause 15.1 [*Notice to Correct*],
- (b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
- (c) without reasonable excuse fails to proceed with the Works in accordance with Clause 8 [*Commencement, Delays and Suspension*],
- (d) subcontracts the whole of the Works or assigns the Contract without the required agreement,
- (e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or

event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or

- (f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:
 - (i) for doing or forbearing to do any action in relation to the Contract, or
 - (ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract,

or if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination.

In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (e) or (f), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer, under the Contract or otherwise.

The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Employer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

The Employer shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Employer, these items may be sold by the Employer in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

15.3
Valuation at
Date of
Termination

As soon as practicable after a notice of termination under Sub-Clause 15.2 *[Termination by Employer]* has taken effect, the Employer shall proceed in accordance with Sub-Clause 3.5 *[Determinations]* to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

15.4
Payment after
Termination

After a notice of termination under Sub-Clause 15.2 *[Termination by Employer]* has taken effect, the Employer may:

- (a) proceed in accordance with Sub-Clause 2.5 *[Employer's Claims]*,
- (b) with-hold further payments to the Contractor until the costs of design, execution, completion and remedying of any defects,

damages for delay in completion (if any), and all other costs incurred by the Employer, have been established, and/or

- (c) recover from the Contractor any losses and damages incurred by the Employer and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [*Valuation at Date of Termination*]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor.

15.5 Employer's Entitlement to Termination to The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Employer returns the Performance Security. The Employer shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor.

After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [*Cessation of Work and Removal of Contractor's Equipment*] and shall be paid in accordance with Sub-Clause 19.6 [*Optional Termination, Payment and Release*].

16 Suspension and Termination by Contractor

16.1 Contractor's Entitlement to Suspend Work If the Employer fails to comply with Sub-Clause 2.4 [*Employer's Financial Arrangements*] or Sub-Clause 14.7 [*Timing of Payments*], the Contractor may, after giving not less than 21 days' notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the reasonable evidence or payment, as the case may be and as described in the notice.

The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [*Delayed Payment*] and to termination under Sub-Clause 16.2

[*Termination by Contractor*].

If the Contractor subsequently receives such evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.

If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [*Extension of Time for Completion*], and
- (b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.

16.2 Termination by Contractor The Contractor shall be entitled to terminate the Contract if:

- (a) the Contractor does not receive the reasonable evidence within 42 days after giving notice under Sub-Clause 16.1 [*Contractor's*

Entitlement to Suspend Work] in respect of a failure to comply with Sub-Clause 2.4 [*Employer's Financial Arrangements*],

- (b) the Contractor does not receive the amount due within 42 days after the expiry of the time stated in Sub-Clause 14.7 [*Timing of Payments*] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [*Employer's Claims*]),
- (c) the Employer substantially fails to perform his obligations under the Contract,
- (d) the Employer fails to comply with Sub-Clause 1.7 [*Assignment*],
- (e) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [*Prolonged Suspension*], or
- (f) the Employer becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.

In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Employer, terminate the Contract. However, in the case of sub-paragraph (e) or (f), the Contractor may by notice terminate the Contract immediately.

The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract or otherwise.

16.3
Cessation of
Work and
Removal of
Contractor's
Equipment

After a notice of termination under Sub-Clause 15.5 [*Employer's Entitlement to Termination*], Sub-Clause 16.2 [*Termination by Contractor*] or Sub-Clause 19.6 [*Optional Termination, Payment and Release*] has taken effect, the Contractor shall promptly:

- (a) cease all further work, except for such work as may have been instructed by the Employer for the protection of life or property or for the safety of the Works,
- (b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
- (c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

16.4
Payment on
Termination

After a notice of termination under Sub-Clause 16.2 [*Termination by Contractor*] has taken effect, the Employer shall promptly:

- (a) return the Performance Security to the Contractor,
- (b) pay the Contractor in accordance with Sub-Clause 19.6 [*Optional Termination, Payment and Release*], and
- (c) pay to the Contractor the amount of any loss of profit or other loss or damage sustained by the Contractor as a result of this termination.

17 Risk and Responsibility

17.1
Indemnities

The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all 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 design, execution and completion of the Works and the remedying of any defects, 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 design, execution and completion of the Works and the remedying of any defects, and
 - (ii) is not attributable to any negligence, wilful act or breach of the Contract by the Employer, the Employer's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

The Employer shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, 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 (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [*Insurance Against Injury to Persons and Damage to Property*].

17.2
Contractor's Care of
the Works

The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [*Taking Over of the Works and Sections*]) for the Works, when responsibility for the care of the Works shall pass to the Employer. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section of the Works, responsibility for the care of the Section shall then pass to the Employer.

After responsibility has accordingly passed to the Employer, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [*Employer's Risks*], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which

occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

17.3
Employer's Risks

The risks referred to in Sub-Clause 17.4 below are:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country,
- (c) riot, commotion or disorder within the Country by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors,
- (d) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and.
- (e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

17.4
Consequences of
Employer's Risks

If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Employer and shall rectify this loss or damage to the extent required by the Employer.

If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [*Extension of Time for Completion*], and
- (b) payment of any such Cost, which shall be added to the Contract Price.

After receiving this further notice, the Employer shall proceed in accordance with Sub Clause 3.5 [*Determinations*] to agree or determine these matters.

17.5
Intellectual and
Industrial Property
Rights

In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other Rights intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.

Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

The Employer shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:

- (a) an unavoidable result of the Contractor's compliance with the Employer's Requirements, or
- (b) a result of any Works being used by the Employer:
 - (i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or

- (ii) in conjunction with any thing not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

The Contractor shall indemnify and hold the Employer harmless against and from any other claim which arises out of or in relation to (i) the Contractor's design, manufacture, construction or execution of the Works, (ii) the use of Contractor's Equipment, or (iii) the proper use of the Works.

If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

17.6

Limitation of Liability

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 16.4 [*Payment on Termination*] and Sub-Clause 17.1 [*Indemnities*].

The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [*Electricity, Water and Gas*], Sub-Clause 4.20 [*Employer's Equipment and Free-Issue Material*], Sub-Clause 17.1 [*Indemnities*] and Sub-Clause 17.5 [*Intellectual and Industrial Property Rights*], shall not exceed the sum stated in the Particular Conditions or (if a sum is not so stated) the Contract Price stated in the Contract Agreement.

This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

18 Insurance

18.1

General Requirements for Insurance

In this Clause, "insuring Party" means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.

Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Employer. These terms shall be consistent with any terms agreed by both Parties before they signed the Contract Agreement. This agreement of terms shall take precedence over the provisions of this Clause.

Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms consistent with the details annexed to the Particular Conditions.

If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Employer shall act for Employer's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party

shall require all additional joint insured to comply with the conditions stipulated in the policy.

Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.

The relevant insuring Party shall, within the respective periods stated in the Particular Conditions (calculated from the Commencement Date), submit to the other Party:

- (a) evidence that the insurances described in this Clause have been effected, and
- (b) copies of the policies for the insurances described in Sub-Clause 18.2 [*Insurance of Works and Contractor's Equipment*] and Sub-Clause 18.3 [*Insurance against Injury to Persons and Damage to Property*].

When each premium is paid, the insuring Party shall submit evidence of payment to the other Party.

Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.

Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.

If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.

Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Employer, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Employer in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.

Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [*Employer's Claims*] or Sub-Clause 20.1 [*Contractor's Claims*], as applicable.

18.2
Insurance for Works
and Contractor's
Equipment

The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [*General*

Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.

The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor or Subcontractors in the course of any other operations (including those under Clause 11 [*Defects Liability*] and Clause 12 [*Tests after Completion*]).

The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.

Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:

- (a) shall be effected and maintained by the Contractor as insuring Party,
- (b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated between the Parties for the sole purpose of rectifying the loss or damage,
- (c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [*Employer's Risks*],
- (d) shall also cover loss or damage from the risks listed in sub-paragraph (c) of Sub-Clause 17.3 [*Employer's Risks*], with deductibles per occurrence of not more than the amount stated in the Particular Conditions (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
- (e) may however exclude loss of, damage to, and reinstatement of:
 - (i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
 - (ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
 - (iii) a part of the Works which has been taken over by the Employer, except to the extent that the Contractor is liable for the loss or damage, and
 - (iv) Goods while they are not in the Country, subject to Sub-Clause 14.5 [*Plant and Materials intended for the Works*].

If, more than one year after the Base Date, the cover described in subparagraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Employer, with supporting particulars. The Employer shall then (i) be entitled subject to Sub-Clause 2.5 [*Employer's Claims*] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [*General Requirements for Insurances*].

18.3
Insurance against
Injury to Persons and
Damage to Property

The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [*Insurance for Works and Contractor's Equipment*]) or to any person (except persons insured under Sub-Clause 18.4 [*Insurance for Contractor's Personnel*]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

This insurance shall be for a limit per occurrence of not less than the amount stated in the Particular Conditions, with no limit on the number of occurrences. If an amount is not stated in the Contract, this Sub-Clause shall not apply.

Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:

- (a) shall be effected and maintained by the Contractor as insuring Party,
- (b) shall be in the joint names of the Parties,
- (c) shall be extended to cover liability for all loss and damage to the Employer's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and
- (d) may however exclude liability to the extent that it arises from:
 - (i) the Employer's right to have the Permanent Works executed on, over, under, in or through any land, and to occupy this land for the Permanent Works,
 - (ii) damage which is an unavoidable result of the Contractor's obligations to execute the Works and remedy any defects, and
 - (iii) a cause listed in Sub-Clause 17.3 [*Employer's Risks*], except to the extent that cover is available at commercially reasonable terms.

18.4
Insurance for
Contractor's
Personnel

The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.

The Employer shall also be indemnified under the policy of insurance, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.

The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.

19 Force Majeure

19.1 Definition of Force Majeure

In this Clause, "Force Majeure" means an exceptional event or circumstance:

- (a) which is beyond a Party's control,
- (b) which such Party could not reasonably have provided against before entering into the Contract,
- (c) which, having arisen, such Party could not reasonably have avoided or overcome, and
- (d) which is not substantially attributable to the other Party.

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (ii) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war,
- (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel and other employees of the Contractor and Sub-contractors,
- (iv) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
- (v) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

19.2 Notice of Force Majeure

If a Party is or will be prevented from performing any of its obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

The Party shall, having given notice, be excused performance of such obligations for so long as such Force Majeure prevents it from performing them.

Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

- 19.3
Duty to Minimise
Delay
- Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure.
- A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.
- 19.4
Consequences of
Force Majeure
- If the Contractor is prevented from performing any of his obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [*Notice of Force Majeure*], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to:
- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [*Extension of Time for Completion*], and
 - (b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [*Definition of Force Majeure*] and, in the case of sub-paragraphs (ii) to (iv), occurs in the Country, payment of any such Cost.
- After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.
- 19.5
Force Majeure
Affecting
Subcontractor
- If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.
- 19.6
Optional Termination,
Payment and Release
- If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [*Notice of Force Majeure*], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [*Cessation of Work and Removal of Contractor's Equipment*].
- Upon such termination, the Employer shall pay to the Contractor:
- (a) the amounts payable for any work carried out for which a price is stated in the Contract;
 - (b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal;
 - (c) any other Cost or liability which in the circumstances was reasonably incurred by the Contractor in the expectation of completing the Works;
 - (d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and

- (e) the Cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.

19.7
Release from
Performance under
the Law

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- (b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [*Optional Termination, Payment and Release*] if the Contract had been terminated under Sub-Clause 19.6.

20 Claims, Disputes and Arbitration

20.1
Contractor's Claims

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Employer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Employer. Without admitting liability, the Employer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Employer to inspect all these records, and shall (if instructed) submit copies to the Employer.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Employer, the Contractor shall send to the Employer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;

- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Employer may reasonably require; and
- (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Employer.

Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Employer and approved by the Contractor, the Employer shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such time.

Each interim payment shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

The Employer shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [*Extension of Time for Completion*], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

20.2
Appointment of the
Dispute Adjudication
Board

Disputes shall be adjudicated by a DAB in accordance with Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*]. The Parties shall jointly appoint a DAB by the date 28 days after a Party gives notice to the other Party of its intention to refer a dispute to a DAB in accordance with Sub-Clause 20.4.

The DAB shall comprise, as stated in the Particular Conditions, either one or three suitably qualified persons ("the members"). If the number is not so stated and the Parties do not agree otherwise, the DAB shall comprise three persons.

If the DAB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The Parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman.

However, if a list of potential members is included in the Contract, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DAB.

The agreement between the Parties and either the sole member (“adjudicator”) or each of the three members shall incorporate by reference the General Conditions of Dispute Adjudication Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.

The terms of the remuneration of either the sole member or each of the three members, shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

If at any time the Parties so agree, they may appoint a suitably qualified person or persons to replace any one or more members of the DAB. Unless the Parties agree otherwise, the appointment will come into effect if a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment. The replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DAB (including each member) shall expire when the DAB has given its decision on the dispute referred to it under Sub-Clause 20.4, [*Obtaining Dispute Adjudication Board Decision*], unless other disputes have been referred to the DAB by that time under Sub-Clause 20.4, in which event the relevant date shall be when the DAB has also given decisions on those disputes.

20.3
Failure to Agree
Dispute Adjudication
Board

If any of the following conditions apply, namely:

- (a) the Parties fail to agree upon the appointment of the sole member of the DAB by the date stated in the first paragraph of Sub-Clause 20.2,
- (b) either Party fails to nominate a member (for approval by the other Party) of a DAB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DAB by such date, or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity or official named in the Particular Conditions shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DAB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

20.4
Obtaining Dispute
Adjudication Board's
Decision

If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Employer, then after a DAB has been appointed pursuant to Sub-Clauses 20.2 [*Appointment of the Dispute Adjudication Board*] and 20.3 [*Failure to Agree Dispute Adjudication Board*], either Party may refer the dispute in writing to the DAB for its decision, with a copy to the other Party. Such reference shall state that it is given under this Sub-Clause.

For a DAB of three persons, the DAB shall be deemed to have received such reference on the date when it is received by the chairman of the DAB.

Both Parties shall promptly make available to the DAB all information, access to the Site, and appropriate facilities, as the DAB may require for the purposes of making a decision on such dispute. The DAB shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or the advance payment referred to in Clause 6 of the Appendix - General Conditions of Dispute Adjudication Agreement, whichever date is later, or within such other period as may be proposed by the DAB and approved by both Parties, the DAB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. However, if neither of the Parties has paid in full the invoices submitted by each member pursuant to Clause 6 of the Appendix, the DAB shall not be obliged to give its decision until such invoices have been paid in full. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DAB's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction. If the DAB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference or such payment, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction.

In either event, this notice of dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in Sub-Clause 20.7 [*Failure to Comply with Dispute Adjudication Board's Decision*] and Sub-Clause 20.8 [*Expiry of Dispute Adjudication Board's Appointment*], neither Party shall be entitled to commence arbitration of a dispute unless a notice of dissatisfaction has been given in accordance with this Sub-Clause.

If the DAB has given its decision as to a matter in dispute to both Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the DAB's decision, then the decision shall become final and binding upon both Parties.

20.5
Amicable Settlement

Where notice of dissatisfaction has been given under Sub-Clause 20.4 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.

20.6
Arbitration

Unless settled amicably, any dispute in respect of which the DAB's decision (if any) has not become final and binding shall be finally settled by international arbitration. Unless otherwise agreed by both Parties:

- (a) the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce,
- (b) the dispute shall be settled by three arbitrators appointed in accordance with these Rules, and
- (c) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [*Law and Language*].

The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of (or on behalf of) the Employer, and any decision of the DAB, relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the DAB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DAB shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties and the DAB shall not be altered by reason of any arbitration being conducted during the progress of the Works.

20.7
Failure to Comply with
Dispute Adjudication
Board's Decision

In the event that:

- (a) neither Party has given notice of dissatisfaction within the period stated in Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*],
- (b) the DAB's related decision (if any) has become final and binding, and
- (c) a Party fails to comply with this decision,

then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 20.6 [*Arbitration*]. Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] and Sub-Clause 20.5 [*Amicable Settlement*] shall not apply to this reference.

20.8
Expiry of Dispute
Adjudication Board's
Appointment

If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DAB in place, whether by reason of the expiry of the DAB's appointment or otherwise:

- (a) Sub-Clause 20.4 [*Obtaining Dispute Adjudication Board's Decision*] and Sub-Clause 20.5 [*Amicable Settlement*] shall not apply, and
- (b) the dispute may be referred directly to arbitration under Sub-Clause 20.6 [*Arbitration*].

APPENDIX**GENERAL CONDITIONS OF DISPUTE ADJUDICATION AGREEMENT**

- 1
Definitions
- Each "Dispute Adjudication Agreement" is a tripartite agreement by and between:
- (a) the "Employer";
 - (b) the "Contractor"; and
 - (c) the "Member" who is defined in the Dispute Adjudication Agreement as being:
 - (i) the sole member of the "DAB" (or "adjudicator") and, where this is the case, all references to the "Other Members" do not apply,

or

 - (ii) one of the three persons who are jointly called the "DAB" (or "dispute adjudication board") and, where this is the case, the other two persons are called the "Other Members".
- The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Adjudication Agreement, which incorporates this Appendix. In the Dispute Adjudication Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.
- 2
General Provisions
- The Dispute Adjudication Agreement shall take effect when the Employer, the Contractor and each of the Members (or Member) have respectively each signed a dispute adjudication agreement.
- When the Dispute Adjudication Agreement has taken effect, the Employer and the Contractor shall each give notice to the Member accordingly. If the Member does not receive either notice within six months after entering into the Dispute Adjudication Agreement, it shall be void and ineffective.
- This employment of the Member is a personal appointment. No assignment or subcontracting of the Dispute Adjudication Agreement is permitted without the prior written agreement of all the parties to it and of the Other Members (if any).
- 3
Warranties
- The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Employer's Representative. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.
- When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is:
- (a) experienced in the work which the Contractor is to carry out under the Contract,
 - (b) experienced in the interpretation of contract documentation, and

- (c) fluent in the language for communications defined in the Contract.

4 The Member shall:

General Obligations of the Member

- (a) have no interest financial or otherwise in the Employer or the Contractor, nor any financial interest in the Contract except for payment under the Dispute Adjudication Agreement;
- (a) not previously have been employed as a consultant or otherwise by the Employer or the Contractor, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Adjudication Agreement;
- (b) have disclosed in writing to the Employer, the Contractor and the Other Members (if any), before entering into the Dispute Adjudication Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Employer or the Contractor, and any previous involvement in the overall project of which the Contract forms part;
- (c) not, for the duration of the Dispute Adjudication Agreement, be employed as a consultant or otherwise by the Employer or the Contractor, except as may be agreed in writing by the Employer, the Contractor and the Other Members (if any);
- (d) comply with the annexed procedural rules and with Sub-Clause 20.4 of the Conditions of Contract;
- (e) not give advice to the Employer, the Contractor, the Employer's Personnel or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- (f) not while a Member enter into discussions or make any agreement with the Employer or the Contractor regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Adjudication Agreement;
- (g) ensure his/her availability for any site visit and hearings as are necessary; and
- (h) treat the details of the Contract and all the DAB's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor and the Other Members (if any).

5 General Obligations of the Employer and the Contractor

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contractor otherwise than in the normal course of the DAB's activities under the Contract and the Dispute Adjudication Agreement, and except to the extent that prior agreement is given by the Employer, the Contractor and the Other Members (if any). The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any):

- (a) be appointed as an arbitrator in any arbitration under the Contract;
- (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or
- (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he/she is relieved from liability under the preceding paragraph.

6 Payment

The Member shall be paid as follows, in the currency named in the Dispute Adjudication Agreement:

- (a) a daily fee which shall be considered as payment in full for:
 - (i) each working day spent reading submissions, attending hearings (if any), preparing decisions, or making site visits (if any); and
 - (i) each day or part of a day up to maximum of two days travel time in each direction for the journey (if any) between the Member's home and site or any other location of a meeting with Other Members (if any) and/or the Employer and the Contractor;
- (b) all reasonable expenses incurred in connection with the Member's duties, including the cost of secretarial services, telephone calls, courier charges, faxes and telexes, travel expenses, hotel and subsistence costs; a receipt shall be required for each item in excess of five percent of the daily fee referred to in sub-paragraph (a) of this Clause; and
- (c) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The daily fee shall be as specified in the Dispute Adjudication Agreement.

Immediately after the Dispute Adjudication Agreement takes effect, the Member shall, before engaging in any activities under the Dispute Adjudication Agreement, submit to the Contractor, with a copy to the Employer, an invoice for (a) an advance of twenty-five (25) percent of the estimated total amount of daily fees to which he/she will be entitled and (b) an advance equal to the estimated total expenses that he/she shall incur in connection with his/her duties. Payment of such invoice shall be made by the Contractor upon his receipt of the invoice. The Member shall not be obliged to engage in activities under the Dispute Adjudication Agreement until each of the Members has been paid in full for invoices submitted under this paragraph.

Thereafter the Member shall submit to the Contractor, with a copy to the Employer, invoices for the balance of his/her daily fees and expenses, less the amounts advanced. The DAB shall not be obliged to render its decision until invoices for all daily fees and expenses of each Member for making a decision shall have been paid in full.

Unless paid earlier in accordance with the above, the Contractor shall pay each of the Member's invoices in full within 28 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Adjudication Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the DAB; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in Sub-Clause 14.8 of the Conditions of Contract.

If the Member does not receive payment of the amount due within 28 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice to the Employer and the Contractor. The notice shall take effect when received by them both. Any such notice shall be final and binding on the Employer, the Contractor and the Member.

7
Default of the Member

If the Member fails to comply with any obligation under Clause 4, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the DAB which are rendered void or ineffective.

8
Default of the Member

Any dispute or claim arising out of or in connection with this Dispute Adjudication Agreement, or the breach, termination or invalidity thereof, shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.

Annex PROCEDURAL RULES

- 1 The Employer and the Contractor shall furnish to the DAB one copy of all documents which the DAB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the matter in dispute. All communications between the DAB and the Employer or the Contractor shall be copied to the other Party. If the DAB comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.
- 2 The DAB shall proceed in accordance with Sub-Clause 20.4 and these Rules. Subject to the time allowed to give notice of a decision and other relevant factors, the DAB shall:
 - (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case, and
 - (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.
- 3 The DAB may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.
- 4 Except as otherwise agreed in writing by the Employer and the Contractor, the DAB shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer and the Contractor, and to proceed in the absence of any party who the DAB is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.
- 5 The Employer and the Contractor empower the DAB, among other things, to:
 - (a) establish the procedure to be applied in deciding a dispute,
 - (b) decide upon the DAB's own jurisdiction, and as to the scope of any dispute referred to it,
 - (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Rules,
 - (d) take the initiative in ascertaining the facts and matters required for a decision,
 - (e) make use of its own specialist knowledge, if any,
 - (f) decide upon the payment of financing charges in accordance with the Contract,
 - (g) decide upon any provisional relief such as interim or conservatory measures, and
 - (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Employer, relevant to the dispute.

6

The DAB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DAB shall make and give its decision in accordance with Sub-Clause 20.4, or as otherwise agreed by the Employer and the Contractor in writing. If the DAB comprises three persons:

- (a) it shall convene in private after a hearing, if any, in order to have discussions and prepare its decision;
- (b) it shall endeavour to reach a unanimous decision: if this proves impossible, the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
- (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless:
 - (i) either the Employer or Contractor does not agree that they do so,
 - (ii) or the absent Member is the chairman, and he/she instructs the other Members to not make a decision.

Section X. Particular Conditions of Contract

The following Particular Conditions of Contract (PCC) shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
1.1.1	<p><i>Add under 1.1.1.1 "Contract" the sentence:</i></p> <p>"The Contract requires the non-objection by the Bank for becoming eligible for any disbursement under the Bank's loan."</p>
1.1.2.2 & 1.3	<p>Employer's name and address:</p> <p>Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects</p> <p>Address: No. 12, Phan Kinh Street, Truong Vinh Ward, Nghe An Province</p> <p>Telephone: Fax:</p>
1.1.2.4 & 1.3	<p>Employer's Representative: Nghe An PMU for Construction Investment of Industrial and Civil Construction Projects</p>
1.1.2.11	<p><i>Add new Sub-Clause 1.1.2.11</i></p> <p>Bank's name: Kreditanstalt für Wiederaufbau (KfW) (German Development Bank)</p>
1.1.2.12	<p><i>Add new Sub-Clause 1.1.2.12</i></p> <p>The Borrower is: The Socialist Republic of Viet Nam</p>
1.1.3.3	<p>Time for Completion: 240 days from the Commencement Date for EPC works followed by 365 days for WWTP operation (included 365 days DNP)</p>
1.1.3.7	<p>Defects Notification Period: 365 days.</p>
1.3	<p>Electronic transmission system: email</p>
1.4	<p>Ruling language: English</p> <p>Language for communications: English and Vietnamese</p> <p>Governing Law: Viet Nam</p> <p>The EPC contract shall comply with the following principles as prescribed by Vietnamese Law:</p> <p>Before signing the EPC contract, the parties must specifically agree on the following main contents:</p> <p>a) Scope of work expected to be performed under the EPC contract;</p> <p>b) Construction location, project route, type and level of project; scale, capacity and selected product plan, exploitation and usage capacity;</p> <p>c) Information on documents and data on natural conditions, engineering geology, hydrogeology, and hydrology of the area where the project is constructed;</p> <p>d) Construction design requirements and some initial design parameters;</p> <p>đ) Technological, technical, equipment and commercial solutions; origin of equipment and products; technological solutions for connection to adapt to existing technical systems (if any);</p>

	<p>e) Technical infrastructure connection plan inside and outside the project area; fire and explosion prevention and fighting solutions within the scope of the EPC package;</p> <p>g) Construction solutions, main materials used;</p> <p>h) Requirements on construction quality management, testing, trial operation, warranty and maintenance of works;</p> <p>i) Solutions on architecture, floor plan, cross section, construction site elevation, dimensions, and main structure of construction works within the scope of the EPC package;</p> <p>k) List and level of application of technical standards and regulations used in design, equipment supply and construction of works;</p> <p>l) Technical instructions for materials, equipment, technical services; operating procedures for each part and the entire project within the scope of the EPC package;</p> <p>m) Requirements on environmental protection, safety assurance, fire and explosion prevention and other issues;</p> <p>n) Requirements relating to approval procedures; number of types of records, documents and timelines to be submitted to the Employer;</p> <p>o) Implementation schedule and milestones for completion of major works, project items and the entire project to put into operation and use;</p> <p>p) Delineation of responsibilities between the Employer and the contractor regarding the provision of electricity, water, communications, internal roads and other services available on the construction site and the handling of interfaces between bid packages within the same construction project.</p>
1.15	<p><i>Add new Sub-Clause 1.15 "Inspections and Audits by KfW":</i></p> <p>"The Contractor shall permit, and shall cause its agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit, KfW and/or persons appointed by the KfW to inspect the Site and all accounts and records relating to the performance of the Contract and the submission of the Bid, and to have such accounts and records audited by auditors appointed by KfW if requested by KfW.</p> <p>The Contractor's attention is drawn to Sub-Clause 15.6 [Corrupt or Fraudulent Practices] which provides, inter alia, that acts intended to materially impede the exercise of KfW's inspection and audit rights provided for under Sub-Clause 1.15 constitute a prohibited practice subject to contract termination."</p>
2.1	Time for access to the Site: 03 days after Commencement Date
4.2	The performance security will be in the form of an unconditional bank guarantee in the amount(s) of 10% of the contract price. In cases the institution issuing the security is located outside Vietnam, it shall have a correspondent financial institution located in the territory of Vietnam to make it enforceable.
4.21	Progress reports shall additionally include reporting requirements on environmental and health & safety issues according to Vietnamese regulations.
5.1	Period for notifying unforeseeable errors, faults and defects in the Employer's Requirements: 14 days after Commencement Date
6.5	<p>Normal working hours:</p> <p>Morning: 7h30 – 11h30</p> <p>Afternoon: 13h00 – 17h00</p>

8.7 & 14.15(b)	<p>Delay damages 0.1% of the final Contract Price per day, in the currencies and proportions in which the Contract Price is payable.</p> <p>Maximum amount of delay damages is 10 % of the final Contract Price.</p>
10.1	Taking-Over Certificate will be issued after the end of DNP and O&M
13.8	Contract price shall be lump-sum
14.1(b)	The applicable taxes, duties and fees are detailed in Appendix 5 to these Particular Conditions of Contract.
14.2	Total advance payment: 10% Percentage of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable.
14.3(c)	<p>Percentage of Retention: 10% of contract expenditure</p> <p>Limit of Retention Money: 10% of the Accepted Contract Amount</p>
14.4	<p>Schedule of Payments:</p> <p><u>1. First payment (Design):</u> 30% of the contract amount, minus retention as per GCC 14.3 (c) and deduction of 35% of repayment amortization of advance payment after the necessary investigations, surveys are completed and detail design is accepted by Employer and certified by the Employer's Representative.</p> <p><u>2. Second payment (Construction / (Tests on Completion of wastewater treatment plants and collection systems):</u> 50% of the contract amount, minus retention as per GCC 14.3 (c) and deduction of 65% of repayment amortization of advance payment after completion of civil works, installation, testing and (pre-)commissioning of the wastewater plants and collection systems (successful Test on Completion) accepted by the Employer and certified by the Employer's Representative.</p> <p><u>3. Third payment (Training, O&M of 1 year and DNP):</u> 20% of the contract amount after the Contractor completes the training, O&M of 1 year and DNP and issuing the Taking-Over Certificate and complete the contract settlement according to Vietnamese regulations..</p>
15.6	<p><i>Add the following at the end of the Sub-Clause „Corrupt or Fraudulent Practices“:</i></p> <p>“In addition to the provisions of this Sub-Clause, the Contractor is also bound by the provisions found under Appendix 1 to the Particular Conditions of Contract, named “KfW Policy – Sanctionable Practice – Social and Environmental Responsibility”.”</p>
17.6	Maximum total liability of the Contractor to the Employer: 1.2 times of the Accepted Contract Price
18.1	Period for submission of evidence of insurance and policy is 28 days
18.2(d)	<p>The minimum insurance amounts shall be:</p> <ul style="list-style-type: none"> a) for Works, Plant and Materials: (i) for Works: coverage for 100% of real loss value of works but not over the works value; (ii) for Plant and Materials: coverage for 100% of real loss value of Plant and Materials but not over insurance premium. b) for loss or damage to Equipment: coverage for 100% of real loss value of equipment but not over equipment value. c) for loss or damage to property (except Works, Plant, Materials, and Equipment) in connection with the Contract: coverage for 100% of real loss value of property. d) for personal injury or death: of the Contractor's employees: coverage for personal injury or death 50,000,000 VND/ person (minimum);

	<p>The Employer will reserve the right to approve the source of insurance coverage to be provided by the Contractor;</p> <p>Evidence of insurance coverage will have to be provided prior to commencement of Works.</p> <p>The Employer will retain the right to approve both the insurance coverage levels and the source of Insurance Coverage; taking into account that the Insurance Provider will need to demonstrate that it has:</p> <ul style="list-style-type: none"> (i) Been in the insurance industry for no less than 5 years. (ii) Provided the insurance coverage for a minimum of 1 similar contract over the last 5 years. (iii) Minimum Annual Insurance Coverage Turnover of US \$3 million.
18.3	Minimum amount of third party insurance: 50,000,000 VND /occurrences and unlimited occurrences
20.2	<p>Date by which the DAB shall be appointed: 28 days after the Commencement</p> <p>The DAB shall be comprising of one (1) member</p>
20.3	Appointment (if not agreed) to be made by: Vietnam International Arbitration Centre (VIAC). http://eng.viac.vn/
20.6	Place of Arbitration: Vietnam

Appendix 1 to Particular Conditions of Contract

KfW Policy – Sanctionable Practice – Social and Environmental Responsibility

1. Sanctionable Practice

The PEA and the Contractors (including all members of a Joint Venture and proposed or engaged Subcontractors) must observe the highest standard of ethics during the Tender Process and performance of the Contract.

By signing the Declaration of Undertaking the Contractors declare that (i) they did not and will not engage in any Sanctionable Practice likely to influence the Tender Process and the corresponding Award of Contract to the PEA's detriment, and that (ii) in case of being awarded a Contract they will not engage in any Sanctionable Practice.

Moreover, KfW requires to include in the Contracts a provision pursuant to which Contractors must permit KfW and in case of financing by the European Union also to European institutions having competence under European law to inspect the respective accounts, records and documents relating to the Tender Process and the performance of the Contract, and to have them audited by auditors appointed by KfW.

KfW reserves the right to take any action it deems appropriate to check that these ethics rules are observed and reserves, in particular, the rights to:

- (a) reject an Offer for Award of Contract if during the Tender Process the Bidder who is recommended for the Award of Contract has engaged in Sanctionable Practice, directly or by means of an agent in view of being awarded the Contract;
- (b) declare misprocurement and exercise its rights on the ground of the Funding Agreement with the PEA relating to suspension of disbursements, early repayment and termination if, at any time, the PEA, Contractors or their legal representatives or Subcontractors have engaged in Sanctionable Practice during the Tender Process or performance of the Contract without the PEA having taken appropriate action in due time satisfactory to KfW to remedy the situation, including by failing to inform KfW at the time they knew of such practices.

KfW defines, for the purposes of this provision, the terms set forth below as follows:

Coercive Practice

The impairing or harming, or threatening to impair or harm, directly or indirectly, any person or the property of the person with a view to influencing improperly the actions of a person.

Collusive Practice

An arrangement between two or more persons designed to achieve an improper purpose, including influencing improperly the actions of another person.

Corrupt Practice

The promising, offering, giving, making, insisting on, receiving, accepting or soliciting, directly or indirectly, of any illegal payment or undue advantage of any nature, to or by any person, with the intention of influencing the actions of any person or causing any person to refrain from any action.

Fraudulent Practice

Any action or omission, including misrepresentation that knowingly or recklessly misleads, or attempts to mislead, a person to obtain a financial benefit or to avoid an obligation.

Obstructive Practice

Means (i) deliberately destroying, falsifying, altering or concealing evidence material to the investigation or the making of false statements to investigators, in order to materially impede an official investigation into allegations of a Corrupt Practice, Fraudulent Practice, Coercive Practice or Collusive Practice, or threatening, harassing or intimidating any Person to prevent them from disclosing their

knowledge of matters relevant to the investigation or from pursuing the investigation, or (ii) any act intended to materially impede the exercise of KfW's access to contractually required information in connection with an official investigation into allegations of a Corrupt Practice, Fraudulent Practice, Coercive Practice or Collusive Practice.

Sanctionable Practice

Any Coercive Practice, Collusive Practice, Corrupt Practice, Fraudulent Practice or Obstructive Practice (as such terms are defined herein) which is unlawful under the Financing Agreement.

2. Social and Environmental Responsibility

Projects financed in whole or partly in the framework of Financial Cooperation have to ensure compliance with international Environmental, Social, Health and Safety (ESHS) standards (including issues of sexual exploitation and abuse and gender based violence) Contractors in KfW-financed projects shall consequently undertake in the respective Contracts to:

- (a) comply with and ensure that all their Subcontractors and major suppliers, i.e. for major supply items comply with international environmental and labour standards, consistent with applicable law and regulations in the country of implementation of the respective Contract and the fundamental conventions of the International Labour Organisation¹ (ILO) and international environmental treaties and;
- (b) implement any environmental and social risks mitigation measures, as identified in the environmental and social impact assessment (ESIA) and further detailed in the environmental and social management plan (ESMP) as far as these measures are relevant to the Contract and implement measures for the prevention of sexual exploitation and abuse and gender-based violence.

¹ In case ILO conventions have not been fully ratified or implemented in the Employer's country the Applicant/Bidder/Contractor shall, to the satisfaction of the Employer and KfW, propose and implement appropriate measures in the spirit of the said ILO conventions with respect to a) workers grievances on working conditions and terms of employment, b) child labour, c) forced labour, d) worker's organisations and e) non-discrimination.

Appendix 2 to PARTICULAR CONDITIONS OF CONTRACT INSURANCE REQUIREMENTS

The Contractor shall at its expense take out and maintain in effect, during the period from the effective date of Contract to the expiration date of Defect Liability Period, the insurances set forth below.

(a) Construction all risks Insurance;

(b) Third party liability insurance;

(c) Workers' compensation, with minimum value in accordance with statutory requirements of labour law of Vietnam;

(d) Cargo insurance, with insured value of 110% of CIP price of supply and equipment covering loss or damage occurring, while in transit from the supplier's or manufacturers' works or stores until arrival at the Site, to the Facilities and to the construction equipment to be provided by the Contractor or its Subcontractors.

(e) Project Owner's liability insurance;

(f) Motor vehicle liability insurance;

The Contractor must pay for any loss or damage not covered by insurance or not compensated (due to liability limit, exclusion, deductible limit or excess).

Appendix 3 to PARTICULAR CONDITIONS OF CONTRACT TERMS AND PROCEDURES OF PAYMENT

According to the fulfilment of obligations mentioned in the Contract and sufficient supporting documents as submitted by the Contractor, the Employer shall pay the Contractor in the in the currency specified in the contract and with the following manner:

I. Disbursement procedure

German Financial Cooperation with the Socialist Republic of Vietnam

Loan/Financing/Project/Programme Agreement of KfW

EUR 7,500,000.00

Project/Programme name: Strengthening Provincial Health Systems 2010

Here: Component II (Provinces)

KfW-Reference No.: 2010 65 465

1. Introduction

This annex stipulates the disbursement procedure for the above-mentioned project/programme. The Separate Agreement including this Annex shall be made available to all staff of the borrower, recipient, or project/programme-executing agency ("**Authorized Party**") and any other party involved with disbursements.

KfW disburses loans and non-repayable financial contributions ("**Funds**") upon request of the **Authorized Party** in accordance with the progress of the projects/programme financed. KfW supervises the contractual use of the Funds which it has reserved for specific goods and services on the basis of the "Separate Agreement" pertaining to the Loan/Financing/Project/Programme Agreement. The List of Goods and Services as well as the corresponding Funds reserved thus form the framework within which the Authorized

Party may request disbursement from KfW once all contractual prerequisites for disbursement have been fulfilled.

2. General provisions

2.1 All withdrawal applications shall

- indicate the **KfW Reference Number**,
- be **numbered consecutively** and
- be signed by representatives of the Authorized Party who have been designated as authorized towards KfW and of whom KfW has received **specimen signatures** (example see **Attachment A**).

2.2 In general, KfW accepts only **original** withdrawal applications. If, in exceptional cases, a withdrawal application has been transmitted by fax, the original is to be sent by mail immediately afterwards marked as fax confirmation. KfW is released by the Authorized Party from liability for any damage resulting from false transmissions, due in particular to transmission errors, abuse, misunderstanding, or mistakes.

2.3 For payments made in a currency other than that committed ("**Foreign Currency**"), KfW will debit the borrower or recipient with such amount as was expended by KfW for the procurement of the foreign currency, inclusive of incidental expenses.

2.4 KfW will not be liable for delays caused by transferring banking institutions in the disbursement or remittance of Funds. If any delay is caused by KfW, its liability will be limited to the payment of interest accrued.

3. Special provisions

3.1 Authorized Party is the Ministry of Finance (MOF).

3.2 Procedure to be applied

The Funds assigned to Consulting Services specified in the Separate Agreement I.1. + II.2. shall be disbursed according to the **Direct Disbursement Procedure**.

The Funds assigned to goods and services as specified in the Separate Agreement I.1. + I.3. "Procurement, execution of civil works and installation of equipment" shall be disbursed according to the **Simplified Direct Disbursement Procedure**.

3.3 Simplified Direct Disbursement Procedure

The Authorized Party will send KfW a duly signed withdrawal application certified by the Consultant (see Attachment C), indicating the beneficiary's name and payment instructions (full bank details) and will enclose a copy of the contractor's invoice.

KfW disburses Funds for account of the Authorized Party directly to the contractors of goods and services to be financed by KfW.

As agreed in the Consulting Contract, the Consultant will provide the Authorized Party with a "Payment certificate" confirming that all prerequisites for the disbursement have been met and all documents presented (incl. guarantees) are in accordance with contract conditions and KfW regulations/standards.

3.3.1. Documents

All original evidence of expenditures corresponding to the invoices is to be kept until at least five years after completion of the financed measures and will have to be accessible at all times for inspection by KfW or third parties so instructed by KfW (e.g. auditors). Such evidence includes invoices, shipping documents, acceptance protocols and all relevant documents necessary to evidence payment.

3.4 **Debit advices** will be automatically distributed monthly by mail to the addressees of the Separate Agreement and to other parties involved as communicated to KfW by the Authorized Party. In the event the Authorized Party has communicated an e-mail address to KfW, the debit advices will be sent daily.

Please contact the KfW-official mentioned above if you have any questions about the disbursement procedure, quoting the KfW-reference number.

Attachment C

KfW Bankengruppe

TM a

Postfach 11 11 41

60046 Frankfurt am Main

Federal Republic of Germany

Re.: TM a – **German Financial Cooperation with the Socialist Republic of Vietnam**
Loan/Financing/Project/Programme Agreement of KfW
EUR 7,500,000
Project/Programme name: Strengthening Provincial Health Systems 2010
Here: Component II (Provinces), Nghe An Province
KfW-Reference No.: 2010 65 465

Withdrawal Application No.

Simplified Direct Disbursement Procedure

In conformity with the contracts specified below, copies of which were forwarded to you, the following goods/services were duly supplied and are to be paid:

Item No. ²	Contract for good/ services Dated With	Invoice No: Dated	Currency/ Amount

According to the “List of Goods and Services“, the following amounts of the payment due shall be paid from the Loan/Financial Contribution, which we ask you to disburse as follows:

Currency/Amount

Beneficiary (name and address of the company).....

Account no:.....IBAN (if applicable)

Bank name:.....BIC code:

Correspondent bank:³).....BIC code:

As supporting evidence a copy of the respective invoice is enclosed.

The Consultant herewith declares that he has issued a “Payment Certificate” confirming that the services and supplies being invoiced were actually performed, the payment has fallen due and all necessary documents have been presented and are in line with KfW’ s regulations/standards.

.....

(Signature of the Consultant’s representative)

We await your debit advices for the disbursements made by you.

.....

(Signature of the Authorized Party)

²Item of the “List of Goods and Services“

³In addition, if the payee’s bank is not located in the country of the currency of payment, the name and address of the bank’s correspondent in that country should be provided. Separate applications are required for each currency requested

II. Payment procedures

1. Advance payment

The Employer shall make an advance payment equivalent to 10% of Contract Price which is considered as the advance without interests so as to the Contractor mobilize resources and perform design services within 30 days from the date on which complete set of the following supporting documents is submitted by the Contractor:

- (a) Request of payment letter issued by Contractor;
- (b) Bank Guarantee for Advance Payment in accordance with GCC Article 14.2 equivalent to 10% of Contract Price;
- (c) Performance Security in accordance with GCC Article 4.2 [*Performance Security*].

The amount of bank guarantee for advance payment shall be reduced in instalments in proportion to the recovery / retention of advance payment from the Contractor. The advance payment shall be fully recovered when payment reaches 80% of the contract amount.

A bank guarantee shall be issued in the form of an unconditional and irrevocable bank guarantee and paid as specified in the Contract by a credit institution or a branch of foreign bank lawfully operating in Vietnam and approved by the Employer. Other forms of bank guarantee may be accepted with prior consent of the Employer.

Contractor has to ensure that the Bank Guarantee for Advance Payment shall remain valid until full recovery / retention of the total advance payment. The bank guarantee may, notwithstanding, be reduced in instalments equivalent to the recovery amount from the Contractor. If the expiration date of bank guarantee is clearly indicated, the Contractor shall extend the period of validity of the bank guarantee until total advance payment is recovered.

The Employer shall return the Bank Guarantee for Advance Payment to the Contractor within 30 days from the date when advance payment is fully recovered.

2. Payment in instalments

Payment request documents in instalments shall consist of documents required by the Employer. All documents above must meet the conditions for quantity, contents, and quality required by the Employer. The Employer may retain the payment in the case where the Contractor fails to meet these conditions.

A. General Payment Requirements

The Contractor is requested to provide the following general payment documents, so far applicable:

- The contractor's payment request letter, the invoice; the valuation table of completed volume under contract for payment request (Annex 03a, Circular no. 08/2016/TT-BTC or any other substituted documents as regulated); Inspection / Acceptance Minutes signed by the Employer, the Employers Representative and the Contractor;
- For imported equipment: the inspection / acceptance dossier requires C/O, C/Q, P/L; Bill of Lading; Custom declaration; Certificate of goods inspection issued by a third party.
- For domestically produced goods: the acceptance dossier comprises a certificate of release of goods, a certificate of goods inspection issued by a third party.

B. Specific Payment Requirements

There are three payment instalments as following:

1. First payment (Design): 30% of the contract amount, minus retention as per GCC 14.3 (c) and deduction of 35% of repayment amortization of advance payment after the necessary investigations, surveys are completed and detail design is accepted by Employer and certified by Employer's Representative.

Document against the 1st payment:

- The written request for payment & attached Invoice (01 original, 06 copies) showing the contents of the contract value, the value of the completed volume under the contract, the value requested for payment after subtracting the advance amount
- Minutes on acceptance of required documentation of site surveys & design investigations
- Minutes on acceptance of detailed design sets for new constructions / complete design documents for rehabilitation measures
- Other required document if any by the Employer and payment agencies.

2. Second payment (Construction / Tests on Completion of wastewater treatment plants and collection systems): 50% of the contract amount, minus retention as per GCC 14.3 (c) and deduction of 65% of repayment amortization of advance payment after completion of civil works, installation, successful Tests on Completion of the WWTP, accepted by the Employer and certified by Employer's Representative.

Document against the 2nd payment:

- The written request for payment and Invoice (01 original, 06 copies) showing the contents of the contract value, the value of the completed volume under the contract, the value requested for payment after subtracting the advance amount
- Minutes on acceptance of (pre-)commissioning tests
- Certified report on Tests on Completion
- Completion Certificates of Civil Works, electromechanical equipment (incl. SCADA)
-
- Minutes on acceptance of electricity consumption, chemicals consumption, sludge treatment (DS content), in accordance to performance guarantee during trial operation
- Minutes on acceptance of Operation and Maintenance Manual & as-built drawings
- Other required document if any by the Employer and payment agencies.

3. Third payment (Training, O&M of 1 year and DNP): 20% of the contract amount after completion of training, O&M of 1 year and DNP and issuing the Taking-over Certificate and complete the contract settlement according to Vietnamese regulations..

Document against the 3rd payment:

- The written request for payment and Invoice (01 original, 06 copies) showing the contents of the contract value, the value of the completed volume under the contract, the value requested for payment
- Minutes on acceptance of Completion of Trainings
- Completion Certificate of Defects Notification Period (DNP)
- Certificate for WWTP effluent parameters according to Vietnamese standard national technical regulation on health care waste water standard QCVN28:2010/BTNMT-Column A
- Minutes on acceptance of electricity consumption, chemicals consumption, sludge treatment (DS content), in accordance to performance guarantee
- Minutes on acceptance of odour in accordance to standards TCVN-7222-2002 (Appendix A)
- Minutes on acceptance for the provision of Taking-Over Certificate
- Other required document if any by the Employer and payment agencies.

C. Liquidation

When submitting the last payment request, the Contractor shall attach to a written request for contract liquidation, clearly stating the final payment request representing payments for contract liquidation, including:

- The remaining amount held by the Employer from the Contractor under this Contract;
- The breach of contract penalties;
- The penalties for civil liability violation;
- The reimbursement prescribed; and
- Other legal expenses.

It should clearly state that liquidation shall be effective when the Contractor has received the Performance Guarantee and remaining different amounts.

D. Payments which are not included in the Contract Price will be made as follows

- Payment for damages as set out in GCC Article [Performance Guarantee] in the currencies and rates mentioned in this Article;
- Other payments paid by the Contractor for the Employer in the currency agreed by the parties or that paid by the Employer for that work item;
- If the value of the payment made by the Contractor for the Employer with a specific currency exceeds the value that the Employer paid to the Contractor with such type of currency, the Employer will receive the difference amount from other payments that the Employer must pay to the Contractor by another type of currency.

Other conditions of this Agreement will apply unless otherwise specified in the Annex.

Appendix 4 to PARTICULAR CONDITIONS OF CONTRACT

Declaration of Undertaking

Reference name of the Application/Offer/Contract: ("Contract")⁴

To: ("Project Executing Agency")

1. We recognise and accept that KfW only finances projects of the Project Executing Agency ("PEA")⁵ subject to its own conditions which are set out in the Funding Agreement it has entered into with the PEA. As a matter of consequence, no legal relationship exists between KfW and our company, our Joint Venture or our Subcontractors under the Contract. The PEA retains exclusive responsibility for the preparation and implementation of the Tender Process and the performance of the Contract.
2. We hereby certify that neither we nor any of our board members or legal representatives nor any other member of our Joint Venture including Subcontractors under the Contract are in any of the following situations:
 - 2.1) being bankrupt, wound up or ceasing our activities, having our activities administered by courts, having entered into receivership, reorganisation or being in any analogous situation;
 - 2.2) having been convicted by a final judgment or a final administrative decision or a preliminary investigation/charge is pending against us for involvement in a criminal organisation, money laundering, terrorist-related offences, child labour or trafficking in human beings, or have been subject to (financial) sanctions and/or embargo provisions by the United Nations, the European Union or the Federal Republic of Germany. This exclusion criterion is also applicable to legal persons whose shares (or the majority thereof) are owned or de facto controlled by natural or legal persons against whom such judgments, administrative decisions, (financial) sanctions and/or embargoes have been imposed and – in the case of (financial) sanctions and/or embargoes – these restrictive measures continue to apply;
 - 2.3) having been convicted by a final court decision or a final administrative decision by a court, the European Union, national authorities in the Partner Country or in Germany for Sanctionable Practice in connection with a Tender Process or the performance of a Contract or for an irregularity affecting the EU's financial interests (*in the event of such a conviction, the Applicant or Bidder shall attach to this Declaration of Undertaking supporting information showing that this conviction is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction*);
 - 2.4) having been subject, within the past five years to a contract termination fully settled against us for significant or persistent failure to comply with our contractual obligations during such Contract performance, unless this termination was challenged and dispute resolution is still pending or has not confirmed a full settlement against us;
 - 2.5) not having fulfilled the applicable fiscal obligations with regard to the payment of taxes at the respective tax residence and in the country of origin of the PEA (*contractors based in Annex 1 countries (<https://www.consilium.europa.eu/de/policies/eu-list-of-non-cooperative-jurisdictions/>) must submit a fully completed and legally countersigned declaration of tax conformity (Appendix1 to the Declaration of Undertaking) in addition to the Declaration of Undertaking at the time of award of the contract/contract review. This shall become an integral part of the contract. Failure to*

⁴ Capitalised terms used, but not otherwise defined in this Declaration of Undertaking have the meaning given to such term in KfW's "Guidelines for the Procurement of Consulting Services, Works, Goods, Plant and Non-Consulting Services in Financial Cooperation with Partner Countries".

⁵ The PEA means the purchaser, the employer, the client, as the case may be, for the procurement of Consulting Services, Works, Plant, Goods or Non-Consulting Services.

submit may result in exclusion from the awarding procedure. For contractors based in countries not listed as Annex I countries, only the Declaration of Undertaking must be submitted, and not the declaration of tax conformity;

2.6) being subject to an exclusion decision of the World Bank or any other multilateral development bank and being listed on the website <http://www.worldbank.org/debarr> or respectively on the relevant list of any other multilateral development bank (*in the event of such exclusion, the Applicant or Bidder shall attach to this Declaration of Undertaking supporting information showing that this exclusion is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction*); or

2.7) being guilty of misrepresentation in supplying the information required as condition to participation in this Tender Procedure.

3. We hereby certify that neither we, nor any of the members of our Joint Venture or any of our Subcontractors under the Contract are in any of the following situations of conflict of interest:

3.1) being an affiliate controlled by the PEA or a shareholder controlling the PEA, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;

3.2) having a business or family relationship with a PEA's staff involved in the Tender Process or the supervision of the resulting Contract, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;

3.3) being controlled by or controlling another Applicant or Bidder, or being under common control with another Applicant or Bidder, or receiving from or granting subsidies directly or indirectly to another Applicant or Bidder, having the same legal representative as another Applicant or Bidder, maintaining direct or indirect contacts with another Applicant or Bidder which allows us to have or give access to information contained in the respective Applications or Offers, influencing them or influencing decisions of the PEA;

3.4) being engaged in a Consulting Services activity, which, by its nature, may be in conflict with the assignments that we would carry out for the PEA;

3.5) in the case of procurement of Works, Plant or Goods:

i. having prepared or having been associated with a Person who prepared specifications, drawings, calculations and other documentation to be used in the Tender Process of this Contract;

ii. having been recruited (or being proposed to be recruited) ourselves or any of our affiliates, to carry out works supervision or inspection for this Contract;

4. If we are a state-owned entity, and compete in a Tender Process, we certify that we have legal and financial autonomy and that we operate under commercial laws and regulations.

5. We undertake to bring to the attention of the PEA, which will inform KfW, any change in situation with regard to points 2 to 4 here above.

6. In the context of the Tender Process and performance of the corresponding Contract:

6.1) neither we nor any of the members of our Joint Venture nor any of our Subcontractors under the Contract have engaged or will engage in any Sanctionable Practice or violate the Guidelines during the Tender Process and in the case of being awarded a Contract will engage in any Sanctionable Practice during the performance of the Contract;

6.2) neither we nor any of the members of our Joint Venture or any of our Subcontractors under the Contract shall acquire or supply any equipment nor operate in any sectors under an embargo of the United Nations, the European Union or Germany; and

6.3) we commit ourselves to complying with and ensuring that our Subcontractors and major suppliers under the Contract comply with international environmental and labour standards, consistent with laws and regulations applicable in the country of implementation of the Contract and the fundamental conventions of the International Labour Organisation⁶ (ILO) and international environmental treaties. Moreover, we shall implement environmental and social risks mitigation measures when specified in the relevant environmental and social management plans or other similar documents provided by the PEA and, in any case, implement measures to prevent sexual exploitation and abuse and gender based violence.

7. In the case of being awarded a Contract, we, as well as all members of our Joint Venture partners and Subcontractors under the Contract will, (i) upon request, provide information relating to the Tender Process and the performance of the Contract and (ii) permit the PEA and KfW or an auditor appointed by either of them, and in the case of financing by the European Union also to European institutions having competence under European Union law, to inspect the respective accounts, records and documents, to permit on the spot checks and to ensure access to sites and the respective project.
8. In the case of being awarded a Contract, we, as well as all our Joint Venture partners and Subcontractors under the Contract undertake to preserve above mentioned records and documents in accordance with applicable law, but in any case for at least six years from the date of fulfillment or termination of the Contract. Our financial transactions and financial statements shall be subject to auditing procedures in accordance with applicable law. Furthermore, we accept that our data (including personal data) generated in connection with the preparation and implementation of the Tender Process and the performance of the Contract are stored and processed according to the applicable law by the PEA and KfW.

Name: _____ In the capacity of: _____

Duly empowered to sign in the name and on behalf of⁷: _____

Signature:

Dated:

⁶ In case ILO conventions have not been fully ratified or implemented in the Employer's country the Applicant/Bidder/Contractor shall, to the satisfaction of the Employer and KfW, propose and implement appropriate measures in the spirit of the said ILO conventions with respect to a) workers grievances on working conditions and terms of employment, b) child labour, c) forced labour, d) worker's organisations and e) non-discrimination.

⁷ In the case of a JV, insert the name of the JV. The person who will sign the application, bid or proposal on behalf of the Applicant/Bidder shall attach a power of attorney from the Applicant/Bidder.

Appendix 1

Declaration of tax conformity – binding confirmation for legal persons

Name of company

I hereby confirm with my signature that:

1. I am authorised to make this declaration on behalf of the above company;
2. the company properly pays all taxes in accordance with the tax laws of the country in which the company is domiciled;
3. the company is not currently nor has been in the past involved in any legal proceedings concerning the taxation of the company;
4. the company will duly pay taxes that may arise from the provision of contracted services;
5. all information and statements provided in advance are complete, accurate in terms of content and currently correct.

.....
(Place)

.....
(Date)

.....
(Name of the consultant)

.....
(Signature(s))

Declaration of tax conformity – binding confirmation for natural persons

I hereby confirm with my signature that:

1. I make this declaration in my name/on my own account;
2. I duly pay taxes that I am obliged to pay under the tax law of my country of residence;
3. I am not currently involved in tax law court proceedings, nor have I been in the past;
4. I will duly pay taxes that may arise from the provision of contracted services;
5. I have filled in all the information and statements of this confirmation in full, accurately in terms of content and that they are up to date at this time.

.....
(Place)

.....
(Date)

.....
(Name of the person)

.....
(Signature)

Appendix 5 to PARTICULAR CONDITIONS OF CONTRACT

MANAGEMENT OF TAXES, FEES, AND CHARGES

The Contractor and accepted subcontractors shall bear and pay all taxes, fees and charges in connection with the execution of Contract in accordance with the following provisions:

1. Taxes, fees and charges applicable outside of Vietnam

All taxes, fees and duties as well as tax liabilities of the Contractor and its staff outside the Partner Country shall be included in the overhead cost calculation and will not be subject to any separate remuneration.

2. Taxes, fees and charges applicable in Vietnam

2.1. Value added tax (VAT)

The Contract is subject to VAT in accordance with the Law on VAT and guiding Decrees/Circulars. For foreign contractor, the Employer will declare the due tax amount and make the VAT payment to the Vietnamese tax authorities on behalf of the Contractor (withholding method).

VAT shall be stated separately in Form No. 20, Summary of Bid Price, Part 1 of the tender documents in the form of a provisional sum listed under item (E).

2.2. Corporate income tax (CIT)

The Contractor is liable for payment of CIT in Vietnam.

Where the Contractor is a foreign company, the Contractor can choose to pay tax directly to the local tax authorities (deduction method) or by way of withholding by the project owner pursuant to Circular 103/2014/TT-BTC dated 6 August 2014 (as updated from time to time) (withholding method).

If the Contractor is a tax resident in a country having an effective Double Tax Agreement (“DTA”) with Vietnam (e.g. Germany or most of the EU countries), the Contractor could be exempted from paying CIT in Vietnam if the Contractor does not have a Permanent Establishment (PE) in Vietnam. Under most DTAs, construction site or installation project which lasts more than 6 months will constitute a PE. Providing services in Vietnam via employees or other personnel where the duration of services is 6 months or more could also constitute a PE in Vietnam.

DTA protection is not granted automatically, complex procedures should be complied with. The Contractor is recommended to make assessment of its entitlement to DTA benefits and seek advice on the filing procedures.

CIT shall be included in the overhead cost calculation of the bid price under Bills of Quantities in Part 1 of the tender documents and will not be subject to any separate remuneration.

2.3. Personal Income Tax (PIT)

The Contractor shall bear and pay PIT incurred by its personnel. PIT shall be included in the overhead cost calculation of the bid price under Bills of Quantities in Part 1 of the tender documents and will not be subject to any separate remuneration.

2.4. Goods Import Tax

The Contractor shall, with the support of the Employer, pay import duties/customs clearance fees and charges and import VAT for goods directly imported under the contract. Import duties/customs clearance fees and charges and import VAT will be financed/reimbursed by the Employer in the condition that a full set of required supporting documents as stipulated by GOV is provided.

Import duties/customs clearance fees and charges and import VAT shall be stated separately in Form No. 20, Summary of Bid Price, Part 1 of the tender documents in the form of a provisional sum listed under item (D).

2.5. Other taxes, fees, and charges

Other taxes, fees, and charges (if applicable) in connection with the Contract shall be considered to be already included in bid price and will not be subject to any separate remuneration.

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Form No. 26

LETTER OF ACCEPTANCE AND NOTIFICATION OF AWARD

[Location and date]_____

To: _____[insert name and address of the successful Bidder, hereinafter referred to as "the Contractor"]

Re: Letter of Acceptance and Notification of Award.

Pursuant to Decision No. _____ dated _____ of the Project Owner [insert the Project Owner's name], (hereinafter referred to as "the Project Owner") in terms of approval for result of selection of contractor for _____ [insert name of package], the Employer notifies you that the Project Owner 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 bidder selection] with the contract duration of _____ [insert the contract duration].

We would like to kindly request legal representative of the Contractor to enter into the Contract finalization and signing with the Project Owner and the Employer according to the following plan:

- Contract finalization time: _____, in/at _____;
- Contract signing time: _____ in/at _____, enclosed with the Contract Agreement Draft.

The contractor is also requested to carry out the Performance Security as prescribed in form No. 28 of Section XI - Contract Forms included in the Bidding Documents with an amount of _____ and validity period of _____ [as specified in SCC Section 6.1 of the Bidding Documents].

This Notification is an integral part of the Contract. Upon the receipt of this Notification, the Contractor must send us a written Notification of acceptance to participate in the Contract finalization, signing as well as to carry out the Performance Security as required, at the same time, the Contractor has to commit in the notification that current qualification of the Contractor meets requirements of the Bidding Documents. The Employer shall refuse to finalize, sign the contract if qualification of the Contractor fails to satisfy the requirements to implement 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 finalization and conclusion not later than 28 days, from the date of letter of acceptance and notification of award], the Supplier shall be rejected without being returned with the Bid security.

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

Attachments: Contract Agreement Draft

CONTRACT AGREEMENT

THIS AGREEMENT made on _____[date]

Between

(1) [Project Owner], a corporation incorporated under the laws of [...] And having its headquarters at [...] (hereinafter referred to as the Project Owner)

and

(2) [the Contractor], a corporation incorporated under the laws of [...] And having its headquarters at [...] (hereinafter referred to as the Contractor)

WHEREAS the Project Owner desires to engage the Contractor to design, manufacture, supply, deliver, guarantee at construction site, construct, install, test, commission, complete, take over, and provide defect liability period for Facilities/supply and equipment for the [project] as specified in the Contract Documents and other documents (hereinafter referred to as Facilities) according to the EPC contract and the Contractor have agreed to such engagement upon and subject to the terms and conditions hereinafter appearing.

Now we hereby agree as follows:

Article 1**1.1. Contract Documents** (GCC Article 1.1.1)**Contract Documents**

The following documents shall constitute the Contract between the Project Owner and the Contractor, and each shall be read and construed as an integral part of the Contract.

- (a) This Contract Agreement and the Appendices hereto;
- (b) Minutes of Contract Negotiation and Finalization;
- (c) Particular Conditions of Contract;
- (d) General Conditions of Contract;
- (e) Letter of Acceptance and Notification of Award;
- (f) Bidding Documents;
- (g) Bid;
- (h) [Any other documents, if any].

1.2. Order of Precedence (GCC Article 1.5)

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents) above.

1.3. Definitions (GCC Article 1.1)

Capitalized words and phrases used herein shall have the same meanings as are ascribed to them in the GCC 1.1.

Article 2**2.1. Contract Price** (GCC Article 14.1)**Contract Price and Terms of Payment**

The Project Owner hereby agrees to pay to the Contractor the Contract Price in consideration of the performance by the Contractor of its obligations hereunder. The Contract Price shall be the aggregate of ___ [amounts of foreign currency in words], [amounts of foreign currency in figures], [amounts of local currency in words], [amounts of local currency in figures] or such other sums

as may be determined in accordance with the terms and conditions of the Contract.

2.2. Terms of Payment (GCC Article 14)

The terms and procedures of payment according to the enclosed Appendix

**Article 3
Commencement
Date**

The Commencement Date (GCC Article 1.1.3) upon which the period until the Time for Completion of the Facilities shall be counted from is the date when all of the following conditions have been fulfilled:

- (a) This Contract Agreement has been duly concluded between the Project Owner and the Contractor;
 - (b) The Contractor has submitted the Performance Security and Bank guarantee for advance payment in accordance with the Contract; and
 - (c) The Employer sends notice of the Commencement Date to the Contractor
- Each party shall use its best efforts to fulfil the above conditions for which it is responsible as soon as practicable.

**Article 4
Communications**

4.1. The address of the Project Owner for notice purposes, pursuant to GCC Article 1.1.2.2 is ____ [the Project Owner's address]

4.2. The address of the Contractor for notice purposes, pursuant to GCC Article 1.1.1.1 and 1.3 is ____ [the Contractor's address]

**Article 5
Appendices**

5.1. The Appendices listed in the attached List of Appendices shall be deemed to form any integral part of this Contract Agreement.

5.2. Reference in the Contract to any Appendix shall mean the Appendices attached hereto, and the Contract shall be read and construed accordingly.

In witness whereof the Project Owner and the Contractor have caused this Agreement to be duly executed by their duly authorized representatives:

Signed by, for and on behalf of the Project Owner

[Signature]

[Title]

Signed by, for and on behalf of the Contractor

[Signature]

[Title]

Form No. 28

PERFORMANCE SECURITY

Beneficiary: *[Insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[Insert name and address of contractor, which in the case of a joint venture shall be the name and address of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[Insert reference number of the contract]* dated *[Insert contract date]* with the Beneficiary, for the execution of *[Insert object of the contract and brief description of Works]* (hereinafter called "the Contract"). Furthermore we understand that, according to the conditions of the Contract, a performance guarantee is required for *[Insert percentage in words and figures]* % of the contract price.

Waiving all objections and defences, we, as Guarantor, hereby irrevocably and independently undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[Insert guarantee amount and currency in words and figures]*¹² upon receipt by us of the Beneficiary's first demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for the demand or the sum specified therein.

In the event of any claim under this guarantee, payment shall be effected to *[Insert the account on which payments are to be made]*, for the account of *[Insert name of the Purchaser and the Purchaser's country]*.

This guarantee shall expire not later than *[Insert expiry date]*¹³.

By this date we must have received any claims for payment by letter or encoded telecommunication.

It is understood that you will return this guarantee to us on expiry or after payment of the total amount to be claimed hereunder.

[As preferred option regarding guarantee rules insert¹⁴: This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.]

Place, date

Guarantor's authorized signature(s)

¹²This guarantee shall be issued in the contract currency only.

¹³This guarantee shall be valid for at least 28 days from the date of contractual contract completion (including warranty obligations).

¹⁴In the case the issuing bank will not add the preferred option, the following must be added instead: This guarantee is governed by the laws of *[Insert country of jurisdiction]*. Note: the country of jurisdiction shall be the country where the bank's branch issuing the guarantee is physically located.

Form No. 29

ADVANCE PAYMENT GUARANTEE**Beneficiary:** *[Insert name and Address of Purchaser]***Date:** *[Insert date of issue]***ADVANCE PAYMENT GUARANTEE No.:** *[Insert guarantee reference number]***Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[Insert name and address of contractor, which in the case of a joint venture shall be the name and address of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[Insert reference number of the contract]* dated *[Insert contract date]* with the Beneficiary, for the execution of *[Insert object of the contract and brief description of Works]* (hereinafter called "the Contract"). Furthermore we understand that, according to the conditions of the Contract, an advance payment in the sum of *[Insert amount and currency in words and figures]*¹⁵, representing *[Insert percentage in words and figures]* % of the contract price, is to be made against an advance payment guarantee.

Waiving all objections and defences, we, as Guarantor, hereby irrevocably and independently undertake to pay the Beneficiary, any sum or sums not exceeding in total an amount of *[Insert guarantee amount and currency in words and figures]* upon receipt by us of the Beneficiary's first demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for the demand or the sum specified therein.

The advance payment guarantee shall come into force and effect as soon as the advance payment has been credited to the Applicant on its account. Minor deductions of the above mentioned amount notably due to bank fees shall have no effect on the entry into force.

In the event of any claim under this guarantee, payment shall be effected to *[Insert the account on which payments are to be made]*, for the account of *[Insert name of the Purchaser and the Purchaser's country]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) per cent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the *[Insert date]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date, by letter or encoded telecommunication.

It is understood that you will return this guarantee to us on expiry or after payment of the total amount to be claimed hereunder.

[As preferred option regarding guarantee rules insert¹⁶: This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.]

 Place, date

 Guarantor's authorized signature(s)

¹⁵This guarantee must be issued in the contract currency only.

¹⁶In the case the issuing bank will not add the preferred option, the following must be added instead:
This guarantee is governed by the laws of *[Insert country of jurisdiction]*. Note: the country of jurisdiction shall be the country where the bank's branch issuing the guarantee is physically located.

OPERATIONAL ACCEPTANCE CERTIFICATE

Date: _____

Invitation to Bid No.: _____

[Contract's name]

To: *[Contractor's name and address]*

Pursuant to the Contract entered into between yourselves and the Employer dated [...], relating to the *[brief description of the Facilities]*, we hereby notify you that the Functional Guarantees of the following parts/Facilities were satisfactorily attained on the date specified below:

1. Description of Facilities or parts thereof: *[description]*
2. Date of acceptance and taking over: []

This letter does not relieve you of obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Sincerely,

Position

(Project manager)

Form No. 31

COMPLETION CERTIFICATE

Date: _____

Invitation to Bid No.: _____

[Contract's name]

To: *[Contractor's name and address]*

Pursuant to the Contract entered into between yourselves and the Employer dated [...], relating to the *[brief description of the Facilities]*, we hereby notify you that the Facilities was (were) completed on the date specified below, and that, in accordance with the terms of the Contract, The Employer hereby take over the said part(s) of the Facilities, together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

1. Description of the Facilities or part(s) thereof: *[description]*

2. Date of completion: []

However, you are required to complete the outstanding items listed in the attachment hereto as soon as practicable.

This letter does not relieve you of your obligations to complete the execution of the Facilities in accordance with the Contract or nor of your obligations during the Defect Liability Period.

Sincerely,

Position

(Project manager)

CHANGE ORDERS

Date: _____

Invitation to Bid No.: _____

DESCRIPTION

1. General
2. Change Order Log
3. References for Changes

APPENDICES

- Request for Change by the Project Owner (Form No. 33)
- Proposal for Change by the Contractor (Form No. 34)
- Estimate for Change Proposal prepared by the Contractor (Form No. 35)
- Acceptance of Estimate (Form No. 36)
- Project Owner's acceptance of Change Order (Form No. 37)
- Contract Appendix of Change (Form No. 38)

Change Orders**1. General**

This Section provides samples of procedures and forms for implementing changes in the Facilities during the performance of the Contract in accordance with the Contract.

Procedures for implementing changes in the Facilities shall be followed in 5 steps below:

Step 1: The Employer issues a Request for Change using Form No. 33.

Step 2: The Contractor makes a Proposal for Change according to the above Request for Change using Form No. 34;

Step 3: The Contractor makes an Estimate for Change Proposal using Form No. 35;

Step 4: The Employer makes an Acceptance of Estimate using Form No. 36;

Step 5:

a) If the parts of Facilities to be changed has basis rates or price adjustments specified in the GCC:

The Employer shall issue a document approving the Change Order for the work specified in the Change Proposal of the Contractor (Form No. 37);

b) If additional parts of Facilities have no basis rates or price adjustments specified in the GCC, parties shall negotiate and reach a consensus on the Change. The Change must be made with the consent of both parties in the form of Contract Appendix and in accordance with regulations of law (Form No. 38).

2. Change Order Log

The Contractor shall keep an up-to-date Change Order Log to show the current status of Requests for Change, and authorization of parties, as specified in the Appendix. Entries of the Changes in the Change Order Log shall be made to ensure that the log is up-to-date. The Contractor shall attach a copy of the current Change Order Log in the monthly progress report to be submitted to the Employer.

3. References for Changes

Form No. 33

REQUEST FOR CHANGE PROPOSAL FORM*(Employer's Letterhead)*To: *[Contractor's name and address]*Recipient: *[Name and title]*Contract's name: *[Contract's name]*Contract number: *[Contract number]*

With reference to the captioned Contract, you are request to prepare and submit a Change Proposal noted below in accordance with the following instructions within [...] days since the date of this letter [or on (date)].

1. Title of Change: []
2. Change Request No./Rev.: []
3. Brief Description of Change: *[description]*
4. Facilities and/or Item No. of equipment related the requested Change:
5. Reference drawings and/or technical documents:

Drawing No./Document No.	Description
--------------------------	-------------

6. Detailed conditions and special requirements on the requested Change: *[description]*

7. General Terms and Conditions:

(a) Please submit your estimate of increase/decrease to the Contract Price (if any) resulting from the requested Change.

(b) Your estimate shall include your claim for additional time (if any) for completion of the request Change.

(c) If you do not agree with the Request for change for reason of un-conformability to other provisions of the Contract or the safety of the Facilities, please inform us of your opinion in your proposal.

(d) Any increase or decrease in the workload of the Contractor related to the services of its personnel shall be calculated.

(e) You shall not proceed with the execution of the work for the request Change until we have written acceptance on the change order as well as related expenses.

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

CHANGE PROPOSAL

(The Contractor's Letterhead)

To: *[Employer's name and address]*

Contract's name: *[Contract's name]*

Contract number: *[Contract number]*

In response to your Request for Change Proposal No. [], we hereby submit our proposal as follows:

1. Title of Change: *[name]*
2. Change Proposal No./Rev.: *[Reference number of this Proposal]*
3. Brief Description of Change: *[description]*
4. Reasons for Change: *[Reason]*
5. Facilities and/or Item No. of equipment related the requested Change: []
6. Reference drawings and/or technical documents for the request Change:

Drawing No./Document No.	Description
--------------------------	-------------

7. Estimate of increase/decrease to the Contract Price resulting from the Change Proposal:

(Amount)

(a) Direct material _____

(b) Major construction equipment _____

(c) Direct field labour (Total hours __) _____

(d) Subcontracts _____

Indirect material and labour _____

(f) Site supervision _____

(g) Salaries of Head office technical staff

Management engineer ___ hour ___ rate/hr

Project engineer ___ hour ___ rate/hr

Equipment engineer ___ hour ___ rate/hr

Procurement ___ hour ___ rate/hr

Assistant _____ hour _____ rate/hr

Total _____ hrs

(h) Extraordinary costs (computer, travel, etc.) _____

(i) Overhead cost, ____% of Items _____

(j) Taxes and customs duties _____

Total lump sum cost of Change Proposal

[Sum of items (a) to (j)]

9. Additional time for Completion due to Change Order

10. Effect on Functional Guarantees

11. Effect on the other terms and conditions of the Contract

12. Validity of this Proposal: within [] days after receipt of this Proposal by the Employer

13. Other terms and conditions:

(a) You are requested to notify us of your acceptance, comments or rejections of this detailed Change Proposal within [] days from your receipt of this Proposal.

(b) The amount of any increase and/or decrease shall be taken into account in the Contract Price.

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

ESTIMATE FOR CHANGE PROPOSAL

(The Contractor's Letterhead)

To: *[Employer's name and address]*

Date: _____

Recipient: *[Name and title]*

Contract's name: *[Contract's name]*

Contract number: *[Contract number]*

With reference to your Request for Change Order as well as terms and conditions of the Contract, we are pleased to notify you of the approximate cost prepared for the Change Proposal as below.

1. Title of Change: *[name]*
2. Change Proposal No./Rev.: *[Reference number of this Proposal]*
3. Brief Description of Change: *[description]*
4. Cost estimate for Change Proposal: []

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

ACCEPTANCE OF ESTIMATE

(Employer's Letterhead)

To: *[Contractor's name and address]*

Date: _____

Contract's name: *[Contract's name]*

Contract number: *[Contract number]*

We hereby accept your Estimate for Change Proposal and agree that you should proceed the change as follows:

1. Title of Change: *[name]*

2. Change Proposal No./Rev.: *[Reference number of this Proposal]*

3. Estimate for Change Proposal attached with Letter No.: []

4. Estimate amount: []

5. Brief Description of Change: *[description]*

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

EMPLOYER'S ACCEPTANCE OF THE CHANGE ORDER

(Employer's Letterhead)

Date: _____

To: *[Contractor's name and address]*

Contract's name: *[Contract's name]*

Contract number: *[Contract number]*

We approve the Change Order for the work specified in the Change Proposal into the Contract [] and agree to adjust the Contract Price, completion period and / or other related contractual conditions as follows:

1. Title of Change: []

2. Content of Change: []

3. Change Order No./Rev.: []

4. Agreed Price:

Ref. No.: *[number]*

Date: _____ *[date]*

Foreign currency portion [value] plus Local currency portion [Amount]

5. Adjustment of Time for Completion:

No change

Increase [] days

Decrease [] days

6. Other effects, if any

Employer: _____

CONTRACT APPENDIX ON CHANGE

Date: _____

Contract's name: *[Contract's name]*

Contract number: *[Contract number]*

Contract Appendix No.:

We are:

Employer:

Contractor:

We reach a consensus on the Change Order for the work specified in the Change Proposal into the Contract [] and agree to adjust the Contract Price, Time for Completion and/or other conditions of the Contract as follows:

1. Title of Change: []

2. Content of Change: []

3. Change Order No./Rev.: []

4. Agreed Price:

Ref. No.: *[number]*

Date: _____ *[date]*

Foreign currency portion [value] plus Local currency portion [Amount]

5. Adjustment of Time for Completion:

No change

Increase [] days

Decrease [] days

6. Other effects, if any

_____ *[insert the Employer's name]*

Contractor's name: _____

Form No. 39

SPECIFIC TIME SCHEDULE

Generally, the Employer will make a request for Time Schedule to be followed by the Bidder during Contract Performance. Time Schedule is a part of the "Employer's Requirements" in this Appendix. All completion milestones shall be inserted in accordance with the information concerning the Time for Completion specified in "Employer's Requirements". Except for particular circumstances, the Time Schedule should indicate periods of time (e.g. weeks or months) and not specify calendar dates. All periods should be shown from the Commencement Date of the Contract.

Before signing Contract Agreement, if it is necessary to amend the Time Schedule before negotiation with the Contractor, the amended Time Schedule will replace the original.

If the Time Schedule is not specified in "Employer's Requirements", the Bidder shall submit with its Bid a detailed program, normally in the form of bar chart, showing how and the order in which it intends to perform the Contract and showing the key events requiring action or decision by the Employer. In preparing this program, the Bidder shall adhere to the Time(s) for Completion given in the "Employer's Requirements" or give its reasons for not adhering thereto. The Time Schedule submitted by the selected Bidder and amended as necessary shall be included as Appendix to the Contract Agreement before the Contract is signed.

[The following contents show the different levels of the Time Schedule submitted by the Bidder during the performance of the Contract (if the Employer had requested). In any case, the Time Schedule level 1 must be specified in the Annex. Forms will be decided by the Employer.]

Time Schedule Level 1. Major works in the engineering, procurement, manufacturing, *installation*, testing and acceptance should be indicated. In addition, the Time Schedule must identify development milestones taking commitments in terms of contractual obligations.

Time Schedule Level 2. To be structured in the manner as conformable with the Detailed Work Schedule. The level of detail should be achieved so as to all of the elements in the Technical Specifications of the project can be monitored compared to the basis progress of the Contract. Typical work activities should include but not limited to the following:

- Major milestones
- Connection time
- Subcontractor plan
- Submission of documents (quality assessment plan, training guideline documents)
- Engineering initiation (input parameters for detailed engineering, drawings for the *construction* work)
- Procurement (to be made for major equipment)
- Manufacturing
- Testing
- Delivery
- Test run and commissioning (ready to launch, reliable operation, functional guarantee test), etc.

Time Schedule level 3. The Bidder must submit the Time Schedule level 3 at submission of the detailed design. The Time Schedule Level 3 needs to be structured so that the information can run compatible with the Time Schedule Level 2. Most of the work activities in the Time Schedule level 3 should not exceed one month compared with the Time Schedule Level 2.

Time Schedule Level 4. A Time Schedule for consecutive 2 weeks shall be published weekly with respect to construction, acceptance and the major tasks during the engineering and procurement of work. Originally scheduled time of each work activity should not exceed 7 days. Professional *human* resources and equipment requirements with a table comparing the expected progress and actual progress needs to be clear. Determine delayed segments incurred in the previous week and the forecast

completion date for each activity. The basic information of expected works within the next 2 weeks should run compatibly with the Time Schedule Level 3.

Form No. 40**LIST OF CONTRACTOR'S DOCUMENTS**

Pursuant to GCC Article 5.2, the Contractor shall prepare, and/or request its Subcontractor to prepare, and present to representative of the Employer in accordance with the requirements of GCC Article 4.1, in the language for communications (English and Vietnamese) the following documents and relevant provisions.

Description	Type and quantity⁽¹⁾	Duration⁽²⁾
1. Quality assurance plan	01 P/ 01 E	2 weeks after Commencement Date
2. Site safety management plan	01 P/ 01 E	2 weeks after Commencement Date
3. Environmental management plan	01 P/ 01 E	2 weeks after Commencement Date
4. Time programme incl. critical path	01 P/ 01 E	28 days after the Commencement Date
5. Construction and installation procedures	01 P/ 01 E	28 days after the Commencement Date
6. Complete set of design documents for new construction / for rehabilitation (Documents, drawings, specifications in construction phase)	03 P/ 01 E	2 months after the Commencement Date
7. Inspection and testing plan for Tests on Completion	01 P/ 01 E	2 months before start of Tests on Completion
8. Operation and maintenance manuals	03 P/ 01 E	Before start of Tests on Completion
9. Complete set of as-built drawings	01 P/ 04R/ 01 E	Before start of Tests on Completion
10. Result report of Tests on Completion	01 P/ 01 E	After Tests on Completion
11. Training progress, program and subjects	01 P/ 01 E	1 months before training
12. Monthly progress reports incl. photos documenting progress on site and environmental monitoring	01 P/ 01 E	Every month
13. On-site progress summary (weekly progress report)	01 P/ 01 E	Every week

Notes:

(1) P = original (physical); R = copy (reproduced), E = electronic (electronic); quantity means the necessary quantity of each document.

(2): A month will begin from the effective date of the Contract;

The Parties reach a consensus that the said time schedule for submission of documents shall be completed in a meeting.

LIST OF SUBCONTRACTORS

No.	Item	Subcontractor's name	Nationality	Notes
Major equipment				
1				
2				
Other equipment				
1				
2				
Construction				
1				
2				
Installation				
1				
2				
3				

Other				
1	Design			
2	Insurance			
3	Transportation			
4	Other			

Notes:

1. "Major equipment" is determined according to the typical characteristics of each project and subject to the request of the Employer.
2. "Construction" includes suppliers of building materials, construction contractors (subcontractors).

Form No. 42

RETENTION MONEY SECURITY**Beneficiary:** *[Insert name and Address of Purchaser]***Date:** *[Insert date of issue]***RETENTION MONEY GUARANTEE No.:** *[Insert guarantee reference number]***Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[Insert name and address of contractor, which in the case of a joint venture shall be the name and address of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[Insert reference number of the contract]* dated *[Insert contract date]* with the Beneficiary, for the execution of *[Insert object of the contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, payment of *[insert the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security]* is to be made against a Retention Money guarantee.

Waiving all objections and defences, we, as Guarantor, hereby irrevocably and independently undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert guarantee amount and currency in words and figures]*¹⁷ upon receipt by us of the Beneficiary's first demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or show grounds for the demand or the sum specified therein.

The retention money guarantee shall come into force and effect as soon as the second half of the Retention Money has been credited to the Applicant on its account. Minor deductions of the above mentioned amount notably due to bank fees shall have no effect on the entry into force.

In the event of any claim under this guarantee, payment shall be effected to *[Insert the account on which payments are to be made]*, for the account of *[Insert name of the Purchaser and the Purchaser's country]*.

This guarantee shall expire not later than *[Insert expiry date]*¹⁸.

By this date we must have received any claims for payment by letter or encoded telecommunication.

It is understood that you will return this guarantee to us on expiry or after payment of the total amount to be claimed hereunder.

¹⁷The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and denominated in the contract currency(ies) only.

¹⁸Insert the same expiry date as set forth in the performance security, representing the date twenty-eight days after the completion date described in the Appendix to Bid. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

[As preferred option regarding guarantee rules insert¹⁹: This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.]

Place, date

Guarantor's authorized signature(s)

¹⁹In the case the issuing bank will not add the preferred option, the following must be added instead: This guarantee is governed by the laws of *[Insert country of jurisdiction]*. Note: the country of jurisdiction shall be the country where the bank's branch issuing the guarantee is physically located.

PART B: OPERATION AND MAINTENANCE CONTRACT

Preamble

Through this contract the issuing authority intends to appoint an operator for the operation and maintenance of the wastewater treatment plants in

1. Do Luong District General Hospital
2. Tan Ky District Health Centre
3. Quynh Luu District General Hospital

subject to the following:

- The operator shall operate all elements of the wastewater treatment plants in the most cost-effective way while meeting all performance standards and reducing environmental impacts to a minimum
- The primary goal for the waste water treatment facility is to produce an effluent quality that is within the parameters required by Vietnamese environmental standards
- Reduce energy costs wherever possible

This is a performance based contract detailing the rights and obligations of the parties involved targeting efficient, sustainable and cost effective service delivery.

Part I. Legal Basis

- Commercial Law No. 36/2005/QH11
- Law on Bidding No. 43/2013/QH13 and its regulations
- Decree No 130/2013/ND-CP on production and provision of public products and services issued on 16/10/2013
- Decree 80/2014/ND-CP on drainage and wastewater treatment issued on 6/8/2014
- Circular 04/2015/TT-BXD providing guidance on the implementation of Decree 80/2014/ND-CP on drainage and wastewater treatment issued on 6/8/2014
- Regulation on drainage management by the PPC [to insert number and date]
- Decision on organizing bid for the Service by PPC [to insert number and date]
- Bidding Documents approved by PPC [to insert number and date], or, if bidding conditions are not met, Order Placement of the Service approved by PPC [to insert number and date]
- Decision of selection of OPERATOR by PPC [to insert number and date]
- Bid Schedules submitted by the selected OPERATOR: please refer to section “Bid” of this Contract document
- Minutes of Negotiation between the EMPLOYER/OWNER [to insert name of the OWNER] and the selected CONTRACTOR/OPERATOR: please refer to section “Minutes of Negotiations” of this Contract document.
- Other relevant regulations

Part II. Parties to the Contract

1. Owner: Nghe An Department of Health

Representative:

Position:

Address: 18 Truong Thi, Vinh City, Nghe An Province

Account:

Tax code:

2. Operator:

Representative:

Position:

Address:

Account:

Tax code:

Part III. The Contract

The OWNER and the OPERATOR, in order to ensure the operation and maintenance of the wastewater treatment plants in

1. Do Luong District General Hospital
2. Tan Ky District Health Centre
3. Quynh Luu District General Hospital

in a sustainable manner, meeting technical norms and standards as set out by the state on drainage and wastewater treatment regulations and the Employer's Requirements defined in the Bidding Documents, improving operational efficiency of drainage system and quality of service delivery, agree to enter into this Operation and Maintenance Contract (hereinafter referred to as the "**Contract**") with the terms and conditions as follows:

1 Definitions of Terms Used in the Contract

In this Contract, the terms used shall have the definitions as below:

Claims during the implementation of the Contract (hereinafter referred to as Claims) are made in case of either party's inappropriate implementation or non-implementation of the obligations defined in the Contract to ask for conformation to the Contract.

Contract means the Agreement for the operation and maintenance of drainage system and the several documents listed/attached herein

Default Points means Points compiled by the OWNER upon OPERATOR's non-compliance with agreed performance standards

Discharging entities shall mean the Vietnamese or foreign organizations, individuals and households within Vietnam's territory who discharge wastewater into drainage systems

Hospital wastewater shall mean the wastewater discharged from hospitals during their regular operations.

Drainage System refers to the network (including pipeline, canals, channels, culverts, controlling wells etc.), pumping stations for storm water and/or wastewater, wastewater treatment facilities and other auxiliary structures/facility supporting collection, conveyance and safe discharge of storm water and/or wastewater, avoiding flooding and environmental degradation

Force Majeure Event means occurrences beyond the control and without the fault or negligence of the party affected and which by the exercise of reasonable diligence the said party is unable to prevent or provide against, including without limiting the generality of the foregoing, war (declared or undeclared), insurrection, acts of terrorism, maritime or natural disasters, boycotts or strikes other than strikes limited to the workforce of, or provided by, OPERATOR, and prolonged power supply interruption

Notice means either a Rectification Notice, a Default Notice, or a supplemental Default Notice served upon OPERATOR by OWNER for failure to properly perform the Service in accordance with the provisions of the Contract

Operation and Maintenance Contract (hereinafter referred to as Contract) is a legal document signed between the OWNER and the OPERATOR, who is assigned with the management, operation and maintenance of the treatment system.

OPERATOR shall mean the [.....] Co., Ltd. with legal Representative being [.....], that has been assigned to provide O&M of the wastewater treatment plants in

1. Do Luong District General Hospital
2. Tan Ky District Health Centre
3. Quynh Luu District General Hospital

OWNER shall mean the PPC [.....] with legal Representative being [.....], that assigned the O&M operation of the aforementioned wastewater treatment plants..

Service shall refer to the obligatory activities that are to be carried out by the OPERATOR during the Contract period to fulfil the purpose of the Contract

Storm water means to the excess rainfall which does not percolate into the ground and flows as surface run-off

Wastewater shall refer to the liquid discharge wherein the quality of water is modified and deteriorated after use. This shall include water generated after domestic use, industrial, commercial use and also, surface run-off which get mixed with various pollutants.

2 Objective and Purpose of the Contract

2.1 The objective of this Contract is the operation and maintenance of the wastewater treatment plants in

1. Do Luong District General Hospital
2. Tan Ky District Health Centre
3. Quynh Luu District General Hospital

2.2 The purpose of the OWNER is to improve the quality of public health and environmental quality by managing the hospital's sanitation infrastructure efficiently and providing excellent sanitation services to the people of the districts of Do Luong, Quynh Luu, and Tan Ky.

2.3 The purposes of the Contract is to stipulate rights and duties of the two contracting parties to ensure the operation and maintenance of the WWTPs in aforementioned hospitals in a sustainable manner, meeting technical norms and standards as set out by the state under relevant drainage/sewerage and wastewater treatment regulations, thereby improving operation efficiency and service quality.

3 Scope and Content of Service

3.1 The OWNER appoints the OPERATOR for the operation and maintenance of the aforementioned WWTPs with the scope and content of service detailed in the Appendix C to this Contract.

4 Terms of Contract Performance

4.1 Date for the commencement of operation and maintenance activities: upon successful Tests on Completion under the EPC Contract (Part A).

4.2 Contract duration: 1 year starting with passing the Tests on Completion under the EPC Contract (Part A).

4.3 The Termination of the Contract shall be carried out in compliance with the prevailing law and specific conditions of this Contract.

4.4 This Contract can be extended if agreed by all parties.

5 Contract Price

5.1 The value of the Contract is set out in the Contract Agreement and the Bills of Quantities provided under section "Bid".

5.2 All components/ items required to be procured/supplied or performed by OPERATOR under the Contract shall be at OPERATOR's costs and deemed to be included in the Contract Price.

6 Contract mode

6.1 Both parties agree to make this a performance-based lump-sum contract.

6.2 The Contract Mode will remain unchanged during the Contract Period with the Service defined in the Contract except for any adjustments as provisioned under relevant Articles of this Contract.

7 Payment

7.1 The OWNER will pay the OPERATOR as defined in section "Part A: Engineering, Procurement, Construction Contract" and "Appendix 3 to Particular Contract Conditions: Terms and Procedures of Payments" therein upon receipt of respective invoices.

8 Technical dossier and asset management

8.1 The OWNER shall produce and transfer a Technical Dossier of the asset to the OPERATOR which is assigned for operating and maintenance.

8.2 The OPERATOR mandatorily needs to protect the assets assigned for operations and maintenance.

8.3 The OPERATOR shall periodically check and assess the quality and depreciated value of the assets, and also inform the OWNER of such in writing.

8.4 The OPERATOR shall submit an monthly operations and maintenance report to the OWNER. The requirements are detailed under Appendix B.

9 Rights and obligations of OWNER

In addition to the rights and obligations defined in the laws and this Contract, the OWNER also has the following rights and obligations.

9.1 Rights of the OWNER

9.1.1 The OWNER has the right to supervise the Contract execution in accordance with the requirements for quality, quantity, specifications, Standards, progress, work safety, environmental sanitation, etc. as mentioned in this Contract.

9.1.2 The right to carry out audits

9.1.3 The OWNER or its duly authorized Representative shall, at any time during the execution of the Service under this Contract, have the right to carry out audits of all the records and related documents, procedures and controls of OPERATOR insofar as they relate to this Contract.

9.1.4 The OPERATOR shall maintain or cause to have maintained its books and records, insofar as they relate to this Contract, in accordance with generally accepted practices. OWNER or its authorized Representative shall have the right to reproduce any of the aforementioned records and documents.

9.1.5 The OWNER shall have the right to inspect and supervise the WWTP and its facilities at any time for the assurance of the efficiency of management, operation and maintenance activities agreed in the Contract.

9.1.6 The right to terminate the Contract in accordance with 26 herein.

9.2 Obligations of the OWNER

9.2.1 To pay OPERATOR's invoices on time according to financial Agreements as stipulated in this Contract.

9.2.2 Handing over of documentation of all assets and sewage/drainage facilities to OPERATOR within 3 weeks after this Contract becomes effective, including all required hard and software.

9.2.3 Clarify/answer within 10 working days all questions raised by OPERATOR in conjunction with his contractually agreed tasks and necessary to provide his Service.

9.2.4 The OWNER is responsible and shall bear all related costs for repair and/or replacement of faulty, worn or malfunctioning concrete and steel structures of the WWTP.

9.2.5 Ensuring that the hospital wastewater is free from chemicals and / or constituents that may affect the proper operation of the WWTP. This particularly refers to disinfectants and other chemicals that are potentially compromising the biological treatment processes in the WWTP.

10 Rights and Obligations of the OPERATOR

In addition to the rights and obligations defined in the laws and this Contract, the OWNER also has the following rights and obligations.

10.1 Rights of OPERATOR

10.1.1 The right to organize business activities as stipulated by the laws, to be paid duly for the management, operation and maintenance of the Drainage System as agreed in the Contract;

10.1.2 The right to submit proposals for Contract Adjustment for Agreement with the OWNER;

10.1.3 The right to be compensated for losses or damages caused by the OWNER as regulated by the law;

10.2 Obligations of OPERATOR

10.2.1 The OPERATOR shall in respect of this Contract assume full and exclusive liability for payment of all taxes, duties, levies, charges and contributions of any nature whatsoever that are from time to time imposed by Government of Vietnam, declare and pay all such taxes, duties, levies, charges and contributions directly to the appropriate authorities and otherwise comply with any applicable laws and regulations

10.2.2 During the Contract Period, the OPERATOR shall upon and subject to the terms of the Contract with due care and diligence provide the Service in a proper, skilful and workmanlike manner in accordance with the written instructions and to the entire satisfaction of the OWNER.

10.2.3 Should the OPERATOR require any further instruction or information in connection with performance of the Service, OPERATOR shall make a written application for the same to the OWNER in which the requirement is stated in adequate detail. Such application shall be made within 5 working days after the requirement occurs, and shall be answered by the OWNER within 5 working days after receiving the written application.

10.2.4 The OPERATOR shall at all times during the Contract Period allow the OWNER and such persons as may from time to time be nominated by the OWNER access to:

- All locations for the purpose of inspecting work being performed pursuant to the provision of the Service.
- All locations for the purpose of inspecting records and documents in the possession of OPERATOR in connection with the provision of the Service.
- Materials, stores and spare parts in order to ensure that such items comply with manufacturers' specifications and have been obtained from such suppliers as are specified in the Specification.
- Any employee or agent of OPERATOR for the purpose of interviewing him/her/them in connection with the carrying out of all or any part of the Service.
- Equipment used or proposed to be used in connection with the performance of the Service for the purpose of ensuring that such Equipment meets the requirements of the Specification and relevant legal requirements.

10.2.5 The OPERATOR will within 05 (five) working days provide the OWNER, upon request, copies of all warranties, maps, as-built plans, maintenance logs and records, maintenance and performance Standards, and any and all other records related to the facilities, to the extent known and available to OPERATOR.

10.2.6 In the event of OPERATOR being unable to perform the Service or any part thereof, OPERATOR shall immediately inform the OWNER giving details of the circumstances, reasons and likely duration and action taken to rectify the situation. Nothing in this condition shall in anyway alter modify, relieve or in anyway vary OPERATOR's obligation to provide the Service.

10.2.7 If OPERATOR fails to provide the Service or any part thereof with due diligence or in a proper, skillful and professional manner, or to the Contract Standard and to the entire satisfaction of the OWNER, OWNER may itself provide or may employ and pay other persons to provide the Service or any part thereof and all costs incurred thereby maybe deducted from any sums due or to become due to OPERATOR under the Contract, and shall be recoverable from OPERATOR by OWNER as a debt.

10.2.8 OPERATOR is obligated to properly manage and operate the facilities within the scope of this Contract so that it will achieve most cost-effective operation, while in compliance with Vietnamese Environmental Regulations / Standards.

10.2.9 OPERATOR shall update the asset documentation regularly and submit to the owner once a year.

10.2.10 Risks in and the care and custody of any or all parts of the Service and all Equipment shall remain with OPERATOR throughout the duration of the Contract.

10.2.11 The OPERATOR shall notify OWNER as soon as possible of all things which in the opinion of OPERATOR appear to be deficiencies, omissions, contradictions or ambiguities or conflicts with applicable law in the Contract. The OWNER will review these items and issue the necessary instructions before OPERATOR proceeds with any part of the Service affected.

10.2.12 The OPERATOR shall notify OWNER immediately whenever accidents or incidents occur. OPERATOR shall also notify OWNER of any other incidents arising out of the performance of the Contract which might affect the interests or other operations of OWNER, or others.

10.2.13 The OPERATOR shall notify OWNER immediately of any impending or actual stoppages of Service, industrial disputes or other matters affecting or likely to affect the performance of the Contract or lead to a delay in the Contract time schedule.

10.2.14 The OPERATOR shall keep OWNER fully informed of the progress of the Service

10.2.15 The OPERATOR shall constantly train and educate his staff and install knowledge management and institutional learning procedures.

10.2.16 The OPERATOR is responsible and shall bear all related costs for repair and/or replacement of faulty and/or malfunctioning M&E equipment, piping and cabling works.

11 Personnel of the OPERATOR

11.1 OPERATOR warrants that he does and will have the experience and capability including sufficient and competent supervisors and other personnel to efficiently and expeditiously perform the Service throughout the Contract Period. If in the opinion of the OWNER there is inadequacy in the number or competence of persons engaged in performing the Service, then OPERATOR shall on request, at no extra cost to OWNER provide additional or alternative competent persons.

11.2 The OPERATOR shall ensure that staff employed under the Contract are at all times properly and sufficiently qualified, trained, competent, careful, skilled, honest, experienced, instructed and supervised as the case may be with regard to the Service. In particular, OPERATOR's staff has to be informed about:

- The task(s) such person has to perform;
- All relevant provisions of the Contract;
- All relevant policies, rules, procedures and Standards of OWNER.
- All relevant rules, procedures and requirements concerning health and safety at work, such as Labour code of The Socialist Republic of Vietnam
- Fire risks and fire precautions;
- The need to maintain the highest Standards of hygiene, courtesy and consideration;
- The need to recognize situations which may involve any actual or potential danger of personal injury to any person at any location and, where possible, without personal risk, to make safe such situations, and forthwith to report such situations to the OWNER and where the location belongs to OWNER, to the member of OWNER Staff with responsibility for the location.

11.3 All items of value found by OPERATOR at any location within the premises of the WWTP shall be submitted to the OWNER.

11.4 The OPERATOR shall at its own cost forthwith replace any of its employees or agents whom OWNER, in its sole discretion, considers to be incompetent, to have acted in a manner prejudicial to OWNER's best interest, to have failed to comply with OWNER's safety or other rules or regulations, to have produced sub-Standard work or whom OWNER, in its sole discretion, wishes to be replaced for any other good reason. OWNER shall not exercise this right thoughtlessly or carelessly.

12 Staff Control and Supervision of OPERATOR

12.1 The OPERATOR shall appoint an OPERATOR's Representative to act on behalf of the OPERATOR for all purposes connected with the Contract. Any Notice, information, instruction or other communication given or made to the OPERATOR's Representative shall be deemed to have been given or made to OPERATOR.

12.2 OPERATOR shall forthwith give Notice in writing to the OWNER of the identity, address and telephone numbers of the person appointed as OPERATOR's Representative and of any subsequent appointment.

12.3 OPERATOR shall ensure that the OPERATOR Representative, or a competent deputy, duly authorized by OPERATOR to act on its behalf, is present at the location and available to meet the OWNER or the OWNER's Representative at all reasonable times during which the Service is provided.

12.4 The OPERATOR Representative shall inform the OWNER promptly of and confirm, in writing, any instances of activity or omission on the part of OWNER which prevent or hinder, or which may prevent or hinder OPERATOR from complying with the Contract. The provision of information under this Condition shall not in anyway release or excuse OPERATOR from any of its obligations under the Contract.

12.5 OPERATOR shall provide a sufficient number of supervisors to ensure that the OPERATOR Staff engaged in and about the provision of the Service are at all times adequately supervised and properly perform their duties to the agreed Standards.

12.6 OPERATOR shall ensure that, when requested to do so, any employee of OPERATOR shall disclose his/her identity and status as an employee of OPERATOR and shall not avoid doing so.

12.7 OPERATOR shall require its employees at all times while engaged in the provision of the Service to be properly and presentably dressed in appropriate uniforms or work wear, including personal protective equipment such as, but not limited to overalls, protective footwear and gloves to the satisfaction of OWNER. Such uniforms and personal protective Equipment to be worn by OPERATOR Staff shall be provided, maintained and replaced as necessary by OPERATOR.

13 Sub-Contracting

13.1 The OPERATOR is permitted to assign Sub-Contractors, which are not the contractors performing part of the work of a procurement included in the bidding document by the OPERATOR, for specific tasks, provided the annual sum of all sub-Contracts not exceeds 10% of the total annual Contract Price. A written approval from OWNER is needed for each additional sub-Contract.

13.2 A list of organizations or individuals proposed as sub-Contractors shall be submitted to OWNER for Notice

13.3 The selection of sub-Contractors shall not change the agreed rights and obligations of OWNER and OPERATOR.

14 Contract Adjustment

14.1 Contract adjustment shall be possible in case the legal basis has changed substantially and one of the parties requires an adjustment of the Contract.

14.2 Contract adjustment shall be mutually agreed by both the Parties. If no agreement can be achieved, each party has the right to terminate the Contract unilaterally, but no earlier than 60 days [to be decided and agreed by Contract parties] after the adjustment proposal has been refused by the other party or if no answer is received after a Period of 30 days.

15 Notice and Correspondence

15.1 All Notice required or authorizations to be given under the Contract must be given in writing and must quote the Contract name. All such Notice must be served either by personal delivery, or by fax transmission, or by email.

15.2 Without prejudice to the provisions set out relating to Notice, subject to any provision to the contrary herein contained or to any specific agreement between the parties, all instructions, information, Agreements, authorizations, approvals and acknowledgements shall be either by letter or by facsimile.

16 Insurances

16.1 Without limitation of its obligations and responsibilities, the OPERATOR is obliged to maintain for the duration of the Contract compulsory insurances as laid out in Appendix G.

16.2 OWNER shall have the right to inspect all policies of insurances provided for in the Contract and the receipts for the current premiums.

17 O&M Performance Bank Guarantee

17.1 A separate O&M Performance Bank Guarantee will not apply. The Performance Security under the EPC contract (Part A) shall cover the contract duration of this Contract and shall be valid and enforceable until the obligations of this Contract are fulfilled. The value of the Performance Security of 10% of the overall contract value shall remain unchanged.

18 Liabilities

18.1 The OWNER shall supervise the implementation of the legal frame. The OWNER shall check and supervise OPERATOR's compliance with regulations on effluent Standards as well as sludge disposal for wastewater treatment plant.

18.2 The OPERATOR shall abide by and comply with all applicable law, rules and regulations on water resources and environment protection, exploitation and protection of irrigation works, and other legal documents relating to these Service.

18.3 The OPERATOR shall obtain all licenses and permits for the OPERATOR to do business and employ persons and shall obtain all temporary permits, authorizations and work permits required by any applicable law, rules or regulations.

18.4 All costs of complying with all applicable laws, rules and regulations and obtaining authorities, approvals, licenses, permits, for performance of the Service shall be for the account of OPERATOR.

18.5 All operations necessary for the performance of the Contract shall be carried out so far as compliance with the requirement of the Contract permits so as not to interfere unnecessarily or improperly with the convenience of the public or the access to, public or private roads and footpaths to or of properties. OPERATOR hereby indemnifies OWNER against all Claims, demands, proceedings, damages costs, charges and expenses whatever arising in relation to any of the aforesaid matters in so far as OPERATOR is responsible for such interference.

19 Indemnity

19.1 OPERATOR shall indemnify and keep indemnified OWNER fully against all Claims, proceedings, actions, damages, legal costs, expenses and any other liabilities whatsoever arising out of, in respect of or in connection with the Contract.

19.2 The aforementioned costs and expenses include any death or personal injury, loss of or damage to property, financial loss arising from any advice given or omitted to be given by OPERATOR, or any other loss which is caused directly or indirectly by any act or omission of OPERATOR.

19.3 This condition shall not apply to the extent that OPERATOR is able to demonstrate that such death or personal injury, or loss or damage was not caused or contributed to by its negligence or Default, or the negligence or Default of its Staff or sub-OPERATORS, or by any circumstances within its or their control.

20 Responsibility for Service

20.1 The OPERATOR shall perform the Service in accordance with the Contract and with all proper skill and care shall ensure that the Service and facilities, materials and Equipment used to produce or incorporated into the Service shall be fit for their intended purpose and of good quality and workmanship.

20.2 In the event of any non-compliance with the agreed Service, the OPERATOR shall be responsible at own costs for the correction of any defective Service.

20.3 In the event of any non-compliance with the agreed Service, OWNER shall notify OPERATOR of the breach. Upon receipt of such notification from OWNER, OPERATOR shall immediately carry out its responsibilities. Alternatively, OWNER may undertake any of OPERATOR's responsibilities as agreed on in this Contract, in which case OWNER shall notify OPERATOR of its intention and shall be entitled to recover from OPERATOR all costs incurred by OWNER in carrying out such responsibilities.

21 Monitoring of Service

During Contract period the Service rendered by the OPERATOR shall be monitored and evaluated based on the provisions detailed in Appendix E and D.

22 Defaults in Performance of Service

22.1 At any time after the Commencement Date of the Contract the OWNER may investigate each case where OPERATOR has failed to properly perform the Service in accordance with the provisions of the Contract.

- Where the OWNER is satisfied that in any particular case OPERATOR has failed to perform the Service in accordance with the provisions of the Contract he shall be entitled to issue to OPERATOR a notice instructing OPERATOR to remedy the failure within a reasonable period of time (Rectification Notice).
- In addition, where the Service which has not been performed in accordance with the provisions of the Contract is, in the opinion of the OWNER, of such a type or provided at such a frequency that the issuing of Rectification Notice would be inappropriate and/or no effect the OWNER shall be entitled to issue a Default Notice.

22.2 If the OPERATOR fails to remedy the Service deficiency which is the subject of a Rectification Notice the OWNER shall be entitled to issue a Default Notice. Further failure of OPERATOR to remedy the Service deficiency may result in the issuing of Supplementary Default Notice. Each Default Notice and Supplementary Default Notice will require OPERATOR to remedy the Service deficiency within a set or defined period.

22.3 In addition to the aforementioned reasons the following matters shall be included in the types of Service deficiencies for which Notice may be issued.

- Failure to dispose on designated location sludge, wastes/grits collected from bar screens and other sources.
- Failure to remove debris/waste from the bar screens at the intake structure
- Unsafe Working Practices
- Misuse of the plant Equipment and vehicles
- Failure to make reports by the due date (to be defined as part of the Scope of Work)

22.4 For matters related to compliance with Vietnamese Environmental Standards, the specific penalties stipulated therein or any related laws for such failure to meet the Standards shall prevail and will be the responsibility of the OPERATOR.

22.5 The time Periods during which the OPERATOR is to remedy deficiencies shall be reasonable, taking the nature and frequency of the Service into account. Each time Period shall commence when OPERATOR is initially notified in writing.

22.6 Each Notice may refer to one or more than one elemental Service deficiency, each of which shall be rectified by OPERATOR.

22.7 All Notices shall be recorded and used by the OWNER in determining OPERATOR's overall Service performance and shall also be used in determining Financial Penalties and whether OWNER may terminate the Contract.

22.8 During the first three (3) months immediately following the Commencement Date no Default Points shall be recorded in respect of Rectification Notice. However, Default Points may be recorded in respect of Default Notice and Supplementary Default Notice and the Financial Penalties Provision as per Article 24 shall apply at all times after the Commencement Date.

23 Penalties for Contract Breaches

23.1 For the purposes of assessing whether Financial Penalties are recoverable by the OWNER from the OPERATOR the following method shall be used:

23.2 Each Notice issued shall correspond to the following Default Points:

- Rectification Notice- 1 point
- Default Notice- 2 points
- Supplementary Default Notice- 3 points

23.3 In the event of incidents of OPERATOR's failure to properly perform the Service OPERATOR shall be liable to OWNER for the costs incurred thereby to be calculated as set out below:

Default Points in any quarter	Deduction from annual instalment
0-10	Nil
11-30	10%
31-50	20%
51-70	30%
Over 70	Termination of the Contract

23.4 The deduction from the annual instalment will be registered, certified and signed by the OWNER with copies given to the OPERATOR.

23.5 The Dispute Settlement Committee to be set up is the entity to solve any dispute with the Default Points defined in Article 43 herein.

24 Force Majeure

24.1 Neither party shall be liable for any failure to perform any obligation under the Contract to the extent to which performance is prevented, hindered or delayed by a Force Majeure Event.

24.2 A Force Majeure Event shall not include the following:

- Breakdown of any item of Equipment used by OPERATOR.
- Contractual commitment made by OPERATOR which limits the ability of OPERATOR to perform the Service.
- Inability to hire or utilize Staff or personnel due to difficulties in obtaining or withdrawal of governmental quotas, licenses or permits.

24.3 Should either party be delayed in performing the Contract by a Force Majeure Event, that party shall notify the other party immediately giving the full particulars thereof, shall use its best efforts to remedy the situation immediately and shall notify the other party of the steps being undertaken to remedy the situation.

24.4 Should OPERATOR be delayed in the performance of the Service by an occurrence which OPERATOR considers is a Force Majeure occurrence and OPERATOR is unable to avoid or prevent such delay by any reasonable effort, within 7 (seven) days of such occurrence OPERATOR shall request in writing that OWNER initiate the procedure for a Variation. If OWNER agrees that the occurrence is a Force Majeure Event, then as soon as practicable OWNER shall authorize a Variation. Such Variation shall also reimburse OPERATOR for such extra costs as OPERATOR unavoidably incurs by reason of such Force Majeure occurrence to the extent that OPERATOR cannot reduce or mitigate them by exercising best endeavours to do so.

25 Temporary Suspension of Contract

25.1 The OWNER shall decide on a temporary suspension to the execution of the Contract in case the OPERATOR fails to meet agreed requirements of quality, labour safety.

25.2 The OPERATOR shall temporarily suspend the execution of the Contract in case the OWNER fails to pay any payment due to the OPERATOR within 28 (twenty eight) days since maturity date as regulated in Article 8 herein.

25.3 Before any party's temporary suspension of the Contract, a Notice about such should be sent in writing to the other stating clearly the reasons for the temporary suspension. The OWNER and the OPERATOR shall have responsibility to discuss for solutions for the continuation of the Contract as agreed, except for Force Majeure cases.

26 Contract Termination

26.1 In addition to any deductions which may be made under Article 23 above, the OWNER may terminate the Contract if more than 70 Default Points are recorded against the OPERATOR in any one-quarter Period. These Termination provisions shall not apply during the three (3) months immediately following the Commencement Date.

26.2 At any time after the Commencement Date, the OWNER may investigate each case where the OPERATOR has failed to properly perform the Service in accordance with the provisions of the Contract, has committed a breach of any of its obligations, or has committed any offence under the Contract.

26.3 The OWNER shall be entitled to terminate the Contract where definite proofs are held by OWNER that OPERATOR has failed to perform the Service completely in accordance with the provisions of the Contract.

26.4 The OWNER may, but not unreasonably without prejudice to any accrued rights or remedies under the Contract, terminate OPERATOR's employment under the Contract by Notice in writing having immediate effect, if one or more of the following cases occur:

- The OPERATOR commits a breach of any of its obligations under the Contract;
- The OPERATOR is involved in bribes or corruptive practices
- The OPERATOR has submitted falsified or inaccurate documents, such as laboratory reports
- The OPERATOR does not have sufficient equipment, man powers to implement the Contracted Service pursuant to the regulations;
- The OPERATOR ceases its management activities or fails to operate the whole or a substantial part of the system in accordance with the Contract;
- The OPERATOR becomes bankrupt as according to Vietnam law, or fails to realize its responsibilities and/or obligations as defined in the Contract;
- The OPERATOR has an application made to the court, under the insolvency legislation for the appointment of an administrative receiver;
- The OPERATOR has a winding-up order made, or (except for the purpose of amalgamation or reconstruction) a resolution for voluntary winding-up passed;
- The OPERATOR may, but not unreasonably without prejudice to any accrued rights or remedies under the Contract, terminate the Contract by Notice in writing having immediate effect, if one or more of the following cases occur:
 - The OWNER doesn't fulfil its obligations to provide the required investment budget and as a consequence, OPERATOR cannot fulfil its Contractual obligations due to missing investments;
 - The OWNER doesn't fulfil its obligation concerning the Contractual agreed payments;
 - Force Majeure Events.

26.5 If Contract is terminated and is not reinstated, the OWNER shall:

- Cease to be under any obligation to make any further payment until the costs, loss and/or damage resulting from or arising out of the Termination of Contract shall have been calculated and provided such calculation shows a sum or sums due to the OPERATOR;
- Be immediately entitled to withhold the Performance Bank Guarantee, entirely or in the remaining sum, in accordance with the terms and conditions of the Guarantee;
- Be entitled to employ and pay other persons to provide and complete the provision of the Service or any part thereof and to use all such OPERATOR's materials, clothing, equipment, vehicles or other goods for the purposes thereof;
- Be entitled to deduct from any sums or sums which would have been due from the OWNER to the OPERATOR under this Contract or any other Contract or be entitled to recover the same from the OPERATOR as a debt, any loss or damage to the OWNER resulting from or arising out of the Termination of Contract. Such loss or damage shall include the reasonable cost to the OWNER of

the time spent by its officers in terminating the contract and in making alternative arrangements for the provision of the Service or any part thereof.

26.6 When the total cost, loss and/or damage resulting from or arising out of the Termination of contract have been calculated and deducted so far as practicable from any sum or sums which would have been due to the OPERATOR in respect of Service performed up to the time of Termination of the Contract, any balance shown as due to the OWNER shall be recoverable as a debt, or alternatively, OWNER shall pay to OPERATOR any balance shown as due to the OPERATOR.

27 Schedule of Work of Operator

27.1 Operator shall provide adequate manpower and supervision staff to operate the facilities under this Contract, in line with the Employer's Requirements forming part of the Bidding Documents.

28 Terms of Safety and Labour

28.1 Operational Equipment

- All Equipment used in hazardous areas must be intrinsically safe as required by the laws and/or regulations
- All lifting Equipment provided by OPERATOR shall be clearly marked with safe working load. Equipment used for raising or lowering personnel shall be of an approved type specifically designed for that purpose.

28.2 Operational Goal

- The OPERATOR shall operate all elements of the WWTP system in a most cost-effective way while meeting all performance indicators as mentioned in Appendix D and reducing environmental impacts to a minimum
- The primary goal for the waste water treatment facility is to produce an effluent quality that is within the parameters required by Vietnamese Environmental Standard
- Reduce energy costs wherever possible.

28.3 Communication and Response to Incidents

- The OPERATOR shall establish and maintain a suitably equipped communications facility for the purpose of receiving reports/instructions from the OWNER and for relaying the necessary instructions to the relevant personnel. The facility must be continuously manned 24 hours per day, 365 days per year with adequate contact arrangements with key personnel.
- For the purpose of operating the Contract, OPERATOR shall nominate a single point of contact for the receipt of instructions.

28.4 Security of assets

- The OPERATOR will be responsible for leaving all assigned assets with all doors, gates and manhole covers (where provided with a means of locking) properly closed and locked. He will also be responsible for the security of all keys in his possession.
- The OPERATOR shall be responsible for compensating the OWNER for any loss or damage of the assets caused by his negligence of any of the aforementioned responsibilities.

28.5 Occupational Health & Safety

- The OPERATOR shall nominate an OHS officer in charge of all aspects on occupational health and safety issues.
- The OPERATOR shall provide protective shoes, gloves and Equipment to all workers, for use at all times during performance of Service under this Contract.
- Protective Equipment shall be kept clean and in good condition, and replaced by the OPERATOR as it becomes worn or damaged, and at least on a semi-annual basis.
- The OPERATOR shall be responsible for providing regular medical check-ups for its Staff, on at least a semi-annual basis, and for providing a program of suitable vaccinations, having first obtained medical advice from a medical practitioner.

- The OWNER's Representative will meet OPERATOR, before and throughout the performance of this Contract, to make sure that OPERATOR:
 - Complies with his obligations in respect of statutory requirements, like Health & Safety at Work.
 - Implements safety procedures of a Standard not less than that of OWNER.
 - Is aware of the foreseeable hazards of the works which may affect the safety of employees, OWNER's and OWNER or Representative, and members of the public, and has incorporated safety procedures in his methods of working.
- The OPERATOR must inform the OWNER of any specific hazards which may arise from his proposed methods of working.

28.6 Uniforms

- The OPERATOR shall provide readily recognizable, brightly coloured with reflective stripes, shirts (or vests) and pants of a single design and colour to all its workers, to be worn at all times when performing Service under this Contract, so that they can be readily observed and their performance can be readily monitored. Uniforms shall be kept clean and in good condition and replenished as they become worn or damaged, and on at least a semi-annual basis.
- The OPERATOR shall direct all sub-Contractors to wear respective working clothes as described above.

28.7 Nuisance

- All operations for the execution of the works shall, so far as compliance with the requirements of the Contract, be carried on so as not to interfere unnecessarily or improperly with the public convenience or the access to or use or occupation of public or private roads and footpaths to or of properties whether in the possession of OWNER or of any other person.
- The OPERATOR shall indemnify OWNER in respect of all Claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or in relation to any such matters.

29 Review of Technical Dossier

The Technical Dossier received from the OWNER shall be regularly updated and submitted to the OWNER by the OPERATOR once a year. Details are given in Appendix B.

30 Indicators of Contract Performance

Performance indicators are defined in Appendix D. They shall be reviewed by both contractual parties every year.

31 Asset Settlement upon Contract Termination

31.1 Within 15 (fifteen) days since the Termination of the Contract as regulated in Article 35 herein, OPERATOR shall have responsibility to make inventory of the assets assigned for the execution of the Service agreed following the Asset Inventory Form in accordance with legal regulations and send it to OWNER.

31.2 The assets assigned for the execution of the Service agreed in this Contract shall be dealt with in accordance with prevailing laws and regulations.

32 Claims

32.1 Either party's Claims must be based on specific proof and evidence.

32.2 Within 30 days of identification of Contract violations, a written Notice about such violation shall be sent by the claimant to the other party. If no Claims are made within 30 days, both parties shall have to comply with contractual obligations.

32.3 Within 30 days of receipt of Claims, if no persuasive evidence and proof is produced by the claimee to prove that the Claim is inappropriate in accordance with the Contract, the Claim shall have to

be accepted. In case of no response by the claimee within this time, the Claim is considered to be accepted.

32.4 Claims made by either parties shall be sent to addresses agreed by both parties in the Contract.

33 Settlement of Contract Disputes

33.1 Within 30 days of receipt of a Claim as well as any written Notice about disagreements, both parties shall have the responsibility to negotiate for settlement of disputes through the Dispute Settlement Committee based on Contract regulations.

33.2 Within the 30 days stated in Item 43.1. of Article 43, if no Agreements can be reached, or either party does not agree with the other's proposed solutions, the two parties shall file a case with the competent court in accordance with legal regulations.

33.3 The time limit for filing a case to a court for dispute settlement is 02 (two) years from the day on which the parties' legitimate rights and interests are infringed.

33.4 Nothing in this dispute resolution procedure shall prevent the Parties from seeking from any court of competent jurisdiction an interim order restraining the other Party from performing any act or compelling the other Party to perform any act

33.5 Owner, Operator and other stakeholders shall observe and carry out the court's ruling once it has become effective.

34 Other Terms

34.1 All instructions, notifications, agreements, authorizations, approvals and acknowledgements shall be in writing.

34.2 No review, approval or acknowledgement by the OWNER shall relieve the OPERATOR from any liability or obligation under the Contract.

34.3 Words importing the singular only also include the plural and vice versa where the context so requires.

34.4 Fulfilment and execution of the present Contract is only valid if written Notice is sent to the mentioned registered office.

34.5 Should a registered office of one of the parties involved change address, it will only be legally valid with regard to the other if the new address is located in the same city and attested by a notary. Meanwhile, Notices forwarded to the registered office indicated in the present Agreement remains in force.

35 General Provisions

35.1 Both parties are obligated to strictly observe all Contract conditions

35.2 Both parties shall observe other provisions and conditions outside this Contract in accordance with prevailing laws and regulations of Vietnam.

35.3 In cases of a change of relevant Law during the execution of the Contract, both parties shall mutually agree to sign an addendum to the Contract.

35.4 The ruling language of this Contract is English, language for communications is English and Vietnamese in line with the provisions of the EPC Contract, Part A.

APPENDICES

Appendix A : Contract pricing

Refer to the Contract Agreement and the Bills of Quantities provided as part of the Bid.

Appendix B : Technical dossier

A technical dossier has to be developed by the OWNER and submitted to the OPERATOR upon commencement of operations. The OPERATOR shall regularly update and revise this dossier and share with the OWNER, specifically when handing over the WWTP after contract expiration.

It shall contain:

1. An asset inventory;
2. Standard Operation Procedures (SOPs);
3. Engineering and detailed design / as-built drawings and construction data and documents of the infrastructure
4. Management and operation / maintenance manuals
5. Operation diary of the WWTP
6. Other documents as requested by the OWNER

The asset inventory shall include the following information:

Item	No of items	Description / function	Value of the assets handed over	Conditions of the assets handed over	Records / documentations of the assets handed over	Remarks
[Example] Pump in aeration tank Type XXX	1	For emptying the tank	40.000.000 VND	Brand new	Supplier's Manual	

Appendix C : Scope and content of service

The OPERATOR is obliged to provide the following services:

1. Permanently operate and maintain the WWTPs at
 - Do Luong District General Hospital
 - Tan Ky District Health Centre
 - Quynh Luu District General Hospitalaccording to state-of-the-art procedures and prevailing legal regulations.
2. Ensure the permanent functionality of the WWTP without interruptions.
3. Operate the WWTP without deviations from its original design without the approval of the OWNER.
4. Develop annual O&M plans for repair, replacement, dredging, maintenance and development of the WWTP. Respective plans have to be submitted to the OWNER annually.
5. Monitor the performance of the WWTs and the effluent (treated wastewater).
6. Proper sludge management and disposal according to environmental regulations
7. Submit regular reports on plant operation compliance with the Performance Guarantees (Appendix F), Occupational Health & Safety (OHS) regulations and environmental safeguards (Environmental Management Plan).

Appendix D : Performance indicators and performance evaluation procedures

The OPERATOR shall abide by the following performance standards, measured through the following Key Performance Indicators (KPI) in total, and evaluation procedures as described below:

KPI 1: Effluent Quality

Wastewater treatment must meet effluent limits according to National Technical Regulation on Health Care Wastewater Standard QCVN 28:2010/BTNMT, as indicated in the table below. For this project, Column A shall apply:

Parameters	Unit	Value C	Testing method
		A	
1. pH		6.5 – 8.5	TCVN 6492:1999 (ISO 10523:1994)
2. BOD ₅	mg/l	30	TCVN 6001 - 1:2008
3. COD	mg/l	50	TCVN 6491:1999 (ISO 6060 : 1989)
4. Total Suspended Solid (TSS)	mg/l	50	TCVN 6625:2000 (ISO 11923:1997)
5. Sulphur (S ²⁻ , calculate as H ₂ S)	mg/l	1.0	TCVN 6637:2000 (ISO 10530:1992)
6. Ammonium (NH ₄ ⁺ , calculated as N)	mg/l	5	TCVN 5988:1995 (ISO 5664:1984)
7. Nitrates (NO ₃ ⁻ , calculated as N)	mg/l	30	TCVN 6180:1996 (ISO 7890 - 3 : 1988)
8. Phosphate (PO ₄ ³⁻ , calculated as P)	mg/l	6	TCVN 6494 – 2: 2000 (ISO 10304 -2 : 1995)
9. Oil and grease	mg/l	10	US EPA Method 1664
10. Alpha radioactivity	Bq/l	0.1	TCVN 6053:1995 (ISO 9696:1992)
11. Beta radioactivity	Bq/l	1.0	TCVN 6291:1995 (ISO 9697:1992)
12. Total coliform	MPN/ 100ml	3000	TCVN 6187-1:2009 (ISO 9308 - 1:2000) TCVN 6187 - 2:1996 (ISO 9308 - 2:1990)
13. Salmonella	Bacteria/100 ml	KPHD	TCVN 4829:2001
14. Shigella	Bacteria/100 ml	KPHD	SMEWW 9260
15. Vibrio cholera	Bacteria/100 ml	KPHD	SMEWW 9260

Note:

KPHD: undetectable

Column A: applies to hospital wastewater discharged to municipal sewerage and water bodies not used for domestic purposes

Allowable threshold (C_{max}) = $C * K$;

$K = 1$ in case of hospital having ≥ 300 beds, parameters pH, Total coliform, Salmonella, Shigella, Vibrio cholera

$K = 1.2$ in case of hospital having < 300 beds and other health facilities

KPI 2: Energy Consumption

The specific electricity consumption (kWh/month) and monthly electricity consumption respectively shall not exceed the following figures:

	Unit	Max. acceptable value for CW	Max. acceptable value for SBR / MBBR
Specific electricity consumption	[kWh/m ³]	1.0	1.5
Max. monthly electricity consumption	[kWh, month]	155	2,800

KPI 3: Training

90% of the O&M staff receive trainings on O&M of wastewater treatment facilities.

KPI 4: Sewage Sludge Disposal

The sewage sludge is disposed of in an environmentally friendly way and in compliance with Vietnamese regulation

Means of verification

The aforementioned KPIs shall be monitored and verified by the following methods:

KPI	Means of verification
KPI 1: Effluent Quality	Regular O&M reports Quarterly analysis reports issued by a laboratory acknowledged by the local DONRE. 80% of all annual analysis have to meet National Technical Regulation on Health Care Wastewater Standard QCVN 28:2010/BTNMT, standard A
KPI 2: Energy Consumption	Meter readings and regular O&M reports. The electricity meters have to be under seal.
KPI 3: Training	Regular O&M reports Training reports
KPI 4: Sewage Sludge Disposal	Contract with local company licensed for respective services Submission of the company's business license Regular disposal reports (form sheets, signed and stamped by the contracted company)

Appendix E : Reporting

Under the services provided within the scope of this contract, the OPERATOR has to prepare and submit the following reports:

Item	Time of Submission	Content
O&M reports	Monthly reports, starting from commencement of operations of the WWTP	<ul style="list-style-type: none">• Wastewater volumes treated• Effluent quality• OHS incidents report• Environmental incidents report (as defined in the EMP)• Energy consumption• Unscheduled and emergency maintenance and repair works

Appendix F : Performance guarantees

(The performance guarantee of the engineering, procurement, and construction contract (Part A) is used)

Appendix G : Insurances

The OPERATOR confirms for the duration of the Contract the following insurances (to be accepted by the OWNER):

Type of Insurance	Insurance Company	Date of Effectiveness