National Open Competitive Procurement

Request for Bids
Works and Operation Service
Design, Build and Operation (DBO) of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality including Collection and Transportation from the Project Area

(Two-Envelope Bidding Process with e-Procurement)

March 2026

GOVERNMENT OF KERALA
KERALA SOLID WASTE MANAGEMENT PROJECT

REQUEST FOR BID NO IN-SUCM- 533554-CW-RFB

National Open Competitive Procurement

Request for Bids Works and Operation Service
Design, build and Operation of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality including Collection and Transportation from the Project Area
(Two-Envelope Bidding Process with e-Procurement)

CONTRACT TITLE	:	**Design, build and Operation (DBO) of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality including Collection and Transportation from the Project Area**
PERIOD OF SALE OF BIDDING DOCUMENT	:	FROM: **02.03.2026** TO **03.04.2026**
TIME AND DATE OF PRE-BID MEETING	:	DATE:10**.03.2026** TIME **11:00** HOURS
LAST DATE AND TIME FOR RECEIPT OF BIDS	:	DATE: **03.04.2026** TIME **16:00** HOURS
***** TIME AND DATE OF OPENING OF BIDS - Technical Part	:	DATE: **03.04.2026** TIME **16:30** HOURS
PLACE OF OPENING OF BIDS	:	Office of KSWMP, Thiruvananthapuram
OFFICER INVITING BIDS	:	Project Director, KSWMP
ADDRESS FOR COMMUNICATION	:	KSWMP, Upper Ground Floor, Trans Tower, Vazhuthacadu, Thiruvananthapuram, PIN- 695014

**** Firms that qualify technically shall be notified subsequently for opening of the financial parts of their bids.***

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Summary of Contents

Specific Procurement Notice

Specific Procurement Notice - Request for Bids (RFB)

The template attached is the Specific Procurement Notice for Request for Bids method, two-envelope Bidding process with e-Procurement.

PART 1 – BIDDING PROCEDURES

Section I – Instructions to Bidders (ITB)

This Section provides relevant information to help Bidders prepare their Bids. It is based on a two-envelope Bidding process. Information is also provided on the submission, opening, and evaluation of Bids and on the award of Contracts. **Section I contains provisions that are to be used without modification.**

Section II – Bid Data Sheet (BDS)

This Section consists of provisions that are specific to each procurement and that supplement the information or requirements included in Section I, Instructions to Bidders.

Section III – Evaluation and Qualification Criteria

This Section specifies the methodology that will be used to determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the Qualification Criteria, and whose Bid has been determined to be:

(a) substantially responsive to the bidding document; and

(b) the lowest evaluated cost.

Section IV – Bid Forms

This Section contains the forms which are to be completed by the Bidder and submitted as part of the Bid.

Section V – Eligible Countries

This Section contains information regarding eligible countries.

Section VI – Fraud and Corruption

This section includes the Fraud and Corruption provisions which apply to this Bidding process. **This section shall not be modified.**

PART 2 – EMPLOYER'S REQUIREMENTS

Section VII – Employer's Requirements

This section shall set out a description of the functional and/or performance specification of the works to be designed and constructed. It shall present, as appropriate, a statement of the required standards for materials, plant, supplies, and workmanship to be provided. The Employer Requirements shall also present the environmental, social (including labour compliance, labour influx management, prevention of sexual exploitation and abuse (SEA) and gender-based violence (GBV), pollution management, health and safety requirements to be satisfied by the contractor in designing and executing the works.

PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS

Section VIII –General Conditions of Contract (GCC)

This section contains the general clauses of the Conditions of Contract for Design, Build and Operate Projects, and shall be applied to all contracts. **The text of the clauses in this Section shall not be modified.**

Section IX – Particular Conditions of Contract (PCC)

This Section consists of Special Provisions which contains clauses specific to each contract. The contents of this Section modify or supplement, but not over-write, the General Conditions of Contract and shall be prepared by the Employer.

Section X – Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

GOVERNMENT OF KERALA
KERALA SOLID WASTE MANAGEMENT PROJECT

Request for Bids
Works and Operation Service
Design, build and Operation (DBO) of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality including Collection and Transportation from the Project Area

E-Procurement Notice
National Open Competitive Procurement

Project: Kerala Solid Waste Management Project

Contract title: Design, build and Operation (DBO) of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality including Collection and Transportation from the Project Area.

Loan No. IBRD-P4960

RFB No: IN-SUCM-533554-CW-RFB

Issued on: 02.03.2026

1. The Government of Kerala through Govt. of India has received financing from the World Bank and Asian Infrastructure Investment Bank (AIIB) toward the cost of the *Kerala Solid Waste Management Project* and intends to apply part of the proceeds toward eligible payments under the contract for Design, Build and Operation (DBO) of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality Including Collection and Transportation from the Project Area.

2. Bidding will be conducted through national open competitive procurement using Request for Bids (RFB) as specified in the World Bank's "Procurement Regulations for IPF Borrowers, November 2020" ("Procurement Regulations"), and is open to all Bidders as defined in the Procurement Regulations.

3. Bidders from India should, however, be registered with the Government of Kerala or other State Governments/ Government of India, or State/ Central Government Undertakings under applicable acts of India. Bidders from India, who are not registered as above, on the date of bidding, can also participate provided they get themselves registered by the time of contract signing, if they become successful bidders

4. The Kerala Solid Waste Management Project (KSWMP) *(implementing agency), for and on behalf of Governor of Kerala,* now invites online Bids from eligible Bidders for the Design, Build of works and operation services detailed below in the table. The bidders may submit bids for all of the works indicated therein. Interested bidders may obtain further information and inspect the bidding document at the address given below during office hours. Bidders are advised to note the clauses on eligibility (Section I Clause 4) and minimum qualification criteria (Section III – Evaluation and Qualification Criteria), to qualify for the award of the contract. In addition, please refer to paragraphs 3.14 and 3.15

of the "Procurement Regulations" setting forth the World Bank's policy on conflict of interest.

5. The Bidding Document is available online on https://etenders.kerala.gov.in/nicgep/app from 02.03.2026 To 03.04.2026 for a non-refundable fee as indicated in the table, in the form of Online Payment/NEFT/RTGS as per the provision provided on e-tender portal (Payment documents are to be submitted as per the procedure described in paragraph 9 below). Bidders will be required to register on the website. **The bidders would be responsible for ensuring that any addenda and corrigenda available on the website is also downloaded and incorporated.**

6. For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorised by Government of India for issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website: https://etenders.kerala.gov.in/nicgep/app. A non-refundable fee of amount mentioned in Table below is required to be paid. The mode of payment shall be in the form of Online/RTGS/NEFT as per the provision provided on the e-tender portal. Bidders must ensure that scanned copy(ies) of fee payment acknowledgement has been attached with their bid.

7. Bids comprise two Parts, namely the Technical Part and the Financial Part, and both parts must be submitted simultaneously online on https://etenders.kerala.gov.in/nicgep/app on or before 16.00 hours on 03.04.2026 and the 'Technical Part' of the bids will be publicly opened online on the same day at 16.30 Hours, in the presence of the bidders designated representatives who wish to attend. The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time and venue. The electronic bidding system would not allow any late submission of bids.

8. All Bids must be accompanied by a Bid Security of the amount specified for the work in the table below, drawn in favour of Project Director, KSWMP. Bid security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid. Procedure for submission of bid security is described in Para 9.

9. Bidders must pay for Bid Security online through the Government of Kerala e-procurement portal or in the form of 'an unconditional Bank Guarantee, issued by a Nationalized or Scheduled bank located in India' drawn in favour of the Employer as per the provision mentioned in the ITB 19.3. Before submission of bids online, bidders must ensure that scanned copy(ies) of Bid Security payment acknowledgement has been attached along with the online bid, before the bid submission deadline. Also, the bid security, in the case of Bank Guarantee, shall be submitted in original to the office of the Employer on or before the last date and time of the bid submission, failing which the bids will be declared non-responsive and will not be opened.

10. A pre-bid meeting will be held on 10.03.2026 at 11:00 hours at the office of Project Director, KSWMP as well as Online Mode as defined in BDS to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in ITB Clause 7.4 of 'Instructions to Bidders' of the bidding document. Bidders are advised to download the bidding document prior to the pre-bid meeting in order for bidders to have a good understanding of the scope of work under this contract for discussion and clarification at the pre-bid meeting.

11. Other details can be seen in the bidding document. The Employer shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.

12. The address for communication is as under:

Project Director,
Kerala Solid Waste Management Project (KSWMP)
Upper Ground Floor, Trans Towers, Vazhuthacaud,
Thiruvananthapuram 695014, Kerala, India
Telephone: 91 471 233 3011
Email: tenderkswmp@gmail.com
Website: www.kswmp.org

TABLE

Package No	Name of Work	Bid Security * (Rs.)	Cost of Document (Rs.)	Period of Completion
1	2	3	4	5
1	**Design, build and Operation (DBO) of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality including Collection and Transportation from the Project Area**	Rs. 19,00,000 (Rupees Nineteen Lakh Only)	Rs. 15,750 (Rupees Fifteen Thousand Seven Hundred Fifty Only)	Design Build: 365 days Operation Service: 10 Years

Seal of office
Address

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PART 1 – BIDDING PROCEDURES

SECTION I – INSTRUCTIONS TO BIDDERS

A. GENERAL

1. Scope of Bid	1.1 The Employer, as specified in the BDS, issues this Bidding Document for the design, build and operation of the Works as specified in Section VII, Employer's Requirements. The name, identification and number of lots (contracts) of this RFB are specified **in the BDS.** 1.2 Unless otherwise stated, throughout this Bidding document definitions and interpretations shall be as prescribed in the Section VIII, General Conditions of Contract. 1.3 Throughout this Bidding document: (a) the term "in writing" means communicated in written form (e.g. by mail, e-mail, fax, including if specified **in the BDS**, distributed or received through the electronic-procurement system used by the Employer) with proof of receipt; (b) if the context so requires, "singular" means "plural" and vice versa; (c) "Day" means calendar day, unless otherwise specified as "Business Day". A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower's official public holidays; (d) "Operation Service" means the operation and maintenance of the Works as provided under the Contract; (e) "Works" refers to Works, subject of this bidding document, to be designed and built under the Contract; and (f) "ESHS" means environmental, social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), health and safety of labours.
2. Source of Funds	2.1 The Borrower or Recipient (hereinafter called "Borrower") indicated **in the BDS** has applied for or received financing (hereinafter called "funds") from the International Bank for Reconstruction (hereinafter called "the Bank") in an amount specified **in the BDS** toward the project named **in the BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding document is issued.

	2.2 Payments by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement between the Borrower and the Bank (hereinafter called the Loan Agreement), and will be subject in all respects to the terms and conditions of that Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of equipment, materials or any other goods, if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
3. Fraud and Corruption	3.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Section VI. 3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (where declared or not), subcontractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.
4. Eligible Bidders	4.1 A Bidder may be a firm that is a private entity, a state-owned enterprise or institution subject to **ITB 4.6,** or any combination of such entities in the form of a joint venture (JV), unless otherwise specified **in the BDS,** 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, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative (Lead Member) who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. This authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all members. In case of a successful bid, the joint venture agreement should be registered in the place **specified in BDS** so as to be legally valid and binding on members. Unless specified **in the BDS**, there is no limit on the number of members in a JV. If specified **in the BDS**, the JV may form an

	SPV to enter into the Contract and the minimum level of total paid up share capital, lock-in periods for members maintaining their shares and extent to which members can dilute their shareholding shall be as specified **in the BDS**. 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be ITB 50.1 disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder: (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) any of its affiliates participates as a consultant in the preparation of the Employer's Requirements for the Works that are the subject of the Bid; or (f) any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as the Employer's Representative for the Contract implementation; or (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the **BDS ITB 2.1** that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the Bidding document 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 Bank throughout the Bidding process and execution of the Contract.
	4.3 A firm that is a Bidder (either individually or as a JV member) shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a subcontractor in other Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member may participate as a subcontractor in more than one Bid.
	4.4 A Bidder may have the nationality of any country, subject to the restrictions pursuant to **ITB 4.8.** A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
	4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d., shall be ineligible to be initially selected for, prequalified for, bid for, submit bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified **in the BDS**.
	4.6 Bidders that are state-owned enterprises or institutions in the Employer's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Employer.
	4.7 A Proposer shall not be under suspension from submitting proposals by the Employer as the result of the operation of a Bid or Proposal–Securing Declaration.
	4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion

	does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. 4.9 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
5. Eligible Materials, Equipment, and Services	5.1 The materials, equipment and services to be supplied under the Contract may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.

B. Contents of Bidding document

6. Sections of Bidding document	6.1 The Bidding document consists of Parts 1, 2, and 3, which include all the sections indicated below, and should be read in conjunction with any Addenda issued in accordance with **ITB 8**: **PART 1 Bidding Procedures** Section I - Instructions to Bidders (ITB) Section II - Bid Data Sheet (BDS) Section III - Evaluation and Qualification Criteria Section IV - Bid Forms Section V - Eligible Countries Section VI - Fraud and Corruption **PART 2 Employer's Requirements** Section VII - Employer's Requirements **PART 3 Conditions of Contract and Contract Forms** Section VIII - General Conditions of Contract (GCC) Section IX - Particular Conditions of Contract (PCC) Section X - Contract Forms 6.2 The Specific Procurement Notice, Notice of Request for Bids (RFB) issued by the Employer, is not part of this Bidding document. 6.3 Unless obtained directly from the Employer or downloaded from the official website specified in the 'E-Procurement Notice', the

		Employer is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the Bidding document in accordance with **ITB 8**. In case of any contradiction, documents obtained directly from the Employer or downloaded from the official website specified in the 'E-Procurement Notice' shall prevail. 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding document and to furnish with its Bid all information or documentation as is required by the Bidding document.
7. Clarification of Bidding document, Site Visit, Pre-Bid Meeting		7.1 The electronic bidding system **specified in the BDS** provides for online clarifications. A Bidder requiring any clarification on the Bidding document may notify the Employer online or raise its enquiries during the pre-Bid meeting if provided for in accordance with **ITB 7.4**. Clarifications requested through any other mode shall not be considered by the Employer. The Employer will respond to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period specified **in the BDS.** Description of clarification sought and the response of the **Employer** shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the Employer deem it necessary to amend the Bidding document as a result of a request for clarification, it shall do so following the procedure under **ITB 8** and **ITB 22.2.** It is the bidder's responsibility to check on the e-procurement system, for any corrigendum to the bidding document. 7.2 The Bidder is advised to visit and examine the Site of the Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a contract. The costs of visiting the site shall be at the Bidder's own expense. 7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection. 7.4 The Bidder's designated representative is invited to attend a pre-Bid meeting and/or a site visit, if provided for **in the BDS**. The purpose of the meeting will be to clarify issues and to

	answer questions on any matter that may be raised at that stage. Nonattendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder. 7.5 The Bidder is requested to submit any questions only through the procurement portal, not later than one week before the meeting. Clarifications requested through any other mode shall not be considered by the Employer. 7.6 Minutes of the pre-Bid meeting, if applicable including the text of the questions raised without identifying the source, and the responses given, together with any responses prepared after the meeting, will be uploaded online on e-procurement system. Any modification to the Bidding document that may become necessary as a result of the pre-Bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to **ITB 8** and not through the minutes of the pre-Bid meeting. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.
8. Amendment of Bidding document	8.1 At any time prior to the deadline for submission of Bids, the Employer may amend the Bidding document by issuing addenda. The addendum will appear on the e-procurement system under "Latest Corrigendum" and email notification is also automatically sent to those bidders who have started working on the tender, or as **otherwise specified in BDS**. 8.2 Any addendum thus issued shall be part of the Bidding document and shall be deemed to have been communicated to all bidders. The Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids, pursuant to **ITB 22.2.**

C. Preparation of Bids

9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
10. Language of Bids	10.1 The Bid prepared by the Bidder and all correspondence and documents related to the Bid exchanged by the Bidder and the Employer shall be written in the English. Supporting documents

	and printed literature furnished by the Bidder as part of its Bid may be in another language**,** as long as such literature is accompanied by a translation of its pertinent passages in English, in which case, for purposes of interpretation of the Bid, the English translation shall govern.
11. Documents Comprising the Bid	11.1 The bid submitted by the Bidder shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously. 11.2 The Technical Part shall contain the following: (a) **Letter of Bid – Technical Part**: prepared in accordance with **ITB 12 and ITB 14**; (b) **Bid Security**: in accordance with **ITB 19.1**; (c) **Alternative bid – Technical Part**: if permissible, in accordance with **ITB 13**; (d) **Authorization**: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with **ITB 20.3,** and in accordance with **ITB 20.4** in case of a JV**;** (e) **Bidder's Eligibility:** documentary evidence in accordance with **ITB 17** establishing the Bidder's eligibility to Bid; (f) **Qualifications**: documentary evidence in accordance with **ITB 17** establishing the Bidder's qualifications to perform the contract if its Bid is accepted; (g) **Conformity:** documentary evidence in accordance with **ITB 16** that the Works and Operation Service offered by the Bidder conform to the Bidding document; (h) **Contractor Registration**: contractor registration certificate (as per RFB); (i) list of subcontractors, in accordance with **ITB 16.3**; and (j) any other document required **in the BDS**. 11.3 The Financial Part shall contain the following: (a) Letter of Bid – Financial Part: prepared in accordance with **ITB 12** and **ITB 14**; (b) Price Schedules: completed online in accordance with **ITB 12** and **ITB 14**;

	(c) Alternative Bid - Financial Part: if permissible in accordance with **ITB 13**; and (d) any other document required in the BDS. 11.4 The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part, the Bid shall be declared non-responsive. 11.5 In addition to the requirements under ITB 11.2, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members or a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement, indicating at least the parts of the Works to be executed by the respective members. 11.6 Financial Disclosure: the Bidder shall furnish in the Letter of Bid – Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
12. Process of Bid Submission	12.1 The Bidder shall complete the Letter of Bid – Technical Part, Letter of Bid – Financial Part, Price Schedules, and all documents listed under Clause ITB 11, using the relevant forms furnished in Section IV, Bid Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under **ITB 20.3**. All blank spaces shall be filled in with the information requested. ~~12.2~~ Entire Bid including the Letter of Bid – Technical Part, Letter of Bid – Financial Part, filled-up Price Schedules, and all other documents, shall be submitted online on e-procurement system specified in ITB 7.1. Details and process of online submission of the tender and relevant documents are given in the website mentioned above. Scanned copies of documents listed in ITB clauses 11 and 12.3 should also be uploaded on this website. 12.3 Submission of Original Documents: The bidders are required to separately submit (i) original demand drafts towards the cost of bid document and registration on e-procurement website (if applicable) (as per RFB); and (ii) original bid security in approved form; and (iii) original affidavit regarding correctness of information furnished with bid document, with the office specified in the BDS, before the bid submission deadline, either by registered/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened. Hard copy of rest of the bid document or any other document are not to be submitted.

13. Alternative Bids	13.1 Unless otherwise specified **in the BDS**, alternative Bids shall not be considered. 13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included **in the BDS** and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria. 13.3 Bidders shall note that if they are permitted to propose alternatives in addition to or in lieu of the requirements specified in the Bidding documents, they shall document that the proposed alternatives are to the benefit of the Employer, that they fulfill the principal objectives of the contract, and that they meet the basic performance and technical criteria specified in the Bidding documents.
14. Bid Prices and Discounts	14.1 The prices and discounts quoted by the Bidder in the Letter of Bid – Financial Part and in the Priced Activity Schedules shall conform to the requirements specified below. Unless otherwise **specified in the BDS,** Bidders shall quote for the entire Works and Operation Service on a "single responsibility" basis such that the total lump sum Bid price, subject to any adjustments in accordance with the Contract, covers all the Contractor's obligations mentioned in or to be reasonably inferred from the Bidding document in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction and completion of the Works and operation and maintenance of the Works as set out in the Conditions. This includes all requirements under the Contractor's responsibilities for testing, pre-commissioning and commissioning (as applicable) of the Works and, where so required by the Bidding document, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as may be specified in the Bidding document, all in accordance with the requirements of the General Conditions of Contract. 14.2 Bidders shall give a breakdown of the prices in the manner and detail called for in the Priced Activity Schedules included in Section IV, Bid Forms with further breakdown prices for sub activities, as appropriate. The total of the prices of the items in the Priced Activity Schedule is the Bidder's offer to complete the works on a "single responsibility" basis. The cost of any items that the Bidder may have omitted is deemed to be included in the price of other items in the Activity and Sub-activity Schedules and will not be paid for separately by the Employer. Corrections if any in

	the bid can be carried out by editing the information before electronic submission on e-procurement portal. 14.3 The prices shall be either fixed or adjustable as specified **in the BDS.** 14.4 In the case of **Fixed Price**, prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price quotation will be treated as non-responsive and rejected. 14.5 In the case of **Adjustable Price**, prices quoted by the Bidder shall be subject to adjustment during performance of the contract to reflect changes in the cost elements such as labor, material, transport and Contractor's equipment in accordance with the procedures specified in the corresponding Appendix to the Contract Agreement. A Bid submitted with a fixed price quotation will not be rejected, but the price adjustment will be treated as zero. Bidders are required to indicate the weightings for labor and material indices in the corresponding Form in Section IV, Bid Forms. 14.6 If so indicated in **ITB 1.1**, Bids are being invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer any price reduction (discount) for the award of more than one Contract shall specify in their Letter of Bid – Financial Part, the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.7, provided the bids for all lots/contracts are opened at the same time. 14.7 Bidders wishing to offer any discount shall specify in their Letter of Bid - Financial Part, the offered discounts and the manner in which price discounts will apply. 14.8 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of Bids, shall be included in the rates and prices and the total Bid price submitted by the Bidder. **14.9** Bidders may like to ascertain availability of tax/duty exemption benefits available in India. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Employer will not compensate the bidder (contractor). The bidder shall furnish along with his bid a

	declaration to this effect in the Declaration Format provided in Section IV of the bidding document. Where the bidder has quoted taking into account such benefits, it must give all information required for issue of certificates in terms of the Government of India's relevant Notifications as per the declaration format. In case the bidder has not provided the required information or has indicated to be furnished later on in the Declaration Format, the same shall be construed that the goods/construction equipment for which certificate is required is Nil. To the extent the Employer determines the quantities indicated therein are reasonable keeping in view the quantities in the Activity Schedules, construction program and methodology, the certificates will be issued within 60 days of signing of the contract and no subsequent changes will be permitted. In case of materials pertaining to Variation items and quantities, the certificate shall be issued only on request from the contractor when in need and duly certified by the Employer's Representative. No certificate will be issued for items where no quantity/capacity of equipment is indicated in the statement. If the bidder has considered the tax/duty exemption for materials/construction equipment to be bought for the work, the bidder shall confirm and certify that the Employer will not be required to undertake any responsibilities of the Government of India Scheme or the said exemptions being available during the contract execution, except issuing the required certificate. The bids which do not conform to the above provisions or any condition by the bidder which makes the bid subject to availability of tax/duty exemption for materials/construction equipment or compensation on withdrawal of any variations to the said exemptions will be treated as non-responsive and rejected. Any delay in procurement of the construction equipment/ machinery/goods as a result of the above shall not be a cause for granting any extension of time
15. Bid Currencies	15.1 The currency of the Bid and the currency of payments shall both be Indian Rupees.
16. Documents Establishing Conformity of the Works & Operation Services	16.1 Pursuant to **ITB 11.2 (g),** the Bidder shall furnish, as part of the Technical part of its Bid, documents establishing the conformity to the Bidding documents of the Works and Operation Services that the Bidder proposes to design, and build under the Contract.

	16.2 The documentary evidence of the conformity of the Works and Operation Service with the Bidding documents may be in the form of literature, drawings and data, and shall include: (a) detailed description of the essential technical and functional/ performance characteristics of the proposed Works, in response to the Employer's Requirements. (b) adequate evidence demonstrating the substantial responsiveness of the Works and the Operation Service to the Employer's Requirements. Bidders shall note that standards for workmanship, materials and equipment designated by the Employer in the Bidding document are intended to be descriptive (establishing standards of quality and performance) only and not restrictive. The Bidder may substitute alternative standards, in its technical bid, provided that it demonstrates to the Employer's satisfaction that the substitutions are substantially equivalent or superior to the standards designated in the Performance/ Functional requirements specified by the Employer. 16.3 The Bidder shall be responsible for ensuring that any proposed subcontractor complies with the requirements of **ITB 4**, and that any Works to be provided by the subcontractor comply with the requirements of **ITB 5** and **ITB 16.1.** The Bidder shall also submit an undertaking from each proposed subcontractor to confirm that they have read, understand and will comply with the ESHS obligations and code of conduct.
17. Documents Establishing the Eligibility and Qualification of the Bidder	17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms. 17.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms.
18. Period of Validity of Bids	18.1 Bids shall remain valid, at a minimum, for 180 days or the period specified **in the BDS** after the deadline date for Bid submission prescribed by the Employer, pursuant to **ITB 22**. A Bid valid for a shorter period shall be rejected by the Employer as non-responsive. 18.2 In exceptional circumstances, prior to expiry of the Bid validity period, the Employer may request that the Bidders extend the period of validity for a specified additional period. The request and the responses to the request shall be made in writing. A Bidder may refuse the request without forfeiting the Bid

	Security. Except as provided in **ITB 18.3**, a Bidder agreeing to the request will not be required or permitted to modify its Bid, but will be required to ensure that the Bid Security is extended for a correspondingly longer period, pursuant to **ITB 19.4.** 18.3 In the case of fixed price contracts, if the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity, the contract price will be adjusted as specified **in the BDS**. In the case of adjustable price contracts, no adjustment shall be made. In any case, Bid evaluation will be based on the Bid prices without taking into consideration the above correction.
19. Bid Security	19.1 The Bidder shall furnish as part of the Technical Part of its Bid, a Bid Security as specified **in the BDS**, in original form, and for the amount specified **in the BDS.** 19.2 Deleted. 19.3 If a Bid Security is specified pursuant to ITB 19.1, the Bid Security shall be a demand guarantee in any of the following forms at the Bidder's option: (a) an unconditional bank guarantee issued by a Nationalized or Scheduled bank located in India; (b) an irrevocable letter of credit issued by a Nationalized or Scheduled bank located in India; (c) a cashier's or certified check or demand draft issued by a Nationalized or Scheduled bank located in India; (d) another security specified in the BDS, 19.4 In the case of a bank guarantee, the Bid Security shall be submitted using the Bid Security Form included in Section IV, Bid Forms. The form must include the complete name of the Bidder. The Bid Security shall be valid for forty-five days (45) beyond the original validity period of the Bid, or beyond any period of extension if requested under **ITB 18.2.** 19.5 If a Bid Security is specified pursuant to **ITB 19.1**, any Bid not accompanied by a substantially responsive Bid Security shall be rejected by the Employer as non-responsive. 19.6 If a Bid Security is specified pursuant to **ITB 19.1**, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the Performance Security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security pursuant to **ITB 51**. 19.7 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the

	Contract and furnished the required Performance Security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security pursuant to **ITB 51**. 19.8 The Bid Security may be forfeited: (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Letter of Bid - Technical Part and repeated in Letter of Bid - Financial Part, or any extension thereto provided by the Bidder; or **(b)** if the Bidder does not accept the correction of its Bid Price pursuant to **ITB 36** or **(c)** if the successful Bidder fails to**:** (i) sign the Contract in accordance with **ITB 50**; or **(ii)** furnish a Performance Security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security in accordance with **ITB 51**. 19.9 The Bid Security of a JV shall be in the name of the JV that submits the Bid. If the JV has not been legally constituted into a legally enforceable JV at the time of submission of Bids, the Bid Security shall be in the names of all future members as named in the letter of intent referred to in **ITB 4.1.** 19.10 Deleted.
20. Format and Signing of Bid	20.1 The Bidder shall prepare the Bid as per details given in ITB 21. 20.2 Bidders shall mark as "CONFIDENTIAL" information in their Bids which is confidential to their business. 20.3 The Bid shall be signed by a person or persons duly authorized to sign on behalf of the Bidder. The authorization must be in writing **as specified in the BDS** and shall be uploaded along with the Bid**.** The name and position held by each person signing the authorization must be typed or printed below the signature. 20.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. Documents establishing authority to sign the bid on behalf of the JV shall be uploaded along with the bid. 20.5 The Bid shall contain no interlineations, erasures, or overwriting, except to correct errors made by the Bidder, in

	which case such corrections shall be initialled by the person or persons signing the Bid.

D. Online Submission and Opening of Bids

21. Preparation of Bids	21.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-procurement system specified in BDS 7.1. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Request for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Request for Bids and can view the details of works for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any certifying agency authorised by the Government of India (for class of DSC **specified in BDS**). The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through them carefully and submit the specified documents, alongwith the bid, otherwise the bid will be rejected. 21.2 The completed bid comprising of documents indicated in ITB 12, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security. 21.3 All the documents are required to be signed digitally by the bidder. After electronic online bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission. 21.4 Physical, E-mail, Telex, Cable or Facsimile bids will be rejected as non-responsive.
22. Deadline for Submission of Bids	22.1 Bids, both Technical and Financial Parts, must be uploaded online no later than the time and date specified, **in the BDS**. 22.2 The Employer may, at its discretion, extend the deadline for submission of Bids by amending the Bidding documents in accordance with **ITB 8.3**, in which case all rights and obligations

	of the Employer and Bidders will thereafter be subject to the deadline as extended.
23. Late Bids	23.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.
24. Withdrawal, Substitution, and Modification of Bids	24.1 Bidders may modify their bids by using the appropriate option for bid modification on e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bid document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using the appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed (or allowed **if specified in BDS).** 24.2 Bids requested to be withdrawn in accordance with **ITB 24.1** shall not be opened. 24.3 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 Letters of Bid or any extension thereof. This will result in the forfeiture of the Bid Security pursuant to **ITB 19.8**.

E. Public Opening of Technical Parts of Bids

25. Public Opening of Technical Parts of Bids	25.1 The Employer shall conduct the Bid opening of the Technical Parts of the Bids in public, in the presence of Bidders` designated representatives and anyone who chooses to attend, and at the address, date and time specified **in the BDS,** and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 12.3 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 12.3 will be declared non-responsive and will not be opened. Thereafter bidder's names, the presence or absence of a Bid Security, if one was required, alternative bids – technical parts, if any, and such other details as the Employer may consider appropriate will be notified, online by the Employer as Technical Part bid opening summary. In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day. 25.2 The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Technical Parts of Bids, and technical parts of Alternative Bids if any, that are opened at technical Bid opening shall be considered further for evaluation.

F. Evaluation of Bids – General Provisions

26. Confidentiality	26.1 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 the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with **ITB 46**. In cases where **ITB 46** is not applicable, such information shall not be disclosed until Notification of Award is transmitted in accordance with **ITB 48.** 26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid. 26.3 Notwithstanding **ITB 26.2**, from the time of Bid opening to the time of Contract award, if any Bidder wishes to contact the Employer on any matter related to the Bidding process, it should do so in writing.
27. Clarification of Bids	27.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid, giving a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 36. 27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Employer's request for clarification, its bid may be rejected.
28. Deviations, Reservations, and Omissions	28.1 During the evaluation of bids, the following definitions apply: (a) "Deviation" is a departure from the requirements specified in the Bidding Document; (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
29. Nonmaterial Nonconformities	29.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid.

	29.2 Provided that a Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information or 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. 29.3 Provided that a Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or nonconforming item or component in the manner specified **in the BDS**.
G. Evaluation of Technical Parts of Bids	
30. Evaluation of Technical Parts	30.1 In evaluating the Technical Parts of each Bid, the Employer shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.
31. Determination of Responsiveness	31.1 The Employer's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11. 31.2 A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that: (a) if accepted, would: (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or (ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids. 31.3 The Employer shall examine the technical aspects of the Bid, submitted in accordance with **ITB 16**, in particular to confirm that all requirements of Section VII (Employer's Requirements) have been met without any material deviation, reservations or omissions. In order to reach such a determination, the Employer will examine the information supplied by the Bidders, taking into account the following factors:

	(a) overall completeness and compliance with the Employer Requirements; the technical merits of any alternatives offered, conformity of the Works with specified functional/ performance requirements in the bidding document; (b) quality of the technical bid including, as appropriate, the design methodology, method statement, construction management strategy, operation management proposal, organization, resources allocation and risk assessment; (c) suitability of the proposed Works in relation to the environmental and climatic conditions prevailing at the site; (d) compliance with the time schedule called for by the Implementation Schedule and any alternative time schedules offered by Bidders, as evidenced by a milestone schedule provided in the Bid; (e) any proposed deviations in the Bid to the contractual provisions stipulated in the bidding documents; and (f) any other relevant technical factors that the Employer deems necessary or prudent to take into consideration as specified **in the BDS**. 31.4 The Employer will also review as above, the Alternative Bid - Technical Part, if any, offered by each Bidder, pursuant to ITB 13, to determine whether such alternatives are responsive to the requirements set forth in the Bidding Documents. 31.5 If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission
32. Qualification of the Bidder	32.1 The Employer shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bids - Technical Parts meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria. 32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm different from the Bidder. 32.3 If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be

	rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission. 32.4 Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.
33. Subcontractors	33.1 Unless otherwise stated **in the BDS,** the Employer does not intend to execute any specific elements of the Works Design and Build by sub-contractors selected in advance by the Employer (so-called "Nominated Subcontractors")**.** 33.2 The Bidder shall not propose to subcontract the whole of the contract. The Bidder may propose subcontractors for certain specialized parts of the contract. Bidders planning to use such specialized subcontractors shall specify, in the Letter of Bid, the parts of the contract proposed to be subcontracted along with details of the proposed subcontractors including their qualification and experience. 33.3 Subcontractors proposed by the Bidder shall be fully qualified for their parts of the contract. The subcontractor's qualifications shall not be used by the Bidder to qualify for the contract unless the Bidder designates them as Specialized Subcontractors, in which case, the qualifications of the Specialized Subcontractor proposed by the Bidder may be added to the qualifications of the Bidder for the purpose of the evaluation, if specified **in BDS.** 33.4 Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as **specified in the BDS.** Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.
H. Public Opening of Financial Parts of Bids	
34. Public Opening of Financial Parts	34.1 Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Employer shall notify in writing those Bidders whose Bids were considered non-responsive to the bidding document or failed to meet the Qualification Criteria, advising them of the following information: (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document; (b) their Financial Part of Bid shall not be opened; and

	(c) notify them of the date, place and time for public opening of Financial Parts of the Bids. 34.2 The Employer shall, simultaneously, notify in writing those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them of the following information: (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria; (b) their Financial Part of Bid will be opened at the public opening of the Financial Parts; and (c) notify them of the date, place and time of the second public opening of the Financial Parts of the Bids, as specified **in the BDS**. 34.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Parts of the Bids shall be opened publicly in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The bidder's names, the Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid - Financial Part if any, and such other details as the Employer may consider appropriate, will be notified online by the Employer at the time of bid opening. In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day. 34.4 The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Parts of Bids and discounts that are opened at Bid opening shall be considered further for evaluation.
I. Evaluation of Financial Parts of Bids	
35. Evaluation of Financial Parts	35.1 To evaluate the Financial Parts of the Bids, the Employer shall consider the following:

	(a) the Bid price, excluding provisional Sums and the provision, if any, for contingencies in the Priced Activity Schedules, but including Daywork[1] items, where priced competitively; (b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1; (c) price adjustment due to discounts offered in accordance with ITB 14.7; (d) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 29.3; and (e) the additional evaluation factors indicated **in the BDS** and detailed in Section III, Evaluation and Qualification Criteria. 35.2 If price adjustment is allowed in accordance with **ITB 14.3**, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation. 35.3 Deleted/Not Used.
36. Arithmetic Correction	36.1 The Employer shall correct arithmetical errors on the following basis: (a) **Priced Sub-activity Schedule:** where there are errors between the total of the amounts given under the column for Sub-activity Price and the amount given under the total for the Sub-activity, the former shall prevail and the latter will be corrected accordingly; (b) **Priced Activity Schedule:** where there are errors between the total of the amounts given under the column for the Activity Price and the amount given under the total price of Activities, the former shall prevail and the latter will be corrected accordingly; (c) where there are errors between the total of the amounts in the Priced Sub-activity Schedule and the corresponding amount in the Priced Activity Schedule, the former shall prevail and the latter will be corrected accordingly; (d) **Grand Summary:** where there are errors between the total price of Activities in the Priced Activity Schedule

[1] Daywork is work carried out following instructions of the Employer and paid for on the basis of time spent by workers, and the use of materials and the Contractor's equipment, at the rates quoted in the Bid. For Daywork to be priced competitively for Bid evaluation purposes, the Employer must list tentative quantities for individual items to be costed against Daywork (e.g., a specific number of tractor driver staff-days, or a specific tonnage of Portland cement), to be multiplied by the Bidders' quoted rates and included in the total Bid price.

	and the amount given in Grand Summary, the former shall prevail and the latter will be corrected accordingly; and (e) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) to (d) above. 36.2 A Bidder shall be requested to accept the correction of arithmetical errors. Failure to accept the correction in accordance with **ITB 36.1** shall result in the rejection of the Bid, and the Bid Security may be forfeited in accordance with ITB Sub-Clause 19.8.
37. Conversion to Single Currency	37.1 Deleted.
38. Margin of Preference	38.1 Deleted.
39. Comparison of Financial Parts	39.1 The Employer shall compare the evaluated costs of all substantially responsive Bids established in accordance with ITB 35 to determine the Bid that has the lowest evaluated cost.
40. Abnormally Low Bids	40.1 An Abnormally Low Bid is one where the Bid price, in combination with other constituent elements of the Bid, appears unreasonably low to the extent that the Bid price raises material concerns as to the capability of the Bidder to perform the Contract for the offered Bid price. 40.2 In the event of identification of a potentially Abnormally Low Bid, the Employer, unless otherwise **specified in the BDS**, shall seek written clarifications from the Bidder, including detailed price analyses of its Bid price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document. 40.3 After evaluation of the price analyses, in the event that the Employer determines that the Bidder has failed to demonstrate its capability to perform the Contract for the offered Bid Price, the Employer shall reject the Bid.
41. Unbalanced or Front Loaded Bids	41.1 If the Bid that is evaluated as the lowest evaluated cost is, in the Employer's opinion, seriously unbalanced or front loaded, the Employer may require the Bidder to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Bid prices with the scope

	of the Works, proposed methodology, schedule and any other requirements of the Bidding document. 41.2 After the evaluation of the information and detailed price analyses presented by the Bidder, the Employer may as appropriate: (a) accept the Bid, without any additional Performance Security; or (b) require that the total amount of the Performance Security be increased, at the expense of the Bidder, to a level not exceeding twenty percent (20%) of the Contract Price to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract; or (c) reject the Bid, if the risk cannot be mitigated through additional performance security.
42. Evaluation of Combined Technical and Financial Proposals	42.1 Deleted.
43. Most Advantageous Bid	43.1 The Most Advantageous Bid is the Bid of the Bidder that meets the Qualification Criteria, and whose Bid has been determined to be: (a) substantially responsive to the bidding document; and (b) the lowest evaluated cost.
44. Employer's Right to Accept Any Bid, and to Reject Any or All Bids	44.1 The Employer reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, Bid securities shall be promptly returned to the Bidders.
45. Standstill Period	45.1 Standstill Period shall not apply. *[Note 1: Standstill Period may be used in the case of high risk or specialized/complex works. Where it is proposed to permit Standstill Period, incorporate all changes as indicated in Attachment 1 at the end of this document.* *Note 2: Standstill period shall not apply where only one bid is submitted or where the bidding process is in response to an emergency situation recognized by the Bank]*.

46. Notification of Intention to Award	46.1 Not used. *[Note: ITB 46 shall be used if Standstill Period is permitted as per ITB 45]*

J. Award of Contract

47. Award Criteria	47.1 Subject to **ITB 44**, the Employer shall award the Contract to the Bidder with the Most Advantageous Bid, provided that the Bidder is determined to be eligible and qualified to perform the Contract satisfactorily.
48. Notification of Award	48.1 Prior to the expiration of the Bid Validity Period, the Employer shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Employer will pay the Supplier in consideration of the execution of the Contract (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price"). 48.2 At the same time, the Employer shall publish the Contract Award Notice which shall contain, at a minimum, the following information: (a) name and address of the Employer; (b) name and reference number of the contract being awarded, and the selection method used; (c) names of all Bidders that submitted Bids; (d) Bid prices as read out at Bid opening, and as evaluated (for bidders whose Financial Parts of Bids were opened); (e) name of Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with reasons therefor; and (f) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope. 48.3 The Contract Award Notice shall be published on a National website (GoI Central Public Procurement Portal https://eprocure.gov.in/eprocure/app)or on the Employer's website with free access if available, and on the e-procurement system. https://etenders.kerala.gov.in/nicgep/app 48.4 Until a formal contract is prepared and executed, the Notification of Award shall constitute a binding Contract.

49. Debriefing by the Employer	49.1 Not used. *[Note: ITB 49 shall be used if Standstill Period is permitted as per ITB 45]*
50. Signing of Contract	50.1 Promptly upon notification, the Employer shall prepare the Contract Agreement, and keep it ready in the office of the Employer for the signature of the Employer and the successful Bidder, within 21 days following the date of Letter of Acceptance. The Contract Agreement shall incorporate all agreements between the Employer and the successful Bidder. 50.2 Within twenty-one (21) days of receipt of the Letter of Acceptance, the successful Bidder shall furnish the performance security in accordance with ITB Clause 51. The Employer shall review the performance security submitted by the successful bidder and thereafter sign the Contract Agreement. If the successful bidder is a JV, it shall also furnish the JV agreement duly signed by all the members, if it had submitted only a letter of intent to execute the JV agreement along with the bid.
51. Performance Security	51.1 Within twenty-one (21) days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security and, if specified in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security, in accordance with the General Conditions of Contract, subject to **ITB 41.2 (b),** using for that purpose the Performance Security and ESHS Security Forms included in Section X, Contract Forms. The performance security of a Joint Venture shall be in the name of the Joint Venture specifying the names of all members. 51.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security or to sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid security. In that event the Employer may award the Contract to the Bidder offering the next Most Advantageous Bid. 51.3 Upon the successful Bidder's signing the Agreement and furnishing of the Performance Security and if required in the BDS, the Environmental, Social, Health and Safety (ESHS) Performance Security pursuant to ITB Clause 51.1, the Employer shall promptly notify the name of the winning bidder to each unsuccessful bidder and shall discharge the Bid Securities of the bidders pursuant to ITB Clause 19.6 and 19.7. 51.4 If permitted in the BDS and the Bidder has requested to form an SPV, the Bidder shall form the SPV and provide within twenty-one (21) days of receipt of the notification of award from

		the Employer a certified copy of its constituent documents and evidence of its shareholding structure including the articles of association and shareholder agreement (if any).
52. Adjudicator	52.1	The Employer proposes the person **named in the BDS** to be appointed as Adjudicator under the Contract, at the daily fee **specified in the BDS**, plus reimbursable expenses (actual boarding, lodging, travel and other incidental expenses). If the Bidder disagrees with this proposal, the Bidder should so state in his Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the Particular Conditions of Contract (PCC) pursuant to Clause 20.3 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

SECTION II – BID DATA SHEET (BDS)

The following specific data for the proposed Works shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Reference	A. General
ITB 1.1	The reference number of the Request for Bids is: **IN-SUCM-533554-CW-RFB** The Employer is: ***During the Design Build Phase (Design, Construction, Erection and Commissioning phase) Kerala Solid Waste Management Project (KSWMP) and*** ***During Operation Service Period: Shall be assigned to Changanssery Municipality as per the provision of GCC 1.8. Accordingly, Changanassery Municipality shall be the Employer during the Operation Service Period.*** The name of the RFB is: **Design, build and Operation (DBO) of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality including Collection and Transportation from the Project Area.** The number and identification of lots (contracts) comprising this RFB is: One
ITB 1.3 (a)	The Employer shall use the e-procurement system specified in BDS 7.1.
ITB 2.1	The Borrower is: Government of India. The sub-Borrower is Government of Kerala
ITB 2.1	Loan or Financing Agreement amount: USD 201 Million (INR 1729 Crore; Conversion factor: 1 $ = INR 86) Million received from the World Bank and the Asian Infrastructure Investment Bank (AIIB). The name of the Project is: ***Kerala Solid Waste Management Project***

ITB 4.1	Bids from Joint ventures are acceptable. Where Joint Ventures are permitted: (a) Maximum number of members in the JV shall be: **3 (Three)** (b) Place where the agreement to form JV to be registered is: **anywhere in India** (c) A statement to the effect that all members of the joint venture shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms, shall be included in the authorization nominating a Representative or Lead Member, as well as in the Bid and in the Agreement [*in case of a successful bid*]. (d) The "joint venture agreement" should define precisely the division of assignments to each member of JV. Division of assignment among JV members must commensurate with Specific Experience (Section-III of RFB) evidenced by respective JV members. All members of JV should have active participation in the execution during the currency of the contract and shall be jointly and severely responsible for the performance of the Contract for which JV agreement has been executed. The JV members shall not vary, modify or dilute the shareholding at any point of time, without prior written approval of the Employer.
ITB 4.1	The Bidder is permitted to form a Special Purpose Vehicle (SPV): **No**
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr.
B. Contents of Bidding document	
ITB 7.1	**Electronic –Procurement System** The Employer shall use the following electronic-procurement system to manage this Bidding process: ***https://etenders.kerala.gov.in/nicgep/app*** Requests for clarification should be received by the Employer no later than: 14 (Fourteen) days prior to the deadline for submission of bids. Bidders may submit their queries or requests for clarification via the employer's official email address.
ITB 7.4	A Pre-Bid meeting shall take place at the following date, time and place: Date: 10.04.2026 Time:11:00 Hrs

	Place: Conference Hall, KSMWP as well as through Video Conference (VC) call. The link for the VC shall be provided during publishing the RFB A site visit conducted by the Employer shall not be organized. However, the employer shall allow and facilitate with necessary information to the bidders intending to visit the site. The bidder has to visit the site on their own arrangement.
ITB 7.5	The Sub clause 7.5 modified as The Bidder is requested to submit any questions only through the procurement portal or through the employer's official email address, not later than one day before the pre-bid meeting. Clarifications requested through any other mode shall not be considered by the Employer.
C. Preparation of Bids	
ITB 11.2 (j)	The Bidder shall submit with its Bid the following additional documents: **(i) GST and PAN** **(ii) Code of Conduct (ESHS)** The Bidder shall submit its Code of Conduct that will apply to its employees and subcontractors, to ensure compliance with its Environmental, Social, Health and Safety (ESHS) obligations under the contract. In addition, the Bidder shall detail how this Code of Conduct will be implemented. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches. The Contractor shall be required to implement the agreed Code of Conduct. **(iv) Management Strategies and Implementation Plans (MSIP) to manage the (ESHS) risks** *The Bidder shall submit Management Strategies and Implementation Plans (MSIP) to manage the following key Environmental, Social (including labour, labour influx, community, Gender based violence) Health and Safety (ESHS) risks.* *Ø Prior to initiating any construction or operational activities related to the Compressed Bio-CNG plant, the following strategy will be adopted to ensure compliance with applicable environmental and regulatory requirements as outlined in the Environmental Management Plan (EMP).* ***Pre-Construction Approvals** (Secure necessary consents for the construction of the Bio-CNG plant, including site clearance and environmental permissions from relevant authorities, Obtain approvals for storage, transfer, and transportation of waste and bi-products).*

	Operational Permits (*Acquire licenses for the operation of Bio-CNG bottling units and sale of bi-products such as Fermented Organic Manure (FOM), Ensure compliance with safety and pollution control norms for handling and distribution.)* ·***Waste Management Compliance (****Obtain necessary permits for the disposal of rejects generated from the Effluent Treatment Plant (ETP), Implement protocols for periodic review and renewal of waste handling permits as per updated regulations.* *Ø Ongoing Coordination and Documentation (Maintain continuous engagement with regulatory bodies to stay updated on changes in consent requirements, Ensure timely documentation and submission of compliance reports and permit renewals.)* *Ø Wastes & Rejects including Hazardous, C&D and Biomedical Waste Management strategy –storage, use/reuse, transfer arrangements and disposal plan in line with applicable regulations of CPCB and national level guidelines, the World Bank EHS, and international Good Practices.* *Ø MSIPs to ensure the safety of environment including waste management (during transfer & in the facility), green belt provisions, continuous air quality monitoring, dust and odor control measures, gas and FOM quality analysis etc.,* *Ø Stormwater Management Plan to prevent site runoff and protect nearby water bodies.* *Ø Traffic Management Plan to ensure safety of local communities from traffic related to construction and operations of Bio-CNG plant like transfer of bio-waste, transport of bio-products etc.,* *Ø Water Resource Protection Plan to avoid contamination of drinking water and surface/groundwater around the site.* *Ø Waste Storage and Disposal Plan for safe handling and disposal of all recovered waste fractions, including rejects.* *Ø Occupational Health and Safety Plan to ensure worker safety through structured implementation, monitoring, and reporting.* *Ø Community Health and Safety Plan to safeguard local communities during construction and operation phases.* *Ø Fire safety management plan to ensure the safety of the facility, surrounding land uses, and labourers working in the plant and communities (Implementation, monitoring and reporting)* *Ø Emergency response plan to ensure the safety of workers and communities during the emergency situations.* *Ø Consultation with the host community – regarding the detailed scope of activities mentioned in the Site-specific citizen engagement plan.* *Ø Community health and safety issues identified in the SIA and SMP.*

	Ø Labour issues and labour compliance as per Labour management plan. *Ø Labour influx management plan - Issues related to labour influx camps and impacts to the host community.* *Ø Preventive GBV plan includes Gender-based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan.* *Ø Access of the community to use the public utilities.* *The Contractor shall update the existing EMP & SMP to reflect any design changes and submit for approval, and subsequently implement, the Contractor's Environment Management Plan (C-EMP) and Contractor's Social Management Plan (C-SMP) in accordance with the General Conditions of Contract Sub-Clause 4.2, that includes the agreed Management Strategies and Implementation Plans described here.*
ITB 11.3 (d)	The Bidder shall submit the following additional documents in its Bid: ***None***
ITB 12	**Note for Bidders:** Bidders have to submit the bids on the e-procurement portal along with the relevant required documents. For this purpose, the bidders shall fill up online, the forms that are available for online filling on the e-portal. The rest of the forms shall be download by the bidders and filled up. The filled up pages shall then be scanned and uploaded on the e-procurement portal along with the scanned copies of the supporting documents.
ITB 12.3	The Bidders are requested to submit all required document through e-procurement portal https://etenders.kerala.gov.in/nicgep/app Physical submission of any required documents as specified in the bidding document is not required at Bid Stage unless otherwise specifically requested by the Employer in writing (i) Cost of Bid Document shall be submitted through the designated online payment system on the e-procurement portal of Government of Kerala.
ITB 13.1	Alternative Bids ***shall not be*** permitted.
ITB 13.2	Alternative times for completion ***shall not be*** permitted.
ITB 13.3	Not Applicable
ITB 14.1	Bidders shall quote for the entire Works and Operation Service on a "single responsibility" basis.
ITB 14.3	The prices quoted by the Bidder ***shall not*** be subject to adjustment during the performance of the Contract.
ITB 18.1	The Bid validity period shall be 180 calendar days.

ITB 18.3	If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity, the contract price will be adjusted at the rate of 3 % per annum. This adjustment shall be *pro-rata* based on the number of days beyond the stipulated period.
ITB 19.1	The Bidder shall furnish a **Bid Security** in the amount of **Rs. 19,00,000 (Rupees Nineteen Lakhs Only).**
ITB 19.3 (a)	Bid Security in the form of 'an unconditional bank guarantee issued by a Nationalized or Scheduled bank located in India' drawn in favour of Employer for Design Build Phase mentioned in ITB 1.1 above. The scanned copy of the Bank Guarantee shall be submitted on e-procurement portal of Government of Kerala mentioned in ITB 12.3 above and original Bank Guarantee (in hard copy in addition to online submission along with the bid) shall be submitted to the office of Employer for Design Build phase on the address provided in GCC 1.3 till the last date and time of the bid submission.
ITB 19.3 (b)	Provision of ITB 19.3 (b) for Bid Security submission is not applicable
ITB 19.3 (c)	Provision of ITB 19.3 (c) for Bid Security submission is not applicable
ITB 19.3 (d)	The bid Security payment shall be acceptable through designated online payment system on the e-procurement portal of Government of Kerala.
ITB 20.3	The written confirmation of authorization to sign on behalf of the Bidder shall consist of**:**(a) Legally valid Power of Attorney is required to demonstrate the authority of the signatory to sign the Bid; and (b) In the case of Bids submitted by an existing or intended JV, if permitted as per ITB 4.1, the authorization shall be evidenced by a Power of Attorney signed by legally authorized signatories of all the members."
D. Online Submission and Opening of Bids	
ITB 21.1	Class of DSC required is: Class III
ITB 22.1	**The deadline for uploading the Bids is:** **Date:** ***03.04.2026*** **Time: 04.00 p.m**
ITB 24.1	Re-submission of the bid is ***"not allowed"***, if withdrawn.
E. Public Opening of Technical Parts of Bids	
ITB 25.1	The online Bid opening of Technical Parts of Bids shall take place at:

	Conference Hall, **Kerala Solid Waste Management Project (KSWMP)** **Upper Ground Floor, Trans Towers, Vazhuthacaud,** **Thiruvananthapuram 695014, Kerala, India** **Date: 03.04.2026** **Time: 04.30 p.m**
F. Evaluation of Bids – General Provisions	
ITB 29.3	The adjustment shall be based on the highest price of the item or component as quoted in other substantially responsive Bids, subject to a maximum of the estimated price of the item. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Employer shall use its best estimate.
G. Evaluation of Bids - Technical Parts	
ITB 31.3 (f)	While examining the technical responsiveness of the bids, the Employer shall take into account the following additional factors: None
ITB 33.1	At this time the Employer ***does not intend*** to execute certain specific parts of the contract by sub-contractors selected in advance.
ITB 33.2	**Subcontractor(s) are permitted only for the Specialised activity of Collection and Transportation during the Operation Service phase.** the contractor may hire/ engage services for : (a) the provision for labour, or labour component, and, (b) the purchase of materials which are in accordance with the standards specified in the contract. (c) Specialized element of the project like survey, studies, laboratory testing, specialized equipment, machinery or any other elements as approved by the employer (d) For Works requiring specific license as per state regulations can be sub-contracted with prior written approval from the Employer during the contract period, however, the overall responsibility and performance of the work shall always remain with the contractor
ITB 33.3	Subcontractors proposed by the Bidder shall be fully qualified for their parts of the contract. The relevant qualifications of the **proposed Specialized Subcontractors** (as per 33.2 of BDS) will be added to the qualifications of the

	Bidder for the purpose of evaluation as indicated in Section III - Evaluation and Qualification Criteria.
ITB 33.4	(a) Bidder's proposed subcontracting: **Only Specialized subcontractor(s) are permitted during Operation Service phase for Collection and Transportation activities.** (b) Bidders planning to specifically subcontract Collection and Transportation activity during the Operation Service phase shall specify, in the Letter of Bid, complete details of the subcontractors and their qualification and experience. The qualification and experience of the sub-contractors must meet the minimum criteria for the relevant work to be sub-contracted failing which such subcontractors will not be permitted to participate. (c) Not used *[Note-: Further subcontracting is not allowed].*
H. Public Opening of Financial Parts of Bids	
ITB 34.2 (c)	Following the completion of the evaluation of the Technical Parts of the Bids, the Employer will notify all Bidders of the location, date and time of the public opening of Financial Parts. The online bid opening of Financial Parts of Bids shall take place at: KSWMP Office **Kerala Solid Waste Management Project (KSWMP)** **Upper Ground Floor, Trans Towers, Vazhuthacaud,** **Thiruvananthapuram 695014, Kerala, India** **Telephone: 91 471 233 3011** **Email: tenderkswmp@gmail.com** Time: ***To be intimated*** Date: ***To be intimated*** Time: ***To be intimated*** ***[Note: The Financial Parts of the bids shall not be opened earlier than seven (7) days from the communication of technical evaluation results to the bidders]*** In addition to the above the Employer shall publish a notice of the public opening of the Financial Parts of the Bid on its website https://etenders.kerala.gov.in/nicgep/app
I. Evaluation of Financial Parts of Bids	
ITB 35.1 (e)	The adjustments shall be determined using the following criteria as detailed in Section III:

	(a) Deviation in Time Schedule: Alternative times for completion ***shall not be*** permitted; (b) The Operation Service Price will be adjusted for Net Present Value as specified in Section III;
J. Award of Contract	
ITB 51.1	The successful Bidder shall also be required to submit an Environmental, Social, Health and Safety (ESHS) Performance Security. Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ESHS performance security' to be submitted by the successful bidder in the amounts specified in GCC/ PCC 4.2
ITB 52	The Adjudicator proposed by the Employer is***:*** The Adjudicator shall be appointed at the request of either party in the event of any dispute that arises in or out of this Contract. The appointment of the Adjudicator shall be on a need base. Daily rate and types of reimbursable expenses to be paid to the Adjudicator: Rate per day plus Travelling Allowance (TA) & Daily Allowance(DA) shall be determined as mutually agreed upon between the parties.

Section III – Evaluation and Qualification Criteria

This section contains all the criteria that the Employer shall use to evaluate Bids and qualify Bidders through post-qualification. No other factors, methods or criteria shall be used other than specified in this bidding document. The Bidder shall provide all the information requested in the forms included in Section IV, Bidding Forms.

1. Technical Part

1.1 Evaluation of Technical Part (ITB 30) - Adequacy of Technical Proposal

In evaluating the Technical Parts of each Bid, the Employer shall use the criteria and methodologies listed in the ITB and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.

Evaluation of the Bidder's Technical Proposal will include

- an assessment of the essential technical and functional/performance characteristics of the proposed Works demonstrating substantial responsiveness of the Works to the Employer's Requirements without any material deviation, reservation, or omission.

- an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, material sourcing, and quality control/ assurance in sufficient detail and fully in accordance with the requirements stipulated in Section VII, Employer's Requirements.

For this purpose, the Bidder should also submit:

A detailed note outlining their proposed technology, methodology and program of construction including implementation, foreign collaborations including technology tie-ups (if any) and Operational efficiency achieved, adherence to various operational parameters, waste collection and transportation methodology, Maintenance aspects including technical challenges and measures adopted to overcome the challenges, Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-EMP, SMP), backed with equipment planning and deployment, materials and manpower planning and deployment, duly supported with broad calculations and quality control system/assurance procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones.

The Technical Proposal shall be evaluated in terms of the following:

(a) overall completeness and compliance with the Employer Requirements; the technical merits of any alternatives offered to determine whether such alternatives are responsive to the requirements set forth in the bidding document, conformity of the Works with specified functional/ performance requirements in the bidding document;

(b) quality of the technical bid including, as appropriate, the design methodology, method statement, construction management strategy, collection and transportation strategy, operation management proposal, organization, resources allocation and risk assessment;

(c) suitability of the proposed Works in relation to the environmental and climatic conditions prevailing at the site;

(d) compliance with the time schedule called for by the Implementation Schedule and any alternative time schedules offered by Bidders, as evidenced by a milestone schedule provided in the Bid;

(e) any proposed deviations in the Bid to the contractual provisions stipulated in the bidding documents;

(f) an assessment of the details of the proposed subcontracting if any, whether the identified Sub-contractors possess the required qualifications and experiences to execute the respective elements satisfactorily;

(g) suitability of the Bidder's Code of Conduct and its implementation proposal to deliver the ESHS policy (statement) set out in the Employer's Requirements; and

(h) any other relevant technical factors that the Employer deems necessary or prudent to take into consideration as specified in Sub-Clause 2 above.

Note:

The Employer or their representative or a committee designated by the Employer will review and assess the proposed technology and implementation methods outlined in the bidder's technical proposal to determine their suitability, feasibility, and viability. The Employer may request clarifications on the bidder's technical proposal or ask the bidder(s) to deliver a detailed presentation on the proposed technology. If the Employer concludes that the proposed technology of a bidder(s) is not feasible, the bid(s) of such bidder(s) may be disqualified from further evaluation

1.2(a) Technical alternatives: Not Permitted:

1.2(b) Subcontractors-

Any Specialized Sub-contractor, if identified shall meet the applicable requirements. Only the specific experience of Specialized Subcontractors for specific works will be considered. The general experience and financial resources of the Specialized Subcontractors shall not be added to those of the Bidder for purposes of qualification of the Bidder.

Specialized subcontractors are permitted solely for Collection and Transportation (C&T) activities during the Operation Service phase. To qualify, the specialized C&T subcontractor must meet all requirements specified in Clause 1.3 — Qualification Criteria: 4.2 Collection and Transportation of Municipal Solid Waste (MSW) Experience in Completion.

Failure to comply with this requirement may result in rejection of the subcontractor. As stated in ITB 16.3 Bidders shall submit an undertaking from each proposed subcontractor to confirm that they have read, understand and will comply with the ESHS obligations and code of conduct.

1.3. Qualification Criteria

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
1. Eligibility							
1.1	**Nationality**	Nationality in accordance with ITB 4.4	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.2	**Conflict of Interest**	No conflicts of interest in accordance with ITB 4.2	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
1.3	**Bank Eligibility**	Not having been declared ineligible by the Bank, as described in ITB 4.5.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
1.4	**State-owned enterprise or institution of the Borrower country**	Meets conditions of ITB 4.6	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.5	**United Nations resolution or Borrower's country law**	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITB 4.8 and Section V.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
2. Historical Contract Non-Performance							
2.1	**History of Non-Performing Contracts**	Non-performance of a contract[2] did not occur as a result of contractor default within the past five years preceding the bid submission deadline date	Must meet requirement[2 & 3]	Must meet requirements	Must meet requirement[3]	N/A	Form CON-2
2.2	**Suspension Based on Execution of Bid Securing Declaration by the Employer or withdrawal of the Bid within Bid validity period**	Not under suspension based on execution of a Bid Securing Declaration or withdrawal of the Bid.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
2.3	**Pending Litigation**	Bidder's financial position and prospective long-term profitability sound according to criteria established in 3.1 below and assuming that all pending	Must meet requirement by itself or as member to past or existing JV	N/A	Must meet requirement by itself or as member to past or existing JV	N/A	Form CON – 2

[2] Non-performance, as decided by the Employer, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

[3]This requirement also applies to contracts executed by the Bidder as JV member.

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		litigation will be resolved against the Bidder					
2.4	**Litigation History**	No consistent history of court/arbitral award decisions against the Bidder[4] within the past five years preceding the bid submission deadline date	Must meet requirement by itself or as member to past or existing JV	Must meet requirement	Must meet requirement by itself or as member to past or existing JV	N/A	Form CON – 2
2.5	**Declaration: Environmental, Social, Health, and Safety (ESHS) past performance**	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons related to the non-compliance of any environmental, or social (including labour compliance, sexual exploitation and abuse (SEA) and gender-based violence (GBV)), or health or safety requirements or regulations in the past five years preceding the bid submission deadline date[5].	Must make the declaration. Where there are Specialized Sub-contractor /s, the Specialized Sub-contractor /s must also make the declaration.	N/A	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also make the declaration.	N/A	Form CON-3 ESHS Performance Declaration

[4] The Bidder shall provide accurate information on the Letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

[5] The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
3. Financial Situation and Performance							
3.1	**Financial Capabilities**	(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as Rs. *5.60 Crore (Rupees Five Crore Sixty Lakh Only)*	Must meet requirement	Must meet Requirement	Must meet at least 25% of the requirement as a minimum	The Lead Member of the JV m ust meet at least 50% of the requirement as a minimum	Form FIN – 3.1, with attachments Certificate as per format for Evidence of Access to or availability of Cash Flow
		(ii) The Bidders shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.	Must meet requirement	Must meet requirement	N/A	N/A	Form Fin 3.3 with attachments
		(iii) The audited	Must meet	N/A	Must meet	N/A	

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last five years shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.	requirement		requirement		
3.2	**Average Annual Turnover**	Minimum average annual turnover[6] of Rs.30,00,00,000/- (Rs. Thirty Crores Only), calculated as total certified payments received for contracts in progress and/or completed within the last five years, divided by five years.	Must meet requirement	Must meet requirement	Must meet 25%, (twenty five percent) of the requirement	Must meet 50%, (fifty percent) of the requirement	Form FIN – 3.2

[6] At Financial Year 2025-26 price level. Financial turnover of previous years shall be given weightage @5% per year based on rupees value to bring them to the price level of the financial year in which bids are received.

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
4. Experience							
4.1	**Deleted**						

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
4.2	**Collection and Transportation of Municipal Solid Waste (MSW) Experience**	The bidder shall have, for a minimum period of 1 (One) year in the last 7 (seven) years preceding the bid submission deadline experience of: • Collection and Transportation of minimum **5 (Five) MT per day (TPD)** of Solid Waste that have been satisfactorily completed or being carried out as a prime contractor, joint venture member, management contractor.	Must meet requirement	Must meet requirement[7]	N/A	Must meet. at least 80% of the required experience capacity	• Form EXP – 4.2 • Experience certificate clearly mentioning the period and capacity of the work issued from an officer not below the rank of Executive Engineer or equivalent position

[7] In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
4.2 A	**Specific Design and construction Experience**	For contracts successfully completed in the past 7 (seven) years preceding the bid submission deadline, a minimum Design and construction experience in the following key activities[8] as prime contractor, JV member, or management contractor: (i). The Bidder shall have completed **design, supply, construction, installation, erection and commissioning** of any Waste to Bio CNG facility with similar technology as proposed in its technical proposal (section III- sub clause 1.1 and design	Must meet requirement	Must meet requirement[9]	NA	Must meet at least 80% of the capacity requirement	● Form EXP – 4.2A ● For Project undertaken with a Government/ Semi-Government Agency: Experience certificate clearly mentioning the required details of the work and should be issued from an officer not below the rank of Executive Engineer or equivalent position ● For projects undertaken with a private agency or under Central Finance

[8].

[9] In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		methodology) capable of handling and processing at least : ● One project of minimum capacity of **24 TPD** Or, ● Two Projects each of minimum capacity of **15 TPD** Or, ● Three Project each of minimum capacity of **12 TPD** **AND** (ii) Any waste to Bio CNG facility that a Bidder seeks to rely on to demonstrate design and construction experience under Clause 4.2(a)(i) above should have been ● Based on the same Technology (feedstock may differ) as proposed by the bidder					Assistance: Experience certificate clearly mentioning the required details of the work and should be issued from an officer not below the rank of Project Manager or equivalent position. In addition, the bidder shall also submit a copy of Consent to Operate (CTO) issued to the facility by the respective State Pollution Control Board. (In cases where experience from projects executed with a private agency is accepted,

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		in his technical proposal (Section III 1.1 and Design Methodology) ● The plant with proposed technology shall be currently in operation ● successfully operational for at least 330 (three hundred Thirty) days in any one year in the last 7 (seven) years preceding the Bid submission deadline , in accordance with the similar contract executed for such					KSWMP shall, prior to award, verify the authenticity of such experience through appropriate means, including site visits, verification with the employer, or other suitable methods.)

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		facility(ies); and ● designed and constructed to comply with the Compressed Bio Gas (CBG) Output standards equivalent to, or better than, the standard for CBG set out in the Bureau of Indian Standards IS16087:2016					
4.3	**Operations and Maintenance Experience**	(i) In the last 7 (seven) years preceding the bid submission deadline, the Bidder, as prime contractor, JV member, or management contractor, shall have successfully operated and maintained either • 1 (one) waste to	Must meet requirement	Must meet requirement	N/A	The Lead Member of the JV must meet at least 80% of the required capacity	● Form EXP – 4.3 ● For Project undertaken with a Government/ Semi-Government Agency : Experience certificate clearly mentioning the required

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		bio-CNG facility capable of handling and processing at least 24 TPD of Waste; or • 2 (two) waste to bio-CNG facilities capable of handling and processing at least 15 TPD of Waste each; or • 3 (three) waste to bio-CNG facilities capable of handling and processing at least 12 TPD of Waste each AND (ii) Any waste to bio-CNG facility that a Bidder seeks to rely on to demonstrate O&M experience under this Clause 4.3(i) should have been: • **Should have operational experience in SCADA based control and**					details of the work and should be issued from an officer not below the rank of Executive Engineer or equivalent ● For projects undertaken with a private agency or under Central Finance Assistance: Experience certificate clearly mentioning the required details of the work and should be issued from an officer not below the rank of Project Manager or equivalent position. In addition, the bidder shall also submit a copy of

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		monitoring system • Based on the same Technology (feedstock may differ) as proposed by the bidder in his technical proposal (Section III 1.1 and Design Methodology) • The plant with the proposed technology should be currently in operation • successfully operated and maintained for at least 330 (three hundred thirty)] days in any one year in the last 7 (seven) years preceding the Bid submission deadline , in accordance with the similar contract executed for such facility(ies); and; Operated and					Consent to Operate (CTO) issued to the facility by the respective State Pollution Control Board. In cases where experience from projects executed with a private agency is accepted, KSWMP shall, prior to award, verify the authenticity of such experience through appropriate means, including site visits, verification with the employer, or other suitable methods.

No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		maintained to comply with the CBG Output standards equivalent to, or better than, the standard for CBG set out in the Bureau of Indian Standards IS16087:2016,					
4.4	**Deleted**						
4.5 (a)	**Bid Capacity:** Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity for the work is equal to or more than Rs. 18 Crore (Rupees Eighteen Crore only). The available bid capacity will be calculated as under: Assessed Available bid capacity = (A*N*1.5-B) Where, A = Maximum value of works executed in any one year during the last five years (updated to the price level of the financial year 2024-25 at the rate of 5% per year), taking into account the completed as well as works in progress. N = Number of years prescribed for construction of the works for which bids are invited (period upt o 6 months to be taken as half-year and more than 6 months as one year). B = Value, at the current price level, of existing commitments on on-going works to be completed during the period of construction of the works for which bids are invited. Note: the statements in Section IV showing the value of existing commitments of on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent position.						

General notes for the Bidder:

1. The Bidder may use a single contract to satisfy two or more criteria requirements. In such cases, the Bidder shall complete separate EXP forms for each subject contract type. (For example, if a contractor undertook both design and construction on a similar contract, it may use that experience to qualify under Design Experience and Construction Experience. It such case it would complete forms EXP-4.1 and EXP-4.2.)

2. For contracts under which the Bidder participated as a joint venture member, only the Bidder's role and responsibilities and percentage participation (JV Percentage) in the project shall be considered as qualifying experience.

3. Only the works undertaken by the bidder as Sole contractor or Joint Venture/ consortium with a government/ semi-government Organisation, Public Sector Undertaking, Urban Local Bodies or a private agency under direct contract with them or a project executed through Central Financial Assistance (CFA) from the Government of India shall only be considered for Experience qualification. In cases where experience from projects executed with a private agency is accepted, KSWMP shall, prior to award, verify the authenticity of such experience through appropriate means, including site visits, verification with the employer, or other suitable methods.

1.4 Qualification Criteria for Multiple Contracts (ITB 35.3): Not Applicable

- Deleted

1.5 Contractor's Representative and Key Personnel

The Bidder must demonstrate that it will have suitably qualified (and in adequate numbers) minimum Key Personnel, as are required to perform the Contract.

The Bidder shall provide details of the Contractor's Representative and such other Key Personnel that the Bidder considers appropriate, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.

The Contractor shall require the Employer's consent to substitute or replace the Key Personnel (reference the Particular Conditions of Contract 6.9).

The minimum qualifications and experience of the Contractor's Representative and Key Personnel, lot wise if applicable, are as given below. [*Note: these should be consistent with the information* set out in the Employer's Requirements.]

Key personnel during the Design Build period

SN	Designation	Minimum Qualification	Total works experience (years)	Similar work experience (years)
1.	Contractor's Representative	BE/ B.Tech. - Civil/ Mechanical Engineering	min. 15 years' experience in Project Management	5 years' experience in Execution and operations of Bio CNG Project
2.	Solid Waste Management Specialist	B.E./B.Tech-Civil Engineering/ Environment Engineering	min. 7 years' experience in executing Solid Waste Management projects	3 years' experience in Execution and operations of Bio CNG Project
3.	MEP Expert	B.E./B.Tech-Mechanical Engineering/ Electrical Engineering	min. 10 years' experience in executing Solid Waste Management projects	3 years' experience in Execution and operations of Solid Waste Management Processing Facility
4.	Environmental Specialist	BE/ B.Tech./ Environment	minimum. 10 years'	

		Engineering/ Civil/Mechanical/Industrial/Safety Engineering or other relevant engineering fields applicable to Plant and Machinery installation, Operations	experience Environmental and Safety Management, Solid Waste Management Project or Similar Projects	
5.	Health and Safety Specialist	Graduate (preferably Civil Engineer) with accepted Certificate, Diploma or similar in Health and Safety	minimum 10 years' experience in similar work environment	
6.	Social Specialist	Master's in social works (MSW)/ Masters in Social Science	minimum 10 years' of experience in monitoring and managing risks related to Social issues (Specifically engaged in the preparation of Gender action plan, Citizen engagement plan, labour management plan , experience in preparation and implementation of Social management plan as part any World Bank funded projects.)	
7.	Labor Welfare Expert	Graduate in Law	Minimum 5 years of working experience on Labour Welfare Programs and experience in labor	

			management activities for any development projects in Kerala.	

Key personnel during the Operations Service period

SN	Designation	Minimum Qualification	Total works experience (years)	Similar work experience (years)
1	Contractor's Representative	BE/ B.Tech. - Civil/ Mechanical Engineering	min. 15 years' experience in Project Management	5 years' experience in Execution and operations of Bio CNG Project
2	Solid Waste Management Specialist	B.E./B.Tech-Civil Engineering/ Environment Engineering	min. 7 years' experience in executing Solid Waste Management projects	3 years' experience in Execution and operations of Bio CNG Project
3	MEP Expert	B.E./B.Tech-Mechanical Engineering/ Electrical Engineering	min. 10 years' experience in executing Solid Waste Management projects	3 years' experience in Execution and operations of Solid Waste Management Processing Facility
4	Environmental Specialist	BE/ B.Tech./ Environment Engineering/ Civil/Industrial/ Mechanical/Safety or similar Engineering/ Post Graduate in Environment Science	minimum. 10 years' experience Solid Waste Management Project or Similar Projects	
5	Health and Safety Specialist	Graduate (preferably	minimum 10 years'	

		Civil Engineer) with accepted Certificate, Diploma or similar in Health and Safety such as NEBOSH	experience in similar work environment	
6	Social Specialist	Master's in social works (MSW)/ Masters in Social Science	minimum 10 years' of experience in monitoring and managing risks related to Social issues (Specifically engaged in the preparation of Gender action plan, Citizen engagement plan, labour management plan , experience in preparation and implementation of Social management plan as part any World Bank funded projects.)	
7	Labor Welfare specialist (Need based)	Graduate in Law	Minimum 5 years of working experience on Labour Welfare Programs and experience in labor management activities for any development projects in Kerala	

Bidder should furnish Curriculum Vitae to confirm their meeting the requirements].

The Bidder must not have in his employment:

[i] the near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons of the following Government Departments 1.LSGD
2. Finance Department

[ii] without Government permission, any person who retired as gazetted officer within the last two years.

1.6 Equipment

The Bidder shall provide its strategy for acquiring and maintaining the key equipment that may be needed to perform the Contract.

The Bidder shall provide further details of proposed items of equipment using the relevant Form in Section IV.

1.7 **Sustainable Procurement** (Section VII – Employer's Requirements) – **Not Applicable**

2. Financial Part

2.1 Margin of Preference – Not Applicable

2.2 Award Criteria for Multiple Contracts (ITB 35.3)-Not Applicable

Deleted

2.3 Evaluation of Financial Part (ITB 35.1 (e))

In addition to the criteria listed in ITB 35.1 (a) – (d) the following factors and methods shall apply: ***[use one or more of the following adjustment factors consistent with ITB 35.1 (e) of the BDS]***

a. Time Schedule - alternative times for completion *shall not be* permitted
b. Net Present Valuation of Bidder's Financial Part: The Design-Build Bid Price shall not be discounted.

1. The price bid as quoted by the bidder in the price schedule (online BOQ) shall consist of following components:
Part A: **Design-Build Bid Price**: The total cost towards Design, Supply, Installation, construction, erection, testing and commissioning quoted by the bidder in BOQ

Part B: **Operation Service Fees**: The Annual O & M Service Price includes price towards Operation and Maintenance of the Bio CNG facility, addition of Annual Price for Primary and Secondary Collection and Transportation from Changanassery ULB and the Annual Price for Secondary Collection and Transportation from other Participating ULB and Gram Panchayats as per the scope of work for subsequent 10 years from the date of commissioning

Bidders are encouraged to consider the potential revenue from the sale of by-products—such as Bio-CNG, FOM, etc.—generated through plant operations while quoting the Part B-1 price: "Price for Operation and Maintenance of the Bio-CNG Facility." Accordingly, bidders are expected to reflect these revenue benefits in their quoted price for Bio-CNG facility O&M. Where the anticipated revenue from by-products is substantial, bidders may even quote a negative price (negative Rate/MT) for the "Price for Operation and Maintenance of the Bio-CNG Facility. This negative pricing indicates the bidder's intent to pass on the revenue (revenue pass on Rate/MT) benefits to the Employer. During the evaluation of bids, any negative price quoted under this head will be deducted from the total Operation Service Fees to arrive at the Net Operation Service Fees.

It may be noted that the bidders who fail to quote Design Build cost, and Operation Service Fees for 10 years shall be rejected for further evaluation.

2. The price bid after opening in e procurement portal of Government of Kerala system will show the total of: (i) Design-Build Bid Price, and (ii) Operation Service price for 10 years, however this total shall not be considered for determination of lowest evaluated bidder.

3. The lowest evaluated bidder will be determined for award of the contract based on the following method:

Part A: **Design-Build Bid Price:** will be considered without applying any discounts factor as quoted by the bidder;

Part B: **Operation Service Price** for 10 year period by applying discount factor as explained below;

the annual Operation Service Price, from the price schedules, as adjusted in accordance with ITB 35.1 (a) to (d), shall be discounted using a discount rate of 6 % (Six Percent) to derive Net Present Value of Annual Operation Service Price. The discount base year shall be the year preceding the first year of the Operation Service Period.

For greater certainty, net present values shall be determined by applying the following discount factors to the annual amounts in the Bid forms during the Operation Service Period.

Operation Period	Discount rate to be applied
Year 1	6 %
Year 2	6 %
Year 3	6 %
Year 4	6 %
Year 5	6 %
Year 6	6 %
Year 7	6 %
Year 8	6 %
Year 9	6 %
Year 10	6 %

4. The lowest evaluated bidder will be determined for award of the contract based on the following method

The Net Present Value of the Annual Operation Service Price derived as per method detailed above shall be added to the Design Build Price to obtain the Evaluated Bid Price.

Total Value (Evaluated Bid Price)= Part A (Design Build Price) + Net Present Value of Part B (Operation Service Price)

The decision for award of contract will be based on the minimum Evaluated Bid Price.

c. Alternative Bids
If invited in accordance with ITB 13 will be evaluated as follows: **Not Applicable**

d. Specific additional criteria
The relevant evaluation method, if any, shall be as follows: None

SECTION IV – BID FORMS

Bid Forms

Letter of Bid – Technical Part

Date of this Bid submission: *[insert date (as day, month and year) of Bid submission]*

RFB No.: *[insert RFB number and date]*

Request for Bid No.: *[insert identification]*

To: Project Director , Kerala Solid Waste Management Project

Dear Sir or Madam:

We, the undersigned, hereby submit our Bid, in two parts, namely:

(a) the Technical Part, and

(b) the Financial Part

In submitting our Bid, we make the following declarations:

(a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with **ITB 8**;

(b) **Eligibility**: We hereby certify that we, including any subcontractors or manufacturers for any part of the contract, meet the eligibility requirements and have no conflict of interest in accordance with **ITB 4;**

(c) **Conformity:** We undertake, if our Bid is accepted, to provide the Works and Operation Service to _____ in full conformity with the said Bidding documents, and achieve Completion within the respective times stated in the Bidding documents;

(d) **Bid Validity Period:** Our Bid shall be valid for a period specified in BDS ITB 18.1 (or as amended if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(e) **Performance Security:** If our Bid is accepted, we commit to obtain a performance security [*and an Environmental, Social, Health and Safety (ESHS) Performance Security, **Delete if not applicable***] in accordance with the bidding document;

(f) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder or as a subcontractor, and we are not participating in any other Bid(s) as a Joint Venture member, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;

(g) **Suspension and Debarment**: We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to,

and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's Country laws or official regulations or pursuant to a decision of the United Nations Security Council;

(h) **State-owned enterprise or institution:** We are not a state-owned enterprise or institution/ We are a state-owned enterprise or institution but meet the requirements of ITB 4.6[10];

(i) **Binding Contract**: We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

(j) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive;

(k) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption; and

(l) **Adjudicator**: We accept the appointment of [insert name proposed in Bid Data Sheet] as the Adjudicator.

[or]

We do not accept the appointment of [insert name proposed in Bid Data Sheet] as the Adjudicator, and propose instead that [insert name] be appointed[11] as Adjudicator, whose daily fees and biographical data are attached.

Name of the Bidder: **[insert complete name of person signing the Bid]*

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ** *[insert complete name of person duly authorized to sign the Bid]*

Title of the person signing the Bid: *[insert complete title of the person signing the Bid]*

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]*

[10] Use one of the two options as appropriate

[11] In case appointment of Adjudicator was proposed from the list provided by an Institution in ITB 52, the replacement should also be proposed from the list of same institution.

Date signed *[insert date of signing]* **day of** *[insert month]*, *[insert year]*

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

**: Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

Appendix to Bid Technical Part

Technical Bid Forms

Appendix to Bid Technical Part

Design Methodology

The Bidder shall submit a design methodology which addresses as a minimum the following:

(a) organizational arrangements for the design including: team structure, roles and responsibilities, interface arrangements, design review and approval procedures and quality assurance arrangements;
(b) Proposed design deliverables [*Employer to specify mandatory requirements appropriate to good international industry practice*]*in line with provisions stipulated in Employers Requirement in Section VII but not limited to Scope of Work, Resource Deployment, Conceptual Drawings, etc.*
(c) design statement setting out how the Employers Requirements will be achieved;
(d) Any added value the bidder will bring including examples of innovative aspects of the design;
(e) comments on the Employer's Requirements, including:

   i. status of the information available and relevant design issues for the Works;

   ii. comments on any errors, defects or ambiguities noted in the Employer's Requirements; and

   iii. *[details of any exceptions in the conceptual design taken to the Employer's Requirements]*;

(f) Sustainable Procurement: sustainability aspects (e.g. energy efficiency, reduction of wastages, material reduction, sources of materials etc.) demonstrating the Bidder's approach and commitment to sustainable design and construction practices;
(g) strategy for gathering baseline ESHS information in time to inform design development;
(h) details of how the ESHS requirements and any proposal to enhance ESHS outcomes will be incorporated into all design stages and how the implications for the construction phase has been considered;
(i) details of the approach to managing risks, stakeholder engagement, consultation and environmental permits/consents; and
(j) The design methodology submission shall comprise no more than 20 sides of A4 text"

Appendix to Bid Technical Part

Construction Management Strategy

The Bidder shall submit a construction management strategy which addresses as a minimum:

(a) organizational arrangements for the construction management including: team structure, roles and responsibilities, interface arrangements, approval procedures and quality assurance arrangements;
(b) deleted;
(c) bids for training all personnel attending site;
(d) stakeholder engagement;
(e) obtaining and managing consents, permits and approvals;
(f) site setup bids including access, accommodation, welfare facilities, arrangement for plant and material storage;
(g) construction phasing bids including sequence of work and management of conflicting activities;
(h) ensuring that geotechnical investigations or other advance works meet the ESHS requirements;
(i) risk management approach for geotechnical and subsurface aspects of the Works;
(j) quality management system including a draft of the quality management plan;
(k) sustainability aspects demonstrating the Bidder's approach and commitment to sustainable construction practices (e.g. energy efficiency, reduction of wastages, material reduction and sources of materials etc.);
(l) preparation, approval and implementation for the Contractor's environmental and social management plan;
(m) preparation, approval and implementation for the Contractor's occupational and community health and safety management plan;
(n) grievance redress mechanisms;
(o) reporting arrangements, including topics (that include ESHS) and timescales in accordance with the Particular Conditions of Contract Sub-Clause 4.20;
(p) arrangements for testing upon completion of the works;
(q) arrangements for site handover, including completion of as-built drawings, preparation of operation and maintenance manuals, and any other relevant aspects; and
(r) *[insert any other relevant information, as may be appropriate.]*

A detailed note should be submitted outlining bidders proposed methodology and program for completion of Works, backed with equipment, materials and manpower planning and deployment, and quality control procedures proposed to be adopted, justifying Bidder's capability for execution and timely completion of the work as per technical specifications. These should be linked to GCC 9 (Design-Build), and GCC 10 (Operation Service).

Appendix to Bid Technical Part

Design Build.
Method Statements for key construction activities

The Bidder shall provide typical method statements for the key construction activities, including Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-MSIP). Each method statement shall describe the proposed approach to the construction activity, the level of staffing and experience, the safe system of work, and the construction equipment to be used.

Appendix to Bid Technical Part

ESHS Management Strategies and Implementation Plans

(ESHS-MSIP)

The Bidder shall submit comprehensive and concise Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-MSIP) as required by ITB 11.2 (j) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ESHS provisions of the contract including those as may be more fully described in the Employers Requirements in Section VII.

Appendix to Bid Technical Part

Code of Conduct.
Environmental, Social, Health and Safety (ESHS)

The Bidder shall submit the Code of Conduct that will apply to the Contractor's employees and subcontractors as required by ITB 11.2 (j) of the Bid Data Sheet. The Code of Conduct shall ensure compliance with the Environmental, Social, Health and Safety (ESHS) provisions of the contract, including GBV/SEA requirements, and those as may be more fully described in the Employer's Requirement in Section VII.

In addition, the Bidder shall detail how this Code of Conduct will be implemented. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches.

Appendix to Bid Technical Part

Design Build Work Program

The Bidder shall set out a work program for design and construction of the Works to be undertaken, including (i) identification of major milestones and critical path; and (ii) Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-MSIP). The proposed work program shall be developed based on the Employer's Requirements and shall describe the:

(a) design of the Works, including the submission of the design deliverables, review and approval of the design by the Employer's Representative

(b) processes and deliverables needed to commence the Works including for example mobilisation schedule of personnel, equipment and labour during (i) construction and (ii) operation & maintenance phase;

(c) execution of the Works within the Time for Completion, highlighting activities imposing constraints on the construction sequence;

(d) testing, commissioning and handing over of the completed Works; and

(e) Break up timeline schedule of all proposed activities in Design Build phase.

Appendix to Bid Technical Part

Design Build Personnel Organization Chart

The Bidder shall provide an organization chart illustrating the proposed management structure and reporting lines for delivery of the Design Build. The organization chart shall include the names of all Key Personnel.

Appendix to Bid Technical Part

Operation Service Bids

The Bidder shall set out a detailed plan for the Operation Service which shall address the following:

(a) Organisation and key personnel

(b) Operations bids

(c) Preventative and reactive maintenance

(d) Management and Monitoring waste, rejects, Bio-CNG, odour, digestate, other byproducts, leachate/water/wastewater, drainage quality and flows.

(e) Monitoring of losses/ unaccounted flow of water and energy in the system at each stage

(f) (c)The operational systems to be developed, including details of any standards to be adopted or followed for example with respect to managing environmental, social and health and safety risks during operation including Fire and Life Safety, Gas leakage etc. during all activities

(g) Training of Contractor's Personnel

(h) Preparation of required documents and manuals

(i) Quality assurance

(j) Hand-back arrangements

(k) Emergency Preparedness and Response Plan

(l) Reporting arrangements, including the appropriate topics (that include ESHS Management Strategies and Implementation Plans) and timescales in accordance with the Particular Conditions of Contract Sub-Clause 4.20 and Appendix C to the General Conditions of Contract.

[insert any other relevant information, as may be appropriate.]

Appendix to Bid Technical Part

Form EQU.
Contractor's Equipment

The Bidder shall set out its strategy for obtaining or accessing the key equipment necessary to execute the Works in accordance with the Design Build Works Program. In the strategy, the Bidder shall specify the manufacturer, capacity, model, power rating, age and maintenance condition, and how it will ensure that the equipment is maintained in accordance with manufacturer's specifications for the duration of the Contract. The Bidder shall specify whether it will own, lease, rent or specially manufacture the key equipment.

A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment o Owned o Rented o Leased o Specially manufactured	

Omit the following information for equipment 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	

Appendix to Bid Technical Part

Form PER -1.
Contractor's Representative and Key Proposed Personnel

Bidders should provide the names and details of suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate. Bidders should submit a fully detailed Key Personnel resource schedule for the whole contract implementation period. The resource schedule must include:

- the name and role for each Key Personnel position
- The duration of each Key Personnel appointment
- The level of effort (time) allocated to each Key Personnel position and its distribution throughout the contract implementation period.

	Title of position[12]	**Name of candidate**	**Qualification and Experience**
1			
Key Personnel for Design-Build phase			
2.			
3.			
4.			
5.			
6.			
7.			
Key Personnel for Operation Service			
14.			
15.			
16.			
17.			

(Modify this as appropriate to suit the works for which bids are invited).*

[12] As listed in Section III (Evaluation and Qualification criteria) sub clause 1.5.

Appendix to Bid Technical Part

Form PER-2.
Resume and Declaration of Contractor's Representative and Key Personnel

Name of Bidder		
Position *(title of position from Forms PER-1)*		
Personnel information	Name	Date of birth
	Address	Email
	Professional qualifications	
	Academic qualifications	
	Language proficiency *[language and levels of speaking, reading and writing skills]*	
Present employment	Name of employer	
	Address of employer	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer

Summarize professional experience over the last [20 years], in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company / Project / Position / Relevant technical and management experience

Declaration

I, the undersigned Key Personnel, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	**Details**
Commitment to duration of contract:	*[insert period (start and end dates) for which this Key Personnel is available to work on this contract]*
Time commitment:	*[insert the number of days/week/months/ that this Key Personnel will be engaged]*

I understand that any misrepresentation or omission in this Form may:

(a) be taken into consideration during Bid evaluation;

(b) my disqualification from participating in the Bid;

(c) my dismissal from the contract.

Name of Key Personnel: *[insert name]*

Signature:

Date: (day month year):

Countersignature of authorized representative of the Bidder:

Signature:

Date: (day month year):

Appendix to Bid Technical Part

Risk Assessment

The Bidder should submit a risk register identifying the hazards anticipated during the implementation of the contract.

For the key hazards ranked by impact, the risk register shall include a description of the hazard, an assessment of the potential impact on health and safety, environment, cost, program or other, and the proposed mitigation strategy for each hazard.

Appendix to Bid Technical Part

Proposed Subcontractors for Major Activities/Sub-Activities

The following Subcontractors and/or manufacturers are proposed for carrying out the activity/sub-activity indicated. For any additional subcontractor (that is not the Specialized Subcontractor in accordance with ITB 33), Bidders are free to propose more than one for each activity/sub-activity.

Item	Activity/Sub-Activity	% of bid price	Proposed Subcontractors	Qualification and experience of sub-contractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposes to use subcontractors. *[for those costing more than 10% of the bid price for each element, together with the names, addresses and experiences of the proposed subcontractors.]*

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him. *(Note: Work should not be split into small parts and sub-contracted).*

Bidders shall submit an undertaking from each proposed subcontractor to confirm that they have read, understand and will comply with the ESHS obligations and code of conduct.

Appendix to Bid Technical Part
Form of Sub-Contractor ESHS undertaking

(to be filled in by each proposed subcontractor)

Date: _____

RFB No.: _____

Alternative No.: _____

Contract title: *[insert the name of the contract]*

To: *[insert the name of the Employer's agency]*

We, the undersigned, confirm that we have read, understand and will comply with the ESHS obligations and code of conduct for the above mentioned contract.

Name of the Proposed subcontractor: _____

Name and title of the person signing this undertaking on behalf of the subcontractor:

_____

_____

Signature of the person named above

_____

Date signed

Name of the person duly authorized to sign the Bid on behalf of the Bidder_____

Title of the person signing the Bid_____

Signature of the person named above_____

Date signed _____ day of _____, _____

Appendix to Bid Technical Part

Others

Appendix to Bid Technical Part

Qualification Forms

To establish its qualifications to perform the contract in accordance with Section III (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder

Appendix to Bid Technical Part

Form ELI 1.1[13].
Bidder Information Sheet

Date: _____

RFB No.: _____

Page _____ of _____ pages

1. Bidder's Legal Name 2. In case of JV, legal name of each party:
3. If permitted under ITB 4.1, do JV members wish to form an SPV:
4. Bidder's actual or intended Country of Registration:
5. Bidder's Year of Registration:
6. Bidder's Legal Address in Country of Registration:
7. Bidder's Authorized Representative *[Lead Member]* Information Name: Address: Telephone/Fax numbers: Email Address:

[13] Form ELI-1.3 is also to be furnished by bidder as well as each member of JV.

1. Attached are copies of original documents of

- ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4.
- ☐ Authorization to represent the firm or JV named in above, in accordance with ITB 20.
- ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1.
- ☐ In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing Legal and financial autonomy, Operation under commercial law, and Establishing that the Bidder is not under the supervision of the Employer

2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Please note that a written authorization needs to be attached to this sheet as required by **ITB 20.3**

Appendix to Bid Technical Part

Form ELI 1.2.
Party to JV Information Sheet

(Where permitted as per BDS ITB 4.1)
(to be completed for each member of Joint Venture)

Date: _____
RFB No. and title: _____
Page _____ of _____ pages

JV Information
Bidder's Joint Venture legal name:
JV member's legal name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4. ☐ Authorization to represent the firm or JV named in above, in accordance with ITB 20. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and is not under the supervision of the Employer, in accordance with ITB 4.6. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.
3. Does the JV wish to form an SPV ***[yes/ no] [only relevant where BDS permits formation of SPV]***

Appendix to Bid Technical Part

Form ELI -1.2 A

Specialized Subcontractor's Information Form

(to be completed for each Specialized Subcontractor)

Date: _____
RFB No. and title: _____
Page _____ of _____ pages

Bidder's legal name:

Specialized Subcontractor's legal name:
Specialized Subcontractor's country of registration:
Specialized Subcontractor's year of constitution:
Specialized Subcontractor's legal address in country of constitution:
Specialized Subcontractor's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4. ☐ Authorization to represent the Specialized Subcontractor.

Appendix to Bid Technical Part

DETAILS OF PARTICIPATION IN THE JOINT VENTURE

PARTICIPATION DETAILS	**FIRM 'A' (Lead Member)**	**FIRM 'B'**	**FIRM 'C'**
Financial			
Name of the Banker(s)			
Planning			
Construction Equipment			
Key Personnel			
Execution of Works and Operational Services (Give details on proposed contribution of each)			

The Joint Venture should indicate the details of participation as above.

Appendix to Bid Technical Part

Form ELI-1.3

Structure and Organization

1. The Bidder is _____
   - [a] an individual
   - [b] a proprietary firm
   - [c] a firm in partnership
   - [d] a Limited Company or Corporation
   - [e] a group of firms/joint venture (If yes, give completion information in respect of each partner)

2. Attach the organization Chart showing the structure of the Organization, including the names of the directors and position of officers. _____

3. Number of years of experience

[a] as a Prime Contractor (Contractor shouldering major responsibility)

- [i] in own country
- [ii] in other countries (specify countries)

_____

[b] as a Management Contractor

- [i] in own country _____
- [ii] in other countries (specify countries) _____

[c] in a Joint Venture

- [i] in own country _____
- [ii] in other countries (specify countries) _____

[d] as sub-contractor (specify main contractor)

- [i] in own country _____
- [ii] in other countries (specify countries) _____

4. Name and address of any associates the bidder has in India (in case the bidder happens to be from foreign country) who are knowledgeable in the procedure of customs, immigration, taxes and other information necessary to do the work. _____

5. For how many years has your organization been in

business of similar work under its present name? What were your fields when your organization was established? Whether any new fields were added in your organization? And if so, when?

6. Were you ever required to suspend setting up the plantfor a period of more than six months continuously after your started? If so, give the name of project and give reasons therefor.

7. Have you ever left the work awarded to you incomplete? (If so, give name of project and reasons for not completing work.)

8. Not used

9. Give details of your experience supply, installation, testing commissioning of Bio CNG facility

10. Give details of your experience in Operation Service of Bio CNG facility

11. Not used

12. Not used

13. Not used

14. Not used

15. Not used

16. Not used

17. Not used

18. Not Used

Appendix to Bid Technical Part

Form CON – 2: Historical Contract Non-Performance, Pending Litigation and Litigation History

(to be completed for the Bidder and each member of Joint Venture)

Bidder's Legal Name: _____
Date: _____
Joint Venture Member's Legal Name_____
RFB No. and title: _____
Page _____of _____pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
☐ Contract non-performance did not occur since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1. ☐ Contract(s) not performed since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	**Non-performed portion of contract**	**Contract Identification**	**Total Contract Amount (Rs.)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for non performance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3. ☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			

Year of dispute	Amount in dispute (Rs.)	Contract Identification	Total Contract Amount (Rs.)
[insert year]	*[insert amount]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Status of dispute: *[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]*	*[insert amount]*
[insert year]	*[insert amount]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Status of dispute: *[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]*	*[insert amount]*

Litigation History in accordance with Section III, Evaluation and Qualification Criteria

☐ No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4.

☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.

Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (Rs.)

[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]*	*[insert amount]*

Appendix to Bid Technical Part

Form CON – 3: Environmental, Social, Health, and Safety Performance Declaration

[to be completed for the Bidder, each member of a Joint Venture and each Specialized Subcontractor]

Bidder's Legal Name: _____
Date: _____
Joint Venture Member's or Specialized Subcontractor's Legal Name: _____
RFB No. and title: _____
Page _____ of _____ pages

Environmental, Social, Health, and Safety Performance Declaration

in accordance with Section III, Qualification Criteria, and Requirements

☐ **No suspension or termination of contract**: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5.

☐ **Declaration of suspension or termination of contract**: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5. Details are described below:

Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (Rs.)
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for suspension or termination: *[indicate main reason(s) e.g. for GBV/ SEA breaches]*	*[insert amount]*
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]*	*[insert amount]*

		Reason(s) for suspension or termination: *[indicate main reason(s)]*	
...	...	*[list all applicable contracts]*	...
Performance Security called by an employer(s) for reasons related to ESHS performance			
Year	Contract Identification		**Total Contract Amount (Rs.)**
[insert year]	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for calling of performance security: *[indicate main reason(s) e.g. for GBV/ SEA breaches]*		*[insert amount]*

Appendix to Bid Technical Part

Form CCC
Current Contract Commitments / Works in Progress

Bidders and each member of a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

(A) Existing commitments and on-going works:

Description of Work	Place & State	Contract No & Date	Name & Address of Employer	Value of Contract (Rs. equivalent in million)	Stipulated Period of Completion	Value of Works Remaining to be Completed (Rs. equivalent in million)	Anticipated date of Completion	Average monthly invoicing over last six months (Rs./month equivalent in million)

(B) Works for which bids already submitted and likely to be awarded – expected additional commitment.

Description of Work	Place & State	Name & Address of Employer	Estimated Value of Works (Rs. equivalent in million)	Stipulated Period of Completion	Stipulated period of Completion	Date when decision is expected	Remarks (if any)

Appendix to Bid Technical Part

Form FIN – 3.1: Financial Situation and Performance

(to be completed for the Bidder and each member of Joint Venture)

Bidder's Legal Name: _____
Date: _____
Joint Venture Member's Legal Name_____
RFB No. and title: _____
Page _____of _____pages

1. Financial data

Type of Financial information in (Rs.)	**Historic information for previous** _____*years,* _____ **(amount in Rs.)**				
	Year 1	Year 2	Year 3	Year 4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Turnover					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Assets + Loans & Advances					
Current Liabilities (CL)					
Current Liabilities & provision					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Profits after Tax					

Cash Flow Information					
Cash Flow from Operating Activities					
Net cash accruals= Profit after Tax + depreciation					
This information should be extracted from the Annual Financial Statements/ Balance sheets, which should be enclosed. Year 1 will be the latest year for which audited financial statements are available. Year 2 shall be the year immediately preceding year 1 and year 3 shall be the year immediately preceding Year 2.					

2. Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount (Rs.)
1		
2		
3		

3. Financial documents

The Bidder and its parties shall provide copies of financial statements for *5 (Five)* years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.2. The financial statements shall:

(a) reflect the financial situation of the Bidder or in case of a JV member, and not an affiliated entity (such as parent company or group member).

(b) be independently audited or certified in accordance with local legislation. In case of Indian bidders, the financial statements shall be audited by a certified chartered accountant.

(c) be complete, including all notes to the financial statements.

(d) correspond to accounting periods already completed and audited.

☐ Attached are copies of financial statements[14] (balance sheets, including all related notes, and income statements) for the *5 (Five)* years required above; and complying with the requirements

[14] If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified.

Appendix to Bid Technical Part

Form FIN - 3.2: Average Annual Turnover

(to be completed for the Bidder and each member of Joint Venture)

Bidder's Legal Name: _____
Date: _____
Joint Venture Member's Legal Name_____
RFB No. and title: _____
Page _____of _____pages

Annual turnover data (construction only)	
Year	**Amount in Rs.**
Year 1	*[insert amount]*
Year 2	
Year 3	
Year 4	
Year 5	
Average Annual Turnover *	

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2. Annual construction turnover calculated as total certified payments received for work in progress or completed, for 5 years. This should be certified by a Chartered Accountant in case of Indian bidders, and in accordance with local legislation for other bidders.

Appendix to Bid Technical Part

JOINT VENTURE

Names of all members **of a joint venture**
1. Lead Member
2. Member
3. Member

Total value of annual construction turnover, in terms of work billed to clients, in Rupees

Annual Turnover Data (construction only; in Rs. *)							
Member	**Form 2 page no.**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Average**
1. Lead Member							
2. Member							
TOTALS							

*** To be certified by a chartered accountant in case of Indian bidders, and in accordance with local legislation for other bidders.**

Name and address of Bankers to the Joint Venture: _____

Provide details regarding financial responsibility and participation (percentage share in the total) of each firm in the Joint Venture. Attach a Memorandum of Understanding for the Proposed Agreement of joint Venture which should lay down responsibility regarding work and financial arrangements in respect of each of the firm in the Joint Venture (Refer also ITB Clause 4.1).

Appendix to Bid Technical Part

Form FIN 3.3.
Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as indicated in Section III, Evaluation and Qualification Criteria

Source of financing	Amount (Rs.)
1.	
2.	
3.	
4.	

FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CASH FLOW

[To be given from a Nationalized or Scheduled Bank in India]

Clause 3.1(ii) of Section III – Qualification Criteria

(1) AVAILABILITY OF CASH FLOW (WORKING CAPITAL)

This is to certify that M/s. _____ is a reputed company with a good financial standing.

If the contract for the works, namely _____ [funded by the World Bank] is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet their capital requirements for executing the above contract.

-- Sd. --

Name of Bank Manager

Senior Bank Manager

Address of the Bank

*** Change the text as follows for Joint venture:**

This is to certify that M/s. ……. who has formed a JV with M/s. ……. and M/s. ……. for participating in this bid, is a reputed company with a good financial standing.

If the contract for the work, namely ……. [funded by the World Bank] is awarded to the above Joint Venture, we shall be able to provide overdraft/credit facilities to the extent of Rs. ……. to meet the working capital requirements for executing the above contract.

[This should be given by the JV members in proportion to their financial participation.]

Appendix to Bid Technical Part

Form EXP - 4.1- Deleted

Appendix to Bid Technical Part

Form EXP - 4.2
Collection and Transportation of Municipal Solid Waste (MSW) Experience

[to be completed for the Bidder, each member of Joint Venture, and Specialized Sub-contractors]

Bidder's Legal: *[insert full name]*
Date: *[insert day, month, year]*
Joint Venture Member Legal Name:*[insert full name]*
RFB No. and title: *[insert RFB number and title]*
Page *[insert page number]* of *[insert total number]* pages

Similar Contract No. *[insert number]* of *[insert number of similar contracts required]*	**Information** *[on separate pages, using the format of Form 4.5, the Bidder is requested to list contracts of a similar nature, complexity, and requiring similar methodologies to the contract(s) for which bids have been invited]*			
Contract Identification	*[insert contract name and number, if applicable]*			
Award date	*[insert day, month, year, i.e., 15 June, 2015]*			
Completion date and reason for Delay, if any	*[insert day, month, year, i.e., 03 October, 2017]*			
Role in Contract *[check the appropriate box]*	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount in Rs.	*[insert total contract value on completion in Rs.]*			
If member in a JV or sub-contractor, specify share in value in total Contract amount and roles and responsibilities	*[insert a percentage amount]*	*[insert the share of the member or subcontractor and total contract amount in Rs.]*		
	[insert roles and responsibilities]			
Description of the similarity in accordance with Clause 4.2 Section III Qualification Criteria				
Physical size of required contracts items	*[insert per day Collection and Transportation Quantity (MT/Day)]*			
Total Collection and Transportation Volume				

	Year	*Quantity of C & T completed*
	Year 1	
	Year 2	
	Year 2	
Complexity	*[insert description of complexity]*	
Methods/Technology	*[insert specific aspects of the methods/technology involved in the contract]*	
Other Characteristics	*[insert other characteristics as described in Section VII, Scope of Employer's Requirements]*	
Employer's Name:	*[insert full name]*	
Address: Telephone/fax number E-mail:	*[indicate street / number / town or city / country]* *[insert telephone/fax numbers, including country and city area codes]* *[insert e-mail address, if available]*	

Appendix to Bid Technical Part

Form EXP - 4.2A[15]
Specific Design and Construction Experience

[to be completed for the Bidder, Lead member of Joint Venture]

Bidder's Legal Name: *[insert full name]*
Date: *[insert day, month, year]*
Joint Venture Member Legal Name: *[insert full name]*
RFB No. and title: *[insert RFB number and title]*
Page *[insert page number]* of *[insert total number]* pages

[fill one form per contract/ key activity]

1. Key activity *[insert brief description of the key activity in accordance with Clause 4.2A Section III Qualification Criteria]*

Similar Contract No. *[insert number]* of *[insert number of similar contracts required]*	**Information** *[on separate pages, using the format of Form 4.5, the Bidder is requested to list contracts of a similar nature, complexity, and requiring similar methodologies to the contract(s) for which bids have been invited]*
Contract Identification	*[insert contract name and number, if applicable]*
Employer's Name:	[insert full name]
Address: Telephone/fax number E-mail:	*[indicate street / number / town or city / country]* *[insert telephone/fax numbers, including country and city area codes]* *[insert e-mail address, if available]*
Award date	*[insert day, month, year, i.e., 15 June, 2015]*
Stipulated Completion date	*[insert day, month, year, i.e., 15 Jan, 2017]*
Completion date and reasons for Delay, if any	*[insert day, month, year, i.e., 03 October, 2017]*
Date of Commissioning	

[15] This Form 4.2 A for Specific Construction Experience should be retained only if Specific Construction Experience is specified in Section III Evaluation and Qualification Criteria.

<table>
<tr><td>Role in Contract
[check the appropriate box]</td><td>Prime Contractor
☐</td><td>Member in JV
☐</td><td>Management Contractor
☐</td><td>Sub-contractor
☐</td></tr>
<tr><td>If member in a JV, specify participation in total Contract amount</td><td colspan="2">[insert a percentage amount]</td><td colspan="2">[insert the share of the member and the total contract amount in Rs.]</td></tr>
<tr><td>Description of Work undertaken in the Project (Design, Supply, Construction, Erection, Testing, Commissioning etc.)</td><td colspan="4"></td></tr>
<tr><td>Total Contract Amount</td><td colspan="4">[insert total contract value on completion in Rs.]</td></tr>
<tr><td rowspan="3">Design Parameters</td><td colspan="2">Waste Quantity Throughput – TPD:</td><td colspan="2"></td></tr>
<tr><td colspan="2">Bio-CNG Output Quantity -Kg:</td><td colspan="2"></td></tr>
<tr><td colspan="2">Is the Bio CNG output standards complies to standard for CBG set out in the Bureau of Indian Standards IS16087:2016</td><td colspan="2">Yes/No
Please specify
• Output specifications of Bio CNG generated including purity of gas
• Volumetric Methane Production Rate (VMPR) (m^3 CH_4/m^3 digester/day)</td></tr>
<tr><td>Incoming BDW to the Plant / input Waste type</td><td colspan="4"></td></tr>
<tr><td>Output/ by-products descriptions (Quantity and %ge) and forward linkage (end use)</td><td colspan="4"></td></tr>
<tr><td>Reject (in MT and %ge) produced and management mechanism</td><td colspan="4"></td></tr>
<tr><td>Month and Year of Construction Completion:</td><td colspan="4"></td></tr>
<tr><td>Current Status of Plant</td><td colspan="4">Operational/ non operational</td></tr>
</table>

Number of years of continuous successful operation in accordance with the relevant contract (from Month/Year to Month/Year):		
Performance –average of 330 (three thirty) consecutive days in any one year in the 7 (seven) years preceding the Bid Submission deadline date	Average throughput – TPD:	
	Average Units of Bio CNG produced – KG	
Type and capacity of Digestor		
Description of gas filtration technology and end use		
Brief description of the technology		
Key Vendors:		

Appendix to Bid Technical Part

Form EXP - 4.3
Operations and Maintenance Experience

[to be completed for the Bidder, each member of Joint Venture]

Bidder's Legal Name: *[insert full name]*
Date: *[insert day, month, year]*
Joint Venture Member Legal Name:*[insert full name]*
RFB No. and title: *[insert RFB number and title]*
Page *[insert page number]* of *[insert total number]* pages

Similar Contract No. *[insert number]* of *[insert number of similar contracts required]*	**Information** *[on separate pages, using the format of Form 4.5, the Bidder is requested to list contracts of a similar nature, complexity, and requiring similar methodologies to the contract(s) for which bids have been invited]*			
Contract Identification	*[insert contract name and number, if applicable]*			
Employer's Name:	[insert full name]			
Address: Telephone/fax number E-mail:	*[indicate street / number / town or city / country]* *[insert telephone/fax numbers, including country and city area codes]* *[insert e-mail address, if available]*			
Award date	*[insert day, month, year, i.e., 15 June, 2015]*			
Contract Completion date (actual/expected)	*[insert day, month, year, i.e., 03 October, 2017]*			
Role in Contract *[check the appropriate box]*	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
If member in a JV, specify participation in total Contract amount	[insert a percentage amount]		[insert the share of the member and the total contract amount in Rs.]	
Total Contract Amount in Rs.	*[insert total contract value on completion in Rs.]*			

Design Parameters	*Waste Quantity Throughput – TPD:*	
	Bio-CNG Output Quantity -Kg:	
Month/ Year of Commissioning:		
Performance –average of 330 (three thirty) consecutive days in any one year in the 7 (seven) years preceding the Bid Submission deadline date	*Average throughput – TPD:*	
	Average Units Biogas/CBG produced – KG per month	
	Is the Bio CNG output standards complies to standard for CBG set out in the Bureau of Indian Standards IS16087:2016	*Yes/No* *Please specify* • *Output specifications of Bio CNG generated including purity of gas* Volumetric Methane Production Rate (VMPR) (m^3 CH_4/m^3 digester/day)
Type and capacity of Digester		
Description of gas filtration technology and end use		
Incoming BDW to the Plant/ input Waste type		
Output/ by-products descriptions (Quantity and %ge) and forward linkage (end use)		
Reject (in MT and %ge) produced and management mechanism		
Brief description of the scope of services:		

Appendix to Bid Technical Part

Form EXP - 4.4- Deleted

Appendix to Bid Technical Part

Form 4.5

Details of Contracts of Similar Nature and Complexity

Legal Name of Bidder or member of a Joint Venture

Use a separate sheet for each contract.

1.	Number of contract	
	Name of contract	
	Country	
2.	Name of Purchaser	
3.	Purchaser address	
4.	Nature of Work and special features relevant to the contract for which bids have been invited	
5.	Contract role (check one) ☐ Prime Supplier ☐ Management Contractor ☐ Subcontractor ☐ Member in a Joint Venture	
6.	Amount of the total contract/subcontract/ member share at completion, or on the date of award for current contracts.	
7.	Total contract: Rs._____; Subcontract: Rs._____; Member share: Rs._____;	
8.	Date of award/completion	
9.	Contract was completed _____ months ahead/behind original schedule (if behind, provide explanation).	
10.	Contract was completed Rs. _____ under/over original contract amount (if over, provide explanation).	
11.	Special contractual/technical requirements.	
12.	Indicate the approximate percent of total contract value (in Rs.) of the work undertaken by subcontract, if any, and the nature of such work.	

Appendix to Bid Technical Part

Form…..

(Name of the Project)

(*Declaration regarding tax/duty exemption for materials/ construction equipment bought for the work)*

(*Bidder's Name and Address*)

To: ……..
(*Name of the Employer& address*)

Dear Sir:

Re: [*Name of Work*]…….
Certificate for Import/Procurement of Goods/Construction Equipment

Government Order/Circular Number under which tax/duty Exemption is being sought: ……..

1. We confirm that we are solely responsible for obtaining tax/duty waivers which we have considered in our bid and in case of failure to receive such waivers for reasons whatsoever, the employer will not compensate us.

2. We are furnishing below the information required by the Employer for issue of the necessary certificates in terms of the Government of India's relevant Notifications.

3. The goods/construction equipment for which certificates are required are as under:

Items *(modify the list suitably for each specific work)**	Make/ Brand Name	Capacity [*where applicable*]	Quantity	Value	State whether it will be procured locally or imported [*if so from which country*]	Remarks regarding justification for the quantity and their usage in works.
Material						
Construction Equipment						

4. We agree that no modification to the above list is permitted after bids are opened.

5. We agree that the certificate will be issued only to the extent considered reasonable by the Employer for the work, based on the Activity Schedules and the construction program and methodology as furnished by us along with the bid.

6. We confirm that the above goods and construction equipment will be exclusively used for the construction of the above work and the construction equipment will not be sold or otherwise disposed of in any manner for a period of five years from the date of acquisition.

Date: _____ (*Signature*)_____
Place:_____ (*Printed Name*)_____
(*Designation*)_____
(*Common Seal*) _____

[***This certificate will be issued within 60 days of signing of contract and no subsequent changes will be permitted.***]

**** Modify the above to suit the requirements given in Government of India's Notifications as current of date of bidding.***

Appendix to Bid Technical Part

Form of Bid Security - Bank Guarantee
NOT USED

[Guarantor letterhead or SWIFT identifier code]

Bank Guarantee No…….*[insert guarantee reference number]*
Date…….*[insert date of issue of the guarantee]*

WHEREAS, _____ *[name of Bidder]*[16] (hereinafter called "the Applicant") has submitted his Bid dated _____ *[date]* or will submit his Bid for the execution of _____ *[name of Contract]* (hereinafter called "the Bid") under Request for Bids No…….*[insert number]* (hereinafter called "the RFB")

KNOW ALL PEOPLE by these presents that We _____ *[name of bank]* of _____ *[name of country]* having our registered office at _____ (hereinafter called "the Bank") are bound unto _____*[name of Employer]* (hereinafter called "the Employer") in the sum of _____[17] for which payment well and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20____.

THE CONDITIONS of this obligation are:

(1) If after Bid opening the Applicant (a) withdraws his bid during the period of Bid validity specified in the Letter of Bid, ("the Bid Validity Period"); or (b) does not accept the correction of the Bid Price pursuant to ITB 36;

or

(2) If the Applicant having been notified of the acceptance of his bid by the Employer during the period of Bid validity:

[16] *Insert name of the Bidder, which in the case of a joint venture shall be (a) the name of the joint venture that submits the bid if the JV has been constituted into a legally enforceable JV, or (b) the names of all future members of the JV as named in the letter of intent to execute the JV Agreement submitted by the bidder along with its bid.*

[17] *The Applicant should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 19.1 of the Instructions to Bidders.*

(a) fails or refuses to execute the Contract Agreement in accordance with the Instructions to Bidders, if required; or

(b) fails or refuses to furnish the Performance Security and if required, the Environmental, Social, Health and Safety (ESHS) Performance Security, in accordance with the Instruction to Bidders.

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the four conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date _____[18] days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

_____

[signature, name, and address]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[18] *45 days after the end of the validity period of the Bid.*

Letter of Bid – Financial Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and business address.

Note: All italicized text is to help Bidders in preparing this form, and Bidders shall delete it from the final document.

Date of this Bid submission: *[insert date (as day, month and year) of Bid submission]*

RFB No.: *[insert RFB number and date]*

Request for Bid No.: *[insert identification]*

To: Project Director , Kerala Solid Waste Management Project

Dear Sir or Madam:

We, the undersigned, hereby submit the second part of our Bid, the Bid Price and Priced Activity Schedules. This accompanies the Letter of Technical Part.

In submitting our Bid, we make the following additional declarations:

(a) **Bid Validity Period:** Our Bid shall be valid for a period specified in BDS ITB 18.1 (or as amended if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(b) **Bid Price**: The total price of our Bid, excluding any discounts offered in item (c) below is:

Total price is: [*insert the total price of the Bid in Rs. in words and figures*];

(c) **Discounts:** The discounts offered and the methodology for their application are:

(i) The discounts offered are: [*Specify in detail each discount offered.*]

(ii) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];

(d) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Bidding process or execution of the Contract: [*insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount of each such commission or gratuity*]

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

Name of the Bidder: **[insert complete name of person signing the Bid]*

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ** *[insert complete name of person duly authorized to sign the Bid]*

Title of the person signing the Bid: *[insert complete title of the person signing the Bid]*

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]*

Date signed *[insert date of signing]* **day of** *[insert month]*, *[insert year]*

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

**: Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

Appendix to Bid Financial Part

Schedule of Adjustment Data – Not Applicable

[Design Build of the Works]

[In Table A below, the Bidder shall indicate its proposed weightings within the range specified by the Employer, such that the total weighting = 1.00. If Bidder does not propose its weighting, it will be assumed that the Bidder is accepting Employer's suggested weightings]

Table A. Design-Build

Index code*	Index description*	Source of index*	Base Value and Date*	Bidder's proposed weighting *	Employer's suggested weighting*
A	Nonadjustable	-		0.15	0.15
B	Labour - Consumer price index for industrial workers for .....centre	Labour Bureau, Ministry of Labour & Employment, Government of India		*** 0.04-0.08***	**0.06**
C	Cement - All India Wholesale Price Index for grey cement	Office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry		*** 0.08-0.12 ***	**0.10**
D	Steel - All India Wholesale Price Index for steel long	Office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry		*** 0.18-0.22 ***	**0.20**
E	Steel Pipes and Tubes	Office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry		*** 0.20-0.30 ***	**0.25**
F	POL - average official retail	Retail outlet of IOC at …..		*** 0.04-0.08 ***	**0.06**

	price of High Speed Diesel	*[insert city]*			
G	Plant & Machinery Spares - All India Wholesale Price Index for Construction machinery	Office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry		*** 0.08-0.12 ***	**0.10**
H	Other materials - All India Wholesale Price Index for all commodities	Office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry		*** 0.04-0.08***	**0.06**
I	Others (Please specify)	*[insert as appropriate]*	*[insert as appropriate]*	*[insert as appropriate]*	*[insert as appropriate]*
		Total		**1.00**	**1.00**

[To be entered by the Employer. Whereas "A" should a fixed percentage, B, C, D, E etc. should specify a range of values.* ***The figures given in the above table are only for illustration, and the Employer shall modify them (both the indices and the proposed weightings) based on engineers' estimate for the proposed Works]***

Appendix to Bid Financial Part

Table D
Schedule of Adjustment Data for the Operation Service – Not Applicable

[In Tables D1, D2 etc., below, the Bidder shall indicate its proposed weightings within the range specified by the Employer, such that the total weighting = 1.00. If Bidder does not propose its weighting, it will be assumed that the Bidder is accepting Employer's suggested weightings]

Table D1. Operation Service- Fee Component 1

Index code*	Index description*	Source of index*	Base Value and Date*	Bidder's proposed weighting *	Employer's proposed weighting *
A	Nonadjustable	-		*0.00-0.15*	0.05
B	Labour - Consumer price index for industrial workers for .....centre	Labour Bureau, Ministry of Labour & Employment, Government of India		*** 0.20-0.30***	**0.25**
C	Chemicals - ……	Office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry		*** 0.08-0.12 ***	**0.10**
D	Electricity	…….. [insert relevant] Electricity Utility Company	*… [unit rate and date]*	* 0.40-0.50 *	**0.45**
E	POL - average official retail price of High Speed Diesel	Retail outlet of IOC at ….. *[insert city]*		*** 0.10-0.20 ***	**0.15**
F	Others (Please specify)	*[insert as appropriate]*	*[insert as appropriate]*	*[insert as appropriate]*	*[insert as appropriate]*
		Total		**1.00**	**1.00**

[Notes for the Employer:

*1) * To be entered by the Employer. Whereas "A" should a fixed percentage, B, C, D, E etc. should specify a range of values.* ***The figures given in the above table are only for illustration, and the Employer shall modify them (both the indices and the proposed weightings) based on engineers' estimate for the proposed Works. It is normally not necessary to have a non-adjustable component during the Operation Service Period, and if so "A" may be deleted.***

2) Additional tables (D2, D3 etc.) should be added for each component of the Operation Service Fee. For example, if the contractor is paid a fixed fee and a variable fee, two tables may be required; one table covering the fixed fee and the other covering the variable fee.

3) It is normally not necessary to have a non-adjustable component during the Operation Service Period.]

Appendix to Bid Financial Part

Bid Price Forms.

Priced Activity Schedules

The total of the prices of the activities in the Activity Schedule is the Bidder's offer to complete the works on a "single responsibility" basis.

The cost of any activity or sub-activity that the Bidder may have omitted is deemed to be included in the price of other activities or sub-activities in the Priced Activity and Sub-activity Schedules and will not be paid for separately by the Employer.

The priced activity and sub activity schedules provided by the Bidder will be used for bid evaluation. These schedules together with the work program serve as a basis for estimating the instalments in the Schedule of Payments.

Appendix to Bid Financial Part

Part [1] Bid Price Forms - Design-Build

Priced Activity Schedule Table

[To be completed by the Bidder (more tables to be used by the Bidder as appropriate)]

Activity No.	Description of Activity	Activity Price (Rs)
Part A.1	Design, Construction, Installation, Testing and Commissioning (Design-Build) of 30 TPD Bio CNG Facility at Changanassery ULB in Kerala as per scope of work outlined in the RFB	
A.1.1	Design and detailed engineering including preparation of Project Layout, Construction, electrical and Mechanical detailed design & Engineering, Detailed Project Report, Work Plan, Implementation Schedule and technical vetting as per scope of work for 30 TPD Bio CNG Facility	
A.1.2	Price for all Civil Works related to 30 TPD Bio CNG Facility as per scope of Work	
A.1.3	Price for Procurement of all equipment Plant and Machinery for 30 TPD Bio CNG Facility as per scope of Work	
A.1.4	Price for Mechanical and piping works including erection and commissioning of plant and machinery for 30 TPD Bio CNG Facility as per scope of Work	
A.1.5	Price for all Electrical and firefighting works	
A.1.6	Price for implementation of SCADA enabled control and monitoring system	
Total A.1	Total price of Activities (Design Build Price) carried forward to Grand Summary, A.1.1+A.1.2+A.1.3+A.1.4+A.1.5+A1.6 Page ____	

Note;

1. ***Price is to be quoted by the bidder in online BoQ format only. The above table is provided here for reference of the bidder and no price to be quoted herein above table.***

2. The price quoted for Design-Build shall be deemed inclusive of all incidental cost towards activities including, but not limited to, study and survey, Environment and Social activities and management activities, project risk mitigation measures and such provisions and other provision/ activities required to fulfil the scope of work outlined in the RFB or approved work plan.

3. The rates quoted by the Contractor shall be deemed to be inclusive of all taxes and levies that the Contractor will have to pay for the performance of this Contract except GST. The GST, as applicable, shall be payable extra to the contractor by the employer.

Appendix to Bid Financial Part

Part [1] Bid Price Forms - Design-Build

Specified Provisional Sums

Item no.	Description	Amount (Rs)
A.2	**Provisional Sum for Environment and Social (ES) activities during Design Build phase**	**23,00,000**
	Total for Specified Provisional Sums (carried forward to Grand Summary (A.2) _____)	

Note:

1. **All Provisional Sums are to be expended in whole or in part at the direction and discretion of the Employer's Representative in accordance with Clause 13.5 of the Conditions of Contract.**

Appendix to Bid Financial Part

Part [1] Bid Price Forms - Design-Build

Summary (Design-Build)

General Summary	Page	Amount (Rs)
Subtotal of Activities-Design, Construction, Installation, Testing and Commissioning (Design-Build) of 30 TPD Bio CNG Facility at Changanassery ULB in Kerala as per scope of work outlined in the RFB	***(A.1)***	
Specified Provisional Sums	***(A.2)***	***23,00,000***
Bid Design Build Price A= (A.1 +A.2) (Carried forward to Letter of Bid)		

Appendix to Bid Financial Part

Part [2] Bid Price Forms – Operation Service

Summary for Operation Service

Ref.	Activity	Totals (Rs)	Yr. 1 (Rs)	Yr. 2 (Rs)	Yr. 3 (Rs)	….	….	Yr. 10 (Rs)
Part-B								
1	*Price for Operation and Maintenance of Bio CNG Facility as per the scope of Work (per Ton) [Bidders are encouraged to consider the potential revenue from the sale of by-products—such as Bio-CNG, FOM, etc.—generated through plant operations while quoting the Part B-1.1 price: "Price for Operation and Maintenance of the Bio-CNG Facility." Accordingly, bidders are expected to reflect these revenue benefits in their quoted price for Bio-CNG facility O&M. Where the anticipated revenue from by-products is substantial, bidders may quote a negative price for the "Price for Operation and Maintenance of the Bio-CNG Facility.]*								
1.1	*Rate/MT**							
1.2	*Quantity of Waste (MT/ Annum) [MT/ day (30 TPD) x 365]*		**10,950**	**10,950**	**10,950**	**10,950**	**10,950**	**10,950**
	Sub-Total 1: (1.1 X 1.2)							
2	*Price for Collection and Transportation from the Project area as per the scope of work (per ton)*							
2.1	*Price for Primary and Secondary Collection and Transportation of Waste from Changanassery Municipality as per the scope of work*							
2.1.1	*Rate/MT*							
2.1.2	*Quantity of Waste (MT/ Annum) [MT/ day (9 TPD) x 365]*		**3285**	**3285**	**3285**	**3285**	**3285**	**3285**
	Sub-Total 2.1: (2.1.1 X 2.1.2)							
2.2	*Price for Secondary Collection and Transportation of Waste from Participating Urban Local body(ies) and Gram Panchayats from the designated collection points as per the scope of work*							
2.2.1	*Rate/MT*							
2.2.2	*Quantity of Waste (MT/ Annum)*		**7665**	**7665**	**7665**	**7665**	**7665**	**7665**

	[MT/ day (21 TPD) x 365]							
	Sub-Total 2.2: (2.2.1 X 2.2.2)							
	Sub-Total 2 = 2.1+ 2.2							
B	**Total Operation Service Fees (Sub-Total 1 +Sub-Total 2**		**Total Carried Forward**					

Note:

1. Bidders to Quote *Comprehensive Operation and Maintenance Price as per instructions provided in Section II-2.3 Evaluation of Financial Part*

2. ****Bidders are encouraged to consider the potential revenue from the sale of by-products—such as Bio-CNG, FOM, etc.—generated through plant operations while quoting the Part B-1 price: "Price for Operation and Maintenance of the Bio-CNG Facility." Accordingly, bidders are expected to reflect these revenue benefits in their quoted price for Bio-CNG facility O&M. Where the anticipated revenue from by-products is substantial, bidders may even quote a negative price (negative Rate/MT) for the "Price for Operation and Maintenance of the Bio-CNG Facility. This negative pricing indicates the bidder's intent to pass on the revenue (revenue pass on Rate/MT) benefits to the Employer. During the evaluation of bids, any negative price quoted under this head will be deducted from the total Operation Service Fees to arrive at the Net Operation Service Fees.***

3. ***The price quoted by the bidder for each year during the 10 years of Operation Services shall be firm throughout the Operation Service and shall not be subject to any revision or escalation.***

4. *The Price for Operation and Maintenance of Bio CNG Facility shall include processing of all the waste as per the scope of brought to the facility*

5. *For the sake of Bid Price assessment, the Tonnage has been taken 30 TPD [Changanassery ULB= 9 TPD (Annual Tonnage 9 x 365=3285 MT/ annum) and Other Participating ULBs and GPs= 21 TPD (Annual Tonnage 21 x 365=7665 MT/ annum)]; throughout each of 10 Years. However, for consideration of Payment it shall be on actual quantity handled.*

6. *The weight of the quantities (tonnage) recorded at the Bio CNG facility weighbridge shall be considered for payment purposes*

Appendix to Bid Financial Part

Part 3: Grand Summary

General Summary	Page	Amount (Rs)
A. Design-Build Price		Sum
B. O & M Service Price (O & M of Bio CNG Facility+ C & T operations price)		Sum
		Sum
3. Bid total price = A+B		*Sum*

SECTION V – ELIGIBLE COUNTRIES

Eligibility for the Provision of Goods, Works and Non-consulting Services in Bank-Financed Procurement

In reference to **ITB 4.8** and **ITB 5.1**, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under **ITB 4.8(a)** and **ITB 5.1**: *None*

Under **ITB 4.8(b)** and **ITB 5.1**: *None*

[Note: as and when some country/ countries become ineligible insert the list of such countries following approval by the Bank to apply the restriction]

SECTION VI – FRAUD AND CORRUPTION

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/ bidders), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

a. Defines, for the purposes of this provision, the terms set forth below as follows:

i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

v. "obstructive practice" is:

(a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

b. Rejects a bid for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

d. Pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;[19] (ii) to be a nominated[20] sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;

e. Requires that a clause be included in bidding/request for bids documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/ bidders), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect[21] all accounts, records and other documents relating to the procurement process, selection and/ or contract execution, and to have them audited by auditors appointed by the Bank.

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[19] For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

[20] A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

[21] Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

PART 2 – EMPLOYER'S REQUIREMENTS

SECTION VII – EMPLOYER'S REQUIREMENTS

Employer's Requirements

Sub-Clause No.	Information required	Remarks
1.1.34	● Employer's Equipment	"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 and/or the Operation Service, as stated in the Employer's Requirements, but does not include Plant which has not been taken over by the Employer. –For reference to write up remarks
1.1.56	● Operation Service Requirements	Operation Management Requirements" means the set of procedures and requirements, provided by the Employer, included in the Employer's Requirements for the proper implementation of the Operation Service.- For reference to write up remarks
1.9	● Number of copies of Contractor's Documents ● Publications to be kept on Site	● Six(6) copies of Contractor's Documents ● One Set of Publications to be kept on Site
1.12	● Intellectual Property rights retained by Employer	Yes, , the Employer shall retain the copyright and other intellectual property rights in the Employer's Requirements and other documents made by (or on behalf of) the Employer
1.14	● Permissions being obtained by the Employer	The Employer shall have obtained (or shall obtain) the planning, zoning, building permit, or similar permission for the Permanent Works and for the Operation Service, and any other permissions require during the

		execution will be obtained by the Employer.
2.1	● Possession of foundations, structures, plant or means of access	The Employer shall give the Contractor right of access to, and possession of, all or part of the Site within the time (or times) **stated in the PCC**. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give 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.
4.1	● Intended purposes for which the Works are required	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 during both the Design- Build Period and the Operation Service Period.
4.5	● Nominated Subcontractors	Not applicable
4.6	● Other contractors and others on Site, if any ● Documents relating to Contractor possession of assets	● The Contractor shall be responsible for his construction and operation activities on the Site, and shall co-ordinate his own activities with those of other contractors ● 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's Representative.

4.7	● Setting- out points, lines and levels of reference	The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract or notified by the Employer's Representative
4.18	● Emissions, surface discharges and effluent.	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, or prescribed by applicable Laws
4.19	● Details and prices of electricity, water, gas and other services if the services are to be available for the Contractor to use.	The Contractor shall take over in his own name and shall be responsible for payment of the electricity, water, gas and other services to the utility provider as per the current charges fixed by the concerned departments under Government of Kerala
4.20	● Number of copies of progress reports ● Contents of progress reports ● Reporting requirements for the Operation Service	● Number of copies of progress reports : One original and five copies ● Contents of progress reports As per GCC 4.20 ● Reporting requirements for the Operation Service The Contractor shall immediately notify the Employer's Representative in the event of the following: a. A variation in the characteristics of waste supplied. b. A major breakdown of the Works; c. A major accident or pollution incident; d. A failure to meet the standards specified in the

		Schedule of Performance Standards. The Monthly report shall include: a. monthly waste supply graphs and tables showing daily maximum, average and minimum supply values; b. monthly Bio-CNG and FOM, digestrate/other biproducts generation rate graphs and tables showing daily maximum, average and minimum generation values. c. laboratory average daily, weekly and monthly results tabulated with maximum and minimum values; d. quantities and quality of Inert, waste water and other waste materials and records of delivery to disposal site; e. a report on Plant and Works outages; f. a summary of compliance with the Performance Standards; g. records of consumption of electricity, fresh water and reused water; h. a summary of Plant and equipment repair, overhaul, and replacement activities undertaken in the Month i. asset replacements carried out under the Asset Replacement Fund; j. a report on exceptional events, emergency operations, and accident statistics during the Month;

		k. a summary of complaints received from the public; l. a programme for major Plant maintenance and asset replacement for the following three Months; m. any other data reasonably requested by the Employer's Representative
4.26	● Existing facilities	No Existing Facilities
5.1	● Criteria (if any) for design personnel	Consistent with any such requirement in Section III- Evaluation and Qualification Criteria The Contractor shall ensure that his designers have the specific experience and capability necessary for the design of Bio CNG
5.2	● Contractor's Documents required and whether for approval	To be submitted for approval as per GCC 5.2 and other clauses referred therein.
5.4	● Applicable Technical Standards and regulations	Works shall comply with India's technical standards, building, construction and environmental, health and safety Laws/regulations/guidance/standards/ consent and permit conditions, plant/machinery/factory related regulatory requirements, Laws applicable to the product being produced from the Works, applicable to the Works, or defined by the applicable Laws.
5.5	● As- built drawings and other records of the Works	As per GCC 5.5
6.1	● Engagement of staff and labour	As per GCC 6.1 and compliance to other clauses mentioned therein.
6.6	● Facilities for Contractor's Personnel ● Facilities for Employer's staff	As per GCC 6.6

7.2	● Samples	To be collected , sampled, tested and recorded in Contractors Document and as specified in Clause GCC 7.2
7.4	● Testing	To be tested and recorded as specified in Clause GCC 7.4
7.8	● Royalties	The Contractor shall pay all royalties, rents and other payments as stated in GCC 7.8
8.7	● Handback requirements	At the Contract Completion Date, the Works shall be: a) The Plant shall be fully operational, safe, and capable of performing at not less than 90% of its original design capacity, subject to normal wear and tear. capable of meeting the standards specified in the Schedule of Performance Standards b) All scheduled and preventive maintenance must be up to date. Any defects, damages, or excessive wear beyond normal usage must be rectified at the Contractor's cost prior to handback. c) The Plant must comply with all applicable statutory, environmental, and safety regulations in force at the time of handback. d) the Employer and the Contractor shall meet and agree on a detailed inventory of spare parts, special tools, and consumables to satisfy the requirements. e) the Contractor shall prepare and deliver to the Employer for its approval a training plan for the Employer's follow-on O&M personnel (or personnel designated by the Employer). The aim of the training plan shall be to equip the follow-on O&M personnel with the knowledge and

		skills necessary to operate and maintain the Works. f) The Contractor shall provide updated documentation, including: • Maintenance and inspection records • Updated as-built drawings • Equipment manuals and warranties (if applicable) • Compliance certificates and licenses
10.3	● Training required for Employer's Personnel ● Training materials	The Contractor shall prepare and deliver to the Employer for its approval a training plan for the Employer's follow-on O&M personnel (or personnel designated by the Employer). The aim of the training plan shall be to equip the follow-on O&M personnel with the knowledge and skills necessary to operate and maintain the Works The training shall cover at least the following but not limited to : a. managing, operating, controlling, monitoring and maintaining the Works, the individual treatment processes and all associated plant and equipment; b. data filing and processing and reporting; c. assembly, dismantling and maintenance of equipment and plant; d. fault diagnosis and rectification e. the Operation and Maintenance Manuals, f. the Health and Safety Policy & Manual g. the Emergency Response Plan

		h. Material & Wastes Management Plan i. the Product Testing Plan j. Quality Assurance Plan The Contractor shall bear the cost of planning the training program and providing trainers, training materials and training venues. The Employer shall be responsible for all wages, travel and subsistence associated with the participation its nominated personnel in the approved training program.
11.1	● Tests for completion of the Design-Build	To be carried out as per GCC 11.1 and other referred clauses mentioned therein.

Deleted

Environmental, Social, Health and Safety Requirements

All subprojects of KSWMP shall follow the ESMF throughout the project period. Refer ESMF Document https://kswmp.org/wp-content/uploads/2022/02/3_KSWMP_Vol-II-A-EMF_Fin3Nov20.pdf

The Authority has prepared an SIA, SMP, EIA and EMP in line with ESMF to guide the implementation of the subproject. EMP and SMP includes mitigation & management actions to be implemented to ensure environmental & social risk management. Each EMP, SMP and EMoP item and contingencies shall be considered while estimating the price. Contractor shall update EMP & EMoP once the design is finalised and costs & personnel for implementing the required measures shall be made available.

The contractor shall preferably undertake visit to the sites and conduct consultation/interview with the host community and stakeholders to understand the Environmental and social safeguards requirements including labour management, labour influx management, preventive GBV activities and Citizen engagement activities in line with ESMF,EMP and SMP. (Site specific EMP and SMP is provided in Annexure ----. The contractor needs to update these in line with design and this shall be cleasrd by the Employer in line with ESMF before the commencement of the any work. Screning (E&S) risk and impact assessment shall be updated based on location and design. Estimate realistic costs for mitigation, management, and monitoring including all aspects in the EMP, EMoP & SMP

The contractor shall adhere to the social safeguard guidelines prescribed by national and state authorities, as well as those of the WHO, ILO, and World Bank, in all project planning and implementation activities. The project activities are governed by the Tribal Development Framework (TDF) and the Social Management Framework 2020 of the Kerala Solid Waste Management Project (World Bank-assisted). The contractor is required to apply the Social and Tribal Screening Formats (STSF) to identify the social risk and to update the Social management plan including labour management plan, labour influx management plan, citizen engagement plan and preventive GBV action plan and implement the Social Inclusion Strategy, Gender and Gender-Based Violence Strategy, Stakeholder and Citizen Engagement Plan, Grievance Redressal Mechanism & ICC, Citizen engagement platform & Communication Strategy, Labor Management Plan, Labour Influx Management Plan, Capacity Building measures, Institutional Arrangements, and Monitoring and Evaluation processes during project implementation.

The contractor shall obtain all required labour registrations and certifications. The contractor shall update the labour compliance data on daily basis as prescribed in the labour management MIS module to be provided by SPMU.

Environmental Safeguards

Environmental Safeguards under KSWMP are guided by its EMF. EMF lays down the mechanism to screen the subproject investments, categorize them based on its impacts, and guide on the type and depth of assessment required and mitigation/monitoring mechanisms. The framework helps provide specific guidance on the policies and procedures to be followed for environmental assessment, management of impacts and monitoring along with the roles and responsibilities of the implementing agencies.

a. Regulatory requirements and applicable laws

The project is governed by several rules and legislations that define its implementation. The following were the applicable legislations and its applicability to the project.

Table: List of Applicable legislations and its Applicability to the Project

Applicable legislation	Relevance	Applicable/ Not Applicable	Authority
Environmental (Protection) Act,1986	To protect and improve the overall environment. This is an umbrella Act.	Applicable	MoEF&CC, KSPCB
Solid Waste Management Rules 2016.	Collection, Transportation, segregation & processing of Solid waste.	Applicable	MoEF&CC, KSPCB
The Water (Prevention and Control of Pollution) Act 1974, Amended in 1988	Obtain necessary approvals including Consents to Establish and Operate under the Act and establish discharge point and control measures for discharge of any Wastewater.	Applicable	KSPCB
The Air (Prevention and Control of Pollution) Act,1981, amended in 1987	Obtain necessary approvals including Consents to Establish and Operate under the act and establish discharge point and control measures for discharge air emissions.	Applicable	KSPCB
Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 as amended in 2019	As per the Hazardous Waste and Other Wastes (Management and Transboundary Movement) Rules 2016 and its amendment, an occupier shall be required to obtain an authorization under this rule from the State Pollution Control Board regarding Oil/grease and oily cotton waste from the maintenance of machineries, solvents and chemicals used or cleaning.	Applicable	KSPCB
The Petroleum Act, 1934 and the Rules 2002 & amendments	Approvals & licenses related to manufacturing, store, filling and transport of Bio-CNG, as applicable.	Applicable	PESO (Chief Controller of Explosives)
The Gas Cylinders Rules, 2016 & amendments	Regulate the manufacture, import, export, transport, possession, sale, and use of gas cylinders.		
The Static and Mobile pressure vessels (Unfired) Rules, 2016 & amendments	Generation, storage and transportation of Bio-CNG. Storage of Diesel.		
The Explosive Act, 1884 and Rules, 2008 & amendments Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 & amendments	BioCNG manufacturing, storage, filling and transport		
Noise Pollution (Regulation and Control) Rules, 2000 and amendments.	The Noise Pollution (Regulation and Control) Rules, 2000, under the Environment (Protection) Act, 1986, remain the primary legal framework for managing noise pollution. These rules apply to industrial activities, generator sets, construction operations, and transportation, all of which are relevant to Bio-CNG plant operations.	Applicable	KSPCB
Plastic Waste Management Rules, 2016 & amendments	To minimize the generation of plastic waste, not to litter the plastic waste, ensure segregated storage of waste at source & hand over segregated waste in accordance with rules.	Applicable	KSPCB
E-waste-management rules, 2022	To manage e-waste (electrical and electronic equipment waste) in an environmentally sound manner, focusing on	Applicable	KSPCB

Applicable legislation	Relevance	Applicable/ Not Applicable	Authority
	recycling and reducing the use of hazardous substances in electronic equipment.		
Liquid Waste Management Rules, 2024	These rules aim to enhance the regulatory framework for managing liquid waste, addressing environmental concerns and public health in both urban and rural areas. Minimization, collection, treatment, and reuse of liquid waste, including wastewater and sludge	Applicable **(*)**	KSPCB
Biological Diversity Act, 2002	aims to conserve biological resources, manage their sustainable use, and enable fair and equitable sharing of benefits arising from the use of biological resources and knowledge with local communities.	Not Applicable **(#)**	Kerala State Biodiversity Board
Wetlands (Conservation and Management) Rules, 2017	act as the regulatory framework for the conservation and management of wetlands in India.	Not Applicable	SWAK
The Motor Vehicles Act 1988, and amendments.	Movement of construction vehicles and other vehicles for transportation of workers	Applicable	State Transport Authority
The Kerala Minimum Wages Rules, 1958	Minimum wages rule for different categories of workers mandatorily needs to be ensured.	Applicable	GoK
Factory Act 1948	This Act is applicable to production units (power driven) having 10 or more workers and manufacturing entities (non-power driven) having 20 or more workers on board	Applicable	GoK
Kerala Municipalities Act 1994	Follow up of standards and other measures for solid waste management.	Applicable	GoK
Kerala Municipal Building rules, 2019	outline various regulations related to building permits, safety standards, and construction practices.	Applicable	GoK
KSPCB siting criteria & Authorization	Authorization from KSPCB required	Applicable	KSPCB
License for Selling of FOM	Selling of FOM	[$]Applicable	Department of Agriculture Development & Farmers' Welfare

Note:

1. *As per KSPCB circular, KSPCB/1249/2024-SEE-1 dated 25.01.25, the minimum distance criteria for Capacity 30 TPD is 20 m and the BIO CNG of the type is categorised as white category and project comply the same. Based on the technology, and design that will be proposed by the Contractor, this need to be confirmed with the KSPCB and required permits, clearances and siting and other aspects shall be ensured so that there is no delay or non-conformity to regulations during construction or operations.*

2. *As per CPCB notification (CPCB/37485/2022/IPC-III-HO dated March 2022), Bio-CNG Project is classified as White category. Also, as per latest KSPCB Circular dated KSPCB/258/2025-SEE-1 dated 28.03.2025, Bio CNG plant of this type come under Blue Category as essential environment service. Based on the technology, and design that will be proposed by the Contractor, this need to be confirmed with the KSPCB and required permits, clearances and siting and other aspects shall be ensured so that there is no delay or non-conformity to regulations during construction or operations*

#. *The project shall ensure safety of nearby biodiversity through consultations with various departments and agencies including Forest Department, Kerala State Biodiversity Board (KSBB) from time to time.*

*. *Bidders are advised to familiarize themselves with the terms and conditions of storage, transport and disposal arrangements for digestrate, sludge, leachate, waste water, FOM, gas, other products and byproducts, fuels, materials, wastes (including hazardous wastes, biomedical wastes, plastics, C&D), inerts, rejects etc. in line with national regulations prior to submitting their bids. Bids should be prepared accordingly, taking into account any agreed disposal arrangements and associated incidental costs for services provided by agencies such as Kerala*

Enviro Infrastructure Limited (KEIL). A model agreement format received from KEIL is annexed with the Request for Bids (RFB) for preliminary reference and general understanding only. Please note that the attached agreement is provided solely for reference purposes, and the Employer does not guarantee its accuracy.

$ Selling of FOM (if any) during forward linkage, the contractor has to be obtain license from department of agriculture development & farmers welfare , and it should be as per required certifications / licences including FCO. This will be finalized by Contractor during the DPR stage.

Prior to any construction or operational activities, the project must obtain formal clearance from relevant regulatory bodies. This ensures compliance with environmental, safety, and operational standards. The list of applicable approvals/NOC required to set up the BioCNG plant is given in table below.

Table: Indicative List of applicable approvals for the BioCNG facility

S.No	Approvals required	Issuing authority	Approval needed before construction	Approval needed before Operation	Responsibility for obtaining approval
1	Fire	District Fire Department	NOC	License	Contractor (Facilitated by ULB)
2	Health and safety	District Health Department	NOC	License	Contractor (Facilitated by ULB)
3	Factory License	State Department of Labour	NOC BoCW (Building & Other Construction Workers) Registration	License (sub-contractor license)	Contractor (Facilitated by ULB)
4	Municipal License	Municipality	Building Plan Approval	Construction and Running license	Contractor (Facilitated by ULB)
5	KSPCB (Pollution Control Board)	District Pollution Control Board	Registration from KSPCB	-	Contractor (Facilitated by ULB)
6	PESO Certification (Petroleum and Explosives Safety Organization)	Ernakulam Sub Circle Office	PESO license	-	Contractor (Facilitated by ULB)
7	License for selling FOM	Principal Agricultural Officer, Ernakulam	-	License	Contractor (Facilitated by ULB)

b. Environmental Management plan

Key activities associated with the proposed project—such as biogas production, odor management, occupational health and safety (including Fire and Life Safety), and waste disposal—have been identified as having the potential to cause environmental impacts. To ensure safe and sustainable operations, the plant will commence operations only after all mechanisms required to manage health and safety, pest control and rejects management, storage, transport and disposal of finished products and by-products etc are in place and implemented accordingly for the project.

The project incorporates a range of measures aimed at ensuring health and safety, effective pest control, proper handling and disposal rejects, as well as the secure storage of finished products and by-products. In addition to the Environmental Management Plan (EMP), the contractor is required to develop and implement several site-specific plans at the project level.

These include a Storm Water Management Plan, an Occupational Health and Safety (OHS) Plan, a Traffic Management Plan, and a Community Health and Safety (CHS) Plan. These plans are essential for managing environmental and safety aspects during both the operational and decommissioning phases

of the project and are detailed separately and list of activities in the project, impacts and list of mitigation measures are listed in **ANNEXURE 1**.

c. Environmental Monitoring Plan

Environmental monitoring will be carried out to assess the efficacy of recommended environmental measures and ensure adherence to environmental regulations. Periodic groundwater monitoring, soil, noise and continuous air quality monitoring will be performed in accordance with applicable standards, leveraging in-house laboratory facilities. Further the digestate generated by the plant will undergo regular analysis, and the results will be submitted to the concerned Pollution Control Board from time to time. The EMoP of BioCNG plant with responsibility distribution is given in **ANNEXURE 1** of this document.

RISK ASSESSMENT

Risk Assessment identifies potential risks associated with the project, assesses their likelihood and severity, and outlines mitigation measures to ensure compliance with environmental, social, and health safety standards. The assessment also considers risks to sensitive receptors, including residential areas, educational institutions, religious places, healthcare facilities, and the Vembanad Wetland (Ramsar site).

Biogas production and transportation involve potential risks, primarily related to the flammability of methane and toxicity of hydrogen Sulfide. Methane leaks can lead to explosions or fires, while hydrogen sulfide exposure can cause respiratory issues and even death. Additionally, improper storage or distribution of biogas can result in leaks, posing environmental and health hazards. To mitigate these risks, stringent safety measures must be implemented, including regular equipment inspections, ventilation systems, gas detection alarms, fire-frightening systems and emergency response plans.

A) EMERGENCY PREPAREDNESS

The Emergency Preparedness and Response Plan (EPRP) aims to ensure immediate and effective actions during emergency situations to minimize risk to human life, the environment, and property. The plan is designed to facilitate swift rescue and relief operations and ensure stabilization of the situation as quickly as possible.

B) EMERGENCY RESPONSE TEAM (ERT)

An Emergency Response Team (ERT) shall be promptly established for the project. Each member will be assigned clear roles to manage emergencies effectively. The ERT will focus on containing incidents using onsite resources and coordinating with external agencies to support and strengthen emergency response efforts.

SOCIAL SAFEGUARDS

a. Social Screening

Changanassery is a municipal town in Kottayam District, Kerala, India, strategically connected to both the high-range areas and the Kuttanad region. Established in 1921, Changanassery Municipality spans 13.5 square Kilometres. It was once one of Kerala's major markets, serving as a central hub linking three key districts: Kottayam, Alappuzha, and Pathanamthitta. The municipality is divided into 37 wards.

The proposed project plans to set up a CNG plant at Fathimapuram in Ward 16 of Changanassery Municipality. This site, spanning 2.14 acres, is owned by the Changanassery Municipality's Secretary. Located near the

Fathimapuram dumpsite, the project will use this vacant land for waste-to-energy conversion, ensuring it does not interfere with agricultural activities.
According to the 2011 Census, Changanassery Municipality has a population of 47,685. Within a 200-meter radius of the proposed CNG plant site, there is an estimated population of 1,076 across 144 households, including 52 Scheduled Caste households. No Scheduled Tribe households are present in this area.
The CNG plant site, located on vacant municipal land near Fathimapuram dumpsite, is 30 meters from the nearest household and over 200 meters from major infrastructure. Compliance with CPHEEO and KPCB guidelines ensures minimal impact on nearby residences, and the municipality has committed to relocate any affected structures, including the nearby Anganwadi Centre, at its expense. The plant is expected to have a substantial social impact, as it requires major civil work. By converting organic waste into renewable energy, the plant will support sustainable waste management, reduce landfill use, and generate cleaner fuel, which can boost local employment and benefit the community's environment.

The site consists of vacant land near the Fathimapuram dumpsite, with no agricultural activities, ensuring no impact on farming. However, as part of the ongoing environmental assessment, a 20-meter buffer zone has been proposed around the core area of the plant. Currently, all existing houses fall outside this zone. The project plans to implement all mitigation measures as outlined by the CEPB and KPCB guidelines, ensuring that no households will face displacement. Considering the current shortage of available land, the high population density in Changanassery Municipality (3,517 people per square kilometer according to the 2011 Indian Census), and the absence of an adequate solid waste processing plant, utilizing the municipally owned land at Fathimapuram for waste processing with appropriate pollution control measures would be advantageous for the community. The site is clear of encumbrances, with no rag pickers working there, and no physical assets from Kudumbashree or Haritha Karma Sena are present that would be impacted.

Based on the current environmental and social analyses, the project is expected to have substantial social impact on local livelihoods, as it involves major civil works, engagement migrant labours, and the project area is densely populated.
The establishment of a CNG plant in the community can have multiple positive impacts. By converting organic waste into renewable energy, the plant will support sustainable waste management, reduce landfill use, and cut greenhouse gas emissions. It will provide a local source of clean fuel, helping to lower air pollution and promote a healthier environment. Additionally, the plant will create job opportunities, boosting local employment and potentially stimulating the economy. Through its production of cleaner energy, the CNG plant aligns with environmental goals and encourages a more sustainable, eco-friendly lifestyle in the community.
However, the plant may also present some challenges. Possible negative impacts include odours from processing organic waste, which could affect nearby residents if not managed effectively. Increased traffic from waste transport may lead to road congestion and noise pollution, impacting local quality of life. There could be concerns about the engagement of migrant labours from contractors side, and concern about the air quality if emissions aren’t carefully controlled, even though CNG production is cleaner than many alternatives. Additionally, some community members might worry about safety regarding gas handling and storage, highlighting the need for strong safety protocols and open communication to build public trust.
The Changanassery Municipality currently generates around 13 tons of waste per day, which is significantly below the processing capacity of the proposed CNG plant, set at 30 tons per day (TPD). This means there is a shortfall of 17 tons of waste needed daily to fully utilize the plant's capacity.
To bridge this gap, it has been agreed in principle to expand the plant's waste collection area by incorporating waste from Thiruvalla municipality and 5 nearby gram panchayats. This collaborative approach will not only ensure that the CNG plant operates at its optimal capacity but also contribute to more efficient waste management in the neighbouring areas, providing an environmentally beneficial solution for waste disposal across multiple jurisdictions. By drawing waste from additional sources, the plant can achieve steady operations, maximize biogas production, and generate more CNG, which can be a sustainable fuel alternative for the community. The selected panchayats have been identified based on the proximity to the CNG plant, and logistical feasibility.

b. Vulnerability Mapping

The following vulnerability data was collected from host community falls in the radius of 200 meters within the proposed CNG plant site at Fathimapuram ward-16 of Changanassery Municipality. The total number of houses in this area is 144. Total population of the host community is 1177 (Male 507 and Female 670) and its details are given in the table below[22].

Table 18: Vulnerability mapping at Fathimapuram

Sl.No	Categories	Male	Female	Total
1	below 6 Years	16	12	28
2	Disabled Persons	4	3	7
3	Persons under Palliative care	2	2	4
4	Persons above 60 years	5	6	11
5	Destitute	0	2	2
6	Pregnant women	0	3	3
7	Women headed family	0	30	30
8	Total No of lactating mothers	0	2	2
9	Scheduled Caste Members	164	175	339
10	Male-Female population	507	670	1177
11	Anaemic Adolescent Girls	0	2	2
12	Skin disease	1	1	2
13	Cancer	1	0	1
14	Kidney disease (Under dialysis)	1	0	1
15	Asthma	2	3	5

Source of data: Data collected from ICDS & Data collected from field visit by TSC/DPMU – 2024

c. Stakeholder Identification

Table 19: Stakeholder identification in proposed project

SL No	Stakeholder	Roles of the stakeholders w.r.t Project
1	Changanassery Municipal Council	Conducting tendering, finalizing, and appointing a contractor or agency for the project.
2	Officials/staff members Changanassery Municipality	Administrative supports and support for the monitoring of the process

[22] Source: *Data collected from ICDS & Data collected from field visit by TSC/DPMU – 2024*

3	Thiruvalla Municipality, Vazhapally, Paippadu, Madappally, Thrikkodithanam and Kurichi Grama Panchayats	Support for timely collection of organic waste produced in the panchayat area and delivery to the plant
4	Govt. institutions like PCB, KSEB, KWA, etc.	To deliver necessary approvals and provide necessary services for the Project
5	Health Department,	Provide medical support if required to the persons engaged in Project work at the site.
6	KSWMP	Monitoring and Evaluation
7	TSC/PMC	Technical support and consultation
8	Contractor	Execution of the project
9	Service providers/HKS of Changanassery Municipality and the selected Grama panchayats in the catchment area of the Plant	Proper timely collection, segregation and transportation of waste to CNG Plant
10	Labours of contractor/Agency at site	Execution of work by strictly following Labour Management plan and Preventive GBV Action plan
11	Waste Generator of Changanassery and Thiruvalla Municipality and the selected Grama Panchayats in the catchment area of the Plant	Compliance with the rules and policies of the ULB/Grama Panchayat related to waste management
12	Media	Create an enabling environment for the successful completion of the project through positive reporting by the media.
13	Police	Ensure law and order in the area, if required
14	Fire and safety	Extend assistance in case of an emergency.

d. Output from social screening

The 30 TPD Bio-CNG Project at Fathimapuram in Changanassery Municipality, Kottayam, Kerala, aims to transform local waste management by utilizing a municipal site to process waste into bio-CNG, providing employment opportunities for SWM workers and impacting a community of 1177 residents. While the project brings potential benefits, it also presents social risks, including community resistance due to insufficient engagement, and concerns over the relocation of nearby institutions like the Anganwadi, and surrounding local institutions. To ensure community acceptance, it's recommended that the project include structured engagement and regular consultations to promote transparency and inclusivity.

A major concern involves gender-based violence risks for female workers, particularly within male-dominated construction and operational environments. Health and safety risks also threaten workers and local communities, as waste processing can expose individuals to hazardous materials without adequate safety measures. Effective risk mitigation will require comprehensive safety protocols, regular training, and PPE provisions, ensuring worker protection and community well-being. Furthermore, labour-related issues, such as possible exploitation, inadequate rights protections, and limited grievance mechanisms, need addressing to promote fair treatment, adequate compensation, and grievance redress.

Challenges in communication and grievance redress could exacerbate community resistance and worker dissatisfaction, particularly without a transparent, responsive mechanism to address concerns. The risk of social stigma surrounding vulnerable groups, combined with a lack of training and capacity-building initiatives, may limit project success and community support. Strengthening communication channels, creating effective grievance systems, and investing in capacity-building are essential to mitigate these social risks, encouraging positive community perception, fostering inclusivity, and empowering local workers and residents for long-term project sustainability.

e. Social Risk Analysis

A risk matrix, which identifies all key social risks relevant to the project

Table 20: Identified social risks from proposed project

Sl. No.	Identified risks	Affected persons/ families	Remarks
1	Lack of community engagement	Host community	Due to limited community involvement in planning the CNG plant project, problems may arise from residents' opposition, distrust in authorities, displacement of facilities like Anganwadi, proximity of Hindu temple and local beliefs, social conflicts, risks, legal challenges, etc. In order to mitigate these risks, structured intervention, regular consultations, transparent communication and participation of existing stakeholders are essential

2	Incidence of GBV in SWM service sector	Labours employed for construction and operation of the project	In the Solid Waste Management (SWM) sector, particularly at CNG plants, female workers may face an increased risk of Gender-Based Violence (GBV). This risk arises from male-dominated environments and a lack of safe workspaces, which heighten women's vulnerability to violence. Many women avoid reporting incidents due to fears of retaliation or stigma, resulting in underreporting and unresolved cases. GBV adversely affects female employees' mental and physical health, leading to absenteeism and reduced productivity. The lack of gender-sensitive policies and limited GBV prevention training further exacerbate these risks, highlighting the need for comprehensive measures to ensure a safe and supportive workplace.
3	Health and safety risks of host community.	Families residing in 200 m radius of the project.	Families residing within a 200-meter radius of the proposed bio CNG plant may face several health and safety issues during the construction phase. These include exposure to dust and noise pollution, which can cause respiratory problems and stress. Additionally, there is a risk of accidents due to increased traffic and heavy machinery operation in the area. Proper safety measures, such as dust control, noise barriers, and traffic management, are essential to mitigate these risks.
4	Labour - related issues	Labours employed during implementation and post implementation phase	Labour-related issues at the CNG plant include potential worker exploitation, weak labour rights protections, and poor working conditions. Workers may face low wages, long hours, and job insecurity, especially among vulnerable groups like migrant or marginalized community members. Non-compliance with labour laws could lead to violations of rights, including fair treatment, workplace safety, and access to benefits. A lack of effective grievance mechanisms may also prevent workers from addressing harassment, discrimination, or unsafe conditions. These issues can lower employee morale, increase turnover, and damage community perception of the project. To mitigate these risks, it is essential to establish fair labour practices, ensure regulatory compliance, and foster a supportive, secure work environment.

5	Ineffective communication	Various stakeholders, including local communities, workers, and project authorities	Poor communication about the CNG plant can create misunderstandings and mistrust among stakeholders, including local communities, workers, and project authorities. When people lack clear information about the project's benefits, safety measures, and potential impacts, they may feel excluded from decision-making, fuelling anxiety and opposition. Inadequate communication can also discourage workers from reporting safety concerns or grievances, allowing issues to go unresolved and potentially escalate. Additionally, a lack of transparent dialogue can spread misinformation, leading to community resistance and harming the project's reputation. Addressing these risks requires a strong communication strategy that provides timely, accurate, and accessible information to all stakeholders, building trust and collaboration throughout the project.
6	Lack of availability of land	SC and General community (Total 43 families)	There is 2.14 acres of Municipality owned land available in Ward 16,Fathimapuram,Changanassery, so additional land is not required for the proposed CNG plant .
7	Ineffective GRM	Labours employed during implementation and post implementation phase/ host community	Labour-related issues at the CNG plant include potential worker exploitation, inadequate labour rights protections, and substandard working conditions. Workers may experience low wages, long hours, and job insecurity, particularly among vulnerable groups such as migrant workers and marginalized communities. Non-compliance with labour laws can lead to rights violations, including lack of fair treatment, unsafe working conditions, and limited access to benefits. The absence of effective grievance mechanisms may also prevent workers from reporting harassment, discrimination, or unsafe practices. These issues can undermine employee morale and harm the community's perception of the project. To mitigate these risks, it is crucial to establish fair labour practices, ensure compliance with regulations, and create a supportive, safe work environment.

8	Social stigma	Individuals involved in the project, particularly those from marginalized backgrounds or vulnerable groups	Individuals involved during the implementation and post implementation period in the project, especially those from marginalized or vulnerable backgrounds, may experience discrimination and negative perceptions from their peers, leading to social isolation and weakened community cohesion. This stigma can stem from concerns about environmental impacts, health risks, or the perception that certain labour roles carry lower social status. Residents may also fear that the plant will harm their community or disrupt their way of life, reinforcing negative attitudes toward workers and the project. Such stigma can discourage local residents from engaging with or supporting the project, creating barriers to effective community involvement. To mitigate these risks, it is essential to foster an inclusive environment that raises awareness of the project's benefits while addressing community concerns to reduce stigma and promote a positive social atmosphere.
9	Lack of capacity building	Labours employed during implementation and post implementation phase	Without adequate training, workers may lack the skills and knowledge necessary for safe and efficient operations, raising the risk of accidents and inefficiencies. This skills gap can also leave the workforce unprepared to adapt to emerging technologies and industry best practices, which can negatively impact productivity and safety standards. Additionally, local community members may miss out on employment opportunities if they lack the skills or understanding needed to meet the project's requirements. A lack of capacity-building initiatives can perpetuate poverty cycles and limit community participation in decision-making processes, decreasing local ownership and support for the project. To mitigate these risks, implementing comprehensive training programs and capacity-building initiatives is essential to empower both workers and community members, fostering a skilled workforce and strengthening community engagement.

10	Lack of organizational support	Service providers and local community	Insufficient support from the ULB or KSWMP can lead to inadequate resources for essential functions such as health and safety measures, training programs, and effective communication strategies. This lack of backing may result in low employee morale, higher turnover rates, and a workforce that feels undervalued and disengaged. Additionally, without a strong organizational commitment to community engagement, residents may view the project as unresponsive to their needs, fostering mistrust and resistance. The absence of clear leadership and accountability can also impede the establishment of effective grievance redressal mechanisms and the implementation of necessary social safeguards, leaving critical issues unaddressed. To mitigate these risks, it is essential for the organization to demonstrate strong commitment and support for both its employees and the local community, ensuring that adequate resources and strategies are in place to effectively tackle challenges and foster positive relationships.

f. Project Category

Construction Phase: The construction phase involves significant civil works, placing it in the **Moderate** risk category. This requires the preparation of Labour management plan, labour influx management plan, preventive GBV action plan, Citizen engagement plan.

Post-Construction Phase: During the post-construction phase, daily operations of the plant and various activities carried out by different categories of labourers will take place. This phase requires the preparation of a Citizen engagement plan, Labor management plan. GBV plan, categorizing it as a moderate risk.

g. Social Management Plans

The Social Management Plan (SMP) are essential for the solid waste management (SWM) based CNG Plant Project to address potential social impacts and ensure that the project benefits all community members equitably. Key needs for SMPs include engaging stakeholders, including vulnerable groups, in project planning, decision-making, and implementation to prevent conflict and foster community support. They address concerns related to relocation of Project affected family/PAP and potential livelihood impacts, particularly if land for waste processing and CNG facilities affects residents or disrupts local economies. SMP also prioritize health and safety by mitigating potential health and environmental hazards associated with SWM processes, such as air and water pollution, waste handling risks, and odour control, which could impact the surrounding community.

Establishing a structured Grievance Redressal Mechanism (GRM) allows stakeholders to voice concerns, seek clarifications, or report issues, enhancing trust and minimizing resistance. Promoting education and awareness through Information, Education, and Communication (IEC) activities fosters understanding, reduces stigma associated with waste facilities, and encourages community cooperation. Additionally, regular social monitoring ensures compliance with safeguards, prevents adverse impacts, and measures the effectiveness of mitigation measures. Overall, SMP is critical to balancing the benefits of sustainable waste management with the rights, well-being, and active participation of local communities. The following mitigation measures will be implemented to protect all stakeholders involved in the proposed CNG Project during the implementation phase and to prevent any adverse impact on the host community during the post-implementation phase.

i. Labour Management Plan

A maximum of 10-15 (Approx.) labourers are expected to be engaged in the proposed Project for up to 180-365 days at the site. A detailed labour management plan will be prepared and included in the DPR as an annex.

ii. Labour Influx Management Plan

The installation of the CNG Plant project is expected to involve a maximum of 10-15 (Approx.) labourers per day for up to 180-365 days. This limited number ensures that the influx of labour will not negatively impact the host community; therefore, a labour influx management plan will be prepared and included in the DPR as an annex.

iii. Preventive GBV Action Plan

Given the anticipation of women workers participating in the civil work of the proposed subproject, it is advisable to prepare a gender-based violence (GBV) action plan. This proactive measure aims to mitigate gender-related risks and ensure a safe and inclusive working environment. A detailed GBV action plan will be prepared and included in the DPR as an annex.

iv. Citizen Engagement Plan

To improve decision-making for effective project implementation and encourage public involvement in addressing challenges at each stage, a citizen engagement plan has been developed and appended for the installation of CNG Plant in the three aforementioned wards. This plan aims to establish a two-way communication channel between the project and its stakeholders. A detailed citizen engagement plan will be prepared and included in the DPR as an annex.

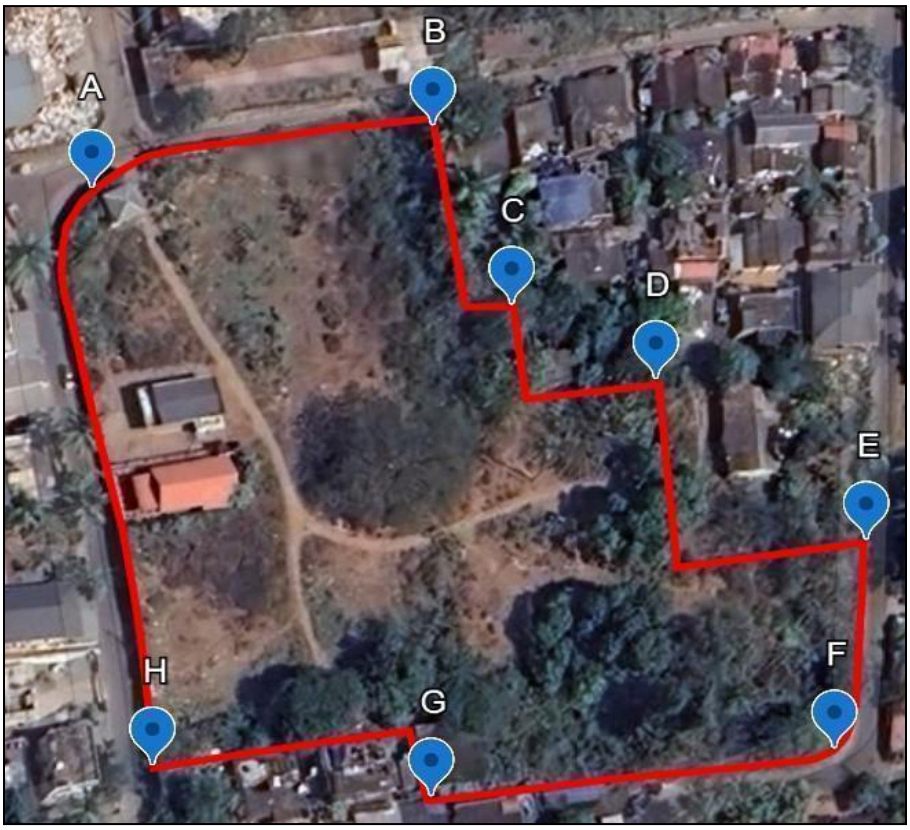
(Detailed SMP including Labour management plan, Labour influx management plan and Citizen engagement plan is attached as ANNEXURE 2)

Scope of the Works

A. Location for Project Execution

The land for the proposed Bio-CNG facility has been identified within the jurisdiction of the Changanassery Municipality. The proposed 2.14-acre parcel of land, fully owned by Changanassery Municipality is in Fathimapuram North (Ward 16) (9°26'47.38"N, 76°33'16.10"E). It has direct access to the Municipality's road network, with even minimum carriage way of 6m from the gate of the facility to the national highway, ensuring smooth transportation and logistics for raw materials and finished products.

The project area of 2.14 acres, is mostly barren land. There are only 2 existing unused buildings of 250 Sq.m area, of Changanassery Municipality inside this site, which will be used as administrative buildings when the project is operational.



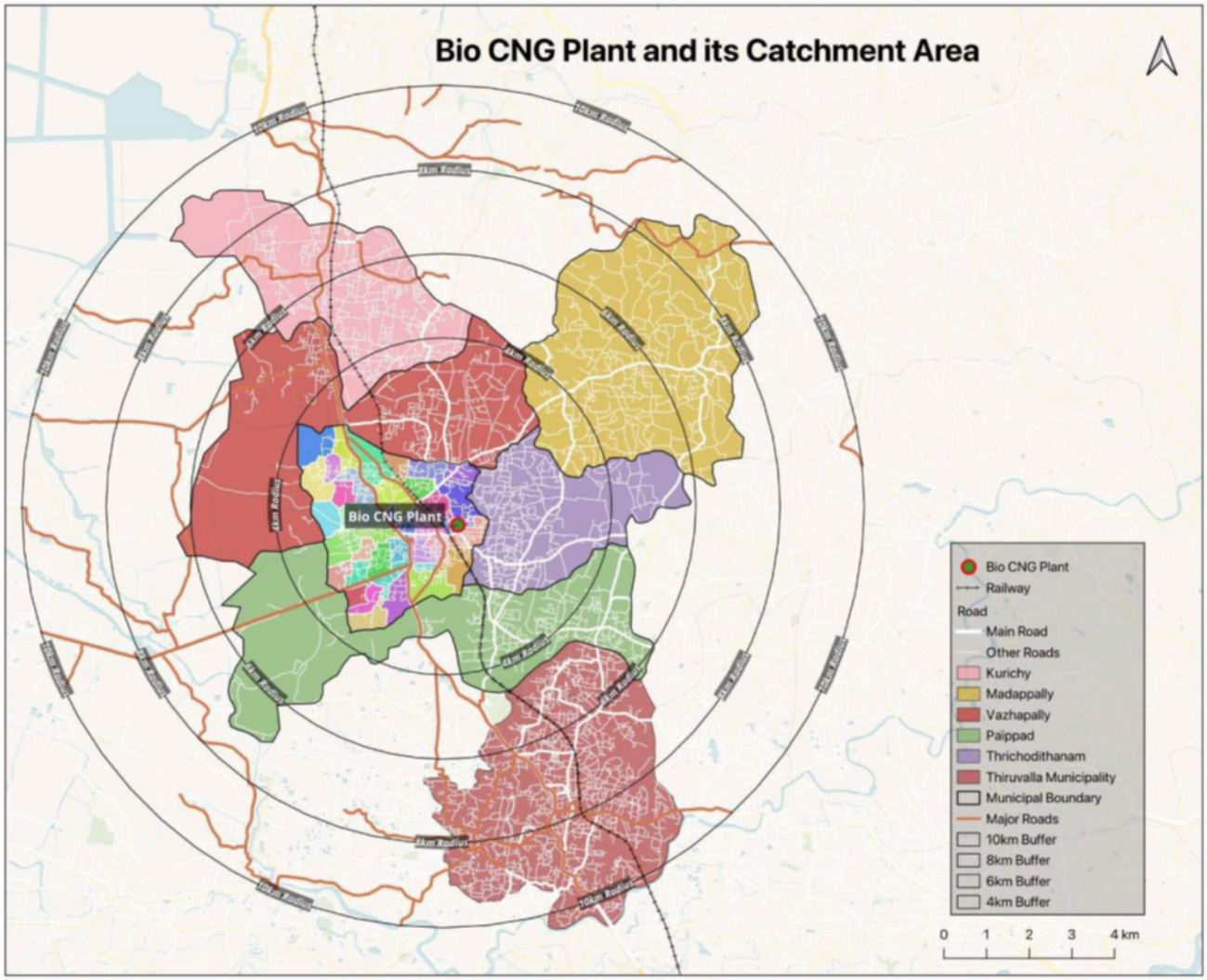
GPS Co-ordinates of Project Location

A - 9°26'48"N 76°33'14"E,
B - 9°26'48"N 76°33'16"E,
C - 9°26'47"N 76°33'16"E,
D - 9°26'47"N 76°33'17"E,
E - 9°26'46"N 76°33'18"E,
F - 9°26'45"N 76°33'18"E,
G - 9°26'45"N 76°33'16"E,
H - 9°26'45"N 76°33'15"E

Figure : Proposed site location

B. Background

Under the Kerala Solid Waste Management Project (KSWMP), a 30 TPD BioCNG facility is proposed to be built at Fathimapuram, Changanassery. As part of this project, KSWMP is hiring a contractor for building and operation the BioCNG facility along with collection and transportation of waste for processing in the facility. The waste from Changanassery Municipality as well as the neighboring Thiruvalla Municipality and 5 Gramapanchayts namely Vazhapally, Paippadu, Madappally, Thrikkodithanam, and Kurichi need to be managed under this project.



S. No.	Name of Local Body	BDW collection and processing gap in LSGs, to be addressed in the proposed project (TPD)
Urban Local Body		
1	Chanaganassery	9
2	Thiruvalla	8
Panchayats		
3	Paippad	3

S. No.	Name of Local Body	BDW collection and processing gap in LSGs, to be addressed in the proposed project (TPD)
4	Thrikodithanam	5
5	Vazhapally	4
6	Kurichy	6
7	Madapally	6
Total		41

Table: BDW processing gap in ULBs in 2024

The identified gap in the collection and processing of biodegradable waste (BDW) is approximately 41 tons per day (TPD). Initially, the collection efficiency is expected to be around 60%, which may increase to 80% over time due to the community engagement activities planned as part of the project. Based on this, it is estimated that around 25 to 35 TPD of BDW will be transported to the processing facility. The incoming waste at the BioCNG facility is expected to contain approximately 1% of non-biodegradable waste (NBDW) rejects, which amounts to about 250 to 350 kilograms per day.

C. Brief scope of work

The Operator (Selected bidder) shall be responsible for Design, supply, installation, erection and commissioning services for setting of biodegradable Municipal Solid Waste Processing Plant with operation & maintenance (O&M) as well as Collection and Transport of waste for 10 years.
The scope is divided into two phases,

First is the Construction phase which includes Design, supply, installation, erection and commissioning services for setting of biodegradable Municipal Solid Waste Processing Plant

Second is the Operation and Maintenance phase (O&M Phase) which includes operation & maintenance (O&M) as well as Collection and Transport of biodegradable waste for 10 years.

Scope of Work Summary

Category	Sub-Tasks
Design and Engineering	• Preparation of detailed designs for the Primary and Secondary Collection and Transportation System. • Detailed Design and Engineering of the Bio CNG facility
Construction and Commissioning	• Construction and successful commissioning of Bio CNG processing Facility
Collection and Transportation (10 Years)	• Primary (Door-to-door) and Secondary Collection of Bio-degradable Waste (BDW) within Changanassery Municipality

- Secondary Collection and Transportation of BDW waste from the designated Transfer Points within below ULBs and Gram Panchayats (GP):

Sl No	Local Body	tentative transfer point details
1	Thiruvalla Municipality	Near existing MCF, Pushpagiri, Ward 14, Geo coordinates-9.23348, 76.345144
2	Vazhapally Panchayat	Near MCF compound, Behind TPM cemetery, Cheeranchira, Geo coordinates-9.478827, 76.559875
3	Paippad Panchayat	Near fish market, Adjacent to Basheer Meet Stall, Geo coordinates-9.40370, 76.583927
4	Thrikodithanam Panchayat	Deluxe Padi, Near Car Care CenterGeo coordinates-9°27'26.6"N 76°34'34.2"E
5	Kurichy Panchayat	Near MCF, Chalachira, Geo coordinates-9°29'08.6"N 76°32'48.5"E
6	Madappally Panchayat	Near Mini MCF in Vazhoor Road, Geo coordinates-9.481260, 76.597418

Further, the client & contractor will make all necessary arrangements to ensure that no pollution, health & safety risks or pest issues related to transferring the waste at transfer points during the operation phase of the project.

If there is a need of storage of bio-waste required a transfer points, contractor has

	to take necessary arrangements and should be a part of DPR.
Operation and Maintenance (10 Years)	● Comprehensive operation and maintenance of the Bio-CNG facility. ● Processing of all BDW received at the facility

1. Brief scope of Construction phase

i. Obtain necessary approvals and permits from relevant authorities, including environmental clearances. A list of approvals is listed in the 'List of applicable approvals for the BioCNG facility' under the Employer's Requirement section

ii. Prepare a detailed project report (DPR): The contractor shall prepare a DPR which includes the detailed design of the facility as per all the applicable norms, Detailed Implementation Plan (DIP), environmental-social safeguards and vetted by a qualified third party organizations like Engineering Institutes at contractor's cost which is selected in discussion with the employer after award. Third party vetting should be only from Tier I institutions in India. The final DPR needs to be submitted within 90 days of signing of the contract and approved by the employer.

iii. The DPR should clearly mention the design basis and the criteria considered by the Contractor, characteristics of the waste considered for the design, technical description of the plant and equipment, breakup of electrical and mechanical equipment, control system, filling plant details, all major process schematics and drawings for civil, MEP drawings, control and instrumentation, switchyard layouts, plant layouts, storage layouts if any, how the Contractor's design is meeting the performance parameters, environmental, social and health aspects considered for the Project, breakup of construction costs and Operation and Maintenance cost of the entire project including the manpower cost.

iv. The BioCNG facility needs to be designed within the 2.14 Acres of land available as mentioned in section A of the Scope of Work

v. Construction of the BioCNG Plant: The operator shall complete the entire construction of the Processing Plant as per approved DIP within 365 days from the date of execution of the contract agreement. The operator shall do the trial run of 3 days soon after intimating to the employer regarding completion of the construction through the 'Construction Completion letter' and at least 15 days before Project Commercial Operations Date (Project COD).

vi. Design parameters and Required capacity : Design and build a BioCNG plant having a operating capacity of 30 TPD that can process an average of 30TPD organic municipal solid waste on a daily basis. The facility should be able to manage the occasional fluctuating incoming load between 25TPD to 35TPD organic waste. The facility should also be able to manage the safe storage of the finished products (BioCNG upto 30 days and FOM for upto 15 days)

vii.

a. The BioCNG facility should be designed to ensure that neither the incoming waste nor the end products and bi-product will have no contact with ground within the project site. All necessary design parameters need to be provided to ensure this
b. The entire infrastructure and operations of the BioCNG facility need to be planned within the 2.14 acre land, which should also include the green buffer zone (10-meter green belt plantation along the boundary), the core activity area and the utility areas for hassle free operation of the facility, movement of materials and storage of materials.
c. The required land development and levelling should be considered, as part of the infrastructure to be developed by contractor
d. There are two existing buildings within the project site, Building 1 with an area of 161 sqm and Building 2 with an area of 96 sqm. Both the buildings can be used by the operator for associated activities for the functioning of the BioCNG facility, like administrative purposes, storage purposes, laboratory facilities etc. But all renovations and retrofitting to suit the utility of the new building as per National Buildings Codes and as per safeguards as prescribed under KSWMP need to be done by the bidder, at their own cost. The use of the building and the designed renovations need to be detailed as part of the DPR prepared by the bidder during design stage
e. The contractor is advised to conduct site visits and conduct thorough investigations to assess the condition of the buildings, level of land and other existing conditions of the sites before submitting the bid documents
f. The entire processing of waste should be controlled and monitored using Supervisory Control and Data Acquisition (SCADA) systems
g. In addition to BDW processing facility to produce BioCNG, and the storage facility including waste tipping area, FOM/digestrate storage, gas bottling and transfer points (transportation of waste), the mandatory requirements to be included in the facility include the following:
    - Vehicle washing facility wash bay and Effluent Treatment Plant (ETP) for treating the wash water
    - Waste collection Vehicles used as part of project shall be washed at the designated wash bay. The resulting wash water will be treated through the Effluent Treatment Plant (ETP) and cleaned water will be reused for gardening purpose inside the facility.
    - Parking facility for all vehicles used for transport BDW in the project as well as vehicles of all workers. Parking facility should also be designed to include parking for visitors
    - A vehicle workshop and maintenance area for vehicles used for transport of BDW
    - Weighbridge with cabin
    - Security cabin
    - Gender specific washrooms and restrooms
    - CCTV cameras and supporting machinery for continuous monitoring

- Internal WMM & Bituminous roads 7m wide including its auxiliary infrastructure including lighting arrangements, drainage and footpaths to cater efficient operations and movement of vehicles.
- Fire fighting equipments and facilities as required for the safety management of the facility.
- 1.5m high boundary wall with Steel gate
- Administrative building with laboratory facility to test quality of products (the potential of utilising existing buildings in the site is to be explored)
- Bio-fencing and green buffer development.

h. *Any sludge from the ETP and any other hazardous waste from the BioCNG plant, needs to be responsibly and safely disposed at Contractors own cost. The sludge shall be dewatered to less than 30% moisture and the Contractor shall safely transport and dispose this and any other hazardous waste in a timely manner to the nearest Pollution Control Board (PCB) authorised Hazardous Waste Disposal facility at their own cost and resources. Safe storage facilities for this shall be constructed and maintained safe by the contractor. The contractor needs to execute an Agreement with nearest Pollution Control Board (PCB) authorised Hazardous Waste Disposal facility for storage, transfer, disposal of all such wastes and rejects; during the design phase of the project and shall submit such agreement as an annexure in the DPR. KEIL for safe transport and disposal of such Hazardous waste in a timely manner. The agreement shall be executed during the design phase of the project and need to be submitted as annexure in the DPR. For reference, it is informed that the nearest authorised facility is Kerala Enviro Infrastructure Limited (KEIL). Bidders are advised to familiarize themselves with the terms and conditions of disposal arrangements with KEIL prior to submitting their bids. Bids should be prepared accordingly, taking into account any agreed disposal arrangements and associated incidental costs including Waste Handling and Processing fees and Membership fees for services provided by KEIL. A model agreement format received from KEIL is annexed with the Request for Bids (RFB) for preliminary reference and general understanding only. Please note that the attached model agreement is provided solely for reference purposes, and the Employer does not guarantee its accuracy.*

i. The incoming waste need to be tipped at a platform/area in line with applicable safeguards to prevent leachate, pollution, pest, odour impacts. This shall be segregated on the sorting table and different NBDW components including plastic, glass, paper, etc and inerts (stones, gravel, ceramics etc), any hazardous/e-waste/biomedical including household syringes, batteries etc. need to be sorted out into different coloured containers. The containers on a timely basis need to be emptied into rag sacks and neatly sealed, which need to be stacked in a material storage facility which need to be located at an easily accessible location, for the workers as well as ULB staff for ease of loading and unloading. Proper waste transfer systems on rolls shall be proposed to ease the transfer of such materials. The material storage facility will be emptied on a daily basis, but will need to be designed to store atleast 3 days of material in a safe and

non-polluting manner from fire hazards, pollution, odour and secure from natural hazards, pests including rodents & flies etc.

j. A CNG gas storage system should be designed as part of the BioCNG plant within the facility. The type of storage system and the storage capacity should be clearly mentioned in the proposal and it should be in line with the forward linkage proposed. The storage system should also account for emergency situations and gas storage of up to 30 days at site. The storage system shall be fire safe and gas leakage proof.

k. The FOM needs to be managed on-site through a completely mechanised manner. The FOM from the de-watering unit needs to be fed into the Silo using enclosed conveyors and chutes. The Silo needs to have the capacity to manage the produce of at least 7 days, and shall be safe from gas built-up and associated and/or any other pollution and fire/other safety issues. The Silos should be designed to be able to be emptied into the transportation vehicles (trucks) and the material (FOM) need to be transported to End user ensuring all environmental safeguards as per World Bank EHS, and national/state regulations and good international industry practices. There should also be provision to pack and store the FOM onsite in a secured building for a period of at least 15 days.

l. A detailed forward linkage for the sale of end product (BioCNG) and byproduct (FOM, and any other by product) need to be clearly described and existing agreements with end users need to be submitted. In the absence of an existing agreement, a clear and satisfactory forward linkage with specific identified buyers need to be detailed in the proposal.

m. The facility needs to have a dedicated storage area [not limited to] for products, biproducts, rejects and any wastes, gases, fuels, chemicals, other process materials. While NBDW reject material can be transported to the Material Recovery Facility of Changanassery Municipality, which is adjacent to the proposed site and will be upgraded to comply with all regulatory and safeguards requirements by Changanassery Municipality, the bi-products need to be managed by the operator, hence required safe storage, transport and disposal facility need to be provided for the same in the proposal. The safe storage, transport and disposal facility and frequency of material usage, transportation and disposal of the bi-products also need to be detailed in the proposal.

n. It is the responsibility of the Contractor to ensure all basic utilities required for the facilities including water connection (and recycle/reuse mechanisms), drinking water, electricity connection, sewage management, worker facilities, fire fighting facilities, emergency management facilities, product/biproducts, material and wastes movement tracking facility etc. All necessary infrastructure, permits and arrangements needs to be made by the contractor as applicable before construction and operation stages.

o. Non-processable biodegradable fractions: The BioCNG digestor should be able to process all types of biodegradable waste streams reaching the facility. Any specific biodegradable waste material fractions that cannot be processed in the BioCNG plant need to be clearly mentioned in the DPR and details need to be submitted to the Employer during the design stage. The contractor will have to manage the non-processable biodegradable fractions by their own in line with applicable national and state regulations and the management strategy need to be detailed in the DPR.

p. In addition the management strategy or alternate arrangements for incoming waste if the plant is under maintenance/breakdown and management of by-products if there are any issues arising with its storage, transportation disposal arrangements (labor strike, natural disasters etc) for a maximum period of 7 days needs to be detailed in the proposal.

q. The entire facility should be designed on a non-permeable surface with a proper leachate and surface runoff water collection system (lined drains, collection facility etc) with clear description on the proposal of the treatment or disposal system.

r. Applications and arrangements for Statutory Approvals to be ensured by the operator which includes Building Permit, NOC from respective departments like KSEB, KWA, KSPCB, Oil Marketing Companies (OMCs), PESO licence etc, storage, transport and sale of products and bi-products etc.,

s. All internal roads within the facility should be paved all-weather road for movement of vehicles.

t. The technology should adhere to the White Category as per CPCB Norm specified below:

- "CBG Plants producing FOM and LFOM as by-products in conformity with requirements of Gazette Notification No. 2051 dated 14.07.2020 and No. 1972 dated 01.06.2021 respectively and using the entire FOM & LFOM as fertilizer or manure on land and also, not discharging any wastewater to be considered as White category, subject to verification of SPCB on case-to-case basis. Above criteria will be re-assessed based on ground conditions after a period of two years."
- The digestate in thick slurry form to be dewatered using centrifuges or belt presses, to separate liquid from solid digestate. The solid digestate is rich in organic matter which is collected and composted to be sold as FOM, the liquid digestate which is also rich in organic matter to be recirculated back into the digestor for enhancing the digestion process, leaving no leachate generation.

viii. Commissioning and performance test

a. Once the construction requirements are fulfilled, the Operator shall submit a notice to the Authority, notifying the installation of the Project. The Authority shall have the right to inspect the installed Assets to ensure that the Assets has been installed in accordance with the technical specifications and design criteria as specified in the tender document and approved Detailed Implementation Plan.

b. Before issue of Plant Commissioning Certificate, the following requirements shall be met:

- A successful Trial Run is conducted by the Operator for the complete duration of the process cycle of the system. (i.e. First batch of 30 TPD of Biodegradable Waste).
- Test have been conducted by the Operator (from an Agency approved by the Authority) to certify the Biogas to meet the PESO guidelines and the organic manure meets the FCO specifications for FOM and volume reduction of at least is achieved as per the approved design.
- Authority is satisfied that the Plant satisfies the Technical Criteria as per Design Criteria

c. The Authority, when satisfied, after undertaking verifications as per the approved design shall, issue a certificate to the Operator, certifying that all Processing Plant has been successfully installed (Plant Commissioning Certificate).

d. The date on which the Plant Commissioning Certificate is issued shall be deemed to be the **Project Commercial Operations Date (Project COD).**

ix. Reporting During Construction: The Operator shall prepare the monthly progress report which shall include the following information:

a. Photographs and detailed descriptions of progress, including each stage of design, procurement, manufacture, delivery to the Site or the Facility, construction, erection, testing and commissioning;

b. Charts showing the status of progress, purchase orders, manufacture and construction;

c. For the manufacture of each main item, equipment, machinery, floor or component of the Facility, the name of manufacturer, manufacture location, percentage

progress, and the actual or expected dates of commencement of manufacture, Operator's inspections, tests and delivery relating thereto;

d. Detailed records of the Operator's Personnel and Operator's Assets on the Site or at the Facility and the actual usage of the Operator's Assets during the reporting period and the tasks performed by the Operator's Personnel;

e. Copies of quality assurance documents, test results and certificates of the Plant and Equipment;

f. All monitoring results;

g. Facility safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations;

h. Percentage completion achieved compared with the planned percentage completion for each milestone; and where any activity is behind in the scheduled completion, comments and likely consequences and a description of the corrective action being taken.

x. Once the design is prepared and agreed, before conducting any construction activity on site, the Operator shall update the EIA, EMP, SIA, SMP (Standard Format for EIA, EMP, SIA, SMP will be provided by Client) and implement the activities as described the C-EMP and C-SMP. And conduct public awareness campaigns, regular testing of materials, environmental parameters and pollution etc as described in the EMP and SMP of this document.

2. Brief scope of O&M phase

i. Commencement and Duration: The Operator shall commence the O&M Services of the project from the date of achievement of Project COD. The Operator shall continue to provide the O&M Services including the C&T services for the waste for the Project for 10 Years until the earlier of the Expiry Date or the Termination Date

ii. O&M Services of the BioCNG facility

   a. The DPR submitted by the operator should have an operation and maintenance manual (the "O&M Manual") for the operations, regular and preventive maintenance of the Project facility in conformity with the maintenance requirements, safety requirements and Good International Industry Practice.

   b. The DPR should clearly indicate the detailed O&M cost including O&M of the facility and C&T cost in the project throughout the entire O&M period.

   c. The O&M Manual shall, in particular, include provisions for maintenance of Project assets and shall provide for life cycle maintenance, routine maintenance and periodic maintenance

which may be reasonably necessary for maintenance and repair of the Project assets, including replacement thereof, such that its overall condition conforms to Good International Industry Practice.

d. The O&M manual should clearly define the strategy for management of waste, products and bi-products (fully processed or partially processed) during repair or any other down time of the BioCNG facility
e. Specific O&M obligations include
    - Segregation of waste from the waste reaching the Tipping area and ensuring only segregated biodegradable waste as per agreed quality supplied is fed into the BioCNG digestor.
    - The incoming BDW at the processing facility should be stored in manner, that it is immediately fed into the digestor. It is also to be ensured that no leachate is getting in contact with the ground. All leachate shall be channelised without pollution, pest or safety issues to the digestor (re-circulated)
    - The incoming waste needs to be further segregated at site before feeding into the digestor (Pre-processing Segregation). The rejects from pre-processing segregation of the plant shall only be non-biodegradables like inerts and recyclables. However, coconut shell and wooden logs can be considered along with pre-processing rejects.
    - All pre-processing rejects should be stacked in a designated material storage area within the BioCNG facility.
    - These stored rejects should be transported daily (at own cost) in a separate trip to the MCF cum RRF facility at Fathimapuram, located approximately 30 meters from the BioCNG site
    - The digestor should process all biodegradable incoming waste and in-case if there is any reject material that cannot be processed by the operator, it needs to be clarified in the DPR and the same needs to be managed by the contractor at his own cost.
    - Processing of waste to produce BioCNG as per IS specifications (IS 16087:2016 biogas (biomethane) — specification)
    - The bi-product (FOM) that is produced should meet FCO (Fertilizer Control Order) specifications.
    - No other rejects shall be produced as bi-products from the processing technology. If any other rejects from bi-products, it needs to be clarified in the DPR and the same needs to be managed by the contractor at his own cost.
    - The fresh waste reaching the facility shall be cleared from the tipping area on a daily basis and no waste shall lie accumulated at the tipping area
    - Necessary precaution shall be taken to minimise nuisance of odour, pests including (but not limited to) flies, rodents, bird menace, leachate, noise and fire hazard.
    - Carry out periodic preventive maintenance of the BioCNG facility without shutting down the entire plant and obstructing the daily flow of waste.
    - Undertaking routine maintenance including prompt repairs of all the facilities
    - Market the BioCNG produced. The agreements that will be the proof of market linkage need to be submitted 15 days prior to the commissioning of the Plant

- Market the FOM produced. The agreements that will be the proof of market linkage need to be submitted as a part of DPR.
- Preventing, with the assistance of the concerned law enforcement agencies, any unauthorised use of the Project facility
- The bi-product FOM shall meet the standards (or should be enriched) prescribed under Fertilizer Control Order notified from time to time as required by the employer. The DPR should clearly describe the process of enriching the bi-product FOM to meet FCO standards which will be adopted by the contractor.
- Ground water monitoring and ambient air quality monitoring is to be conducted as per IS specifications (IS 16087 : 2016 biogas (biomethane) — specification)
- Biodegradable shall not be sent to rejects except coconut shells and wooden logs.
- The Operator shall ensure the security of its equipment and components and in the event of any theft of the equipment or the components, the Operator shall be responsible for arranging a replacement at its own cost and without any reimbursement from the Authority within minimum possible duration.
- The Operator shall at its own cost repair, replace and maintain the civil works and facilities provided by the Authority at its own cost in good working condition at all times during the Project Term.
- Deployment of qualified/ trained personnel for operation and maintenance and undertaking various other monitoring, inspection (including environmental, safety) maintenance, repair, replacement, citizen complaints handling related activities to achieve desired operational parameters as specified in this Agreement.
- Take adequate insurance at Operator's own cost, during the Project Term against any damage or malfunctioning of equipment along with accessories on account of lightning strike, explosions, aircraft damage, riot, strike and malicious damage, storm, cyclone, typhoon, tempest, hurricane, tornado, flood and inundation, impact damages, subsidence and landslide including rock slide, bursting and is or overflowing of water tanks, apparatus and pipes, earth quakes, theft or any other causes beyond the control of Authority.
- All the waste collection vehicles (coming under the scope of contractor) need to be washed within the facility on a daily basis soon after the BDW is unloaded at the BioCNG facility.
- A detailed leachate treatment and disposal plan as per CPCB guidelines needs to be submitted along with DPR and implemented
- Maintain updated asset register with complete details of all assets, replacements/ changes/modifications in the fixtures, infrastructure and other associated equipment/ ancillaries
- It is the responsibility of the Contractor to ensure all basic utilities required for the facilities including water connection, drinking water, electricity connection, alternate power supply, sewage management, pollution management facilities etc. All necessary infrastructure, permits and arrangements need to be made by the contractor during the construction stage.

- Any gaps identified by the employer at any stage of the project need to be rectified within 24 hours of receipt of the complaint.
- Conduct the O &M Phase activities as described in EMP and SMP. The Operator shall provide reports of the following matters to the employer on daily/monthly basis on the formats agreed with the employer.
    - EMP and EMoP implementation in agreed formats
    - Quantity of incoming waste, CNG produced, FOM produced , e-wastes, rejects emanating from the facility.
    - Incident reporting status on a daily basis in the format provided by the employer
    - Monitoring, verification, citizen complaints, operating status report (on monthly basis)
    - Test Report of CNG gas and FOM quality to be submitted on a Monthly basis.
    - Sale of CNG and FOM on a Monthly basis
    - Proceeds from the sale of any tradable credits, like carbon credits or renewable energy certificates, etc., generated shall be duly notified to the Employer and the benefits shall be passed on to the Employer as indicated
    - Ensure data relating to the operation and maintenance of the Project is collected and provided to the Employer as and when required;

- The Operator shall, in respect of the Project facilities, ensure that applicable and adequate safety measures are taken considering
    - adverse effects on the environment and to the owners and occupiers of property and/or land in the vicinity of the Project facilities, due to any of its actions, is minimized and is limited to approved standards as per the SWM Rules, 2016 and its amendments and other applicable regulations as the case may be.
    - any situation which has arisen or likely to arise on account of any accident or other emergency is responded to as quickly as possible and its adverse effects controlled/ minimized; investigation conducted to identify the Root Cause, Prepare Corrective Action Plan and ensure its timebound implementation to prevent & correct the issues that lead to the incident.
    - disturbance or damage or destruction to property of third party by operations of the plant

iii. C&T Services for Changanassery Municipality

a. The DPR submitted by the operator should have a detailed Collection and Transportation plan for the ULBs and Gramapanchayats
b. The C&T Plan should include primary and secondary collection strategy and transportation of collected waste to bio-CNG facility for 100% door to door and daily collection of bio-waste from all waste generators to the BioCNG facility
c. The C&T plan should include detailed collection routes, optimized route plan, number of trips, detailed specifications of collection vehicles, transportation vehicles, equipment and

tools, facilities required for transfer of wastes, and manpower requirement & deployment plan, and facilities for them.

d. The cost of collection and transport need to be borne by the contractor
e. Each and every trip details need to be documented on a daily basis and handed over to Changanassery Municipality.
f. Daily documents to be shared with the Changanassery ULB nodal officer if include the following
    - Daily report of BDW transported approved by Nodal officer of ULB
    - Original weighbridge receipts
    - Attendance reports
g. The collection and transport of waste should be done in accordance to the national rules including the SWM rules 2016 and other rules/regulations as applicable. Some of the mandatory requirements are listed below
    - The collection system should be designed avoiding the need for manual handling of waste and following SWM rules.
    - Waste should be collected and transported in enclosed manner to prevent spillage and bad odour
    - In the DPR, the capacity of proposed vehicles need to be provided in both tonnage of waste and Cu.m capacity
    - Vehicles should have a hydraulic tipping mechanism
    - The collection system should be designed with minimum manual handling of waste
    - All collection vehicles should be fitted with a GPS system and a live tracking MIS system should be developed. The access for live tracking of vehicles should also be provided to the nodal officer of the employer
    - All vehicles need to have a leachate collection system with liners and leachate collection tank with sufficient capacity, designed as per requirements of waste generated in project area.
    - All vehicles need to have a public address system (Mike and Announcement system) for public awareness during waste collection
    - ISI marked fire extinguisher mounted inside the cabin
    - All vehicles need to be color coded and labelled as per SWM rules.
    - All vehicles should have epoxy/anti-corrosive paint for enhanced visibility and durability
    - Labels such as “Bio-Waste Collection” need to be written in visible size on all sides in Malayalam and English
    - KSWMP logo need to be provided in visible size on all sides
    - There should be comfortable seating for driver and support staff
    - Must meet BS-VI emission norms and have ARAI (Automative REsearch Association of India) certification.
    - All waste can only be transported in a covered manner.
h. The specific C&T obligations include the following
    - Daily Door to Door collection of BDW from all waste generators in Changanassery Municipality

- Provide end to end collection and transportation system (Both primary and secondary as per the collection design submitted by the contractor) from waste generator to the BioCNG facility. The collection system includes both vehicles and manpower required.
- Primary collection needs to be completed before 9am and the entire C&T operations need to be completed before 11.30 am.
- No hindrance to traffic should be created by the C&T vehicles during peak hours of the day 10am – 6pm
- If there are secondary collection points, ensure vehicle to vehicle transfer and no waste is directly unloaded at the secondary collection points, nor any leachate is spilled at the secondary collection points. Any infrastructure that is required for vehicle to vehicle transfer and the space required need to be clearly mentioned in the submitted DPR. Further, the client & contractor will make all necessary arrangements to ensure that there are no pollution, health & safety risks or pest issues related to transferring the waste at transfer points during the operation phase of the project. If there is a need for storage of bio-waste required at transfer points, the contractor has to take necessary arrangements and should be a part of DPR.

iv. C&T Services for Thiruvalla Municipality and the Gramapanchayats

a. The common BDW collection and transfer point (transfer point) in each LSGI needs to be identified by the contractor in discussion with the KSWMP team and LSGIs and details need to be provided in the DPR

b. Daily waste collection need to be provided from the transfer point to the BioCNG facility

c. Ensure vehicle to vehicle transfer of BDW and no waste is directly unloaded at the transfer points, nor any leachate is spilled at the transfer points. Any infrastructure like ramps that is required for vehicle to vehicle transfer and the space required need to be clearly mentioned in the submitted DPR. All the LSGIs will have primary collection vehicles with tipping mechanisms.

d. An SOP needs to be followed to immediately take care of any spillage of material that might take place by accident or adverse weather. Every secondary collection vehicle should maintain a Spill kit post-collection cleaning of the transfer point and the hopper of the compactor truck (Secondary collection vehicle), in case of any spillage situation. The spill kit should include disinfectant and cleaning agents, waste disinfectants (like Hypochlorite solution), deodorizers, cleaning tools (like mop, shovel, scrubbers etc) and disposable PPEs.

e. Adequate Training should be given to staff to follow the SOP.

f. No hindrance to traffic should be created by the C&T vehicles during peak hours of the day 10am – 6pm. Appropriate traffic management shall be planned taking in to consideration, all possible factors like school timing, etc. carried out during operations

g. Entire C&T operations need to be completed before 11.30 am.

h. Daily documents to be shared with the Changanassery ULB nodal officer as well as nodal officer of each of the LSG involved include the following
    - Daily report of BDW transported approved by Nodal officer of ULB
    - Original weighbridge receipts

i. Further, the client & contractor will make all necessary arrangements to ensure that there are no pollution, health & safety risks or pest issues related to transferring the waste at transfer points during the operation phase of the project. If there is a need for storage of bio-waste required at transfer points, the contractor has to take necessary arrangements and should be a part of DPR.

j. The cost of collection and transport need to be borne by the contractor

v. Sale of BioCNG
    a. The prospective buyers of the BioCNG, the existing agreements with buyers and the forward linkage mechanism need to be clearly mentioned in the DPR
    b. The contractor is responsible for the sale of the BioCNG generated, including the transportation of gas from the facility.
    c. BioCNG shall be free from liquids over the entire range of temperature and pressure encountered in storage and dispensing system.
    d. The BioCNG shall be free from particulate matter such as dirt, dust, etc.
    e. BioCNG delivered shall be odorized similar to a level found in local distribution as per (IS 15319)
    f. The quality of the BioCNG generated should confirm to the standards and specifications are governed by IS 16087:2016
    g. The contractor need to ensure that the BioCNG is transported from the processing facility before the threshold storage capacity (as defined in the design submitted in the proposal) is reached.
    h. The transportation of BioCNG from the processing facility should be in accordance to the national rules including the SWM Rules 2016, Environmental guidelines for BioCNG 2022, PESO and other applicable rules.
    i. BioCNG shall be stored and transported through cylinders conforming to IS 7285 and as per the requirements of all applicable regulations & guidance in India.
    j. The vehicles carrying BioCNG should not be operated in peak traffic hours of 10am -6pm
    k. The daily logbook of BioCNG generated, stored at site and transported need to be maintained and the same should be shared with nodal officer of ULB

vi. Sale of Fermented Organic Manure (FOM)
    a. The FOM needs to be dewatered and processed into solid manure as much as possible which can be used in farms with or without any value addition in conformity with requirements of Gazette Notification No. 2051 dated 14.072020 & No. 1972 dated 01.06.2021 and shall conform to FCO, applicable regulatory standards and guidance for use in farms (quality in conformity with the type of crops), with appropriate permits.
    b. A sales license from ‘Agriculture Development and Farmers Welfare’ department and other permits/licenses for production, storage, transport, sale of such FOM from agencies like

Agriculture Department/others needs to be obtained before production & storage/transport/sale as applicable.

c. The prospective buyers of the FOM, the existing agreements with buyers and the forward linkage mechanism need to be clearly mentioned in the DPR.
d. The dewatered FOM should be transported from the BioCNG plant on a scheduled basis to avoid any leachate, smell or any disturbance at the facility. The schedule need to be clearly provided in the DPR and it should not be stored at the plant for more than **5 days period**.
e. The FOM from the BioCNG plant should be directly loaded into a silo or similar arrangement, which should be covered, and having a platform and leachate collection system. The Silo should have a minimum capacity to store material of **7 days** and an additional storage facility to safely store packed FOM for a period of 15 days in case of emergency needs to be provided. However, the contractor shall endeavour not to store the dewatered FOM in the plant for a period exceeding 5 days during normal course of operation services. The buffer capacity prescribed above shall be provided to manage any unforeseen circumstances beyond the control of the contractor. There shall be appropriate arrangements to prevent pollution, and ensure safety from leaks, gas, odour and others.
f. If the further processing of the FOM to Solid manure (polishing) cannot be performed by the contractor at the proposed project facility, if required it needs to be done elsewhere and needs to be clearly indicated in DPR.
g. The FOM should be transported as per SWM Rules 2016 and any other applicable regulations in covered trucks with enclosed compartments, leachate collection system to prevent spillage. The leachate collection tank should be emptied into ETP as required by environmental standards by the cost of the contractor itself.. All specifications mentioned in Section 2.iii.h are also applicable for FOM transportation.
h. The vehicles transporting FOM should not be operated in peak traffic hours of 10am -6pm
i. The daily logbook of FOM generated and transported needs to be maintained and the same should be shared with nodal officer of ULB.

vii. Manpower deployment

a. The Contractor need to deploy all the technical staff and labour for operation and maintenance of the BioCNG facility throughout the O&M Period
b. The Contractor need to deploy all the technical staff and labour for collection and transportation of waste throughout the O&M period
c. The detailed list of staff and their details need to be included in the proposal
d. The mandatory staff required are listed in Section III– Evaluation And Qualification Criteria of the bid document-clause 1.5 Contractor's Representative and Key Personnel
e. All staff need to be provided mandatory training as per national standards. Some mandatory trainings are listed below
    - OHS and fire training, Emergency Response Procedure including gas leaks, F&LS.
    - Social safeguards training and engagements – As mentioned in Social Management Plan (Annexure 01)
    - Environmental safeguards training and engagement – As mentioned in the Environment management Plan (Annexure 1)

Scope of Employer

i. During Construction Phase
    a. The employer will obtain necessary approvals and permits from relevant authorities for use of land
    b. The employer will designate a project management team to oversee the construction and ensure adherence to timelines and quality standards are as per the contract
    c. The employer will also designate a Nodal officer for coordination of day to day activities of the contractor with Changanassery Municipality, to whom daily reporting needs to be made by the contractor
    d. The employer shall monitor and guide the daily progress of construction. Any misalignment to contractual terms, identified by the employer at any stage of the project needs to be rectified with 24 hours of receipt of the complaint
    e. The nodal officer or any official representative of the employer shall conduct regular site visits and prepare daily, monthly, quarterly and annual project status document
    f. Provide monitoring and ensure that the contractor implements EMP and EMoP and report, conduct public awareness campaigns, safety procedures and drills, regular testing of materials etc as described in the EMP and SMP of this document.

ii. During Operation Phase

    a. The employer will designate a Nodal officer for coordination of day to day activities of the contractor with Changanassery Municipality, to whom daily reporting needs to be made by the contractor
    b. A nodal officer will be designated by the employer for all other LSGs from which waste needs to be collected for day to day coordination
    c. The employer shall develop a citizen complaint redressal system. Any concerns raised by the citizen or any other stakeholder will be raised as an operational gap to be addressed by the operator
    d. Any operational gaps identified by the employer at any stage of the project needs to be rectified with 24 hours of receipt of the complaint
    e. Provide monitoring and ensure that the contractor implements EMP and EMoP and report, conduct public awareness campaigns, safety procedures and drills, regular testing of materials etc as described in the EMP and SMP of this document.

Timeline and Milestones

a. The Phase 1 of the project 'Design, Construction, Procurement, Erection, Testing and Commissioning of Bio CNG Facility' is to be completed within 365 days of signing of the agreement
b. Phase 2 of the project- Operation and Maintenance of the Bio-CNG facility and Collection and Transportation of Waste from area should commence from the Project COD as mentioned in the Scope of work and extend for a period of 10 years

Activity	**Milestones**												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	
Contractor onboarding and Project site handing over	X												**Signing of contract**
Power, water supply approvals and consent from all concerned departments including PESO, PCB etc	X	X											**Submission of all consent documents**
Development of Detailed Project Report, including design drawings, update EMP, EMOP, EIA clearance from KSWMP (as per ESMF procedures for E1 category) before starting any activity on ground	X	X	X										**Approval of DPR and approval of designs and good for construction drawings**
Civil work for digestor, Mixing Tank, Uploading Pit, Water Tank & slurry Tank			X	X	X	X	X						**Approval of Successful erection of all civil works**
Purchase of Machinery and equipment				X	X	X	X						**Testing and approval of Successful procurement of all machinery**
Electrical works, firefighting, other equipment installation and testing							X	X	X	X			**Approval of successful erection of all electrical and fire related equipment**
Biogas Generation and trail run											X	X	**Approval of successful documentation of BDW processed and CNG generation bottling and FOM generation of quality as described in Scope of Work**

Commercial commissioning (CBG Filling starts) and handover												X	**Trial run successfully completed, and Project COD submitted**

Specifications

1. General

1.1. The specifications and mode of measurements for Building works shall be in accordance with Central Public Works Department (CPWD) Specifications 2009 Volumes I and II and Kerala PWD Manual and that for Road and Bridge works shall be in accordance with MoRTH/IRC specifications with up-to-date correction slips unless otherwise specified in the nomenclature of individual item or in the individual item specification in the Bill of Quantities. The entire work shall be carried out as per the above specifications in force with up-to-date correction slips issued up to the date of opening of tender.

1.2. For the item not covered under CPWD Specifications mentioned above, the work shall be executed as per latest relevant standards/codes published by B.I.S. (formerly ISI) inclusive of all amendments issued thereto or revision thereof, if any, up to the date of opening of tenders.

1.3. In case of B.I.S. (formerly I.S.I) codes/specifications are not available, the decision of the Engineer based on standards prescribed by ASTM, BS, DIN, AASHTO and similar organizations or acceptable sound engineering practice and local usage shall be final and binding on the Contractor. However, in the event of any discrepancy in the description of any item as given in the bill of quantities or specifications appended with the tender and the specifications relating to the relevant item as per CPWD/MoRTH or other specifications mentioned above, or in drawings the former shall prevail.

1.4. The work shall be carried out in accordance with the design and drawings furnished by the Department. The drawings shall have to be properly co-related before executing the work. In case of any discrepancy noticed between the drawings, final decision, in writing of the Engineer shall be obtained by the Contractor. For items, where so required, by the relevant clause in PWD Quality Control Manual, samples shall be prepared before starting the particular items of work for prior approval of the Engineer and nothing extra shall be payable on this account.

1.5. All materials to be used on works shall bear I.S. certification mark unless specifically permitted otherwise in writing. In case I.S. marked materials are not available (not produced), the materials used shall conform to relevant I.S. Code or CPWD/MoRTH specifications, as applicable in this contract.

1.6. In such cases the Engineer shall satisfy himself about the quality of such materials and give his approval in writing. Only articles classified as "Premium/First Quality" by the manufacturers shall be used unless otherwise specified. First tier Quality Control tests for all materials and work shall be done as per the procedure and frequency detailed in PWD Quality Control Manual. Proper proof of procurement of materials from authentic mufacturers shall

be provided by the Contractor to the satisfaction of Engineer. Manufacturer's test certificate shall also be produced by Contractor as required in the relevant provisions of the PWD Quality Control Manual. The Contractor shall carryout Mix Design for all RCC works done by the labs approved by the Government. Reinforcement steel and Cement shall be as per the Finance Department circular No- 8/2016/Fin dated 4- 2-2016.

1.7. In respect of the work of other-agencies deployed in the same site through a separate contract by the Employer for doing work like electrification, air-conditioning, external services, other building work, horticulture work, etc. and any other agencies simultaneously executing other works, the Contractor shall afford necessary coordination and facilities for the same. The Contractor shall leave such necessary holes, openings, etc. for laying / burying in the work pipes, cables, conduits, clamps, boxes and hooks for fan clamps, etc. as may be required for the electric, sanitary air- conditioning, firefighting, PA system, telephone system, C.C.T.V. system, etc. and nothing extra over the agreement rates shall be paid for the same.

1.8. Unless otherwise specified in the bill of quantities, the rates for all items of work shall be considered as inclusive of pumping out or bailing out water required for which no extra payment will be made. This will include water encountered from any sources such as rains, floods, or due any other cause whatsoever.

1.9. Any cement slurry added over base surface (or) for continuation of concreting for bond is added its cost is deemed to have in built in the item unless otherwise/explicitly stated and nothing extra shall be payable or extra cement considered with consumption on this account.

1.10. The rate for all items in which the use of cement is involved is inclusive of charges for curing.

1.11. The Contractor shall clear the site thoroughly of all scaffolding materials and rubbish etc. left out of his work and dress the site around the building to the satisfaction of the Engineer before the work is considered as complete.

1.12. Rates for plastering work, if any (excluding washed grit finish on external wall surfaces) shall include for making grooves, bands, chicken wire mesh over joints etc. wherever required and nothing extra shall be paid for the same.

1.13. The rates quoted for all brick/concrete work shall be deemed to include making openings and making good these with the same specifications as shown in drawings and/or as directed. No extra payment shall be made to the Contractor on this account.

1.14. Rates for all concrete/plaster work shall include for making drip course molding, grooves etc. wherever required and no extra shall be paid for the same.

1.15. Rates for flooring work shall include for laying the flooring in strips/as per sample or as shown in drawings wherever required and nothing extra shall be paid for the same.

1.16. The drawing(s) attached with the tender documents are for the purpose of tender only, giving the tenderer a general idea of the nature and the extent of works to be executed. The rates

quoted by the tenderer shall be deemed to be for the execution of works taking into account the "Design Aspect" of the items and in accordance with the "Construction Drawings" to be supplied to the Contractor during execution of the works.

1.17. The quoted rate shall be for finished items and shall be complete in all respects including the cost of all materials, labour, tools & plants, machinery etc., all taxes, duties, levies, octroi, royalty charges, statutory levies etc. applicable from time to time and any other item required but not mentioned here involved in the operations described above. The Employer shall not be supplying any material, labour, plant etc. unless explicitly mentioned so.

1.18. There could be some restrictions on the working hours, movement of vehicles for transportation of materials and location of labour camp. The Contractor shall be bound to follow all such restrictions and adjust the programme for execution of work accordingly.

1.19. The Contractor shall also ensure that all work sites within the site are properly cordoned off by means of barricades and screens up to a height of 3.0 m above ground level at his own cost. The Contractor shall use pre-coated GI sheets which are in good condition mounted on steel props.

1.20. Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth if required shall have to be done by the Contractor at his own cost.

1.21. The Contractor will have to take prior approval of the Engineer-in charge for the Make of materials before procurement of the same. It may also be noted that if any of the makes does not comply with Standards, it will not be allowed for use. No claim whatsoever shall be entertained on this account.

1.22. The Contractor shall clear the site of all rubbish, remove all grass and low vegetation and remove all bush wood, trees, stumps of trees, and other vegetation only after consultation with the Field Engineer as to which bushes and trees shall be saved.

1.23. The Contractor shall carry out the survey of the site and shall establish sufficient number of grids and level marks to the satisfaction of the Engineer-in-charge, who shall decide on the basis of this information, the general level of the construction works.

1.24. Prior to commencement of construction, the Contractor shall in consultation with the Engineer-in-charge, establish several site data benchmarks, their number depending on the extent of the site. The bench-marks shall be sited and constructed so as to be undisturbed throughout the period of construction.

1.25. The Contractor shall conduct all necessary soil investigations and testing prior to the design phase. The findings from these investigations must be thoroughly incorporated into the design documentation and used to design of the facility The Contractor shall inspect the site and study the findings from the trial pits or bores in order to assess the problems involved in and

methods to be adopted for excavation and earthwork. The Contractor shall ascertain for himself all information concerning the sub-soil conditions, ground water table levels and intensity of rainfall, flooding of the site and all data concerning excavation and earthwork. The Employer shall not be responsible for any later claims of the Contractor for any extra work required to be done on account of this and shall not pay any extra amount in this regard.

1.26. The Contractor shall set out the works using Total Station and during the progress of the building shall amend at his own cost any errors arising from inaccurate setting out. During the execution of the work Contractor must cross check his work with the drawings. The Contractor shall be responsible for all the errors in this connection and shall have to rectify all defects and/or errors at his own cost, failing which the Engineer- in charge serves the right to get the same rectified at the risk and cost of the Contractor.

1.27. Cleaning up and handing over:- Upon completion of the work all the areas should be cleaned. All floors, doors, windows, surface, etc. shall be cleaned down in a manner which will render the work acceptable to the Engineer-in-charge. All rubbish due to any reason, shall be removed daily from the site and an area of up to ten meters on the outer boundaries of the premises will be cleaned by the Contractor as a part of the contract. Upon completion of the Work, the Contractor shall hand over to the Engineer the following:

a) Written guarantee and certificates
b) Maintenance manuals, if any, and
c) Keys.

1.28. **Samples:-** The Contractor shall submit to the Engineer-in charge samples of all materials for approval and no work shall commence before such samples are duly approved. Samples of materials for concrete works, masonry units, building insulation, finished hardware, door and windows, flooring materials etc. and every other work requiring samples as detailed in the PWD Quality Control Manual or as required by the Engineer-in charge shall be supplied to them and these samples will be retained as standards of materials and workmanship. The cost of procuring the samples shall be borne by the Contractor. Throughout this specification, types of material may be specified by manufacturer’s name in order to establish standard of quality, price and performance and not for the purpose of limiting competition. Unless specifically stated otherwise, the Bidder may assume the price of 'approved equivalent' except that the burden is upon the Contractor to prove such equality, in writing.

1.29. **Tests:-** All materials and methods of tests shall conform to the latest rules, regulation and/or specifications as per the provisions laid out in the PWD Quality Control Manual and PWD Quality Control Laboratory Manual. The Engineer-in charge will have the option to have any of the materials tested and if the test results show that the materials do not conform to the specifications, such materials shall be rejected. The expenses to carry out tests as per frequency and procedure detailed in the PWD quality control manual and PWD Quality

Control Laboratory Manual will be deemed to be included in the Rates quoted.

1.30. Mode of Measurements: - All measurements will be taken in accordance with Kerala PWD manual.

1.31. The rates tendered by a Bidder for the work shall include the cost of:

a) All labour and supervision thereof, all materials, tools, implements and plant of every description, ladders, cordage tackle, etc. as well as the provision of safe and substantial scaffolding required for the proper execution of the work in conformity with the various items of work;

b) Supplying the requisite agency with necessary equipment, to set out the work as well as to afford facilities for such examination of the work as the Departmental Officers may at any time consider desirable, as also to count, weigh and assist in the measurement or check measurement of the work or materials;

c) Providing and maintaining all temporary fences, shelters, lights, watchmen and danger signals and such other precautions as are necessary for the protection of the work or materials, as well as to protect the public and those connected with the work from accidents at the site of, or on account of the work;

d) All sheds, mortar mills and mixing platform of every kind required for the proper execution of the work according to the specifications;

e) All fees and royalties of materials and

f) Finally clearing away of all rubbish, surplus materials, plant etc. on completion of the work and dressing and levelling of and restoring the site to a tidy condition, prior to handing over the work to the Engineer and also its maintenance until so taken over.

1.32. In the case of supplies of materials such as rubble, broken stones, gravel, sand etc. which may have to be measured prior to being used on the work, the Bidder must always stack or arrange them neatly on level ground or on ground cleared and levelled by him for the purpose in such manner as may be ordered by the Engineer so that they may be easily susceptible for inspection and measurement, the cost of such clearing, levelling and stacking or arranging being included in the rates for work. Each stack must be straight and of uniform section throughout and of the dimensions specified by the Field Engineer. Materials not stacked or arranged in accordance with instructions issued will not be measured and paid for.

1.33. The Bidder should state whether he has all the plant necessary for execution of the work. If the opinion of the Engineer-in charge, Bidder’s own plant is neither sufficient nor suitable for the proper execution of the work , the Department may supply other available plant and

recover hire charges for the same. The decision of the Engineer-in charge in the matter shall be final and binding on the Contractor.

1.34. The Contractor shall bear the running expenses inclusive of pay of the Departmental staff attached to such plant and cost of repairs of all Government plant while in his possession on hire as also the cost of restoring the same in good condition at the time of return, due allowance being made for fair wear and tear.

1.35. All materials and plant that are to be made over to the Bidder by the Department shall be handed over to him at the Section Office Store/yard and the charges for their handling, loading and unloading and conveyance to and from for the respective work as also for stacking the materials neatly and in regular heaps on the ground or sheds to which they are brought shall be deemed to be included in the rates for the work.

1.36. Unless otherwise specifically provide for in the Contract, the Contractor shall at his own cost keep all portions of the work free from water whether due to springs, or inclement weather and neat and sanitary condition and shall also see that drainage and sewage are prevented from entering the site of work or accumulating therein.

1.37. The Bidder shall be responsible for the proper use and bear the cost of protection of materials made over to him by the Department for use on the work and bear any loss form deterioration of from faulty workmanship or any other cause. The cost of materials thus allowed to deteriorate amounting as it does to and excess issue over sanctioned quantities, will be recovered at rates 20 percent over the actual cost. The orders of the Engineer-in charge in the matter shall be final binding on the Contractor.

1.38. The Contractor shall be responsible to see that the level or the other pegs, profiles, bench, marks masonry pillars or other marks set up by the Department for guidance in the execution of the work are not disturbed, removed or destroyed If the same is disturbed, it will be replaced by the Engineer at the cost of the Contractor.

1.39. Any materials brought to the site of work, or any work done by the Contractor but rejected by the Engineer-in-charge as being not up to the specifications shall in the case of materials supplied be then and there removed from or broken up at the site of work, and in the case of work done, the dismantled or rectified at the expense of the Contractor, as may be ordered by the Engineer-in-charge.

1.40. In all cases whether so specified in the contract or not , the work shall be executed in strict accordance with the Contractor’s accepted bid and these specifications and with such further drawings and specifications and orders as may from time to time be issued by the Engineer-in charge

Contractor's Documents
(reference Sub-Clause 5.2 of the General Conditions of Contract)

[*Note to the Employer: See the note on Sub- Clause 5.2 above in "Notes on preparing the Employer's Requirements." List the documents that are required to be submitted by the Contractor, for the Employer's review and/or for approval e.g.:*

Description	***For review leading to consent***	***For approval***
1. Design Schedule	*Yes*	*Yes*
2. Preliminary Design	*Yes*	*Yes*
3. Detailed Design	*Yes*	*Yes*
4. Design for Environmental Consents/Permits	*Yes*	*Yes*
5. Design for Construction	*Yes*	*Yes*
6. Environmental Design	*Yes*	*Yes*
7. Drainage Design	*Yes*	*Yes*
8. Temporary and Permanent 3rd Party Access Design	*Yes*	*Yes*
9. Design Safety Report	*Yes*	*Yes*
10. Construction Safety Report	*Yes*	*Yes*
11. Environmental and Social Impact Assessment with EMP, EMoP, Budget, Institutional responsibilities, Reporting Formats, ERP, OHS Plan, Pollution Management Plan, Waste & Materials Management Plan	*Yes*	*Yes*
12. Permitting and Consents Plan	*Yes*	*Yes*

The Employer's Requirements shall also require the Contractor to provide the following (Contractor's Documents for approval):

- a plan describing how ESHS policy requirements will be taken into consideration
- the strategy for gathering baseline ESHS information in time to inform design development;
- a plan describing the measures to ensure geotechnical investigations or other advance works meet the ESHS requirements;
- Social screening report
- Citizen Engagement Plan (Also plan for citizen engagement platform) -Model plan will be shared by *Employer/ Employer's representative*
- Labour management Plan--Model plan will be shared by *Employer/ Employer's representative*

- Labour Influx Management Plan- -Model plan will be shared by *Employer/ Employer's representative*
- Preventive GBV Action Plan - -Model plan will be shared by the *Employer/ Employer's representative*
- ***Risk assessment, Social Impact Assessment report and Social Management Plan during planning, implementation and Operation phases of the Bio CNG plant, as required by the Employer***.
- ***Monthly and Quarterly progress report on the implementation of SMP, Labour compliance, Citizen Engagement, Grievance redressal mechanism, ICC status etc. (Reporting format will be provided by Employer/ Employer's representative)***
- Construction/Contractors environmental management plan & social management plan;
- Occupational health and safety management plan;
- Community Health and Safety Management plan;
- Emergency Response Plan;
- Construction traffic management plan
- Operational systems comprising the processes and procedures for managing Environmental, social and health and safety risks during operation
- Plan for ICC constitution, operation and Grievance redress mechanisms.]

PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS

SECTION VIII – GENERAL CONDITIONS OF CONTRACT (GCC)

This section contains the general clauses of the Conditions of Contract for Design, Build and Operate Projects, and shall be applied to all contracts. The text of the clauses in this Section shall not be modified.

General Conditions of Contract

General Provisions	
1.1 Definitions	In the Conditions of Contract ("these Conditions"), which include Particular Conditions of Contract, and these General Conditions of Contract, 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 "Accepted Contract Amount" means the amount accepted in the Letter of Acceptance for the Design-Build of the Works and the provision of the Operation Service. 1.1.2 "Accepted Contract Amount for the Design Build" means the amount accepted in the Letter of Acceptance for the Design-Build of the Works. 1.1.3 "Accepted Contract Amount for the Operation Service" means the amount accepted in the Letter of Acceptance for the provision of the Operation Service. 1.1.4 "Bank" means the financing institution **named in the PCC** (whether acting on its own account or in its capacity as administrator of funds provided by other donors). 1.1.5 "Borrower" means the borrower or recipient of Bank's Investment Project Financing (IPF) **identified in the PCC.** 1.1.6 "Base Date" means the date 28 days prior to the latest date for submission of the Bid. 1.1.7 "Commencement Date" means the date notified under Sub-Clause 8.1 [*Commencement Date*]. 1.1.8 "Commercial Risk" means a risk which results in financial loss and/or time loss for either of the Parties, where insurance is not generally or commercially available. 1.1.9 "Commissioning Certificate" means the certificate issued by the Employer's Representative to the Contractor under Sub-Clause 11.7 [*Commissioning Certificate*] marking the

	end of the Design-Build Period under Sub-Clause 9.12 [*Completion of Design-Build*] and the commencement of the Operation Service Period. 1.1.10 "Commissioning Period" means that period of time when commissioning tests are being carried out. 1.1.11 "Contract" means the Contract Agreement, the Letter of Acceptance, the Letter of Bid, these Conditions, the Employer's Requirements, the Schedules, the Contractor's Bid, the Operating License, and the further documents (if any) which are listed in the Contract Agreement or in the Letter of Acceptance. 1.1.12 "Contract Agreement" means the Contract Agreement referred to in Sub-Clause 1.6 [*Contract Agreement*]. 1.1.13 "Contract Completion Certificate" means the certificate issued by the Employer's Representative under Sub-Clause 8.6 [*Contract Completion Certificate*]. 1.1.14 "Contract Completion Date" means the date contained in the Contract Completion Certificate as being the date on which the Operation Service has been completed. 1.1.15 "Contract Period" means the Design-Build Period plus the Operation Service Period. 1.1.16 "Contract Price" means the price defined in Sub-Clause 14.1 [*The Contract Price*], and includes adjustments in accordance with the Contract. 1.1.17 "Contractor" means the person named as Contractor in the Letter of Bid accepted by the Employer and the legal successors in title to this person. 1.1.18 "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 Works.

	1.1.19 "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*]. 1.1.20 "Contractor's Bid" means the document entitled bid, which the Contractor submitted with the Letter of Bid, as included in the Contract. 1.1.21 "Contractor's Personnel" means the Contractor's Representative and all personnel whom the Contractor utilizes on Site, including the Key Personnel, and other staff, labour and employees of the Contractor and of each Subcontractor, and any other personnel assisting the Contractor in the execution of the Works and provision of the Operation Service, identified in Sub-Clause 6.9. 1.1.22 "Contractor's Representative" means the person named as such 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. 1.1.23 "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. 1.1.24 "Cost Plus Profit" means Cost plus the applicable percentage agreed and **stated in the PCC**. Such percentage shall only be added where the Sub-Clause states that the Contractor is entitled to Cost Plus Profit. 1.1.25 "Country" means the Union of India, where the Permanent Works are to be executed. 1.1.26 "Cut-Off Date" means the date, at the end of a specified period **stated in the PCC**, after the Time for Completion of the Design-Build or any extension thereto granted under Sub-Clause 9.3 [Extension of Time for Completion

	of Design-Build]. 1.1.27 The "Adjudicator" is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 20. 1.1.28 "day" means a calendar day. 1.1.29 "Design-Build" means all work to be performed by the Contractor under the Contract to design, build, test and complete the Works and obtain the Commissioning Certificate issued in accordance with Sub-Clause 9.12 [Completion of Design-Build]. 1.1.30 "Design-Build Period" means the period from the Commencement Date to the date stated in the Commissioning Certificate. 1.1.31 "Dispute" means any situation where (a) one Party makes a claim against the other Party; (b) the other Party rejects the claim in whole or in part; and (c) the first Party does not acquiesce, provided however that a failure by the other Party to oppose or respond to the claim, in whole or in part, may constitute a rejection if, in the circumstances, the Adjudicator or the arbitrator(s), as the case may be, deem it reasonable for it to do so. 1.1.32 "EMP" means the Environmental Management Plan. 1.1.33 "Employer" means the party named as Employer **in the PCC** and the legal successors in title to this person. 1.1.34 "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 and/or the Operation Service, as stated in the Employer's Requirements, but does not include Plant which has not been taken over by the Employer. 1.1.35 "Employer's Personnel" means the Employer's Representative, the assistants referred to in Sub-Clause 3.2 [*Delegation by the Employer's Representative*] and all

	other staff, labour and other employees of the Employer's Representative and of the Employer; and any other personnel notified to the Contractor, by the Employer or the Employer's Representative, as Employer's Personnel. 1.1.36 "Employer's Representative" means the person appointed by the Employer to act as Employer's Representative for the purposes of the Contract and **named as such in the PCC**, or other person appointed from time to time by the Employer and notified as such to the Contractor under Sub-Clause 3.4 [Replacement of the Employer's Representative]. 1.1.37 "Employer's Requirements" means the document entitled Employer's Requirements, as included in the Contract, and any additions and modifications made thereto in accordance with the Contract. Such document specifies the purpose, scope, and/or design and/or other technical criteria for the execution of the Works and provision of the Operation Service. 1.1.38 "Exceptional Event" means an event or circumstance which is (a) beyond a Party's control; (b) which the 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. 1.1.39 "Existing Facilities" means the existing plant, equipment, buildings and other assets at the Site to be taken over and operated by the Contractor as further described in the Employer's Requirements. 1.1.40 "Final Payment Certificate Design-Build" means the payment certificate issued for the Design-Build under Sub-Clause 14.11 [*Issue of Final Payment Certificate Design-Build*]. 1.1.41 "Final Payment Certificate Operation Service" means the payment certificate issued for the Operation Service under Sub-Clause 14.14 [*Issue of Final Payment Certificate*

	Operation Service]. 1.1.42 "Final Statement Design-Build" means the Statement defined in Sub- Clause 14.10 [*Application for Final Payment Certificate Design-Build*]. 1.1.43 "Final Statement Operation Service" means the Statement defined in Sub-Clause 14.12 [*Application for Final Payment Certificate Operation Service*]. 1.1.44 "Goods" means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate. 1.1.45 “Influent” means the untreated water/ wastewater entering the Works at the delivery point to the Works). 1.1.46 “Influent Baseline” means the quality characteristics of the untreated Influent as set out in the Employer Requirements, used as the baseline for the design of the Works. 1.1.47 "Interim Payment Certificate" means a payment certificate issued under Clause 14 [*Contract Price and Payment*], other than the Final Payment Certificates. 1.1.48 "Laws" means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority in India. 1.1.49 "Letter of Acceptance" means the letter of formal acceptance, signed by the Employer, of the Letter of Bid, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such Letter of Acceptance, the expression "Letter of Acceptance" means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement. 1.1.50 "Letter of Bid" means the document entitled Letter of Bid, which was completed by the Contractor and includes the signed offer to the Employer for the execution of the Works and provision of the Operation Service.

	1.1.51 "Local Currency" or “Currency” means Rs., the currency of India. References to foreign currency, if any are treated as deleted. 1.1.52 "Maintenance Retention Fund" and "Maintenance Retention Guarantee" mean the fund and guarantee respectively provided for under Sub-Clause 14.17 [*Maintenance Retention Fund*]. 1.1.53 "Materials" means things of all kinds (other than Plant) whether on the Site or otherwise allocated to the Contract and intended to form or forming part of the Works, including the supply-only Materials (if any) to be supplied by the Contractor under the Contract. 1.1.54 "Notice" means a written communication identified as a Notice and issued in accordance with the provisions of Sub-Clause 1.3 [*Notices and Other Communications*]. 1.1.55 "Operating License" means the License referred to in Sub-Clause 1.7 [*Operating* License] by which the Employer grants a royalty-free License to the Contractor to operate and maintain the Works during the Operation Service. 1.1.56 "Operation Management Requirements" means the set of procedures and requirements, provided by the Employer, included in the Employer's Requirements for the proper implementation of the Operation Service. 1.1.57 "Operation and Maintenance Plan" means the plan for operating and maintaining the facility, submitted by the Contractor, and agreed and included in the Contract. 1.1.58 "Operation Service" means the operation and maintenance of the facility as set out in the Operation Management Requirements. 1.1.59 "Operation Service Period" means the period from the date stated in the Commissioning Certificate as provided for under Sub-Clause 10.2 [*Commencement of Operation Service*] to the date stated in the Contract Completion Certificate.

	1.1.60 "Party" means the Employer or the Contractor, as the context requires. 1.1.61 “Performance Security” means the security under Sub-Clause 4.2 [*Performance Security*]. 1.1.62 “Performance Standards” means the standards to be achieved by the Contractor during the Operations Period and includes the standards specified in the Schedule of Performance Standards. 1.1.63 "Permanent Works" means the permanent works to be designed, executed and operated by the Contractor under the Contract. 1.1.64 "Plant" means the apparatus, machinery and vehicles intended to form or forming part of the Permanent Works. 1.1.65 "Provisional Sum" means a sum (if any) which is specified in the Contract by the Employer 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*]. 1.1.66 "Rates and Prices" means the rates and prices inserted in the Schedules for the design, execution and completion of the Works and for the provision of the Operation Service as incorporated in the Contract. 1.1.67 "Retention Money" means the accumulated retention monies which the Employer retains under Sub-Clause 14.3 [*Application for Advance and Interim Payment Certificates*]. 1.1.68 "Retention Period" means the period of 1 year after the date stated in the Commissioning Certificate for the completion of outstanding work. 1.1.69 "Risk of Damage" means a risk which results in physical loss or damage to the Works or other property belonging to either Party, other than a Commercial Risk.

	1.1.70 "Schedules" means the document(s) entitled Schedules, completed by the Contractor and submitted with the Letter of Bid, as incorporated in the Contract. Such documents may also include data, lists, Schedules of Payments and/or prices, and guarantees. 1.1.71 "Schedule of Payments" means those Schedules (if any) incorporated in the Contract showing the manner in which payments are to be made to the Contractor. 1.1.72 "Schedule of Performance Standards" means the schedule attached to the Contract Agreement specifying the core output Performance Standards to be achieved by the Works and the Contractor at commissioning and during the Operation Service Period. 1.1.73 "Schedule of Performance Damages" means the schedule attached to the Contract Agreement which specifies the amounts of damages payable by the Contractor in respect of a breach of the standards specified in the Schedule of Performance Standards; 1.1.74 "Section" means a part of the Works **specified in the PCC** as a Section (if any). 1.1.75 "Section Commissioning Certificate" means a certificate issued by the Employer's Representative to the Contractor under Sub-Clause 11.7 [*Commissioning Certificate*]. 1.1.76 "Site" means the places where the Permanent Works are to be executed including storage and working areas, and to which Plant and Materials are to be delivered, and where the Operation Service is to be provided, and any other places as may be specified in the Contract as forming part of the Site. 1.1.77 "Statement" means a financial Statement submitted by the Contractor as part of an application, under Clause 14 [*Contract Price and Payment*], for a payment certificate. 1.1.78 "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. 1.1.79 "Bid" means the Letter of Bid and all other documents which the Contractor submitted with the Letter of Bid, as incorporated in the Contract. 1.1.80 "Tests on Completion of Design-Build" means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are to be carried out under Clause 11 [*Testing*] before the Works or a Section (as the case may be) are deemed to be fit for purpose as defined in the Employer's Requirements. 1.1.81 "Tests Prior to Contract Completion" means the tests (if any) which are specified in the Contract and any other such tests as may be agreed by the Employer's Representative and the Contractor or instructed as a Variation and which are to be carried out under Clause 11 [*Testing*] before the expiry of the Contract Period. 1.1.82 "Time for Completion of Design-Build" means the time for completing the Design-Build or a Section thereof (as the case may be) under Sub- Clause 9.2 [*Time for Completion of Design-Build*], as **stated in the PCC** (with any extension under Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*]), calculated from the Commencement Date. 1.1.83 "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution, completion and operation of the Works. 1.1.84 "Unforeseeable" means not reasonably foreseeable by an experienced contractor by the date for submission of the Bid. 1.1.85 "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*]. 1.1.86 "Works" means the Permanent Works and Temporary Works or either of them as appropriate and the facility to

	be operated by the Contractor during the Operation Service Period. 1.1.87 "year" means 365 calendar days. 1.1.88 **"ESHS"** means environmental, social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV), health and safety.
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; (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 Notices and Other Communications	Wherever these Conditions provide for the giving or issuing of a Notice or other communication including approvals, certificates, consents, determinations, instructions and requests, discharges such Notice or communication shall be: (a) where it is a Notice, identified as a Notice and include reference to the Clause under which it is issued; (b) where it is another form of communication, identified as such, and include reference to the Clause under which it is issued where appropriate; (c) in writing and delivered by hand (against receipt), sent by mail or courier, or transmitted by using any of the agreed systems of electronic transmission as **stated in the PCC**; and (d) delivered, sent or transmitted to the address for the recipient's communications as **stated in the PCC**. However: (i) if the recipient gives Notice of another address,

	communications and Notices 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. Notices and other communications shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a Notice is issued to a Party, by the other Party or the Employer's Representative, a copy shall be sent to the Employer's Representative or the other Party, as the case maybe.
1.4 Law and Language	The Contract shall be governed by and interpreted in accordance with the law of India. The language for communications, and the ruling language of the Contract shall be English.
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 (if any), (b) the Letter of Acceptance, (c) the Letter of Bid, (d) the Particular Conditions of Contract, (e) these General Conditions of Contract, (f) the Employer's Requirements, (g) the Schedules, and (h) the Contractor's Bid and any other documents forming part of the Contract. If an ambiguity or discrepancy is found in the documents, the Employer's Representative shall issue any necessary clarification or instruction.
1.6 Contract Agreement	The Parties shall enter into a Contract Agreement within 21 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions of Contract establish otherwise. The Contract Agreement shall be based upon the sample form included in the bidding documents. 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 Operating License	In consideration of the Contractor's performance of the Operation Service, from the date of commencement of the Operation Service the Employer grants to the Contractor for the Operation Service Period, the exclusive right, license and authority to occupy, use and enjoy the Site free of charge and free and clear of all claims for the purposes of carrying the Operation Services. Together with the Letter or Acceptance, the Employer shall, where necessary, issue, or cause to be issued, to the Contractor the Operating License or equivalent legal authorization to enable the Contractor to operate and maintain the Works during the Operation Service Period. This Operating License shall come into full force and effect upon the issue of the Commissioning Certificate required under Clause 11.7 and shall remain in force during the Operation Service Period. The Operating License shall only extend to those parts of the Site which it is required to occupy for the purposes of carrying out the Works and Operation Service as set out in the Contract. The Operating License granted pursuant to this Sub-Clause shall not operate nor be deemed to operate as a tenement or a demise of the Site or any part thereof. The Contractor shall not have or be entitled to any estate right, title, or interest in the Site. The License will immediately terminate upon the termination of this Contract for whatever reason
1.8 Assignment	(a) Except as provided in (b), (c) and (d) below, neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract without the consent of the other Party. (b) The Contractor may as security in favour of a bank or financial institution, assign its right to any monies due, or to become due, under the Contract. (c) During the Operation Service Period, the Employer may assign the whole of the Contract to the agency, if any, **specified in the PCC** subject to the following: (i) The Employer shall provide at least 90 days' written notice to the Contractor of its intention to assign the

	Contract. Such notice shall specify the financial arrangements that have been made for payment of the Contract Price to the Contractor. (ii) The Employer shall not assign the Contract until reasonable evidence has been provided to the Contractor that financial arrangements have been made, and will be maintained, which will enable the agency to pay the Contract Price punctually. (d) Where the Contractor is composed of a joint venture, no joint venture member shall assign or novate its interest in the Contract or the joint venture until the second anniversary of the date of the Commissioning Certificate. Following the second anniversary of the issue of the Commissioning Certificate a joint venture party that is not the lead member of the joint venture may assign its interest to the other members to the joint venture on the consent of the Employer, such consent not to be unreasonably withheld. (e) Where the Contractor is an SPV, no member of the SPV shall assign its holding in the SPV until the second anniversary of the date of the Commissioning Certificate. Following the second anniversary of the issue of the Commissioning Certificate a member of the SPV on the consent of the Employer, such consent not to be unreasonably withheld, dilute its shareholding in the SPV to the percentage stated in the BDS.
1.9 Care and Supply of Documents	Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Employer's Representative 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 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.

	In the event of a delay or failure by the Contractor to submit the required documents within the stipulated period, the Employer shall be entitled to impose a penalty per day of delay as specified in the P.C.C.
1.10 Errors in the Employer's Requirements	Notwithstanding the Contractor's obligations to scrutinize the Employer's Requirements under Sub-Clause 5.1 [*General Design Obligations*], if the Contractor finds an error in the Employer's Requirements, he shall immediately give a written Notice to the Employer's Representative advising him of the nature and details of the error and requesting instruction regarding its rectification. After receiving this Notice, the Employer's Representative shall, without prejudice to other rights and obligations of the Parties, promptly confirm to the Contractor: (a) whether or not there is an error in the Employer's Requirements as stated in the Contractor's Notice; (b) whether or not an experienced contractor should have discovered the error when scrutinizing the Employer's Requirements under Sub-Clause 5.1 [*General Design Obligations*]; and (c) the measures which the Employer's Representative requires the Contractor to take to rectify the error. If the Contractor suffers delay and/or incurs cost as a result of an error in the Employer's Requirements, and an experienced contractor exercising due care would not have discovered the error when scrutinizing the Employer's Requirements under Sub-Clause 5.1 [*General Design Obligations*], the Contractor shall be entitled, subject to Sub-Clause 20.1 [*Contractor's Claims*], to: (i) an extension of time for any such delay, if completion is or will be delayed under Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*]; and (ii) payment of any such Cost Plus Profit, which shall be included in the Contract Price.
1.11 Employer's Use of Contractor's Documents	As between the Parties, the Contractor shall retain the copyright and other intellectual 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 license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall: (a) apply throughout the actual or intended working life (whichever is longer) of the relevant part 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; (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; and (d) enable the Employer to relet the Contract as provided for under Sub-Clause 15.2 [*Termination for Contractor's Default*]. 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.
1.12 Contractor's Use of Employer's Documents	As between the Parties, the Employer shall retain the copyright and other 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.
1.13 Confidential Details	The Contractor's Personnel and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation. Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with

	applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.
1.14 Compliance with Laws	The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Employer's Requirements: (a) the Employer shall have obtained (or shall obtain) the planning, zoning, building permit, or similar permission for the Permanent Works and for the Operation Service, 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; (b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all further permits, licenses and approvals, as required by the Laws, in relation to the design, execution and completion of the Works and Operation Service 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, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence; and (c) the Contractor shall at all times and in all respects comply with, give all notices under, and pay all fees required by any license obtained by the Employer in respect of the Site or the Works or Operation Service, whether relating to the Works or Operation Service on or off the Site.
1.15 Joint and Several Liability	1.15.1 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 his composition or legal status without the prior consent of the Employer.

	1.15.2 If the Contractor is an SPV, throughout the Contract Period, the Contractor shall be bound to maintain its share capital at a minimum level **set out in the PCC** of the total paid up share capital of the Contractor. The share capital may be increased without the Employer's prior approval but a written notice of information shall be sent to the Employer. Any reduction of the Contractor's share capital shall be subject to the prior written consent of the Employer. 1.15.3 The Lead Member who holds at least fifty-one percent (51%) of the subscribed and paid up equity of the Contractor at the Commencement Date shall continue holding at least fifty-one percent (51%) of the subscribed and paid up equity of the Contractor for a period up to the second anniversary of the date of the Commissioning Certificate, [and at least twenty-six percent (26%) for the following five (5) years] subject to the transferee having similar experience to the Lead Member and the approval of the Employer[23]. 1.15.4 The other Members who hold less than forty-nine percent (49%) of the subscribed and paid up equity of the Contractor at the Commencement Date shall continue holding the same percentage of the subscribed and paid up equity of the Concessionaire up to the second anniversary of the date of the Commissioning Certificate.[24]
1.16 Inspections and Audit by the Bank	Pursuant to paragraph 2.2 e. of Appendix B to the General Conditions of Contract, the Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, the Bank and/or persons appointed by the Bank to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 15.6 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

[23] This depends on the project

[24] If permitted by Employer – typically for DBOs of longer contract duration

The Employer	
2.1 Right of Access to the Site	The Employer shall give the Contractor right of access to, and possession of, all or part of the Site within the time (or times) **stated in the PCC**. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give 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 PCC, the Employer shall give the Contractor right of access to, and possession of, the Site within such times as may be required to enable the Contractor to proceed in accordance with the program submitted under Sub-Clause 8.3 [*Program*]. 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's Representative 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 9.3 [Extension of Time for Completion of Design-Build]; and (b) payment of any such Cost Plus Profit, which shall be included in the Contract Price. After receiving this Notice, the Employer's Representative 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 or cost.
2.2 Permits, Licenses or Approvals	The Employer shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain: (a) copies of the Laws of India which are relevant to the Contract but are not readily available; and (b) any permits, licenses or approvals required by the Laws of India, including details of the information required to be

	submitted by the Contractor in order to obtain such permits, licenses or approvals: (i) which the Con tractor is required to obtain under Sub-Clause 1.14 [*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	If the Bank has notified to the Borrower that the Bank has suspended disbursements under its loan, which finances in whole or in part the execution of the Works, the Employer shall give Notice of such suspension to the Contractor with detailed particulars, including the date of such notification, with a copy to the Employer's Representative, within 7 days of the Borrower having received the suspension notification from the Bank, and confirm availability of alternative funds in appropriate currencies to continue making payments to the Contractor beyond a date 60 days after the date of Bank notification of the suspension.
The Employer's Representative	
3.1 Employer's Representative's Duties and Authority	The Employer shall appoint the Employer's Representative prior to the signing of the Contract, who shall be suitably qualified and experienced and who shall carry out the duties assigned to him in the Contract. The Employer's Representative's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties. The Employer's Representative shall have no authority to amend the Contract. The Employer's Representative may exercise the authority attributable to the Employer's Representative as specified in or

	necessarily to be implied from the Contract. The Employer shall promptly inform the Contractor of any change to the authority attributed to the Employer's Representative. The Employer undertakes not to impose further constraints on the Employer's Representative's authority, except as agreed with the Contractor. However, whenever the Employer's Representative exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval. Except as otherwise stated in these Conditions: (a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Employer's Representative shall be deemed to act for the Employer; (b) the Employer's Representative has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; (c) any approval, check, certificate, consent, examination, inspection, instruction, Notice, proposal, request, test or similar act by the Employer's Representative (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances; and (d) any act by the Employer's Representative in response to a Contractor's request except as otherwise expressly specified shall be notified in writing to the Contractor within 28 days of receipt. The Employer's Representative shall obtain the specific approval of the Employer before taking action under the-following Sub-Clauses of these Conditions: (a) Sub-Clause 4.12: agreeing or determining an extension of time and/or additional cost. (b) Sub-Clause 13.1: instructing a Variation, except; (i) in an emergency situation as determined by the Employer's Representative, or

	(ii) if such a Variation would increase the Accepted Contract Amount by less than the percentage **specified in the PCC**. (c) Sub-Clause 13.3: Approving a bid for Variation submitted by the Contractor in accordance with Sub Clause 13.1 or 13.2. Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Employer's Representative, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Employer's Representative, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Employer's Representative. The Employer's Representative shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.
3.2 Delegation by the Employer's Representative	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 independent inspectors (other than the Auditing Body) appointed to inspect and/or test items of Plant and/or Materials and/or workmanship or monitor the provision of the Operation Service. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Employer's Representative shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations]. 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*]. Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorized 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 an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Employer's Representative. However: (a) any failure to disapprove any work, Plant, Materials or any part of the Operation Service shall not constitute approval, and shall therefore not prejudice the right of the Employer's Representative to reject the work, Plant, Materials or any part of the Operation Service; and (b) if the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Employer's Representative, who shall promptly confirm, reverse or vary the determination or instruction.
3.3 Instructions of the Employer's Representative	The Employer's Representative may issue to the Contractor (at any time) instructions which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Employer's Representative, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [*Variations and Adjustments*] shall apply. The Contractor shall comply with the instructions given by the Employer's Representative or delegated assistant on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Employer's Representative or a delegated assistant: (a) gives an oral instruction, (b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and (c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

	then the confirmation shall constitute the written instruction of the Employer's Representative or delegated assistant (as the case may be). If the Contractor considers that any instruction of the Employer's Representative does not comply with applicable Laws or is technically impossible, he shall immediately notify the Employer's Representative in writing. The Employer's Representative shall then either confirm or amend such instruction.
3.4 Replacement of the Employer's Representative	If the Employer intends to replace the Employer's Representative, the Employer shall, not less than 21 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Employer's Representative. If the Contractor considers the intended replacement Employer's representative to be unsuitable, he has the right to raise objection against him by notice to the Employer, with supporting particulars, and the Employer shall give full and fair consideration to this objection.
3.5 Determinations	Whenever these Conditions provide that the Employer's Representative shall proceed in accordance with this Sub-Clause to agree or determine any matter, the Employer's Representative shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Employer's Representative shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances. The Employer's Representative shall give notice to both Parties of each agreement or determination, with supporting particulars, within 28 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [*Claims, Disputes and Arbitration*].
The Contractor	
4.1 Contractor's General Obligations	The Contractor shall design, execute and complete the Works and provide the Operation Service 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, and the Contractor shall be responsible for ensuring that the Works remain fit for such purposes during the Operation Service Period.

	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 to meet the Contractor's obligations under the Contract. All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country as defined by the Bank. The Works shall include any work which is necessary to satisfy the Employer's Requirements, Contractor's Proposal and Schedules, 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 during both the Design- Build Period and the Operation Service Period. The Contractor shall, whenever required by the Employer's Representative, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. Notwithstanding Sub-Clause 8.1, the Contractor shall not carry out works, including mobilization and/or pre-construction activities (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits), unless the Employer's Representative is satisfied that appropriate measures are in place to address environmental, social, health and safety risks and impacts. The Contractor shall submit, on a continuing basis, for the Employer's Representative's prior approval, a Contractor's Environmental and Social Management Plan (C-ESMP) to manage the ESHS risks and impacts of the Works. The C-ESMP shall be approved prior to the commencement of construction activities (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). The approved C-ESMP shall be reviewed, periodically (but not less than every six (6) months), and updated in a timely manner, as required, by the Contractor to ensure that it contains measures appropriate to the Works activities to be undertaken. The updated C-ESMP shall be subject to prior approval by the Employer's Representative.

	The Contractor shall attend all meetings as reasonably required by the Employer or the Employer's Representative.
4.2 Performance Security	The Contractor shall obtain at his cost the Performance Security for proper performance of the Contract, , in the amount **set out in the PCC**. The Contractor shall deliver the Performance Security to the Employer, within 21 days after receiving the Letter of Acceptance, and shall send a copy to the Employer's Representative. The Performance Security, shall be issued by a Nationalized/ Scheduled Bank in India, and shall be in the Form included in the bidding documents. The Contractor shall ensure that the Performance Security, is valid and enforceable until the issue of the Contract Completion Certificate. If the terms of the Performance Security, specify its expiry date, and the Contractor has not become entitled to receive the Contract Completion Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security, until the Works and the Operation Service have been completed. Failure by the Contractor to maintain the validity of the Performance Security, shall be grounds for termination in accordance with Sub-Clause 15.2 [*Termination for Contractor's Default*]. 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 or, in case of an earlier reduction, the reduced 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 3.5 [*Determinations*] 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 terminate under Sub-Clause 15.2 [*Termination for Contractor's*

	Default], irrespective of whether Notice of termination has been given. Without limitation to the provisions of the rest of this Sub-Clause, whenever the Employer's Representative determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation, or as a result of a Variation, amounting to more than 25 percent of the Contract Price, the Contractor shall at the Employer's Representative's request promptly increase, or may decrease, as the case may be, the value of the Performance Security, and the ESHS Performance Security. 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 which the Employer was not entitled to make. The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Contract Completion Certificate. Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ESHS performance security' to be submitted by the successful bidder in the specified amounts.
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's Representative 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's Representative, revoke the appointment of the Contractor's Representative or appoint a replacement.

	The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works or provision of the Operation Service, a suitable replacement person shall be appointed, subject to the Employer's Representative's prior consent, and the Employer's Representative shall be notified accordingly. The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [*Instructions of the Employer's Representative*]. 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's Representative 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 Languag*e]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Employer's Representative.
4.4 Subcontractors	The Contractor shall not subcontract the whole of the Works. Unless otherwise agreed, the Contractor shall not subcontract the provision of the Operation Service. 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. Unless otherwise stated in the Particular Conditions of Contract: (a) the Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract; (b) the prior consent of the Employer's Representative shall be obtained to other proposed Subcontractors; and (c) the Contractor shall give Notice to the Employer's Representative not less than 28 days prior to the intended

	date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site. If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from any risk on terms additional to or broader than those specified in the Contract, such additional or broader events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under the Contract. The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.13 [Confidential Details] apply equally to each Subcontractor. "The Employer's Representative should satisfy whether (a) the circumstances brought out warrant such sub-contracting; and (b) the sub-contractors so proposed for the Work possess the necessary experience, qualifications and equipment for the job proposed to be entrusted to them in proportion to the quantum of work to be sub-contracted." *[Note: 1. Sub-contracting for certain specialized elements of works is acceptable for carrying out the works more effectively; but vertical splitting of the works for sub-contracting is not acceptable.* *2. In any case, proposal for sub-contracting in addition to what was specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting]*
4.5 Nominated Subcontractors	In this Sub-Clause, "nominated Subcontractor" means a Subcontractor named as such in the Employer's Requirements or whom the Employer's Representative, 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's Representative 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's Representative, 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 suffer delays and/or to incur Unforeseeable cost. 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 and operation 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's Representative 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 or notified by the Employer's Representative. 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. The Employer shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used. If the Contractor suffers delay and/or incurs cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or cost, the Contractor shall give Notice to the Employer's Representative and shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claim*s] to: (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*]; and

	(b) payment of any such Cost Plus Profit, which shall be included in the Contract Price. After receiving this Notice, the Employer's Representative shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.
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 the issue of the Contract Completion Certificate; 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's Representative shall be entitled to audit any aspect of the system. Details of all procedures and compliance documents shall be submitted to the Employer's Representative for information before each design, execution and operation stage is commenced. When any document of a technical nature is issued to the Employer's Representative, 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 sub-surface, hydrological and climatic

	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 interpreting all such data. To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Bid or Works or the provision of the Operation Service. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Bid as to all relevant matters, including (without limitation): (a) the form and nature of the Site, including sub-surface conditions; (b) the hydrological and climatic conditions; (c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects; (d) the Laws, procedures of regulatory and other authorities and labour practices of India; and (e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.
4.11 Sufficiency of the Accepted Contract Amount	The Contractor shall be deemed to: (a) have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount; and (b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [*Site Data*], and any further data relevant to the Contractor's design. The Accepted Contract Amount 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, the remedying of any defects and the provision of the Operation Service.
4.12 Unforeseeable Physical Conditions	In this Sub-Clause, "physical conditions" means natural physical conditions and man- made and other physical obstructions and

	pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions. If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give Notice to the Employer's Representative as soon as practicable. This Notice shall describe the physical conditions, so that they can be inspected by the Employer's Representative, and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Employer's Representative may give. If an instruction constitutes a Variation, Clause 13 [*Variations and Adjustments*] shall apply. If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a Notice, and suffers delay and/or incurs cost due to these conditions, 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 9.3 [*Extension of Time for Completion of Design-Build*]; and (b) payment of any such Cost, which shall be included in the Contract Price. After receiving such Notice and inspecting and/or investigating these physical conditions, the Employer's Representative shall proceed in accordance with Sub- Clause 3.5 [*Determinations*] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub- paragraphs (a) and (b) above. However, before additional Cost is finally agreed or determined under (ii), the Employer's Representative may also review whether other physical conditions in similar parts of the Works (if any) were more favourable than could reasonably have been foreseen when the Contractor submitted the Bid. If and to the extent that these more favourable conditions were encountered, the Employer's Representative may proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the reductions in Cost which were due to these conditions, which

	may be included (as deductions) in the Contract Price and payment certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price. The Employer's Representative shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Bid, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.
4.13 Rights of Way and Facilities	Unless otherwise specified in the Contract the Employer shall provide effective access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or 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 at Base Date. 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 as a result of 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 of Contract: (a) the Contractor shall give Notice to the Employer's Representative not less than 21 days prior to the date on which any Plant or a major item of other Goods will be delivered to the Site; and (b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works or provision of Operation Service; 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 and provision of the Operation Service. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Employer's Representative. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.
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, or prescribed by applicable Laws.

	The Contractor's obligations with respect to the preparation and implementation of the Environmental Management Plan (hereinafter the "EMP") shall be as detailed in the Employer's Requirements. The Contractor shall at all times comply with the conditions of the approved EMP. Unless stated otherwise **in the PCC**, the Contract Price shall be deemed to include all things necessary to meet the requirements of the EMP. During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made thereunder, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. Salient features of some of the major laws that are applicable for protection of environment are given in Appendix D
4.19 Electricity, Water and Gas	Except as stated below, the Contractor shall be responsible for the provision of all electricity, water and other services he may require. The Contractor shall be entitled to use for the purposes of the Works and provision of the Operation Service such supplies of electricity, water, gas and other services as may be available on the Site and of which details are given in the Employer's Requirements. In such a case the Contractor shall take over in his own name and shall be responsible for payment of the electricity, water, gas and other services to the utility provider. The Contractor will be allowed to take over the existing service entry and provision points and shall be responsible for taking and recording such information as is necessary for the utility providers to correctly charge the Contractor from the Commencement Date.
4.20 Progress Reports	During the Design-Build Period, monthly progress reports, in a format agreed with the Employer's Representative shall be prepared by the Contractor and submitted to the Employer's Representative in one original and five copies, unless otherwise stated in the Employer's Requirements. 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 on progress shall continue until the Contractor has received the Contract Completion Certificate. Details of the content of the progress reports for the Design- Build Period and the Operation Service Period shall be as specified in the Employer's Requirements. Unless otherwise stated or agreed, each progress report shall include: (a) charts and detailed descriptions of progress, including each stage of design, Contractor's Documents, procurement, manufacture, delivery to Site, construction or replacement, erection, testing, commissioning, trial operation and provision of Operation Service; (b) photographs showing the status of manufacture or replacement and of progress on the Site; (c) for the manufacture or replacement 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 20.1 [*Contractor's Claims*] and Notices given under Sub-Clause 20.2 [*Employer's Claims*]; (g) the Environmental, Social, Health and Safety (ESHS) metrics set out in Appendix C; (h) comparison of actual and planned progress, with details of any events or circumstances which may jeopardise the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays; and

	(i) action taken/current status of implementation on the decisions taken in the periodical review meetings held earlier. The particular reporting requirements during the Operation Service Period shall be as specified in the Employer's Requirements. The Contractor shall provide immediate notification to the Employer's Representative of incidents in the following categories. Full details of such incidents shall be provided to the Employer's Representative within the timeframe agreed with the Employer's Representative. (a) confirmed or likely violation of any law or international agreement; (b) any fatality or serious (lost time) injury; (c) significant adverse effects or damage to private property (e.g. vehicle accident, damage from fly rock, working beyond the boundary) (d) major pollution of drinking water aquifer or damage or destruction of rare or endangered habitat (including protected areas) or species; or (e) any allegation of gender-based violence (GBV), sexual harassment or sexual misbehavior, child abuse, defilement, or other violations involving children.
4.21 Security of the Site	The Contractor shall be responsible for the security of the Site. Unless otherwise stated in the Particular Conditions of Contract: (a) the Contractor shall be responsible for keeping unauthorized persons off the Site; and (b) authorized persons shall be limited to the Contractor's Personnel and the Employer's Personnel, and to any other personnel notified to the Contractor, by the Employer or the Employer's Representative, as authorized personnel of the Employer's other contractors on the Site.
4.22 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's Representative 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. At all times 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 promptly clear away and remove from the Site any surplus material, wreckage, rubbish and Temporary Works which are no longer required. Upon the issue of a Commissioning Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Commissioning Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. The Contract Completion Certificate shall not be issued until the Contractor has removed any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site which are not required. The Contractor shall leave the Site and the Works in a clean and safe condition.
4.23 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's Representative, 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's Representative 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 9.3 [*Extension of Time for Completion of Design-Build*]; and (b) payment of any such Cost, which shall be included in the Contract Price.

	After receiving this further Notice, the Employer's Representative shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.
4.24 Changes in the Contractor's Financial Situation	If the Contractor becomes aware of any change in the Contractor's financial situation which will or could adversely affect his ability to complete and fulfil all his obligations under the Contract, he shall immediately give Notice to the Employer with detailed particulars. Within 28 days of receiving such Notice, the Employer shall advise the Contractor of what action he intends to take and/or what action the Employer requires the Contractor to take. In any event, the Contractor shall provide the Employer annually with his audited financial statements and reports.
4.25 Demolition	The Contractor shall not demolish any building or structure except where specified in the Employer's Requirements, or with the prior written approval of the Employer's Representative. The conditions for the re-use, sale and disposal of demolished materials shall be as specified in the Employer Requirements.
4.26 Existing Facilities	The Contractor shall take over, rehabilitate, upgrade, operate and maintain the Existing Facilities to the extent specified in the Employer's Requirements. Unless stated otherwise in the Employer's Requirements, the Contractor shall provide, and pay for, all labour, equipment, materials (including spare parts and consumables), and electricity necessary to operate and maintain the Existing Facilities. During the Design-Build Period, (a) the Contractor shall use all reasonable endeavours to meet the standards of performance specified for the Existing Facilities in the Employer's Requirements; (b) The Employer shall indemnify and hold harmless the Contractor against any and all claims made against it in respect of the operation of the Existing Facilities to the extent that the condition or design of the Existing Facilities renders them unable to meet the applicable performance standards." As at the date of commencement of the Operation Service the Existing Facility, unless specified otherwise in the Employer's

	Requirements, will be deemed to form part of the Works, and all references in the Contract to Works, Permanent Works, Plant and Site etc. shall be deemed to include the Existing Facilities.
Design	
5.1 General Design Obligations	The Contractor shall carry out, and be responsible for, the design of the Works. Design shall be prepared by qualified designers who are engineers or other professionals who comply with the criteria (if any) stated in the Employer's Requirements. Unless otherwise stated in the Contract, the Contractor shall submit to the Employer's Representative for consent the name and particulars of each proposed designer and design Subcontractor. The Contractor warrants that he, his designers and design Subcontractors have the experience and capability necessary for the design. The Contractor undertakes that the designers shall be available to attend discussions with the Employer's Representative at all reasonable times. Upon receiving Notice under Sub-Clause 8.1 [*Commencement Date*], the Contractor shall scrutinize the Employer's Requirements (including design criteria and calculations, if any) and the items of reference mentioned in Sub-Clause 4.7 [*Setting Out*]. Within the period **stated in the PCC**, calculated from the Commencement Date, the Contractor shall give Notice to the Employer's Representative of any error, fault or other defect found in the Employer's Requirements or these items of reference. After receiving this Notice, the Employer's Representative shall determine whether Clause 13 [*Variations and Adjustments*] shall be applied, and shall give Notice to the Contractor accordingly. If and to the extent that (taking account of cost and time) an experienced contractor exercising due care would have discovered the error, fault or other defect when examining the Site and the Employer's Requirements before submitting the Bid, the Time for Completion shall not be extended and the Contract Price shall not be adjusted. If the Contractor finds any error, fault or other defect in the Employer's Requirements after the period stated in the PCC, then Sub-Clause 1.10 [*Errors in the Employer's Requirements*] shall be applicable.
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 5.5 [*As-Built Documents*] and Sub-Clause 5.6 [*Operation and Maintenance Manuals*]. Unless otherwise stated in the Employer's Requirements, the Contractor's Documents shall be written in English 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. The Employer's Personnel shall have the right to inspect the preparation of all these documents, wherever they are being prepared. If the Employer's Requirements describe the Contractor's Documents which are to be submitted to the Employer's Representative for review leading to consent and/or for approval, they shall be submitted accordingly, together with a Notice as described below. The Employer's Representative gives his consent to a document when he is satisfied that the Contractor's Documents conform to the Employer's Requirements. In the following provisions of this Sub-Clause, (i) "review period" means the period required by the Employer's Representative for review leading to consent and (if so specified) for approval, and (ii) "Contractor's Documents" exclude any documents which are not specified as being required to be submitted for review leading to consent and/or for approval. The Contractor's Documents which require approval from the Employer's Representative shall be as **listed in the PCC**. Unless otherwise stated in the Employer's Requirements or agreed with the Employer's Representative, each review period shall not exceed 21 days, calculated from the date on which the Employer's Representative receives a Contractor's Document and the Contractor's Notice. This Notice shall state that the Contractor's Document is considered ready for review leading to either approval (if so specified) or consent with regard to conformity with the Employer's Requirements, 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's Representative may, within the review period, give Notice to the Contractor that a Contractor's Document fails (to the extent stated) to conform with the Contract. If a Contractor's Document so fails to conform, it shall be rectified, resubmitted and reviewed (and, if specified, approved) in

	accordance with this Sub- Clause, at the Contractor's cost. If such re-submission and review causes the Employer to incur additional costs, the Contractor shall, subject to Sub-Clause 20.2 [*Employer's Claims*], pay these costs to the Employer. For each part of the Works, and except to the extent that the prior approval or consent of the Employer's Representative shall have been obtained: (a) in the case of a Contractor's Document which has (as specified) been submitted for the Employer's Representative's approval or consent: (i) the Employer's Representative shall give Notice to the Contractor that the Employer's Representative gives his consent that the Contractor's Document conforms with the Employer's Requirements or is approved, or that it does not (to the extent stated) comply with the Contract; (ii) execution of such part of the Works shall not commence until the Employer's Representative has either approved or given his consent to the Contractor's Document; and (iii) the Employer's Representative shall be deemed to have approved the Contractor's Documents or given his consent that the Contractor's Documents conform to the Employer's Requirements upon the expiry of the review periods for all the Contractor's Documents which are relevant to the design and execution of such part, unless the Employer's Representative has previously notified otherwise in accordance with sub-paragraph (i); (b) 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; (c) execution of such part of the Works shall be in accordance with those Contractor's Documents for which the Employer's Representative has given his consent as to the conformity with the Employer's Requirements, (and, if specified, approved); and (d) if the contractor wishes to modify any design or document which has previously been submitted for review (and, if specified, approval), the Contractor shall immediately give Notice to the Employer's

	Representative, accompanied by a written explanation of the need for such modification. Thereafter, the Contractor shall submit revised documents to the Employer's Representative in accordance with the above procedure. Any such consent and/or approval (where specified) (under this Sub-Clause or otherwise) shall not relieve the Contractor from any obligation or responsibility.
5.3 Contractor's Undertaking	If the Employer's Representative reasonably instructs that further Contractor's Documents are required, the Contractor shall prepare them promptly at his own cost. The Contractor undertakes that the design, the Contractor's Documents, the execution and the completed Works will be in accordance with: (a) the Laws of India; and (b) the documents forming the Contract, as altered or modified by Variations.
5.4 Technical Standards and Regulations	Unless otherwise stated, the design, the Contractor's Documents, the execution and the completed Works shall comply with India'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 Commissioning Certificate is issued in accordance with Sub-Clause 11.7 [*Commissioning Certificate*]. 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 India after the Base Date, the Contractor shall give Notice to the Employer's Representative and (if appropriate) submit proposals for compliance. In the event that: (a) the Employer's Representative determines that compliance is required; and (b) the proposals for compliance constitute a variation, then the Employer's Representative shall initiate a Variation in accordance with Clause 13 [*Variations and Adjustments*].

5.5 As-Built Documents	The Contractor shall prepare, and keep up-to-date, a complete set of "as-built" records of the execution of the Works, showing the exact as-built locations, sizes and details of the work as executed. These records shall be kept on the Site and shall be used exclusively for the purposes of this Sub-Clause. At least two copies shall be supplied to the Employer's Representative prior to the commencement of the Tests on Completion of Design-Build. In addition, the Contractor shall supply to the Employer's Representative as-built drawings of the Works, showing all Works as executed, and submit them to the Employer's Representative for review under Sub-Clause 5.2 [*Contractor's Documents*]. The Contractor shall obtain the consent of the Employer's Representative as to their size, the referencing system, and other relevant details. Prior to the issue of the Commissioning Certificate, the Contractor shall supply to the Employer's Representative the specified numbers and types of copies of the relevant as-built drawings, in accordance with the Employer's Requirements. The relevant work shall not be considered to be completed for the purposes of issuing the Commissioning Certificate under Sub-Clause 11.7 [*Commissioning Certificate*] until the Employer's Representative has received these documents.
5.6 Operation and Maintenance Manuals	Prior to the commencement of the Commissioning Period, the Contactor shall supply to the Employer's Representative two copies of all operation and maintenance manuals in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair the Plant and the Works. The Contractor shall supply the balance of the required operation and maintenance manuals prior to the issue of the Commissioning Certificate. The Works or any Section shall not be considered to be completed for the purposes of issuing the Commissioning Certificate under Sub-Clause 11.7 [*Commissioning Certificate*] until the Employer's Representative has received these documents.
5.7 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.
Staff and Labour	

6.1 Engagement of Staff and Labour	Except as otherwise stated in the Employer's Requirements, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport and, when appropriate, housing. The cost to comply with the requirements of all the "social clauses" (G.C.C Sub-Clauses 6.1 through 6.24), to the level and extent specified in the Specification and General Conditions of Contract, is to be considered by the bidder as part of its general Overheads included in the unit rates of items and no separate payment will be made for these items, except where specified otherwise under any specific clause.
6.2 Rates of Wages and Conditions of Employment	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. The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in India in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of India for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.
6.3 Persons in the Service of Employer	The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel. The employees of the Contractor and the Sub-Contractor(s) in no case shall be treated as the employees of the Employer at any point of time. The Contractor shall not employ any retired Gazetted officer of the Government who has either not completed the mandatory period after the date of retirement or has not obtained permission from the Government, as per extent government directives, for employment with the Contractor.
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 the Contractor's Personnel to obey all applicable Laws, including those concerning safety at work. During continuance of the contract, the Contractor and his sub-Contractors shall abide at all times by all existing labour enactments and rules made thereunder, regulations, notifications and bye laws of State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made thereunder, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/acts/rules/regulations including amendments, if any, on the part of the Contractor, the Employer shall also have right to recover from the contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer. Salient features of major labour and other laws that are applicable to the construction industry in India are given as Appendix D to these General Conditions of Contract.
6.5 Working Hours	No work shall be carried out on the Site on locally recognized days of rest or outside the normal working hours **stated in the PCC**, unless: (a) otherwise stated in the Contract; (b) the Employer's Representative gives consent; (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's Representative; or (d) required for the proper fulfilment of the requirements of the Operation Service Period.
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 Site of the Works, save where the Employer has given the Contractor permission in writing.
6.7 Health and Safety	The Contractor shall at all times during the Contract Period 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 and operation of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority. The Contractor shall send details of any accident to the Employer's Representative 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's Representative may reasonably require. HIV-AIDS Prevention. The Contractor shall conduct an HIV-AIDS awareness program via an approved service provider, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor’s Personnel and the local community, to promote early diagnosis and to assist affected individuals. The Contractor shall throughout the contract (including the Defects Notification Period): (i) conduct Information, Education and Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and Labour (including all the

	Contractor's employees, all Subcontractors and any other Contractor's or Employer's personnel employees, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behavior with respect to, of Sexually Transmitted Diseases (STD) - or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular; (ii) provide male or female condoms for all Site staff and labour as appropriate; and (iii) provide for STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labour. The Contractor shall include in the program to be submitted for the execution of the Works under Sub-Clause 8.3 an alleviation program for Site staff and labour and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related Employer's Requirements. For each component, the program shall detail the resources to be provided or utilized and any related sub-contracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation this program shall not exceed the Provisional Sum dedicated for this purpose.
6.8 Contractor's Superintendence	For the complete Contract Period, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect, test and monitor the design and execution of the Works and the provision of the Operation Service in accordance with his obligations under the Contract. 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 and the provision of the Operation Service.
6.9 Contractor's Personnel	The Contractor's Personnel **as stated in PCC** shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Employer's Representative

	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; (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment; (e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works; or (f) Undertakes behavior which breaches the Code of Conduct (ESHS) (e.g. spreading communicable diseases, sexual harassment, gender-based violence (GBV), sexual exploitation or abuse, illicit activity or crime. If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person. The Contractor's Personnel includes Key Personnel. If the Contractor intends to replace a Key Personnel, the Contractor shall, not less than 30 days before the intended date of replacement, give notice to the Employer's Representative, the name, address, academic qualifications and relevant experience of the intended replacement Key Personnel. The Contractor shall not, without the prior consent of the Employer's Representative, revoke the appointment of the Key Personnel or appoint a replacement. The Employer's Representative shall approve any proposed replacement of Key Personnel only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.
6.10 Records of Contractor's Personnel and Equipment	During the Design-Build Period, the Contractor shall submit, to the Employer's Representative, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Any changes to the Personnel or Equipment shall be notified at the end of each calendar month to the Employer's Representative. During the Operation Service Period, any changes to the Personnel or Equipment shall be notified at the end of each calendar month to the Employer's Representative.

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.
6.12 Foreign personnel	The Contractor may bring into India any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use his best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, and national or government permission required for bringing in the Contractor's personnel. The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in India of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.
6.13 Supply of Food stuffs	The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Employer's Requirements at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.
6.14 Supply of Water	The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.
6.15 Measures against Insect and Pest Nuisance	The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.
6.16 Alcoholic Liquor or Drugs	The Contractor shall not, otherwise than in accordance with the Laws of India, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereof by Contractor's Personnel.
6.17 Arms and Ammunition	The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

6.18 Festivals and religious Customs	The Contractor shall respect India's recognized festivals, days of rest and religious or other customs.
6.19 Funeral Arrangements	The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of his local employees who may die while engaged upon the Works.
6.20 Prohibition of Forced or Compulsory Labour	The Contractor shall not employ forced labour, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or similar labour -contracting arrangements.
6.21 Prohibition of Harmful Child Labour	The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where the relevant labour laws of India have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.
6.22 Employment Records of Workers	The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Employer's Representative. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].
6.23 Workers' Organizations	In countries where the relevant labour laws recognize workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the Contractor shall comply with such laws. Where the relevant labour laws substantially restrict workers' organizations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. In either case described above, and where the relevant labour laws are silent, the Contractor shall not discourage the Contractor's Personnel from forming or joining workers' organizations of their choosing or from bargaining collectively, and shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and

	bargain collectively. The Contractor shall engage with such workers' representatives. Workers' organizations are expected to fairly represent the workers in the workforce.
6.24 Non-Discrimination and Equal Opportunity	The Contractor shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment relationship on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or retirement, and discipline. In countries where the relevant labour laws provide for non-discrimination in employment, the Contractor shall comply with such laws. When the relevant labour laws are silent on non-discrimination in employment, the Contractor shall meet this Sub-Clause's requirements. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination.
Plant, Materials, and Workmanship	
7.1 Manner of Execution	The Contractor shall carry out the manufacture and/or replacement and/or repair of Plant, the production and manufacture of Materials, and all other activities during the execution of the Works and provision of the Operation Service: (a) in accordance with the applicable Laws in the manner (if any) specified in the Contract; (b) in a proper workmanlike and careful manner, in accordance with recognized 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 the following samples of Materials, and relevant information, to the Employer's Representative for review in accordance with the procedures for Contractor's Documents described in Sub-Clause 5.2 [*Contractor's Documents*]: (a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost; and (b) additional samples instructed by the Employer's Representative as a Variation.

	Each sample shall be labelled as to origin and intended use in the Works.
7.3 Inspection	The Employer's Personnel and other persons authorized by the Employer 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; (b) during production, manufacture and construction (at the Site and elsewhere), operation and maintenance, 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; and (c) carry out other authorized duties and inspections. The Contractor shall give the Employer's Personnel and other persons authorized by the Employer 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. The Contractor shall give Notice to the Employer's Representative whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Employer's Representative shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give Notice to the Contractor that the Employer's Representative does not require to do so. If the Contractor fails to give the Notice, he shall, if and when required by the Employer's Representative, 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 on Plant, Materials and workmanship specified in the Contract. Except as otherwise specified in the Contract, 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's Representative, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

	The Employer's Representative 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's Representative shall give Notice to the Contractor not less than 24 hours prior to the tests, of the Employer's Representative's intention to attend the tests. If the Employer's Representative does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Employer's Representative, and the tests shall then be deemed to have been made in the Employer's Representative's presence. If the Contractor suffers delay in carrying out the tests 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's Representative 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 9.3 [*Extension of Time for Completion of Design-Build*]; and (b) payment of any such Cost Plus Profit, which shall be included in the Contract Price. After receiving this Notice, the Employer's Representative shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters. The Contractor shall promptly forward to the Employer's Representative duly certified reports of the tests. When the specified tests have been passed, the Employer's Representative shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Employer's Representative 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, or workmanship is found to be defective or otherwise not in accordance with the Contract, the Employer's Representative 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 at the Contractor's cost and ensure that the rejected item complies with the Contract. If the Employer's Representative requires this Plant, Materials, 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 20.2 [*Employer's Claims*], pay these costs to the Employer.
7.6 Remedial Work	At any time during the Contract Period, notwithstanding any previous test or certification, the Employer's Representative may instruct the Contractor to: (a) repair, 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 or the provision of the Operation Service, whether because of an accident, unforeseeable event or otherwise. The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c). Except to the extent that the Contractor may be entitled to payment for the work required under sub-paragraph (c), the Contractor shall bear the cost of such remedial work. If the Contractor fails to comply with the instruction, 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 20.2 [*Employer's Claims*], pay to the Employer all costs arising from this failure.
7.7 Ownership of Plant and Materials	Except as otherwise specified in the Contract, each item of Plant and Materials shall, to the extent consistent with the Laws of India, 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 paid the corresponding value of the Plant and Materials under Sub-Clause 9.9 [*Payment for Plant and Materials in Event of Suspension*]; and (c) when the Contractor is paid the corresponding value of the Plant and Materials under Sub- Clause 14.5 [*Payment for Plant and Materials intended for the Works*]. For the avoidance of doubt, vehicles, trucks, mobile plant and site equipment (other than temporary mobile plant and temporary site equipment brought onto the site to undertake specific remedial tasks), tools, office equipment, software and office consumables used by the Contractor for the Operation Service shall become the property of the Employer. Vehicles used for personal transportation of the Contractor's Personnel and computers and mobile devices allocated for the personal use of the Contractor's Personnel shall be Contractor's Equipment. The Contractor shall maintain up-to-date inventories of the Contractor's Equipment, Materials and Temporary Works throughout the term of the Contract.
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.
Commencement Date, Completion and Program	
8.1 Commencement Date	**8.1 Commencement of Work** Except as otherwise specified in the Contract, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Employer's Representative's notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor: (a) signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of India; (b) deleted.

	(c) except if otherwise **specified in the PCC**, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.14 [Compliance with Laws] as required for the commencement of the Works (d) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor. (e) receipt by the Employer's Representative, Certificates for Insurance taken in accordance with GCC 19. If the said Employer's Representative's instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 16.2 [Termination by Contractor]. Without prejudice to Sub-Clause 4.1 of the Particular Conditions of Contract, the Contractor shall commence the 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 Design-Build and each Section (if any), in accordance with Sub-Clause 9.2 [*Time for Completion of Design-Build*], or as extended under Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*], and shall provide the Operation Service for the period stated in the PCC. The Contractor's completion of the whole of the Works, includes protection of environment, and assurance of public health and safety, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be).
8.3 Program	The Contractor shall submit a detailed time program to the Employer's Representative within 28 days after receiving the Notice under Sub-Clause 8.1 [*Commencement Date*]. The Contractor shall also submit a revised program whenever the previous program is inconsistent with actual progress or with the Contractor's obligations. Each program shall include: (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design, Contractor's Documents, procurement, manufacture, inspection, delivery to Site, construction, erection, testing, commissioning and trial operation;

	(b) the period of Operation Service; (c) the periods for reviews under Sub-Clause 5.2 [*Contractor's Documents*] and for any other submissions, including the supply of samples in accordance with Sub-Clause 7.2 [*Samples*], approvals and consents specified in the Employer's Requirements; (d) the sequence and timing of inspections and tests specified in the Contract, and (e) a supporting report which includes: (i) a general description of the methods which the Contractor intends to adopt for both the Design-Build and the Operation Service; (ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage; and (iii) the Contractor's proposed manning schedule for the Operation Service. Unless the Employer's Representative, within 21 days after receiving a program, 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 program, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the program when planning their activities. If, at any time, the Employer's Representative gives Notice to the Contractor that a program 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, within 14 days, a revised program to the Employer's Representative in accordance with this Sub-Clause.
8.4 Advance Warning	Each Party shall endeavour to advise the other Party in advance of any known or probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works or the Operation Service. The Employer's Representative may require the Contractor to submit an estimate of the anticipated effect of the future events or circumstances, and/or a proposal under Sub-Clause 13.3 [*Variation Procedure*].
8.5 Delay Damages	If the Contractor fails to complete the Design-Build in accordance with the requirements of Sub-Clause 9.2 [*Time for*

	Completion of Design-Build], he shall pay delay damages as detailed in Sub-Clause 9.6 [*Delay Damages relating to Design-Build*]. If the Contractor fails or is unable to provide the Operation Service for the complete period specified in the Contract, or parts of the Operation Service, and such failure is: (a) due to a cause for which the Contractor is responsible; and (b) results in the Employer losing revenue or income which the Employer would normally have expected to receive during the Operation Service Period; or (c) results in the Employer suffering any other loss which he would not have suffered but for such failure, then the Contractor shall pay to the Employer compensation in accordance with Sub- Clause 10.4 [*Delays and Interruptions during the Operation Service*].
8.6 Contract Completion Certificate	Performance of the Contractor's obligations in respect of the Contract shall not be considered to have been completed until the Contract Completion Certificate has been signed by the Employer's Representative and issued to the Contractor, stating the date on which the Contractor completed his obligations in respect of both the Design-Build and the Operation Service (Contract Completion Date). The Employer's Representative shall, subject to Sub-Clause 11.8 [*Joint Inspection Prior to Contract Completion*], Sub-Clause 10.6 [*Completion of Operation Service*] and Sub-Clause 4.22 [*Contractor's Operations on Site*], issue the Contract Completion Certificate to the Contractor, with a copy to the Employer, within 21 days after the last day of the Contract Period. No extension of the Operation Service Period shall be allowed except by written agreement between the Parties. Only the Contract Completion Certificate shall be deemed to constitute the Employer's acceptance of the Contractor's completion of his obligations under the Contract. Following the issue of the Contract Completion Certificate the Employer shall be fully responsible for the care, safety, operation, servicing and maintenance of the Works.

8.7 Handback Requirements	The Contractor shall ensure that the Works comply with the handback requirements specified in the Employer's Requirements prior to the issue of the Contract Completion Certificate.
8.8 Unfulfilled Obligations	After the Contract Completion Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation under the Contract 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.
Design-Build	
9.1 Commencement of Design-Build	The Contractor shall commence the design and execution of the Works within 28 days of the Commencement Date, and shall then proceed with the Design-Build with due expedition and without delay.
9.2 Time for Completion of Design-Build	The Contractor shall complete the whole of the Design-Build of the Works, and each Section (if any), within the Time for Completion of Design-Build of the Works or Section (as the case may be) as **set out in the PCC**, including: (a) passing the Tests on Completion under Sub-Clause 11.1 [*Testing of the Works*]; (b) completing all work which is stated in the Contract as being required under Sub-Clause 11.5 [*Completion of the Works and Sections*]; and (c) preparation and delivery to the Employer's Representative of Contractor's Documents required under Sub-Clause 5.2 [*Contractor's Documents*].
9.3 Extension of Time for Completion of Design-Build	The Contractor shall be entitled, subject to Sub-Clause 20.1 [*Contractor's Claims*], to an extension of the Time for Completion of Design-Build if and to the extent that completion for the purposes of Sub-Clause 11.5 [*Completion 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 of Design-Build 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 (c) exceptionally adverse climatic conditions; (d) unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions; or (e) 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 of Design-Build, the Contractor shall give Notice to the Employer's Representative in accordance with Sub-Clause 20.1 [*Contractor's Claims*]. When determining each extension of time, the Employer's Representative shall review previous determinations and may increase, but shall not decrease, the total extension of time. In the event that the Contractor does not accept the Employer's estimate of a fair and reasonable time extension, the Contractor shall be entitled to refer the matter to the Adjudicator under Sub-Clause 20.3.
9.4 Delays Caused by Authorities	If the following conditions apply during the Design-Build Period, namely: (a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public and/or local authorities in India; (b) these authorities delay or disrupt the Contractor's work; and (c) the delay or disruption was Unforeseeable, then this delay or disruption will be considered as a cause of delay under sub- paragraph (b) of Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*].
9.5 Rate of Progress	If, in the opinion of the Employer's Representative, at any time during the Design-Build Period: (a) actual progress is too slow to complete within the Time for Completion of Design-Build; and/or (b) progress has fallen (or will fall) behind the current program under Sub-Clause 8.3 [*Program*], other than as a result of a cause listed in Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*], then the Employer's Representative may instruct the Contractor to submit, under Sub-Clause 8.3 [*Program*], a revised program 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 of Design-Build.

	Unless the Employer's Representative 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 20.2 [*Employer's Claims*], pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 9.6 [*Delay Damages relating to Design-Build*] below. Additional costs of revised methods including acceleration measures, instructed by the Employer's Representative to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Employer, without generating, however, any other additional payment benefit to the Contractor.
9.6 Delay Damages relating to Design-Build	If the Contractor fails to comply with Sub-Clause 9.2 [*Time for Completion of Design- Build*], the Contractor shall, subject to Sub-Clause 20.2 [*Employer's Claims*], pay delay damages to the Employer for this default. These delay damages shall be the amount **stated in the PCC**, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Commissioning Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) **stated in the PCC**. These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Clause 15 [T*ermination by Employer*] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Design-Build and the Operation Service, or from any other duties, obligations or responsibilities which he may have under the Contract.
9.7 Suspension of Work	The Employer's Representative 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, secure and maintain such part or the Works against any deterioration, loss or damage. The Employer's Representative shall also notify the cause for the suspension. If and to the extent that the cause is the responsibility of the Contractor, the following Sub- Clauses 9.8, 9.9 and 9.10 shall not apply.

9.8 Consequences of Suspension	If, during the Design-Build Period, the Contractor suffers delay and/or incurs cost from complying with the Employer's Representative's instructions under Sub-Clause 9.7 [*Suspension of Work*] and/or from resuming the work, the Contractor shall give Notice to the Employer's Representative 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 9.3 [*Extension of Time for Completion of Design-Build*]; and (b) payment of any such Cost, which shall be included in the Contract Price. After receiving this Notice, the Employer's Representative 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 9.7 [*Suspension of Work*].
9.9 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 Representative's instructions. Payment for Plant and/or Materials made pursuant to this Sub-Clause shall, if requested by the Employer's Representative, be subject to the production of satisfactory evidence by the Contractor that the said Plant and/or Materials are fully owned by the Contractor and are not subject to any retention of title by the supplier.
9.10 Prolonged Suspension	If the suspension under Sub-Clause 9.7 [*Suspension of Work*] has continued for more than 84 days, the Contractor may request the Employer's Representative's permission to proceed. If the Employer's Representative does not give permission within 28 days after being requested to do so, the Contractor may, by giving Notice to the Employer's Representative, treat the suspension as

	an omission under Clause13 [*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*].
9.11 Resumption of Work	After the permission or instruction to proceed is given, the Contractor and the Employer's Representative 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, after receiving from the Employer's Representative an instruction to this effect under Clause 13 [Variations and Adjustments]. The Employer's Representative shall make a written record of all making good required to be carried out by the Contractor.
9.12 Completion of Design-Build	The Design-Build shall not be considered as complete until all of the following are achieved: (a) the Works have been fully designed and executed in accordance with the Employer's Requirements and other relevant provisions of the Contract; (b) the Works have passed the Tests on Completion of Design-Build in accordance with Sub-Clause 11.1 [*Testing of the Works*]; (c) Contractor's Documents in accordance with Sub-Clause 5.5 [*As-Built Documents*] and Sub-Clause 5.6 [*Operation and Maintenance Manuals*] have been supplied and approved by the Employer's Representative; and (d) The Commissioning Certificate required under Sub-Clause 11.7 [*Commissioning Certificate*] has been issued stating the date upon which the Design-Build has been completed and the Operation Service shall commence.
9.13 Failure to Complete	Should the Contractor fail to complete the Design-Build prior to the Cut-Off Date, the Employer may, at his sole option, either: (a) permit the Contractor to continue the Design-Build for a further named period, with an absolute right to re-apply this Sub-Clause in the event that the Contractor fails to complete the Design-Build within the extended period; or (b) terminate the Contract in accordance with Sub-Clause 15.2 [*Termination for Contractor's Default*] and, if he so chooses, complete the work and subsequently execute the Operation Service himself or by engaging others.

	In either case, the Employer will be entitled to recover from the Contractor any direct loss incurred, including any loss resulting from the delayed operation of the Works, subject to the limitations contained in Sub-Clause 9.6 [*Delay Damages Relating to Design-Build*] and Sub-Clause 17.8 [*Limitation of Liability*].
Operation Service	
10.1 General Requirements	The Contractor shall comply with the Operation Management Requirements, and Performance Standards as provided for in the Contract and any revisions thereof which are agreed during the Contract Period. The Contractor shall follow the requirements of the operation and maintenance manuals and any additional Operation Service plans and manuals, prepared by the Contractor in accordance with the Operation Management Requirements. No significant alteration to such arrangements and methods shall be made without the prior approval of the Employer's Representative. During the Operation Service, the Contractor shall be responsible for ensuring that the Works remain fit for the purposes for which they are intended. The operators and maintenance personnel for the Works, including Plant operators, shall have the appropriate experience and qualifications to perform the Operation Service. The names, with details of their qualifications and experience, of all operation and maintenance personnel shall be submitted to the Employer for approval, and no such personnel shall be engaged prior to receiving such approval.
10.2 Commencement of Operation Service	Unless otherwise **stated in the PCC**, the date of commencement of the Operation Service shall be the date seven days following the date of issuance of the Commissioning Certificate issued under Sub-Clause 11.7 [Commissioning Certificate], or such earlier date the Parties may agree to. The Operation Service shall not commence until the Design-Build of the Works or any Sections has been completed in accordance with Sub-Clause 9.12 [*Completion of Design-Build*]. Should the Commissioning Certificate, or any Notice attached or pertaining thereto, contain requirements or restrictions over and above those in the Contract, the Contractor shall comply with

	such requirements and/or restrictions, and, to the extent that the Contractor suffers additional Cost as a result, and subject to the provisions of Sub-Clause 20.1 [*Contractor's Claims*], he shall be reimbursed by the Employer unless such requirements or restrictions were as a result of a fault or failure of the Contractor. The Contractor shall thereafter provide the Operation Service in compliance with the Operation Management Requirements and in accordance with Sub-Clause 5.5 [*As- Built Documents*] and Sub-Clause 5.6 [*Operation and Maintenance Manuals*]. If the Contractor wishes to modify a document which has previously been submitted and approved, the Contractor shall immediately notify the Employer's Representative, and shall subsequently submit revised document(s) to the Employer's Representative for review accompanied by a written explanation of the need for such modification. The Contractor shall not implement any proposed modification in accordance with sub- paragraph (d) of Sub-Clause 5.2 [*Contractor's Documents*] until such modification has been reviewed by the Employer's Representative, and consent to proceed has been given in writing. However, any such approval or consent, or any review (under this Sub- Clause or otherwise), shall not relieve the Contractor from any obligation or responsibility.
10.3 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. The program and scheduling of the training shall be agreed with the Employer, and the Contractor shall provide experienced training staff, and all training materials as stated in the Employer's Requirements. The Employer shall be responsible for providing the training facilities and nominating and selecting suitable personnel for training.
10.4 Delays and Interruptions during the Operation Service	Delays and interruptions during the Operation Service shall be agreed and determined as follows: (a) Delays or Interruptions caused by the Contractor

	If there are any delays or interruptions during the Operation Service which are caused by the Contractor or by a cause for which the Contractor is responsible, the Contractor, subject to Sub-Clause 3.5 [*Determinations*], shall pay the Employer the performance damages for delay and interruptions specified in the Schedule of Performance Damages. The Employer shall be entitled to recover the amounts due by making corresponding deductions from the payments due to the Contractor. However, the amount of Performance Damages in any contract year of the Operation Service, and the total amount of Performance Damages payable by the Contractor to the Employer, shall not exceed the amounts **stated in the PCC**. There will be no extension of the period of the Operation Service as a result of any such delay or interruption. If a delay or interruption results in a failure to meet Performance Standards and the Contractor is also liable to pay performance damages pursuant to Sub-Clause 10.5, then damages shall not be imposed under both clauses, and the Employer shall determine whether to impose damages under this Sub-Clause 10.4 (a) or under Sub-Clause 10.5. (b) Delays or Interruptions caused by the Employer If there are any delays or interruptions during the Operation Service which are caused by the Employer or by a cause for which the Employer is responsible, the Employer shall compensate the Contractor for any cost and losses including loss of revenue and loss of profit. The amount of compensation due shall be agreed or determined according to Sub-Clause 3.5 [*Determinations*], and the Employer shall pay the amount due by making a corresponding adjustment to the next payment due to the Contractor. In any event other than in the case of election by the Employer to terminate for his convenience pursuant to Sub-Clause 15.5 [*Termination for Employer's Convenience*], the total amount of compensation payable by the Employer to the Contractor shall not exceed the amount **stated in the PCC**. There will be no extension of the period of the Operation Service as a result of any such delay or interruption.

	(c) Suspension by the Employer The Employer's Representative may at any time during the Operation Service instruct the Contractor to suspend progress of the Operation Service. During such suspension, the Contractor shall protect, store, secure and maintain the Plant against any deterioration, loss or damage. If the need to suspend the Operation Service by the Employer is due to any failure of the Contractor or circumstances for which the Contractor is responsible under the Contract, the provisions of paragraph (a) of this Sub- Clause shall apply. If the need to suspend the Operation Service is a result neither of any failure by the Contractor nor of circumstances for which the Contractor is responsible under the Contract, the provisions of paragraph (b) of this Sub-Clause shall apply. If a suspension, which is due neither to any failure by the Contractor nor to circumstances for which the Contractor is responsible under the Contract, has continued for more than 84 days, the Contractor may request the Employer's Representative's permission to proceed. If the Employer's Representative does not give permission within 28 days after being requested to do so, the Contractor may give Notice of termination under Sub-Clause 16.2 [*Termination by Contractor*]. After the permission or instruction to proceed is given, the Contractor and the Employer's Representative shall jointly examine the Works. The Contractor shall make good any deterioration or defect in the Plant and the Employer's Representative shall make a written record of all making good required to be carried out by the Contractor. If the suspension is due neither to any failure by the Contractor nor to circumstances for which the Contractor is responsible under the Contract, the Contractor shall be entitled to be paid the Cost Plus Profit of making good the Works prior to re-commencing the Operation Service.
10.5 Failure to Meet Performance Standards	In the event that the Contractor fails to achieve the Performance Standards required under the Contract, the Parties shall jointly establish the cause of such failure.

	(a) If the failure is due to the Employer or any of his servants or agents, then, after consultation with the Contractor, the Employer shall give written instruction to the Contractor of the measures which the Employer requires the Contractor to take. If the Contractor suffers any additional cost as a result of the failure or the measures instructed by the Employer, the Employer, subject to Sub-Clause 3.5 [*Determinations*] and Sub-Clause 20.1 [*Contractor's Claims*], shall pay the Contractor his Cost Plus Profit. (b) If the failure is due to the Contractor then, after due consultation with the Employer, the Contractor shall at its own expense make any changes, modifications or additions to the Works, to its operating procedures, and to the Contractor's Personnel, as may be necessary to bring the Works and Operation Service into compliance with the Performance Standards. If the failure relates to a Performance Standard for which damages are specified in the Schedule of Performance Damages, then the Contractor, subject to Sub-Clause 3.5 [*Determinations*], shall pay the Employer the performance damages specified in the Schedule of Performance Damages. The Employer shall be entitled to recover the amount due by making corresponding deductions from the payments due to the Contractor. The amount of compensation payable by the Contractor to the Employer under this sub-clause in any contract year of the Operation Service Period and total amount of compensation payable by the Contractor under this Sub-Clause 10.5 (*Failures to meet Performance Standards*) shall not exceed the amounts **stated in the PCC.** Unless otherwise **stated in the PCC**, if the failure continues for a period of more than 84 days and the Contractor is unable to achieve the required Performance Standards, the Employer may either: (i) continue with the Operation Service at a reduced level of compensation determined in accordance with Sub-Clause 3.5 [*Determinations*]; or, (ii) give Notice to the Contractor of not less than 56 days of its decision to terminate the Contract, in accordance with Sub-Clause 15.2 [*Termination for Contractor's Default*]. In such an event, the Employer shall be free to continue the Operation Service itself or by others.

10.6 Completion of Operation Service	Unless the Parties have mutually agreed to prolong the Operation Service, the obligation of the Contractor to operate and maintain the Plant under the Operation Service shall cease at the end of the period stated in the Contract as the Operation Service Period. Notwithstanding the foregoing, other services to be performed by the Contractor must be completed before the Contractor will be entitled to receive the Contract Completion Certificate in accordance with Sub-Clause 8.6 [*Contract Completion Certificate*]. Pre-conditions which must be fulfilled by the Contractor before the Contract Completion Certificate will be issued are: (a) Inspection in accordance with Sub-Clause 11.8 [*Joint Inspection Prior to Contract Completion*]; (b) Testing in accordance with Sub-Clause 11.9 [*Procedure for Tests Prior to Contract Completion*]; (c) Updating Operation and Maintenance manuals providing performance records and data in accordance with Sub-Clause 5.6 [*Operation and Maintenance Manuals*]; and (d) Remedying defects found during inspection in accordance with Sub-Clause 11.8 [*Joint Inspection Prior to Contract Completion*].
10.7 Ownership of Output and Revenue	Unless specified otherwise **in the PCC**, during the Operation Service, any production output and revenue shall be the exclusive property of the Employer.
Testing	
11.1 Testing of the Works	The Contractor shall carry out the Tests on Completion of Design-Build in accordance with this Clause and Sub-Clause 7.4 [*Testing*], after providing the documents in accordance with Sub-Clause 5.5 [*As-Built Documents*] and Sub-Clause 5.6 [*Operation and Maintenance Manuals*]. The Contractor shall give Notice to the Employer's Representative not less than 21 days prior to the date after which the Contractor will be ready to carry out each of the Tests on Completion of Design-Build. Unless otherwise agreed, Tests on Completion of Design-Build shall be carried out within 14 days after this date, on such day or days as the Employer's Representative shall instruct.

	Unless otherwise **stated in the Particular Conditions of Contract**, the Tests on Completion of Design-Build shall be carried out in the following sequence and are further detailed in the Employer's Requirements: (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 undertake 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. The Employer shall be the sole beneficiary of any revenue or benefit resulting from the Tests on Completion of Design-Build. During trial operation, when the Works are operating under stable conditions, the Contractor shall give Notice to the Employer's Representative that the Works are ready for any other Tests on Completion of Design-Build, including performance tests to demonstrate whether the Works conform with criteria specified in the Employer's Requirements and with the Schedule of Performance Standards. Trial operation shall not constitute a commencement of the Operation Service under Sub-Clause 10.2 [*Commencement of Operation Servic*e]. In considering the results of the Tests on Completion of Design-Build, the Employer's Representative shall make allowances 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 of Design-Build described in sub-paragraph (a), (b) or (c) above, the Contractor shall submit a report certified by the Contractor of the results of these Tests to the Employer's Representative.
11.2 Delayed Tests on Completion of Design-Build	If the Tests on Completion of Design-Build are being unduly delayed by the Employer, Sub-Clause 7.4 [*Testing*] (fifth paragraph) shall be applicable.

	If the Tests on Completion of Design-Build are being unduly delayed by the Contractor, the Employer's Representative may by Notice require the Contractor to carry out such Tests within 21 days after receiving the Notice. The Contractor shall carry out such Tests on the day or days within that period as the Contractor may fix and of which he shall give Notice to the Employer's Representative. If the Contractor fails to carry out the Tests on Completion of Design-Build within the period of 21 days, the Employer's Personnel may proceed with the Tests at the risk and cost of the Contractor. The 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.
11.3 Retesting of the Works	If the Works, or a Section, fail to pass the Tests on Completion of Design-Build, Sub- Clause 7.5 [*Rejection*] shall apply, and the Employer's Representative or the Contractor may require the failed Tests, and Tests on Completion of Design-Build on any related work, to be repeated under the same terms and conditions.
11.4 Failure to Pass Tests on Completion of Design-Build	If the Works, or a Section, fail to pass the Tests on Completion of Design-Build repeated under Sub-Clause 11.3 [*Retesting of the Works*] the Employer's Representative shall be entitled to: (a) order further repetition of Tests on Completion of Design-Build under Sub-Clause 11.3 [*Retesting of the Works*]; or (b) issue a Notice under Sub-Clause 15.1 [*Notice to Correct*].
11.5 Completion of the Works and Sections	Except as stated in Sub-Clause 11.11 [*Failure to Pass Tests Prior to Contract Completion*], the Works shall be deemed by the Employer to be completed when: (a) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 9.2 [*Time for Completion of Design-Build*] and Sub-Clause 5.6 [*Operation and Maintenance Manuals*] and except as allowed in sub-paragraph (i) below; and (b) a Commissioning Certificate 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's Representative for a Commissioning Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be

	complete and ready for commencement of the Operation Service Period. If the Works are divided into Sections, the Contractor may similarly apply for a Commissioning Certificate for each Section. The Employer's Representative shall, within 28 days after receiving the Contractor's application: (i) issue the Commissioning 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 (listing such outstanding work and defects which are to be remedied); or (ii) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Commissioning Certificate to be issued. The Contractor shall then complete the work referred to in sub-paragraph (ii) above before issuing a further Notice under this Sub-Clause. If the Employer's Representative either fails to issue the Commissioning Certificate or 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 Commissioning Certificate shall be deemed to have been issued on the last day of that period.
11.6 Commissioning of Parts of the Works	The Employer's Representative may, at the request of the Contractor, issue a Section Commissioning Certificate for any part of the Permanent Works. If a Section Commissioning Certificate has been issued for a part of the Works, the delay damages thereafter for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Section Commissioning Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Employer's Representative shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or

	determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 9.6 [*Delay Damages relating to Design-Build*], and shall not affect the maximum amount of these damages (if any).
11.7 Commissioning Certificate	Performance of the Contractor's Design-Build obligations, including care of the Works, shall not be considered to have been completed until the Commissioning Certificate has been signed by the Employer's Representative and delivered to the Contractor, stating the date on which the Contractor, in the opinion of the Employer's Representative, completed all such obligations in accordance with the Contract (subject to the outstanding works and defects listed in accordance with Sub-Clause 11.5 [*Completion of the Works and Sections*]). The Employer's Representative shall issue the Commissioning Certificate to the Contractor within 28 days after the application by the Contractor for the Commissioning Certificate subject to the provisions of Sub-Clause 11.5 [*Completion of the Works and Sections*]. Only the Commissioning Certificate shall be deemed to constitute acceptance of the Works.
11.8 Joint Inspection Prior to Contract Completion	Not less than two years prior to the expiry date of the Operation Service Period, the Employer's Representative and the Contractor shall carry out a joint inspection of the Works and, within 28 days of the completion of the joint inspection, the Contractor shall submit a report on the condition of the Works, for the Approval of the Employer's Representative, identifying all remedial works and asset replacements (excluding routine maintenance works) that are necessary a) to satisfy the handback requirement specified in the Employer's Requirements, and b) to ensure that the Works can be operated in full compliance with the Performance Standards after the Contract Completion Date. The Contractor shall submit a program for carrying out such works over the remainder of the Operation Service Period. Following receipt of the Contractor's report, the Employer's Representative may, throughout the remainder of the Operation Service Period, instruct the Contractor to carry out all or part of the works identified in the Contractor's report at the Contractor's cost.

	Upon satisfactory completion of the items identified in this Sub-Clause the Employer shall instruct the Contractor to commence the Tests Prior to Contract Completion in accordance with Sub-Clause 11.9 [*Procedure for Tests Prior to Contract Completion*].
11.9 Procedure for Tests Prior to Contract Completion	The Tests Prior to Contract Completion ("Tests") are to be carried out by the Contractor who shall provide all necessary labour, materials, electricity, fuel and water, any other items required, and undertake any required remedial works as may be required. The Tests are to be carried out in accordance with the Employer's Requirements. The Tests shall be carried out towards the end of the Operation Service Period. The Employer shall give Notice to the Contractor not less than 21 days prior to the date after which the Tests shall be carried out. Unless otherwise agreed, such Tests shall be commenced within 14 days after this date, on the day or days determined by the Employer's Representative. The results of the Tests shall be compiled and evaluated by the Employer's Representative and the Contractor. The Contractor shall make the results of any tests, inspections or monitoring available to the Employer's Representative within 7 days of their receipt. Any effect on the results of the Tests which can reasonably be shown to be due to prior use of the Works by the Contractor during the Operation Service Period shall be taken into account in assessing such results. As soon as the Contractor has completed the Tests, the Contractor shall notify the Employer's Representative that the Works are complete and ready for final inspection. Upon the Employer's Representative being satisfied that the Contractor has satisfied the requirements of the Tests regarding such final inspection, the Employer's Representative shall notify the Employer and the Contractor prior to the issue of the Contract Completion Certificate.
11.10 Delayed Tests Prior to Contract Completion	If the Employer incurs cost as a result of any unreasonable delay by the Contractor in carrying out the Tests Prior to Contract Completion ("Tests"), the Employer shall be entitled, subject to Sub-Clause 20.2 [*Employer's Claims*], to payment of any such cost which shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due, or to become due, to the Contractor.

	If the Contractor fails to commence the Tests on the day or days determined under Sub-Clause 11.9 [*Procedure for Tests Prior to Contract Completion*], the Employer's Representative shall give Notice to the Contractor that unless the Tests are commenced within 14 days of this Notice the Employer's Representative may order that the Tests be undertaken by others on behalf of the Employer. In such event, the Contractor shall be bound by the results of such Tests as being accurate and the Employer shall be entitled to deduct the costs associated with the undertaking of the Tests by others from any monies due, or to become due, to the Contractor. If, for reasons not attributable to the Contractor, the Tests Prior to Contract Completion of the Works, or any Section, cannot be completed during the Contract Period (or any other period agreed upon by both Parties), then the Works or Section shall be deemed to have passed the Tests.
11.11 Failure to Pass Tests Prior to Contract Completion	If the Works or a Section thereof, fails to pass the Tests Prior to Contract Completion ("Tests") under Sub-Clause 11.9 [*Procedure for Tests Prior to Contract Completion*], the Employer's Representative shall be entitled to: (a) order further repetition of Tests under Sub-Clause 11.12 [*Retesting Prior to Contract Completion*]; (b) reject the Works or a Section thereof (as the case may be), in which event the Employer shall have the same remedies against the Contractor as provided under Clause 15 [*Termination by Employer*]; or (c) issue a Contract Completion Certificate, if the Employer so requires. The Contract Price shall then be reduced by such an amount as may be agreed by the Employer and the Contractor (in full satisfaction of such failure only), and the Contractor shall then proceed in accordance with his other obligations under the Contract. In the event of (c) above, if the Works, or a Section, fail to pass any of the Tests 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 Contract 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 the Tests. 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 after issue of the Contract Completion Certificate, either to investigate the causes of a failure to pass any of the Tests or to carry out any adjustments or modifications, the Contractor shall be paid the additional Cost Plus Profit, as determined or agreed in accordance with Sub-Clause 3.5 [*Determinations*], caused by such a delay.
11.12 Retesting Prior to Contract Completion	If the Works, or a Section, fail to pass the Tests Prior to Contract Completion: (a) sub-paragraph (b) of Sub-Clause 12.1 [*Completion of Outstanding Work and Remedying Defects*] shall apply; and (b) the Employer may require the failed Tests, and the Tests Prior to Contract Completion on any related work, to be repeated under the same terms and conditions. If such failure and retesting results from a default of the Contractor and causes the Employer to incur additional costs, such costs shall be recoverable from the Contractor by the Employer, subject to Sub-Clause 20.2 [*Employer's Claims*], and may be deducted by the Employer from any monies due, or to become due, to the Contractor. The Employer's Representative may carry out such additional tests, inspections and monitoring as he deems necessary. The costs of such tests, except where such tests are carried out for the purpose of remedying any damage, defect or failure to meet standards that are the responsibility of the Contractor under the Contract, shall be borne by the Employer.
Defects	
12.1 Completion of Outstanding Work and Remedying Defects	The requirements regarding the completion of outstanding work and the remedying of defects are as follows: (a) Design-Build Period: In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract, the Contractor shall:

	(i) complete any work which is outstanding on the date stated in the Commissioning Certificate as soon as practicable after such date, and not later than one year after such date; and (ii) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Employer. Final payment for the Design-Build Period, in accordance with Clause 14 [*Contract Price and Payment*], will not be certified until the above requirements have, in the opinion of the Employer's Representative, been met. If a defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) the Employer. (b) Operation Service Period: The Contractor shall be responsible for repairing and making good any damage or defect occurring during the Operation Service Period, whether such defect or damage is notified by the Employer or his Representative, or observed by the Contractor himself. The Contract Completion Certificate issued under Sub-Clause 8.6 [*Contract Completion Certificate*] will not be issued until all defects and damage and all outstanding work, including all such items identified during the joint inspection made in accordance with Sub-Clause 11.8 [*Joint Inspection Prior to Contract Completion*], have been completed.
12.2 Cost of Remedying Defects	All work required to repair defects or damage shall be executed at the risk and cost of the Contractor, except: (a) where it is attributable to any act by the Employer or the Employer's Personnel or agents; or (b) where it is as a result of an event that is covered under Clause 18 [*Exceptional Risks*]. Where the Contractor is required to remedy a defect or damage to the Works under sub-paragraphs (a) or (b) of this Sub-Clause, the Contractor shall notify the Employer's Representative and shall be entitled to a Variation under Clause 13 [V*ariations and Adjustments*].

12.3 Failure to Remedy Defects	If the Contractor fails to remedy any defect or damage arising during either the Design- Build Period or the Operation Service Period within a reasonable time, a date may be fixed by (or on behalf of) the Employer's Representative, 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 such date and the necessity for such work is due to the Contractor subject to Sub-Clause 12.2 [*Cost of Remedying Defects*], the Employer may (at his sole discretion): (a) require the Employer's Representative to determine and certify a reasonable reduction in the Contract Price or the Rates and Prices submitted for the Operation Service Period in accordance with Sub-Clause 3.5 [*Determinations*]; or (b) if the defect or damage is such that the Contractor has been unable to commission the Works or continue providing the Operation Service and the Employer has been deprived of substantially the whole of the benefit of the Works or parts of the Works, the Employer shall be entitled to terminate the Contract in respect of such parts of the Works as cannot be put to the intended use in accordance with the provisions of Clause 15 [*Termination by Employer*]. In the event of (b) above occurring, the Employer shall, notwithstanding the provisions of Sub-Clause 15.4 [*Payment after Termination for Contractor's Default*]: (i) during the Design-Build Period, be entitled to recover from the Contractor all sums paid for such parts of the Works plus financing costs together with the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor; or, if the Employer chooses to complete the Works himself or by engaging others, the Employer shall be entitled to recover the extra costs, if any, of completing the Works after allowing for any sum due to the Contractor under Sub-Clause 15.3 [*Valuation at Date of Termination for Contractor's Default*]. If there are no such extra costs, the Employer shall pay any balance to the Contractor; and

	(ii) during the Operation Service Period, not be liable to make any further payments to the Contractor until the costs of operation and maintenance, completion and remedying of any defects and all other costs incurred and to be incurred by the Employer have been established.
12.4 Further Tests	If the work of remedying any defect or damage may affect the performance of the Works, the Employer's Representative may require the repetition of any of the tests described in the Contract. 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 12.2 [*Cost of Remedying Defects*], for the cost of the remedial work.
12.5 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.
12.6 Contractor to Search	The Contractor shall, if required by the Employer's Representative, search for the cause of any defect, under the direction of the Employer's Representative. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 12.2 [*Cost of Remedying Defects*], the Cost Plus Profit of the search shall be agreed or determined by the Employer's Representative in accordance with Sub-Clause 3.5 [*Determinations*] and shall be included in the Contract Price.
Variations and Adjustments	
13.1 Right to Vary	Variations may be initiated by the Employer's Representative at any time prior to issuing the Commissioning Certificate, either by an instruction to the Contractor by the Employer's Representative or by a request for the Contractor to submit a proposal. The Contractor shall execute and be bound by each Variation; unless the Contractor promptly gives Notice to the Employer's Representative 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 for the purposes for which they were intended under the Contract;

	(iii) it will have an adverse impact on the achievement of the Schedule of Performance Standards; or (iv) such Variation triggers a substantial change in the sequence or progress of the Works. It will have an adverse effect on the provision of the Operation Service under the Contract. Upon receiving this Notice, the Employer's Representative shall cancel, confirm or vary the instruction and the Contractor shall execute and be bound by it. If the Employer or the Employer's Representative wishes to instruct a Variation during the Operation Service Period, he shall give the Contractor written details of his requirements. The Contractor shall then proceed in accordance with Sub-Clause 13.3 [*Variation Procedure*] sub-paragraphs (a), (b) and (c). However, the Contractor shall not be obliged to proceed with the Variation until the matters covered in Sub-Clause 13.3 [*Variation Procedure*] sub-paragraphs (a), (b) and (c) have been agreed between the Employer and the Contractor.
13.2 Value Engineering	Unless otherwise **specified in PCC**, the Contractor may, at any time, submit to the Employer's Representative a written proposal, which (in the Contractor's opinion) will, if adopted: (a) accelerate completion of the Works; (b) reduce the cost to the Employer of executing, maintaining or operating the Works; (c) improve the efficiency or value to the Employer of the completed Works; (d) improve the efficiency of the Operation Service being provided; or (e) 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's Representative 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 program for its execution and sufficient ESHS information to enable an evaluation of ESHS risks and impacts;

	(b) the Contractor's proposal for any necessary modifications to the program according to Sub-Clause 8.3 [*Program*] and to the Time for Completion; and (c) the Contractor's proposal for adjustment to the Contract Price. The Employer's Representative 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's Representative to the Contractor, who shall acknowledge receipt. Upon instructing or approving a Variation, the Employer's Representative 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, except adjustments made under Sub-Clause 13.6 [*Adjustments for Changes in Legislation]* and Sub-Clause 13.7 [*Adjustments for Changes in Technology*], 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 Currencies	All payments shall be made in Indian Rupees only.
13.5 Provisional Sums	Each Provisional Sum shall only be used, in whole or in part, in accordance with the Employer's Representative'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's Representative shall have instructed. For each Provisional Sum, the Employer's Representative 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 included in the Contract Price: (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 appropriate Schedule. If there is no such rate, the percentage rate **stated in the PCC** shall be applied. The Contractor shall, when required by the Employer's Representative, produce quotations, invoices, vouchers and accounts or receipts in substantiation.
13.6 Adjustments for Changes in Legislation	Adjustments to the execution of the Works or provision of the Operation Service necessitated by a change in Law shall be dealt with as a Variation and as provided for under Clause 13 [*Variations and Adjustments*]. Either Party may, by written Notice to the other, require that adjustments shall be made to the provision of the Contract as are necessary to enable the Contractor to comply with changes in Law. However, these adjustments, after ascertaining the facts, would be restricted to direct transactions between the Employer and the Contractor and not on procurement of raw materials, intermediary components etc. by the Contractor. Further, no adjustment of the Contract price shall be made on account of variation in deemed export benefits, if applicable. The Contract Price and program for design, execution and operation of the Works shall be adjusted to take account of any increase or decrease in cost resulting from a change in the Laws of India (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 or changes to technical standards and regulations in accordance with Sub-Clause 5.4 [*Technical Standards and Regulations*], 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's Representative providing evidence supporting any adjustment, an indication of the nature of change in cost and how the Contractor proposes to implement the necessary change. 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 9.3 [*Extension of Time for Completion of Design-Build*]; and (b) payment of any such additional Cost, which shall be included in the Contract Price. After receiving this Notice, the Employer's Representative shall proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine these matters.
13.7 Adjustments for Changes in Technology	The Contract Price and program for design, execution and operation of the Works shall be adjusted to take into account any increase or decrease in cost resulting from any changes in technology, new materials or products which the Contractor is obliged to adopt, either: (a) where a proposal from the Contractor under Sub-Clause 13.2 [V*alue Engineering*] is accepted by the Employer's Representative; (b) where the Employer's Representative instructs the Contractor to use new technology or new materials or products; or (c) there is a statutory requirement for the Contractor to use new technology or new materials or products. In any such case, the Contractor shall be entitled subject to Sub-Clause 20.1 [*Contractor's Claims*] to: (i) an extension of time for any such delay, if the events delay the completion of the Design-Build; and (ii) any additional Cost, subject to an adjustment for any operational or other savings which the Contractor may make as a result of the introduction of such new technology, materials or products. After receiving a Notice of claim, the Employer's Representative shall proceed in accordance with Sub-Clause 3.5 [*Determinations]* to agree or determine these matters. Where appropriate, the Employer's Representative shall issue a Variation to the Contractor with details of the required changes. Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the

	same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8 [Adjustments for Changes in Cost].
13.8 Adjustments for Changes in Costs	The Contract Price and the Rates and Prices shall be adjusted in accordance with the Schedules of cost indexation as contained in the Schedule of Payments. If there are no such Schedules of cost indexation included in the Contract, this Sub-Clause shall not apply.
13.9 Adjustments for Changes in Influent Quality	If provided **for in the PCC**, the Contract Price and/or Performance Standards shall be adjusted to take account of the impacts of long term changes in the characteristics of the Influent received at the delivery point to the Works, relative to the Influent Baseline, provided that: (a) The changes in Influent characteristics are sustained and permanent; (b) The changes give rise to an increase or decrease in the Contractor's annual Operation Service costs of greater than 5 % [*or Employer may insert alternative value*] relative to what the costs would have been had the long term changes in the characteristics of the Influent not occurred. In such case, either the Employer or the Contractor shall be entitled to initiate an adjustment in the Contract Price and/or Performance Standards. The Contractor shall be entitled to make a claim for an adjustment in the Contract Price in accordance with Sub-Clause 20.1 (Contractor's Claims), and/or may submit a bid for an adjustment in the Performance Standards under Sub-Clause 13.2 (Value Engineering). The Employer shall be entitled to vary the Contract Price or Performance Standards by issuing a Variation in accordance with Clause 13 (Variations and Adjustments) Following a successful claim under this Sub-Clause, the Employer's Representative shall update the Influent Baseline to reflect the long term changes to the characteristics, and the updated Influent Baseline shall be used as the baseline against which to evaluate any further claims for price adjustment under this Sub-Clause.
Contract Price and Payment	
14.1 The Contract Price	The Contract Price shall be the amount or amounts submitted by the Contractor for the Design-Build and the Operation Service, priced at the Base Date, and due to be paid to the Contractor in

	accordance with the Contract together with any adjustments as provided for under Clause 13 [*Variations and Adjustments*] or arising as a result of claims under Clause 20 [*Claims, Disputes and Arbitration*]. 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 changes in any of these costs, except as provided for in Sub-Clause 13.6 [*Adjustments for Changes in Legislation*] and to the extent allowed for under Clause 20 [*Claims, Disputes and Arbitration*]. The contractor will be solely responsible for ascertaining and obtaining tax/duty exemption benefits available in India to the contracts financed under World Bank loan/credits. The Employer will not compensate the contractor in case of failure to receive such benefits. The Employer will give only necessary certificates in terms of the Government of India's relevant notifications as per information given in Declaration Form.
14.2 Advance Payment	The Employer shall make an advance payment in Indian Rs., as an interest-free loan for mobilization and cash flow support, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), shall be as **stated in the PCC**. Unless and until the Employer receives this guarantee, or if the total advance payment is not **stated in the PCC**, this Sub-Clause shall not apply. The Employer's Representative shall deliver to the Employer and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Advance and Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee of amount equal to the advance payment. This guarantee shall be issued by a Nationalized/ Scheduled bank in India and shall be in the form of Bank Guarantee attached hereto in Section X, Contract Forms. The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced (each instalment not less than Rs. 500,000) by the amount repaid by the Contractor as indicated in the Payment Certificates. 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. Unless stated otherwise **in the PCC**, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Employer's Representative in accordance with Sub-Clause 14.6 [Issue of Advance and Interim Payment Certificates], as follows: (a) deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent (30%) of the Accepted Contract Amount for the Design Build less Provisional Sums; and (b) deductions shall be made at the amortization rate **stated in the PCC** of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment. If the advance payment has not been repaid prior to the issue of the Commissioning Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 18 [Exceptional Risks] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Employer], except for Sub-Clause 15.5 [Employer's Entitlement to Termination for Employer's Convenience], payable by the Contractor to the Employer."
14.3 Application for Advance and Interim Payment Certificates	When submitting the advance payment guarantee required under Sub-Clause 14.2 [*Advance Payment]*, the Contractor shall include his application for the advance payment. The Contractor shall thereafter submit a Statement in one original and five copies to the Employer's Representative after the end of each month (unless otherwise stated in the Contract), in a form approved by the Employer's Representative, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents. The Contractor shall prepare

	separate Statements for the Design-Build and for the Operation Service. The Statement shall include the following items, as applicable, expressed in Indian Rs.: (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 (j) below); (b) any amounts to be added and deducted for changes in legislation, changes in cost and changes in technology, in accordance with Sub-Clause 13.6 [*Adjustments for Changes in Legislation*], Sub-Clause 13.7 [*Adjustments for Changes in Technology*] 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 PCC** to the total of the above amounts, until the amount so retained by the Employer's Representative reaches the limit of Retention Money (if any) **stated in the PCC**; (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 amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [*Payment for Plant and Materials intended for the Works*]; (f) any amounts due for Plant, Materials or services purchased by the Contractor under Sub-Clause 13.5 [*Provisional Sums*]; (g) amounts due for the Operation Service; (h) adjustments due for the Maintenance Retention Fund; (i) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [*Claims, Disputes and Arbitration*]; (j) the deduction of amounts certified in all previous Interim Payment Certificates; and (k) The amount to be deducted towards the advance income tax shall be at the rate of 2 %* [Blank to be filled) percent and the advance works contract tax at the rate of 12%_* percent." * The percentages as indicated above will be subject to change applicable according to law from time to time.

14.4 Schedule of Payments	If the Contract includes a Schedule of Payments for the Design-Build Period and/or the Operation Service Period specifying the instalments in which the Contract Price and/or the Rates and Prices will be paid, then, unless otherwise stated in this Schedule. (a) the instalments quoted in the Schedule of Payments shall be the estimated values for the purposes of Sub-Clause 14.3 [*Application for Advance and Interim Payment Certificates*]; (b) Sub-Clause 14.5 [*Payment for Plant and Materials intended for the Works*] shall not apply; and (c) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to differ from that on which the Schedule of Payments was based, then the Employer's Representative 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 differs from that on which the instalments were previously based. If the Contract does not include a Schedule of Payments for the Design-Build Period and/or the Operation Service Period, 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 Contract Completion Certificate has been issued.
14.5 Payment for Plant and Materials intended for the Works	If this Sub-Clause applies, Interim Payment Certificates shall include, under sub- paragraph (e) of Sub-Clause 14.3 [Application *for Advance and Interim Payment Certificates]*, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub- paragraph (a) of Sub-Clause 14.3. If the list referred to in sub-paragraphs (b)(i) below is not included in the PCC, this Sub-Clause shall not apply. The Employer's Representative shall determine and certify each addition if the following conditions are satisfied:

	(a) the Contractor has: (i) kept satisfactory records (including the orders, receipts, costs and use of Plant and Materials) which are available for inspection; and (ii) submitted a statement of the cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence; and either: (b) the relevant Plant and Materials: (i) are those **listed in the PCC** for payment when delivered to the Site; and (ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract. The additional amount to be certified shall be the equivalent of eighty percent (80%) of the Employer's Representative determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub- Clause and of the contract value of the Plant and Materials. The currency for this additional amount shall be Indian Rupees, the same as that in which payment will become due when the contract value is included under sub-paragraph (a) of Sub- Clause 14.3 [*Application for Advance and Interim Payment Certificates*]. At that time, the Interim Payment Certificate shall include the applicable reduction which shall be equivalent to this additional amount for the relevant Plant and Materials.
14.6 Issue of Advance and Interim Payment Certificates	No amount will be certified or paid until the Employer has received and approved the Performance Security provided for in Sub-Clause 4.2 [*Performance Security*]. Upon receipt of the Contractor's application for the advance payment, the Employer's Representative shall, within 14 days of receiving the application, deliver to the Employer and to the Contractor an Interim Payment Certificate in respect of such payment, with a copy to the Contractor. Thereafter, in respect of interim payment applications the Employer's Representative shall, within 28 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the

	amount which the Employer's Representative fairly determines to be due, with supporting particulars, and shall include any amounts due to or from the Contractor in accordance with a decision by the Adjudicator made under Sub-Clause 20.3. However, prior to issuing the Commissioning Certificate, the Employer's Representative shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) **stated in the PCC**. In this event, the Employer's Representative shall give Notice to the Contractor accordingly. An Interim Payment Certificate shall not be withheld for any other reason, although: (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's Representative, the value of this work or obligation may be withheld until the work or obligation has been performed. (c) if the Contractor was, or is, failing to perform any ESHS obligations or work under the Contract, the value of this work or obligation, as determined by the Employer's Representative, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Employer's Representative, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following: (i) failure to comply with any ESHS requirements described in the Employer's Requirements; (ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ESHS issues, or anticipated risks or impacts; (iii) failure to implement the C-ESMP e.g. failure to provide required training or sensitization; (iv) failing to have appropriate consents/permits prior to undertaking Works or related activities;

	(v) failure to submit ESHS report/s (as described in Particular Conditions of Contract 4.20 and/or Appendix C), or failure to submit such reports in a timely manner; (vi) failure to implement remediation as instructed by the Employer's Representative within the specified timeframe (e.g. remediation addressing non-compliance/s). The Employer's Representative may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. An Interim Payment Certificate shall not be deemed to indicate the Employer's Representative's acceptance, approval, consent or satisfaction of the Works.
14.7 Payment	The Employer shall pay to the Contractor: (a) the advance payment within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [*Performance Security*] and Sub-Clause 14.2 [A*dvance Payment*] and the Payment Certificate for the advance payment issued in accordance with Sub-Clause 14.6 [*Issue of Advance and Interim Payment Certificates*]; (b) the amount certified in each Interim Payment Certificate within 56 days after the Employer's Representative receives the Statement and supporting documents; or, at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the amount shown on any statement submitted by the Contractor within 14 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor; and (c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate; or, at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the undisputed amount shown in the Final Statement within 56 days after the date of notification of the suspension in accordance with Sub-Clause 16.2 [Termination by Contractor]. Payment of the amount due shall be made in Indian Rs. into the bank account, nominated by the Contractor.

14.8 Delayed Payment	If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [*Payment*], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [*Payment*], irrespective (in the case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued. These financing charges shall be calculated at the annual rate **specified in the PCC** and shall be paid in Indian Rs. The Contractor shall be entitled to this payment without formal Notice or certification, and without prejudice to any other right or remedy.
14.9 Payment of Retention Money	When the Commissioning Certificate has been issued, the first half of the Retention Money shall be certified by the Employer's Representative for payment to the Contractor. If a Section Commissioning Certificate is issued for a Section, the relevant percentage of the first half of the Retention Money shall be certified and paid to the Contractor. Such amount shall be included for payment in the next Interim Payment Certificate following the issue of the Commissioning Certificate. The Contractor shall be entitled to include the second half of the Retention Money in the Final Statement Design-Build. Unless otherwise stated in the Contract, when the Commissioning Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Employer's Representative, the Contractor may be permitted by the Employer to substitute a bank guarantee, in the form of the bank guarantee attached hereto in Section X, Contract Forms and issued by a Nationalized/ Scheduled bank in India, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amount of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Employer's Representative shall certify and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release under the second paragraph of this

	Sub-Clause. The Employer shall return the guarantee to the Contractor within 21 days after receiving a copy of the Contract Completion certificate.
14.10 Application for Final Payment Certificate Design-Build	Within 28 days after the end of the Retention Period, the Contractor shall submit to the Employer's Representative one original and five copies of the Final Statement Design-Build with supporting documents showing: (a) the value of all work done in respect of the Design-Build; and (b) any further sums which the Contractor considers to be due to him under the Contract in respect of the Design-Build. Together with the Final Statement Design-Build, the Contractor shall submit a written undertaking that the Statement is in full and final settlement of all matters under or in connection with the Contract relating to the Design-Build. If the Employer's Representative disagrees with or cannot verify any part of the Final Statement Design-Build, the Employer's Representative and the Contractor shall attempt to agree such matters, and the Contractor shall re-submit his Final Statement based on the agreement with the Employer's Representative. The Employer's Representative shall then issue a Final Payment Certificate Design-Build under Sub-Clause 14.11 [*Issue of Final Payment Certificate Design-Build*] for the agreed amount. If the Parties cannot agree on such matters, or if the Contractor has failed to submit his application for payment within the said 28 days, the Employer's Representative shall issue an Interim Payment Certificate under Sub-Clause 14.6 [I*ssue of Advance and Interim Payment Certificates*] for the amount which he considers to be due to the Contractor. If the Contractor is dissatisfied with the amount certified, he may refer the matter to the Adjudicator for a decision in accordance with Clause 20.3.
14.11 Issue of Final Payment Certificate Design-Build	Within 28 days of receiving the Final Statement Design-Build, or the resubmitted Final Statement (as the case may be), and the written undertaking from the Contractor in accordance with Sub-Clause 14.10 [*Application for Final Payment Certificate Design- Build*], the Employer's Representative shall deliver to the Employer and to the Contractor, with a copy to the Contractor, the Final Payment Certificate Design-Build stating:

	(a) the amount which he fairly determines is finally due for the Design-Build; and (b) after giving credit to the Employer for all amounts previously paid by the Employer and all sums to which the Employer is entitled in respect of the Design-Build, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be. Upon receipt of the Final Payment Certificate Design-Build, the Employer shall pay the Contractor the amount, if any, due in accordance with the provisions of Sub-Clause 14.7 [*Payment*].
14.12 Application for Final Payment Certificate Operation Service	Within 56 days after receiving the Contract Completion Certificate, the Contractor shall submit to the Employer's Representative one original and five copies of the Final Statement Operation Service with supporting documents showing: (a) the value of all work done in respect of the Operation Service; and (b) any further sums which the Contractor considers to be due to him under the Contract including any unused monies from the Maintenance Retention Fund. Together with the Final Statement Operation Service, the Contractor shall submit a written discharge according to the requirements of Sub-Clause 14.13 [*Discharge*].
14.13 Discharge	When submitting the Final Statement Operation Service, the Contractor shall submit a written discharge which confirms that the total of the Final Statement Operation Service, together with the Final Statement Design-Build submitted according to Sub-Clause 14.10 [*Application for Final Payment Certificate Design-Build*] represents full and final settlement of all monies due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective only after payment due under the Final Payment Certificate Operation Service has been made and the Performance Security referred to in Sub-Clause 4.2 [*Performance Security*] has been returned to the Contractor.
14.14 Issue of Final Payment Certificate Operation Service	Within 28 days of receiving the Final Statement Operation Service and the written discharge from the Contractor in accordance with Sub-Clause 14.12 [*Application for Final Payment Certificate Operation Service*] and Sub-Clause 14.13 [*Discharge*] respectively, the Employer's Representative shall

	deliver to the Employer and to the Contractor, with a copy to the Contractor, the Final Payment Certificate Operation Service stating: (a) the amount which he fairly determines is finally due for the Operation Service; and (b) the amount which he fairly determines is finally due for the Contract; and (c) after giving credit to the Employer for all amounts previously paid by the Employer and all sums to which the Employer is entitled in respect of the Contract, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be. If the Employer's Representative disagrees with or cannot verify any part of the Final Statement Operation Service, the Employer's Representative and the Contractor shall attempt to agree such matters, and the Employer's Representative shall issue a Final Payment Certificate Operation Service for the agreed amount. If the Parties cannot agree on such matters, the Employer's Representative shall issue a Final Payment Certificate Operation Service for the amount which he considers to be due to the Contractor. If the Contractor is dissatisfied with the amount certified, he may refer the matter to the Adjudicator for a decision in accordance with Clause 20.3. Upon receipt of the Final Payment Certificate Operation Service, the Employer shall pay the Contractor in accordance with the provisions of Sub-Clause 14.7 [Payment].
14.15 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 in the Final Statement Design-Build or the Final Statement Operation Service. 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. Furthermore, if the Contractor has not submitted any matter to the Adjudicator under GCC 20 within 56 days of receiving notification from the Employer's Representative of the amounts included for payment in either the Final Certificate Design-Build

	or the Final Certificate Operation Service, then he will be deemed to have accepted the amounts so certified, and the Employer shall be deemed to have no further liability to the Contractor, subject only to that payment due under the Final Payment Certificate Operation Service has been made and that the Performance Security referred to in Sub-Clause 4.2 [*Performance Security*] has been returned to the Contractor.
14.16 Currencies of Payment	All payments shall be made in Indian Rupees only.
14.17 Maintenance Retention Fund	During the Operation Service Period, a Maintenance Retention Fund shall be created by deducting five percent (5%) from the value of each interim payment, determined by the Employer's Representative in accordance with Sub-Clause 14.6 [*Issue of Advance and Interim Payment Certificates*], due to the Contractor, commencing with the first payment following the issue of the Commissioning Certificate, and continuing until the last Interim Payment Certificate is issued or until the amount in the Maintenance Retention Fund has reached the value (if any) **stated in the PCC**, whichever is the earlier. If the Contractor so chooses, the Maintenance Retention Fund may be replaced by a Maintenance Retention Guarantee in a form and with an entity approved by the Employer. However, the value of the Guarantee shall not exceed the maximum amount of the Maintenance Retention Fund **stated in the PCC**. The Contractor shall ensure that the Maintenance Retention Guarantee remains valid and in force until the issue of the Contract Completion Certificate. If the maintenance required under the Contract has not been carried out, the Employer may, after giving due Notice to the Contractor, carry out such maintenance himself and apply any amounts standing to the credit of the Maintenance Retention Fund in so doing. Where such amounts are insufficient to cover the Employer's whole costs of carrying out the maintenance, the unrecovered costs shall be set off against any payment due to the Contractor under the Contract, or to the extent that no such payment is due, shall become a debt due by the Contractor to the Employer. Following the issue of the Contract Completion Certificate under Sub-Clause 8.6 [*Contract Completion Certificate*], all funds remaining in the Maintenance Retention Fund shall be included in the Final Payment Certificate Operation Service and paid to the Contractor with the final payment.

Termination by Employer	
15.1 Notice to Correct	If the Contractor fails to carry out any obligation under the Contract, the Employer's Representative shall by Notice require the Contractor to make good the failure and to remedy it within the time specified in the said Notice.
15.2 Termination for Contractor's Default	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: (i) to proceed with the Works in accordance with Sub-Clause 9.1 [*Commencement of Design-Build*] or Sub-Clause 10.2 [*Commencement of Operation Service*]; or (ii) to comply with a Notice issued under Sub-Clause 7.5 [*Rejection*] or Sub-Clause 7.6 [*Remedial Work*], within 28 days after receiving it; (d) subcontracts the whole of the Works or assigns the Contract without the required agreement or subcontracts the Operation Service or any parts of the Works in breach of Sub-Clause 4.4 [*Subcontractors*]; (e) either gives Notice to the Employer under Sub-Clause 4.24 [*Changes in the Contractor's Financial Situation*] from which the Employer reasonably concludes that the Contractor will be unable to complete or fulfil his obligations under the Contract or, if the Contractor fails to give such a Notice, but the Employer in any event reasonably concludes that the Contractor will be unable to complete or fulfil his obligations under the Contract due to the Contractor's financial situation; (f) 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;

	(g) gives or offers to give (directly or indirectly, either before or during the currency of the Contract) 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; (h) based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Appendix B to these General Conditions of Contract, in competing for or in executing 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 sub-paragraph (g). However, lawful inducements and rewards to Contractor's Personnel shall not give a right to termination; (i) fails to complete the Design-Build by the Cut-Off Date stated in the PCC or, if no such date is given, then a period of 182 days after the Time for Completion of Design-Build. In any of these events or circumstances, the Employer may, not less than 14 days after giving Notice to the Contractor, terminate the Contract and expel the Contractor from the Site unless the Contractor cures the event or circumstance within the said 14 days. However, in the case of sub-paragraph (f) or (g) or (h), 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's Representative. 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 for Contractor's Default	As soon as practicable after a Notice of termination under Sub-Clause 15.2 [*Termination for Contractor's Default*] has taken effect, the Employer's Representative 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 for Contractor's Default	After a Notice of termination under Sub-Clause 15.2 [*Termination for Contractor's Default*] has taken effect, the Employer may: (a) proceed in accordance with Sub-Clause 20.2 [*Employer's Claims*]; (b) withhold 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 for *Contractor's Default*]. After recovering any such losses, damages and extra costs, the Employer shall pay any balance to the Contractor
15.5 Termination for Employer's Convenience	If at any time the Employer elects to terminate the Contract for reasons other than those specified in Sub-Clause 15.2 [*Termination for Contractor's Default*], and subject to the applicable Law of the Contract, he shall notify the Contractor in writing, with a copy to the Employer's Representative. Such termination shall be deemed to be termination for the convenience of the Employer.

	Upon issuing a Notice to terminate under this Sub-Clause, the Employer shall immediately make arrangements to return the Performance Security to the Contractor, and the termination shall take effect 28 days after the date the Contractor receives the Notice, or 28 days after he receives the Performance Security, whichever is the later. Upon issuing the Notice, the Employer shall immediately cease to have any right of use of any of the Contractor's Documents, and shall forthwith return all and any such Contractor's Documents to the Contractor. The Employer shall not terminate the Contract under this Sub-Clause in order to execute or operate the Works (or any part thereof) himself, or arrange for the Works (or any part thereof) to be executed or operated by another contractor.
15.6 Valuation at Date of Termination for Employer's Convenience	As soon as practicable after a Notice of termination under Sub-Clause 15.5 [*Termination for Employer's Convenience*] has taken effect, the Employer's Representative 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.
15.7 Payment after Termination for Employer's Convenience	After termination for the Employer's convenience under Sub-Clause 15.5 [*Termination for Employer's Convenience*], 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 16.4 [*Payment on Termination*].
15.8 Fraud and Corruption	The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Appendix B to these General Conditions of Contract. The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.
Suspension and Termination by Contractor	

16.1 Contractor's Entitlement to Suspend Work	If the Employer's Representative fails to certify in accordance with Sub-Clause 14.6 [*Issue of Advance and Interim Payment Certificates*], or the Employer fails to comply with Sub-Clause 2.4 [*Employer's Financial Arrangements*] or Sub-Clause 14.7 [*Payment*], the Contractor may, not less than 21 days after giving Notice to the Employer, suspend work (or reduce the rate of work) unless and until the Contractor has received the Interim Payment Certificate, reasonable evidence or payment, as the case may be and as described in the Notice. Notwithstanding the above, if the Bank has suspended disbursements under the loan or credit from which payments to the Contractor are being made, in whole or in part, for the execution of the Works, and no alternative funds are available as provided for in Sub-Clause 2.4 [Employer's Financial Arrangements], the Contractor may by Notice suspend work or reduce the rate of work at any time, but not less than 7 days after the Borrower having received the suspension notification from the Bank. 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 Interim Payment Certificate, 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's Representative 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 9.3 [*Extension of Time for Completion of Design-Build*]; and (b) payment of any such Cost Plus Profit, which shall be included in the Contract Price. After receiving this Notice, the Employer's Representative 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 Employer's Representative fails, within 56 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate; (c) the Contractor does not receive the amount due under an Interim Payment Certificate within 42 days after the expiry of the time stated in Sub-Clause 14.7 [*Payment*] within which payment is to be made (except for deductions in accordance with Sub-Clause 20.2 [*Employer's Claims*]); (d) the Employer substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract, (e) the Employer fails to comply with Sub-Clause 1.6 [*Contract Agreement*] or Sub-Clause 1.8 [*Assignment*]; (f) a prolonged suspension affects the whole of the Works as described in Sub-Clause 9.10 [*Prolonged Suspension*]; (g) 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; or (h) the Contractor does not receive the Employer's Representative's instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works] In any of these events or circumstances, the Contractor may, not less than 14 days after giving Notice to the Employer, terminate the Contract unless the Employer cures the event or circumstance within the said 14 days. However, in the case of sub- paragraph (f) or (g), the Contractor may by Notice terminate the Contract immediately.

	In the event the Bank suspends the loan or credit from which part or whole of the payments to the Contractor are being made, if the Contractor has not received the sums due to him upon expiration of the 14 days referred to in Sub-Clause 14.7 [Payment] for payments under Interim Payment Certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause 14.8 [Delayed Payment], take one of the following actions, namely (i) suspend work or reduce the rate of work under Sub-Clause 16.1, or (ii) terminate the Contract by giving notice to the Employer, with a copy to the Employer's Representative, such termination to take effect 14 days after the giving of the notice. 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 16.2 [*Termination by Contractor*] or Sub-Clause 18.5 [*Optional Termination, Payment and Release*] has taken effect, the Contractor shall, unless the Employer cured the event or circumstance within the 14- days' Notice period, promptly: (a) cease all further work, except for such work as may have been instructed by the Employer's Representative for the protection of life or property or for the safety of the Works or protection of the environment. For all such instructed work, the Contractor shall be entitled to be paid Cost Plus Profit and shall be relieved of further liabilities under Sub-Clauses 4.8 [*Safety Procedures*] and 4.18 [*Protection of the Environment*]; (b) hand over to the Employer the Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, including those items listed in the Employer's Requirements; 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 Contracto*r] has taken effect, the Employer shall promptly: (a) return the Performance Security to the Contractor; (b) pay the Contractor in accordance with Sub-Clause 18.6 [*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.
Risk Allocation	
17.1 The Employer's Risks during the Design-Build Period	Subject to the provisions of Sub-Clause 17.8 [*Limitation of Liability*], the risks allocated to the Employer and for which the Employer is liable during the Design-Build Period are divided into: (a) The Employer's Commercial Risks, which are: (i) the financial loss, delay or damage allocated to the Employer under the Contract or for which the Employer is liable by law, unless otherwise modified under the Contract; (ii) the right of the Employer to construct the Works or any part thereof on, over, under, in or through the Site; (iii) the use or occupation of the Site by the Works or any part thereof, or for the purpose of design, construction or completion of the Works other than the abusive or wrongful use by the Contractor; and (iv) the use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract; and (b) The Employer's Risks of Damage, which are: (i) damage due to any interference, whether temporary or permanent, with any right of way, light, air, water or other easement (other than that resulting from the Contractor's method of construction) which is the unavoidable result of the construction of the Works in accordance with the Contract; (ii) fault, error, defect or omission in any element of the design of the Works by the Employer or which may be contained in the Employer's Requirements, other than design carried out by the Contractor pursuant to his obligations under the Contract; (iii) any operation of the forces of nature (other than those allocated to the Contractor **in the PCC**) against which an experienced contractor could not

	reasonably have been expected to have taken adequate preventative precautions; and (iv) The Exceptional Risks under Clause 18 [*Exceptional Risks*].
17.2 The Contractor's Risks during the Design-Build Period	Subject to the provisions of Sub-Clause 17.8 [*Limitation of Liability*], the risks allocated to the Contractor and for which the Contractor is liable during the Design- Build Period are all the risks other than those listed under Sub-Clause 17.1 [*The Employer's Risks during the Design-Build Period*], including the care of both the Works and the Goods.
17.3 The Employer's Risks during the Operation Service Period	Subject to the provisions of Sub-Clause 17.8 [*Limitation of Liability*], the risks allocated to the Employer and for which the Employer is liable during the Operation Service Period are divided into: (a) The Employer's Commercial Risks, which are: (i) the financial loss, delay or damage allocated to the Employer under the Contract or for which the Employer is liable by law, unless otherwise modified under the Contract; (ii) the use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract; and (iii) the use or occupation of the Site by the Works or any part thereof, or for the purpose of operating and maintaining the Permanent Works; and (b) The Employer's Risks of Damage, which are: (i) damage due to any interference, whether temporary or permanent, with any right of way, light, air, water or other easement (other than that resulting from the Contractor's methods of operation and maintenance) which is the unavoidable result of operating and maintaining the Permanent Works in accordance with the Contract; (ii) fault, error, defect or omission in any element of the design of the Works by the Employer or which may be contained in the Employer's Requirements, other than design carried out by the Contractor pursuant to his obligations under the Contract; (iii) any operation of the forces of nature against which an experienced contractor could not reasonably

	have been expected to have taken adequate preventative precautions; and (iv) The Exceptional Risks under Clause 18 [*Exceptional Risks*]
17.4 The Contractor's Risks during the Operation Service Period	Subject to the provisions of Sub-Clause 17.8 [*Limitation of Liability*], the risks allocated to the Contractor and for which the Contractor is liable during the Operation Service Period are: (a) all risks resulting or arising from the design (excluding any design allocated to the Employer under Sub-Clauses 17.1(b)(ii) and 17.3(b)(ii)) or construction of the Works, or the Materials used therein, notwithstanding any testing carried out by or approved or witnessed by the Employer or the Employer's Representative during the Design-Build Period; and (b) all risks resulting or arising from the operation and maintenance of the Permanent Works and the care of the Works excluding the Employer's Risks listed under Sub-Clause 17.3 [*The Employer's Risks during the Operation Service Period*].
17.5 Responsibility for Care of the Works	Unless the Contract is terminated in accordance with these Conditions, the Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Commissioning Certificate for the whole of the Works is issued pursuant to Sub-Clause 11.7 [*Commissioning Certificate*]. If the Contract is terminated in accordance with these Conditions, the Contractor shall cease to be responsible for the care of the Works from the date of expiry of the Notice of termination. The Contractor shall also be responsible for the care of the Permanent Works during the Operation Service Period in accordance with the requirements of the Operating License pursuant to Sub-Clause 1.7 [*Operating License*]. The Contractor shall also be responsible for the care of any part of the Permanent Works for which a Section Commissioning Certificate has been issued. The Contractor shall also take full responsibility for any outstanding work which he shall have undertaken to complete during the Operation Service Period until all such outstanding work is completed.

17.6 Consequences of the Employer's Risks of Damage	Subject to the provisions of Sub-Clause 18.4 [*Consequences of an Exceptional Event*], if any of the risks allocated as an Employer's Risk under Sub-Clause 17.1 [*The Employer's Risks during the Design-Build Period*] and 17.3 [*The Employer's Risks during the Operation Service Period*] occurs and results in damage to the Works or other property or Goods or Contractor's Documents, the Contractor shall promptly give Notice to the Employer's Representative, and shall thereafter rectify such loss and/or damage to the extent required by instruction of the Employer's Representative. Such instruction shall be deemed a Variation. In the event of the allocation of the risk not being governed by any other term of the Contract, and such risk occurs during the Design-Build Period and the Contractor is delayed and/or incurs cost from rectifying this damage, the Contractor shall give a further Notice to the Employer's Representative and shall be entitled to: (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 9.3 [*Extension of Time for Completion of Design-Build*]; and (b) payment of Cost Plus Profit, which shall be included in the Contract Price. If the event occurs during the Operation Service Period, sub-paragraph (b) of this Sub- Clause shall apply, but sub-paragraph (a) of this Sub-Clause shall not apply. The Employer's Representative shall proceed in accordance with Sub-Clause 3.5 [*Determinations]* to determine the amounts due.
17.7 Consequences of the Contractor's Risks resulting in Damage	If any of the risks allocated as a Contractor's risk under Sub-Clause 17.2 [*The Contractor's Risks during the Design-Build Period*] and 17.4 [*The Contractor's Risks during the Operation Service Period*] occurs and results in damage to the Works or other property or Goods, the Contractor shall promptly give Notice to the Employer's Representative, and shall thereafter rectify such damage to the extent required by the Employer's Representative. All such work of replacement, repair or rectification shall be carried out by the Contractor at his own cost.
17.8 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 as

	specifically provided in Sub-Clause 9.8 [Delay Damages relating to Design Build]; Sub-Clause 10.4 [Delays and Interruption during the Operation Service]; Sub-Clause 10.5 [Failure to Meet Performance Standards]; Sub-Clause 12.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination for Contractor's Default]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.9 [Indemnities by the Contractor]; Sub-Clause 17.10 [Indemnities by the Employer]; Sub-Clause 17.6(b) [Consequences of Employer's Risks resulting in Damage], Sub-Clause 17.12 [Risk of Infringement of Intellectual and Industrial Property Rights], Sub-Clause 19.1 [failure to provide insurance or non-recovery of insurance from insurers]. 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 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as **stated in the PCC**, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount. This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.
17.9 Indemnities by the Contractor	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 Contractor's design, execution, completion or operation and maintenance of the Works, unless attributable to any negligence, willful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents; and (b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the design, the execution and completion or operation and maintenance of the Works, unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the Employer, the Employer's Personnel.

	The Contractor shall also indemnify the Employer against all errors in the Contractor's design of the Works and other professional services which result in the Works not being fit for purpose or result in any loss and/or damage for the Employer.
17.10 Indemnities by the Employer	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: (a) bodily injury, sickness, disease or death, or loss of or damage to any property other than the Works, which is attributable to any negligence, willful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents; and (b) the Employer's Risks as set out in Sub-Clauses 17.1 [*The Employer's Risks during the Design-Build Period*] and 17.3 [*The Employer's Risks during the Operation Service Period*].
17.11 Shared Indemnities	The Contractor's liability to indemnify the Employer, as aforesaid, shall be reduced proportionately to the extent that the Employer's Risks may have contributed to the said damage, loss or injury. Similarly, the Employer's liability to indemnify the Contractor, as aforesaid, shall be reduced proportionately to the extent that the Contractor's risks may have contributed to the said damage, loss or injury.
17.12 Risk of Infringement of Intellectual and Industrial Property Rights	In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trademark, trade name, trade secret or other 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 anything 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 the other Party.
17.13 Use of Employer's Accommodation/Facilities	The Contractor shall take full responsibility for the care of the Employer provided accommodation and facilities, if any, as detailed in the Employer's Requirements, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Commissioning Certificate for the Works). If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Employer's Representative.
Exceptional Risks	
18.1 Exceptional Risks	An exceptional risk is a risk arising from an Exceptional Event which includes, but is not limited to: (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;

	(b) sabotage by persons other than the Contractor's Personnel, rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within India; (c) riot, commotion or disorder within India by persons other than the Contractor's Personnel; (d) strike or lockout not solely involving the Contractor's Personnel and other employees of the Contractor and Subcontractors; (e) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, within India, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity; and natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity which are Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventative precautions; (f) upstream pollution of the Influent that prevents the Contractor from providing the Operation Service in accordance with this Agreement; (g) if provided for **in the PCC**, events of high Influent turbidity in which the suspended solids exceed the value **specified in the PCC** and which prevent the Contractor from providing the Operation Service in accordance with this Agreement. [*Only relevant for water treatment - provision to be deleted for wastewater treatment plant projects*]; (h) the wastewater Influent flow exceeds a capacity Performance Standard for the Works and prevents the Contractor from providing the Operation Service in accordance with this Agreement [*provision to be deleted for water treatment plant projects*].
18.2 Notice of an Exceptional Event	If a Party is or will be prevented from performing any of its obligations under the Contract due to an Exceptional Event, then it shall give Notice to the other Party of such event or circumstance 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 event or circumstance constituting an Exceptional Event. The Party shall, having given Notice, be excused performance of such obligations for so long as such Exceptional Event prevents it from performing them.

	Notwithstanding any other provision of this Clause, the obligations of either Party to make payments to the other Party under the Contract shall not be excused by an Exceptional Event.
18.3 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 an Exceptional Event. A Party shall give Notice to the other Party when it ceases to be affected by an Exceptional Event.
18.4 Consequences of an Exceptional Event	If the Contractor is prevented from performing any of his obligations under the Contract due to an Exceptional Event of which Notice has been given under Sub- Clause 18.2 [*Notice of an Exceptional Event*] and suffers delay and/or incurs cost by reason of such Exceptional Event, 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 9.3 [*Extension of Time for Completion of Design-Build*]; and (b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 18.1 [Exceptional Risks] and, in sub-paragraphs (b) to (e), and (f) to (h), occurs in India, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Exceptional Event, to the extent they are not recovered through the insurance policy referred to in Sub-Clause 19.2 [Insurances to be Provided by the Contractor during the Design-Build Period]. If the Exceptional Event occurs during the Operation Service Period, sub-paragraph (a) of this Sub-Clause 18.4 will not apply. After receiving this Notice, the Employer's Representative shall proceed in accordance with Sub-Clause 3.5 [Determinations*]* to agree or determine these matters.
18.5 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 an Exceptional Event of which Notice has been given under Sub-Clause 18.2 [*Notice of an Exceptional Event*], or for multiple periods which total more than 140 days due to the same notified Exceptional Event, 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's Representative shall determine the value of the work done and issue a payment certificate which shall include: (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 and necessarily 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.
18.6 Release from Performance under the Law	Notwithstanding any other provision of this Clause, if any event arises outside the control of the Parties (including, but not limited to, an Exceptional Event) 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: (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 18.5 [*Optional Termination, Payment and Release*] if the Contract had been terminated under that Sub-Clause.
Insurance	

19.1 General Requirements	Without limiting his or the Employer's obligations or responsibilities under the Contract, the Contractor shall effect and maintain all insurances for which he is responsible with insurers and in terms, both of which shall be subject to approval by the Employer, such approval shall not be unreasonably withheld or delayed. The insurances required to be provided herein are the minimum required by the Employer, and the Contractor may, at his own cost, add such other insurances that he may deem prudent. Whenever required by the Employer, the Contractor shall produce the insurance policies which he is required to effect under the Contract. As each premium is paid, the Contractor shall send a copy of each receipt of payment to the Employer. If the Contractor fails to effect and keep in force any of the insurances required under Sub-Clause 19.2 [*Insurances to be provided by the Contractor during the Design- Build Period*], or fails to provide the policies or receipts as aforementioned, then, and in any such case, the Employer may effect and keep in force such insurances and pay any premium as may be necessary and recover the same from the Contractor from time to time by deducting the amount(s) so paid from any monies due to the Contractor or otherwise recover the same as a debt from the Contractor. Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause If either the Contractor or the Employer fails to comply with the conditions attaching to the insurances effected pursuant to the Contract, the Party so failing to comply as aforesaid shall indemnify the other Party against all losses and claims arising from such failure. The Contractor shall also be responsible for the following: (a) notifying the insurers of any changes in the nature, extent or program for the execution of the Works;

	(b) notifying the insurers of any changes in the nature, extent or program for the provision of the Operation Service; and (c) the adequacy and validity of the insurances in accordance with the Contract at all times during the performance of the Contract. The permitted deductible limits allowed in any policy shall not exceed the amounts **stated in the PCC**. Where there is a shared liability the loss shall be borne by each Party in proportion to its liability under Clause 17 [*Risk Allocation*] or Clause 18 [*Exceptional Risks*], provided the non-recovery from insurers has not been caused by a breach of this Clause by the Contractor. In the event that non-recovery from insurers has been caused by such a breach of Contract by the Contractor, the Contractor shall bear the loss suffered. The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 19) with insurers from any eligible source country.
19.2 Insurances to be provided by the Contractor during the Design-Build Period	Unless otherwise **stated in the PCC**, the Contractor shall provide the following insurances during the Design-Build Period: (a) The Works The Contractor shall insure and keep insured in the joint names of the Contractor and the Employer from the Commencement Date until the date of issue of the Commissioning Certificate: (i) the Works, together with Materials and Plant for incorporation therein, for their full replacement value with deductible limits not exceeding those **stated in the PCC**. The insurance cover shall extend to include loss and damage of any part of the Works as a consequence of failure of elements defectively designed or constructed with defective material or workmanship; and (ii) an additional sum of fifteen percent (15%) of such replacement value (or such sum as may be **specified in the PCC**) to cover any additional costs incidental to the rectification of loss or damage, including professional fees and the cost of demolition and removal of debris. The insurance cover shall cover the Employer and the Contractor against all loss or damage from whatever cause arising until the

	Commissioning Certificate is issued. Thereafter, the insurance shall continue until the date of issue of the Final Payment Certificate Design Build in respect of any incomplete work for loss or damage arising from any cause occurring prior to the date of the Commissioning Certificate, and for any loss or damage occasioned by the Contractor in the course of any operation carried out by him for the purpose of complying with his obligations under Clause 12 [*Defects*]. The insurance cover provided by the Contractor for the Works may exclude any of the following: (1) the cost of making good any part of the Works which is defective (including defective material and workmanship) or otherwise does not comply with the Contract, provided that it does not exclude the cost of making good any loss or damage to any other part of the Works attributable to such defect or non-compliance. (2) indirect or consequential loss or damage including any reductions in the Contract Price for delay. (3) wear and tear, shortages and pilferages. (4) the Employer's Risks set out in Sub-Clause 17.1 [*Employer's Risks during the Design-Build Period*] unless otherwise **stated in the PCC** regarding the risks in sub-paragraph (b)(iii) thereof. (5) the Exceptional Risks set out in Sub-Clause 18.1 [*Exceptional Risks*] unless, otherwise **stated in the PCC** regarding the risks in sub- paragraph (f) thereof. (b) Contractor's Equipment The Contractor shall insure in the joint names of the Employer and the Contractor the Contractor's Equipment and other things brought onto Site by the Contractor to the extent **specified in the PCC**. (c) Liability for breach of professional duty The Contractor shall insure the legal liability of the Contractor arising out of the negligent fault, defect, error or omission of the Contractor or any person for whom the Contractor is responsible in carrying out their professional duties in an amount not less than that **stated in the PCC**.

	Such insurance shall contain an extension indemnifying the Contractor for his liability arising out of negligent fault, defect, error or omission in the carrying out his professional duties which result in the Works not being fit for the purpose specified in the Contract and resulting in any loss and/or damage to the Employer. The Contractor shall maintain this insurance for the period **specified in the PCC**. (d) Injury to persons and damage to property The Contractor shall insure, in the joint names of the Contractor and the Employer, against liabilities for death or injury to any person, or loss of or damage to any property (other than the Works) arising out of the performance of the Contract and occurring before the issue of the Final Payment Certificate Design-Build, other than loss or damage caused by any event covered under Sub-Clause 17.1 [*Employer's Risks during the Design-Build Period*] or Sub- Clause 18.1 [*Exceptional Risks*]. The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and the Employer as separate insureds. Such insurance shall be effected before the Contractor begins any work on the Site and shall remain in force until the issue of the Final Payment Certificate Design-Build and shall be for not less than the amount **specified in the PCC**. (e) Injury to employees 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 and the Employer's Representative 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 the Contractor's Personnel are assisting in the execution of the Works. For any person employed by a Subcontractor, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for the Subcontractor's compliance with this Sub-Clause. (f) Other insurances required by Law and by local practice Other insurances required by Law and by local practice (if any) shall be **detailed in the PCC** and the Contractor shall provide such other insurances in compliance with the details given, at his own cost. For those insurances required under this Sub-Clause to be in the joint names of the Parties, the Parties shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage.
19.3 Insurances to be provided by the Contractor during the Operation Service Period	Unless otherwise **stated in the PCC**, the Contractor shall provide the following insurances during the Operation Service Period: (a) Fire extended cover for the Works The Contractor shall provide, in the joint names of the Employer and the Contractor, fire extended cover insurance for the Works as **specified in the PCC** for the Operation Service Period. Notwithstanding any other provision in the Contract, the Operation Service shall not commence until the fire extended cover insurance is effected and the terms and details have been approved by the Employer. The terms of the policy shall be submitted to the Employer for his approval no later than 28 days before the date upon which the Commissioning Certificate is due to be issued, and shall come into force on the date stated in the Commissioning Certificate. (b) Injury to any person and damage to property The Contractor shall ensure that an insurance as required under Sub-Clause 19.2 (d) [*Injury to persons and damage*

	to property] be effected prior to the issue of the Commissioning Certificate and maintained until the issue of the Contract Completion Certificate. Such insurance shall be for an amount and in terms as **specified in the PCC**. (c) Injury to employees The Contractor shall ensure that an insurance as required under Sub-Clause 19.2(e) [*Injury to employees*] be effected prior to the issue of the Commissioning Certificate and maintained until the issue of the Contract Completion Certificate, or the last of his or any of his Subcontractors' employees have left the Site, whichever is the later. (d) Other insurances required by Law and by local practice Other insurances required by Law and by local practice (if any) shall be **detailed in the PCC** and the Contractor shall provide such insurances in compliance with the details given, at his own cost. (e) Other optional operational insurances Other optional insurances required (if any) shall be **detailed in the PCC** and the Contractor shall provide such other insurances in compliance with the details given, at his own cost. (f) Liability for breach of professional duty The Contractor shall insure the legal liability of the Contractor arising out of the negligent fault, defect, error or omission of the Contractor or any person for whom the Contractor is responsible in carrying out their professional duties in an amount not less than that **stated in the PCC**. Such insurance shall contain an extension indemnifying the Contractor for his liability arising out of negligent fault, defect, error or omission in the carrying out his professional duties which result in the Works not being fit for the purpose specified in the Contract and resulting in any loss and/or damage to the Employer.

	The Contractor shall maintain this insurance for the period **specified in the PCC**. For those insurances required under this Sub-Clause to be in the joint names of the Parties, the Parties shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage.
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 submit a notice to the Employer's Representative, 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's Representative. Without admitting the Employer's liability, the Employer's Representative 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's Representative to inspect all these records, and shall (if instructed) submit copies to the Employer's Representative. 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's Representative, the

	Contractor shall send to the Employer's Representative 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's Representative 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's Representative. 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's Representative and approved by the Contractor, the Employer's Representative 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 Payment Certificate 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's Representative shall agree with the Contractor or estimate: (i) the extension (if any) of the Time for Completion of Design-Build (before or after its expiry) in accordance with GCC Clause 9.3, 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. 1. In the event that the Contractor does not agree on any matter relating to a claim, it may refer the matter to the Adjudicator pursuant to GCC 20 hereof.
20.2 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, the Employer or the Employer's Representative shall give Notice and particulars to the Contractor. The Notice shall be given as soon as practicable after the Employer becomes aware, or should have become aware, of the event or circumstances giving rise to the claim. The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount to which the Employer considers himself to be entitled in connection with the Contract. The Employer's Representative shall then proceed in accordance with Sub-Clause 3.5 [*Determinations*] to agree or determine the amount (if any) which the Employer is entitled to be paid by the Contractor. If either Party is dissatisfied with the determination of the Employer's Representative, either Party may, within 28 days after receiving the determination, issue to the Employer's Representative and the other Party, a Notice of dissatisfaction, and thereafter refer the matter to Adjudicator pursuant to GCC 20 hereof. If no Notice of dissatisfaction is issued by either Party within the said 28 days, the determination of the Engineer's Representative shall be deemed to have been accepted by both Parties. The amount determined by the Adjudicator may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.
20.3 Disputes and Arbitration	(i) Appointment of **t**h**e** Adjudicator: The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the

	Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority **designated in the PCC**, to appoint the Adjudicator within 14 days of receipt of such request. The Adjudicator should be in position before "notice to proceed with work" is issued to the Contractor and an agreement should be signed with the Adjudicator jointly by the Employer and the Contractor in the form attached – Appendix A.
	(ii) Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the PCC** at the request of either party, within 14 days of receipt of such request.
	iii) If the Contractor believes that a decision taken by the Employer's Representative was either outside the authority given to the Employer's Representative by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the decision of the Employer's Representative.
	(iv) The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute. The Adjudicator shall be paid daily at the rate **specified in the PCC**, together with reimbursable expenses of the types **specified in the PCC**, and the cost shall be divided equally between the Employer and the Contractor. Whatever decision is reached by the Adjudicator, either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding.
	(v) Arbitration

	The procedure for adhoc arbitration will be as follows: (a) In case of Dispute or difference arising between the Employer and a Contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 Arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding Arbitrator. In case of failure of the two Arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the *Indian Council of Arbitration/ President of the Institution of Engineers (India)/ The International Centre for Alternative Disputes Resolution (India). (b) If one of the parties fails to appoint its Arbitrator in pursuance of sub-clause (a) above within 30 days after receipt of the notice of the appointment of its Arbitrator by the other party, then the *Indian Council of Arbitration/ President of the Institution of Engineers (India)/ The International Centre for Alternative Disputes Resolution (India), both in cases of Foreign Contractor as well as Indian Contractor, shall appoint the Arbitrator. A certified copy of the order of the *Indian Council of Arbitration/ President of the Institution of Engineers (India)/ The International Centre for Alternative Disputes Resolution (India), making such an appointment shall be furnished to each of the parties. (c) Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Project Manager, the Contractor and the Adjudicator shall not be altered by reason of the arbitration being conducted during the progress of the Works. (d) Arbitration proceedings shall be held at Changanassery, Kerala, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English. (e) The decision of the majority of Arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each

	party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf shall be borne by each party itself. (f) Where the value of the contract is Rs.50 million and below, the disputes or differences arising shall be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority, namely the *Indian Council of Arbitration/ President of the Institution of Engineers (India)/ The International Centre for Alternative Disputes Resolution (India). (g) The Arbitrator should give final award within 120 days of starting of the proceedings *[indicate the days (Between 120-180) by which arbitrator should give award]*. (h) Performance under the contract shall continue during the arbitration proceedings and payments due to the Contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings. * Choose *one alternative. Insert any other appropriate institution (depending on types of works).* ***Alternatively*** *[Apart from the adhoc arbitration services obtained through mutually agreed Arbitrator(s) as above, Institutional arbitration services are also available in India. Institutional arbitration (and mediation) dispute resolution mechanisms can be gainfully used, preferably for relatively larger contracts. Following clause may be included, if it is decided to use Institutional Services for arbitration for resolution of disputes, and in such a case other clauses related to Arbitration/ Arbitrator would be deleted. In the sample clause below, substitute the reference to 'Rules of Domestic Commercial Arbitration of the Indian Council of Arbitration' by the specific institution that is sought to be engaged e.g. The International Centre for Alternative Dispute Resolution (ICADR), The Indian Institute of Arbitration and Mediation (IIAM), Indian Chamber's Council of Arbitration, Delhi International Arbitration Centre (DAC), Construction Industry Arbitration Council (CIAC), Council for National and International Commercial Arbitration, London Court of International Arbitration (India Centre) or the like.]*

	"Any dispute or difference whatsoever arising between the parties out of or relating to the construction, meaning, scope, operation or effect of this contract or the validity or the breach thereof shall be settled by arbitration in accordance with the Rules of Domestic Commercial Arbitration of the Indian Council of Arbitration and the award made in pursuance thereof shall be binding on the parties. The arbitral tribunal shall consist of 3 Arbitrators, arbitration proceedings shall be held at Kerala, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English". *[ICA rules provide for arbitration tribunal of 3 arbitrators if the value of claim is over Rs. 1 crore unless the parties have agreed otherwise for a sole arbitrator].*

APPENDIX A[25]
Appointment of Adjudicator

Suggested Draft of **Letter of Appointment of Adjudicators** in civil works contracts

Sub:_____(Name of the Contract)

To

Name and address of the Adjudicator

We hereby confirm your appointment as Adjudicator for the above contract to carry out the assignment specified in this Letter of Appointment.

For administrative purpose_____(*name of the officer representing the Employer*) has been assigned to administer the assignment and to provide the Adjudicator with all relevant information needed to carry out the assignment on behalf of both the employer and the contractor. The services will be required during the period of contract for the work of (Name of the Contract)._____.

The Adjudicator shall visit the worksite as and when specifically requested by Employer/ Contractor for the period upto the issue of the Commissioning Certificate with prior intimation to the Employer and the contractor. The duration of each visit shall ordinarily be for one day only. These durations are approximate and (*Name of the employer and Name of the Contractor*) may find it necessary to postpone or cancel the assignment and/or shorten or extend the duration.

The appointment will become effective upon confirmation of letter by you. The appointment of Adjudicator shall be liable for termination under a 30 (thirty) days written notice from the date of issue of the notice, if both Employer and the Contractor so desire. Also the appointment shall automatically stand terminated 14 days after the issue of the Commissioning Certificate under Sub-Clause 9.12 [Completion of Design-Build] as per Conditions of Contract is over.

The Adjudicator will be paid a fee of Rs._____ (Rupees _____only) per each day of visit at the worksite. The actual expenses for boarding and traveling in connection with the assignment will be reimbursed to the Adjudicator. The Adjudicator will submit a pre-receipted bill in triplicate to the employer indicating the date of the visit, fees for the visit and a proof in support of the actual expenditure [only for items valued above Rs. 200 each] incurred by him against boarding, lodging and traveling expenses after performing the visit on each occasion. The Employer will make the admissible payment (both the Employer's and the Contractor's share) to the Adjudicator within 30 days of the receipt of the bill. The Contractor's share on this account (half the paid amount) will be recovered by the Employer from the Contractor's bills against the work.

[25] If ITB 52 makes provision of an Adjudicator from list provided by an institution, kindly modify Appendix A to state that the fee and reimbursable payable to the adjudicator shall be as per the rules of the Institution.

In accepting this assignment, the Adjudicator should understand and agree that he is responsible for any liabilities and costs arising out of risks associated with travel to and from the place of emergency repatriation, loss or damage to personal/professional effects and property. The Adjudicator is advised to effect personal insurance cover in respect of such risks if he does not already have such cover in place. In this regard, the Adjudicator shall maintain appropriate medical, travel, accident and third-party liability insurance. The obligation under this paragraph will survive till termination of this appointment.

Procedures for resolution of disputes by the Adjudicator is described in the contract of _____(name of the contract) between the employer and the contractor vide clause no. 20.3 of the General Conditions of Contract. Your recommendation should be given in the format attached, within 28 days of receipt of a notification of dispute.

The Adjudicator will carry out the assignment in accordance with the highest standard of professional and ethical competence and integrity, having due regard to the nature and purpose of the assignment, and will conduct himself in a manner consistent herewith. After visiting the worksite, the Adjudicator will discuss the matter with the Employer and if necessary with the Contractor before arriving at any decision.

The Adjudicator will agree that all knowledge and information not within the public domain, which may be acquired while carrying out this service shall be all time and for all purpose, regarded as strictly confidential and held in confidence, and shall not be directly or indirectly disclosed to any party whatsoever, except with the permission of the employer and the contractor. The Adjudicator's decision should be communicated in the form of a speaking order specifying the reasons.

The Adjudicator will agree that any manufacturing or construction firm with which he might be associated with, will not be eligible to participate in bidding for any goods or works resulting from or associated with the project of which this consulting assignment forms a part

Read and Agreed Name of Adjudicator

Signature

Place:

Date:

Name of Employer
Signature of authorized representative of Employer

Name of the Contractor
Signature of authorized representative of Contractor

Attachment: Copy of contract document between the employer and contractor and format for recommendation.

SUMMARY OF ADJUDICATIOR'S RESPONSIBILITIES

The Adjudicator has the following principal responsibilities:

1. Visit the site periodically.

2. Keep abreast of job activities and developments.

3. Encourage the resolution of disputes by the parties.

4. When a dispute is referred to it, conduct a hearing (no legal presentation), complete its deliberations, and prepare a recommendations in a professional and timely manner (as per sample format)

Sample Format of Adjudicator's Recommendation

[Project Name]
Recommendation of Adjudicator

Dispute No. XX [*NAME OF DISPUTE*]

Hearing Date:_____

Dispute

Description of dispute. A one or two sentence summation of the dispute.

Contractor's Position

A short summation of the contractor's position as understood by the Adjudicator.

Employer's Position

A short summation of the Employer's position as understood by the Adjudicator.

Recommendation

The Adjudicator's specific recommendation for settlement of the dispute. (*The recommended course is consistent with the explanation*).

Explanation

(*This section could also be called Considerations, Rationale, Findings, Discussion, and so on.*)

The Adjudicator's description of how each recommendation was reached.

Respectfully submitted,

Date : _____ _____

Date : _____ _____

Date : _____ _____

APPENDIX B

Fraud and Corruption

(Text in this Appendix shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/ bidders), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

a. Defines, for the purposes of this provision, the terms set forth below as follows:

i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

v. "obstructive practice" is:

(a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

b. Rejects a bid for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service

providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;

d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;[26] (ii) to be a nominated[27] sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;

e. Requires that a clause be included in bidding/request for bids documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/ bidders), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents' personnel, permit the Bank to inspect[28] all accounts, records and other relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

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[26] For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

[27] A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

[28] Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

APPENDIX C

Environmental, Social, Health and Safety (ESHS)

Metrics for Progress Reports

Metrics for regular reporting:

a. Environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies

b. Health and Safety incidents, accidents, injuries and all fatalities that require treatment;

c. Interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);

d. Status of all permits and agreements:

   i. work permits: number required, number received, actions taken for those not received;

   ii. status of permits and consents:

   iii. list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);
      - list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);
      - identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);
      - for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).

e. Health and Safety supervision:

   i. Safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;

   ii. Number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);

f. Fire safety supervision: number of fire safety extinguishers, monitoring of fire safety arrangements, violations of workers, gas leakage checks, follow up actions taken (if any)number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);worker accommodations:

   i. number of expats housed in accommodations, number of locals;

   ii. date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;

   iii. actions taken to recommend/require improved conditions, or to improve conditions.

g. HIV/AIDS: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);

h. Gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);

i. Training:

   i. number of new workers, number receiving induction training, dates of induction training;

   ii. number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;

   iii. number and dates of HIV/AIDS sensitization and/or training, no. workers receiving training (this reporting period and in the past); same questions for gender sensitization, flag person training.

   iv. number and date of GBV /SEA sensitization and/or training, number of workers receiving training on code of conduct (in the reporting period and in the past), etc.

   v. training on fire safety aspects

j. Environmental and social supervision:

iii. Environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;

iv. Sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and

v. Community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.

k. *Grievances*: Constitute ICC & list new grievances (e.g. allegations of GBV / SEA) received in the reporting period and unresolved past grievances by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):

i. Worker grievances;

ii. Community grievances

l. Traffic and vehicles/equipment:

i. traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;

ii. accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;

iii. overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).

m. Environmental mitigations and issues (what has been done):

vi. Dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;

vii. Erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;

viii. Quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;

ix. Blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);

x. Spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination;

xi. Waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;

xii. Details of tree plantings and other mitigations required undertaken in the reporting period;

xiii. Details of water and swamp protection mitigations required undertaken in the reporting period.

xiv. Handling and management of leachate in the collection vehicle during transportation.

xv. Collection efficiency and waste management. Ensure collection efficiency is maximum in every route and the collected waste has to be unloaded to the collection platform of the facility only.

xvi. Ensure safe handling of waste by workers during collection and processing.

xvii. Regular training to be provided to the workers on safe handling of waste, operation of plant, Fire safety and OHS.

xviii. Ensure regular Pest management and House keeping

xix. Gas leak (gas monitoring systems, sensors and routine leak checks to prevent methane leaks. Ensure gas processing units are safely maintained and conduct regular safety audits, emergency shut-off systems and train staff on handling gas leaks and emergencies.

xx. Odour issues (Implement bio-filtration systems, regularly clean digesters, and ensure rapid processing of incoming waste to reduce odor issues. Monitor air quality and maintain odor control equipment.

xxi. Final Product (Ensure digestate is properly treated before use as fertilizer or disposal. Follow local disposal guidelines for any non-biodegradable residual waste. Regularly test digestate quality to prevent soil contamination.

xxii. For ensuring the proper handover and management of end product (forward linkage), an agreement with the vendor shall be made & has to be a part of the C-EMP.

n. compliance:

i. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance.

ii. compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance.

iii. compliance status of GBV/SEA prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance.

iv. compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

v. other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

vi. Perform regular monitoring of air, water,noise,soil and digestate. Record emissions and water usage data and report any non-compliance to authorities. Implement corrective actions promptly if any regulatory limits are exceeded.

MIS module on Labour management: The contractor shall daily update the MIS module on labour management to be provided by the SPMU, KSWMP. The monitoring shall be done by DPMU Social Expert on a daily basis, any failure in updating the MIS module shall be considered and non compliance.

Appendix D

Salient Features of Labour & Environment Protection Laws[29]

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK

(a) Employees Compensation Act 1923: The Act provides for compensation in case of injury, disease or death arising out of and during the course of employment.

(b) Payment of Gratuity Act 1972: gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.

(c) Employees P.F. and Miscellaneous Provision Act 1952 (*since amended*): The Act provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:

(i) Pension or family pension on retirement or death, as the case may be.
(ii) Deposit linked insurance on the death in harness of the worker.
(iii) Payment of P.F. accumulation on retirement/death etc.

(d) Maternity Benefit Act 1961: The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

(e) Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013: This Act defines sexual harassment in the workplace, provides for an enquiry procedure in case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee

(f) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.

[29] This list is only illustrative and not exhaustive. Bidders and Contractors are responsible for checking the correctness and completeness of the list. The law as current on the date of bid opening will apply.

(g) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employment.

(h) Payment of Wages Act 1936: It lays down the mode, manner and by what date the wages are to be paid, what deductions can be made from the wages of the workers.

(i) Equal Remuneration Act 1976: The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

(j) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. Some of the State Governments have reduced this requirement from 20 to 10. The Act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn in the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of Rs. ……../- per month or less. To be eligible for bonus, the employee should have worked in the establishment for not less than 30 working days in the relevant year. The Act does not apply to certain establishments.

(k) Industrial Disputes Act 1947: the Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations, a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

(l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

(m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in the Building and Construction Industry.

(n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home upto the establishment and back, etc.

(o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996 (BOCWW Cess Act): All the establishments who carry on any building or other construction work and employ 10 or more workers are covered under these Acts. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be notified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First – Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

(p) Factories Act 1948: the Act lays down the procedure for approval of plans before setting up a factory engaged in manufacturing processes, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power.

(q) Weekly Holidays Act -1942

(r) Bonded Labour System (Abolition) Act, 1976: The Act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.

(s) Employer's Liability Act, 1938: This Act protects workmen who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in maintenance of all machinery, equipment etc. in healthy and sound condition.

(t) Employees State Insurance Act 1948: The Act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The Act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate Government. The Act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The Act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.

(u) The Personal Injuries (Compensation Insurance) Act, 1963: This Act provides for the employer's liability and responsibility to pay compensation to employees where workmen sustain personal injuries in the course of employment.

(v) Industrial Employment (Standing Order) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

SALIENT FEATURES OF SOME OF THE MAJOR LAWS THAT ARE APPLICABLE FOR PROTECTION OF ENVIRONMENT.

2. The Environment (Protection) Act, 1986 and as amended: This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

3. The Forest Conservation Act, 1980, as amended, and Forest (Conservation) Rules, 1981 as amended: These provides for protection of forests by restricting conversion of forested areas into non- forested areas and prevention of deforestation, and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also stipulates the norms and compliance requirements of the employer and any contractor on behalf of the employer.

4. State Tree Preservation Acts as may be in force: These provide for protection of trees of important species. Contractors will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees.

5. The Wildlife (Protection) Act, 1972, and as amended: This provides for protection of wildlife through notifying National Parks and Sanctuaries and buffer areas around these zones; and to protect individuals of nationally important species listed in the Annex of the Act.

6. The Biological Diversity Act, 2002: This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.

7. The Public Liability Insurance Act, 1991 as amended and The Public Liability Insurance Rules, 1991 as amended: These provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for mattes connected herewith or incidental thereto. Hazardous

substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

8. The Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, the Ancient Monuments and Archaeological Sites and Remains Rules, 1959 amended 2011, the National Monuments Authority Rules, 2011 and the similar State Acts: These provide for conservation of cultural and historical remains found in India. Accordingly, area within the radii of 100m and 300m from the "protected property" are designated as "protected area" and "controlled area" respectively. No development activity (including building, mining, excavating, blasting) is permitted in the "protected area" and development activities likely to damage the protected property is not permitted in the "controlled area" without prior permission of the Archaeological Survey of India (ASI) or the State Departments of Art and Culture or Archaeology as applicable.

9. The Environmental Impact Assessment Notification, 2006 and as amended: This provides for prior environmental clearance for new, modernization and expansion projects listed in Schedule 1 of the Notification. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any environmental management plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

10. The Water (Prevention and Control of Pollution) Act, 1974 as amended, and the Water (Prevention and Control of Pollution) Rules, 1975 as amended: These provide for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water(whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates waste water, and observe the required standards of establishment and operation of these items of work or installations; as well as install and operate all required wastewater treatment facilities.

11. The Water (Prevention and Control of Pollution) Cess Act, 1977 and The Water (Prevention and Control of Pollution) Cess Rules, 1978: These provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.

12. The Air (Prevention and Control of Pollution) Act, 1981 as amended, and the Air (Prevention and Control of Pollution) Rules, 1982: These provide for prevention, control

and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates air pollution such as batching plants, hot mix plants, power generators, backup power generation, material handling processes, and observe the required standards of establishment and operation of these items of work or installations.

13. Noise Pollution (Control and Regulation) Rules, 2000, and as amended: This provides for standards for noise for day and night for various land uses and specifies special standards in and around sensitive receptors of noise such as schools and hospitals. Contractors will need to ensure compliance to the applicable standards, and install and operate all required noise control devices as may be required for all plants and work processes.

14. Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996: This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.

15. The Explosives Act 1884 and the Explosives Rules, 2008: These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, Oil and lubricants etc.; and also for regulating the use of any explosives used in blasting and/or demolition. All applicable provisions will need compliance by the contractors.

16. The Petroleum Rules, 2002: This provides for safe use and storage of petroleum products, and will need to be complied by the contractors.

17. The Gas Cylinder Rules 2004 and amendments: This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity. Contractors should comply with all the requirements of this Rule.

18. Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 and as amended: These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety audits and other reporting requirements as prescribed in the Rules.

19. Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016: These provide for protection of the general public from improper handling, storage and disposal of hazardous waste. The rules prescribe the management requirement of hazardous wastes from its generation to final disposal. Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material; and will to ensure full compliance to these rules and any conditions imposed in the permit.

20. The Bio Medical Waste Management Rules, 2016: This provides for control, storage, transportation and disposal of bio-medical wastes. As and where the contractor has any first aid facility and dispensaries, established in either temporary or permanent manner, compliance to these Rules are mandatory.

21. Construction and Demolition Waste Management Rules, 2016: This provides for management of construction and demolition waste (such as building materials possible to be reused, rubble and debris or the like); and applies to all those waste resulting from construction, re-modelling, repair or demolition of any civil structure. Contractor will need to prepare a waste disposal plan and obtain required approval from local authorities, if waste generation is more than 20 tons in any day or 300 tons in any month during the contract period; and ensure full compliance to these rules and any conditions imposed in the regulatory approval.

22. The E-Waste (Management) Rules, 2016: This provides for management of E-wastes (but not covering lead acid batteries and radio-active wastes) aiming to enable the recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. This Rule applies to every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational.

23. Plastic waste Management Rules, 2016: This provides for control and management of the plastic waste generated from any activity. Contractors will ensure compliance to this Rule.

24. The Batteries (Management and Handling) Rules 2001: This provides for ensuring safe disposal and recycling of discarded lead acid batteries likely to be used in any equipment during construction and operation stage. Rules require proper control and record keeping on the sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries. Contractors will ensure compliance to this Rule.

25. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 and as amended: This provides for regulation of production and consumption of ozone depleting substances in the country, and specifically prohibits export to or import from countries not specified in the Rules, and prohibits unless specifically permitted, any use of ozone depleting substance.

26. The Coastal Regulation Zone Notifications, 1991 and as amended: This provides for regulation of development activities within the 500m of high tide line in coastal zone and 100m of stretches of rivers and estuaries influenced by tides. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any plan stipulated as per the

permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

27. The Motor Vehicle Act 1988 as amended (and State Motor Vehicle Acts as may be in force) and the Motor Vehicle Rules, 1989, and as amended (and State Motor Vehicle Rules as may be in force): To minimize the road accidents, penalizing the guilty, provision of compensation to victim and family and check vehicular air and noise pollution. Contractors will be required to ensure full compliance to these rules.

28. Easement Act, 1882: This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.

29. State Groundwater Acts and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/Infrastructure project proposals in Non-Notified areas, 2012: These provide for regulating extraction of ground water for construction/industrial and drinking and domestic purposes. Contractors will need to obtain permission from Central/State Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will to ensure full compliance to these rules and any conditions imposed in the permit.

30. The Mines Act, 1952 as amended; the Minor Mineral and concession Rules as amended; and the State Mineral (Rights and Taxation) Acts as may be in force: These provide for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the State Departments of Minerals and Geology will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.

31. The Insecticides Act, 1968 and Insecticides Rules, 1971 and as amended: These provide for regulates the manufacture, sale, transport, distribution, export, import and use of pesticides to prevent risk to human beings or animals, and for matters connected therewith. No one should import or manufacture; sell, stock or exhibit for sale; distribute, transport, use: (i) any misbranded insecticides, (ii) any insecticide the sale, distribution or use of which is for the time being prohibited under the Act; and (iii) any insecticide except in accordance with the condition on which it was registered under the Act.

32. National Building Codes of India, 2005 and as amended: This provides guidelines for regulating the building construction activities in India. The code mainly contains administrative regulations, development control rules and general building requirements; stipulations regarding materials, structural design and construction; and building and plumbing services. Contractors will be required to comply with all Bureau of Indian Standards Codes dealing with: (i) use and disposal of asbestos containing materials in construction; (ii) paints containing lead; (iii) permanent and temporary ventilations in workplace; (iv) safety, and hygiene at the workplace; (v) prevention of fire; (vi) prevention

of accidents from faulty electrical gadgets, equipment and accessories; and all other such codes incidental to the Contract.

33. Environmental Guidelines for Compressed Biogas Plant (CBG)/Bio-CNG Plants: This provides guidelines for compressed biogas process, categorization, technology, products of biogas process and environmental best practices of bio CNG plant.

34. Kerala Fire Safety (Minimum Fire Safety Requirements): this provides the minimum fire safety requirements for hazardous building as per Fire and rescue services, Kerala.

35. Safety requirements on Compression, Storage, Handling & Refuelling natural gas for use in Automotive Sector: This provides minimum safety requirements at installations, handling Natural Gas for dispensing into vehicles and minimum checks required in the vehicles by Refuelling stations.

MIS module on Labour management: The contractor shall daily update the MIS module on labour management to be provided by the SPMU, KSWMP. The monitoring shall be done by DPMU Social Expert on a daily basis, any failure in updating the MIS module shall be considered and non compliance.

SECTION IX – PARTICULAR CONDITIONS OF CONTRACT (PCC)

The following Particular Conditions of Contract shall supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

SECTION IX - PARTICULAR CONDITIONS OF CONTRACT

Except where otherwise specified, all Particular Conditions of Contract should be filled in by the Employer prior to issuance of the bidding document. Schedules and reports to be provided by the Employer should be annexed.

A. General Provisions	
GCC 1.1.4	The financing institution is: The World Bank and AIIB shall finance the eligible expenses under this contract up to an agreed percentage for a period until loan closing date . After the Loan closing date, the Employer shall directly fund the eligible expenses under this contract
GCC 1.1.5	The Borrower is: The Government of India. The sub-Borrower is Government of Kerala
GCC 1.1.24	The percentage profit to be added to the Cost where the Contract allows for Cost Plus Profit is: 3%
GCC 1.1.26	Cut-Off Date: 200 calendar Days
GCC 1.1.33	The Employer ***During the Design Build Phase (Design, Construction, Erection and Commissioning phase): Kerala Solid Waste Management Project (KSWMP).*** ***During Operation Service Period: shall be assigned to Changanassery Municipality as per the provision of GCC 1.8. Changanassery Municipality shall be the Employer during the Operation Service period.***
GCC 1.1.36	Employer's Representative's name and address is: For the Design Build Period: _____ For the Operation Service Period: _____
GCC 1.1.74	Not Applicable
GCC 1.1.82	Time for Completion of Design-Build is: **365 days from signing the agreement**
GCC 1.1.88	Added new sub-clause after GCC 1.1.88

	GCC 1.1.89 Labour Module means the MIS tool for updating and monitoring labour compliance to be updated by the contractor.
GCC 1.3	Agreed methods of electronic transmission are: email.
	Address of Employer for communications: Project Director Kerala Solid Waste Management Project (KSWMP) Upper Ground Floor, Trans Towers, Vazhuthacaud, Thiruvananthapuram 695014, Kerala, India Telephone: 91 471 233 3011 Email: tenderkswmp@gmail.com
	Address of Employer's Representative for communications: For the Design Build Period: *[insert complete address with full details as above]* For the Operation Service Period: *[insert complete address with full details as above]*
	Address of Contractor for communications: *[insert the corresponding information as required below] To be assigned after Award* Attention: ***[insert full name of person, if applicable]*** Address: ***[insert street address and number]*** Floor/ Room number*:* ***[insert floor and room number, if applicable]*** City: ***[insert name of city or town]*** PIN Code: ***[insert postal (PIN) code, if applicable]*** Country: INDIA Telephone: ***[insert telephone number, including country and city codes]*** Facsimile number: ***[insert fax number, including country and city codes]*** Electronic mail address: ***[insert email address, if applicable]***
GCC 1.5	GCC Clause 1.5 modified as: 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 (if any) (b) the Particular Conditions of Contract, (c) the General Conditions of Contract, (d) Assignment Agreement between KSWMP and Changanassery Municipality, (e) the Letter of Acceptance, (f) the Letter of Bid,

	(g) the Employer's Requirements, (h) the Schedules, and (i) the Contractor's Bid and any other documents forming part of the Contract. If an ambiguity or discrepancy is found in the documents, the Employer's Representative shall issue any necessary clarification or instruction.
GCC 1.6	GCC clause 1,6 is modified as: The Parties shall enter into a Contract Agreement within 21 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions of Contract establish otherwise. The Contract Agreement shall be based upon the sample form included in the bidding documents.
GCC 1.7	GCC clause 1,7 is modified as: In consideration of the Contractor's performance of the Operation Service, from the date of commencement of the Operation Service the Employer grants to the Contractor for the Operation Service Period, the exclusive right, license and authority to occupy, use and enjoy the Site free of charge and free and clear of all claims for the purposes of carrying the Operation Services. The Employer shall, where necessary, issue, or cause to be issued, to the Contractor the Operating License or equivalent legal authorization to enable the Contractor to operate and maintain the Works during the Operation Service Period. This Operating License shall come into full force and effect upon the issue of the Commissioning Certificate required under Clause 11.7 and shall remain in force during the Operation Service Period. The Operating License to use the site shall only extend to those parts of the Site which it is required to occupy for the purposes of carrying out the Works and Operation Service as set out in the Contract. The Operating License granted pursuant to this Sub-Clause shall not operate nor be deemed to operate as a tenement or a demise of the Site or any part thereof. The Contractor shall not have or be entitled to any estate right, title, or interest in the Site. The License will immediately terminate upon the termination of this Contract for whatever reason
GCC 1.8	Name of agency to which the Contract may be assigned (if any): shall be assigned to **Changanssery Municipality during the complete Operation Service period of 10 years. Changanassery ULB shall be the Employer during the Operation Service period.**
GCC 1.8 (c)	Clause GCC 1.8 (c) modified as:

	(c) During the Operation Service period, all the rights, responsibilities and obligations under this Contract, for receiving the Performance Bank Guarantees including making payment to the Contractor shall stand vested absolutely with Changanassery Municipality. The Assignment Agreement executed between KSWMP and Changanassery Municipality shall form part of this agreement and shall be construed accordingly. GCC Clause 1.8 (c) (i) & (ii) is deleted
GCC 1.8 (e)	GCC Clause 1.8 (e) shall not be applicable
GCC 1.9	In the event of a delay or failure by the Contractor to submit the required documents within the stipulated period, the Employer shall be entitled to impose a penalty of ₹ 5,000.00 (Rupees Five Thousand Only) per day of delay
GCC 1.14	Added a clause GCC 1.14 (d) after GCC clause 1.14 (c) (d) Non- Compliance to Point (a) to (c) and statutory norms, guidelines, regulation, SWM Rules 2016 and their amendment from time to time as per statutory authority norms. In case statutory norms are silent shall be penalized at the rate of Rs. 2000.00 per case.
GCC 1.15.2	SPV is not allowed
GCC 2.1	The Employer shall give the Contractor access to the Site: no later than 15 days after the Commencement Date,
GCC 3.1	First Line of the GCC Clause 3.1 modified as: The Employer shall appoint the Employer's Representative on signing of the Contract
GCC 3.1 (b) (ii)	All variations, irrespective of the value, shall require Employer's prior approval.
GCC 4.2	The Performance Security will be in the form of demand guarantee(s) from Nationalized or Scheduled bank(s) in India, in the Performance Security Forms included in Section X, Contract Forms as follows: 1. **Performance Security- DB Period** a) **for Design Build Phase: 9 % of the Accepted Contract Amount for Design-Build Phase** b) ESHS Performance Security (DB Period): **1% of the Accepted Contract Amount for Design-Build Phase** The contractor shall ensure to maintain the required amount and validity of performance security till 365 days from the date of issue of Commissioning certificate

	The Performance Security for the Design-Build Phase shall be drawn in favour of Project Director, Kerala Solid Waste Management Project KSWMP, the Employer for Design Build Phase **2. Performance Security-Operation Service** a) for Operation Service: **8% of the Accepted contract Amount for 10 years of Operation service.** b) ESHS Performance Security (Operation Service Period): **2% of the Accepted Contract Amount for 10 years of Operation service.** The contractor shall ensure to maintain the required amount and validity of performance security of Operation service phase till the issuance of contract completion certificate. The Performance Security for the Operation and Maintenance Phase shall be drawn in favour of the Changanassery Municipality The Performance Security for Operation and Maintenance Phase shall remain valid up to the issuance of Contract Completion Certificate. 3. Additional Security: additional security of upto 10 % for unbalanced bids determined in accordance with Cl. 41.2 of ITB; The performance security of a Joint Venture shall be in the name of the Joint Venture specifying the names of all members. Throughout this bidding document the term 'performance security', unless the context clearly indicates otherwise, means and includes both 'the performance security and the ESHS performance security' to be submitted by the successful bidder in the amounts specified above.
GCC 4.2	The Paragraph of the sub clause GCC 4.2 "The Contractor shall ensure that the Performance Security, is valid and enforceable until the issue of the Contract Completion Certificate" modified as: The Contractor shall ensure that the Performance Security for Design and Build Phase, is valid and enforceable until 365 days from date of issue of Commissioning Certificate; the performance security for the Operation service period is valid and enforceable until the issue of the Contract Completion Certificate The Paragraph of the sub clause GCC 4.2 "Without limitation to the provisions of the rest of this Sub-Clause, whenever the Employer's Representative determines an addition or a reduction to the Contract Price as

	a result of a change in cost and/or legislation, or as a result of a Variation, amounting to more than 25 percent of the Contract Price, the Contractor shall at the Employer's Representative's request promptly increase, or may decrease, as the case may be, the value of the Performance Security, and the ESHS Performance Security" is **deleted** The paragraph of sub-clause GCC 4.2 "The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Contract Completion Certificate" modified as: "The Employer shall return the 1. Design Build Performance Security to the Contractor within 21 days after successfully completion of 365 days from the date of issue of Commissioning Certificate 2. Operation Service Performance Security to the Contractor within 21 days after receiving a copy of the Contract Completion Certificate.
GCC 4.3	The Contractor's Representative is _____ [*insert the name of the Contractor's Representative agreed by the Employer prior to Contract signature The representative should be conversant in ……..language, being the spoken language of the region*]
GCC 4.4	Subcontracting is not applicable. **Only Specialized subcontractor(s) are permitted during Operation Service phase for Collection and Transportation activities.** The contractor may hire/ engage services for : (a) the provision for labour, or labour component, and, (b) the purchase of materials which are in accordance with the standards specified in the contract. (c) Specialized element of the project like survey, studies, laboratory testing, specialized equipment, machinery or any other elements as approved by the employer (d) For Works requiring specific license as per state regulations can be sub contracted with prior written approval from the Employer during the contract period , however, the overall responsibility and performance of the work shall always remain with the contractor
GCC 4.7	No Change
GCC 4.8	Added new clauses GCC 4.8 (f) & GCC 4.8 (g) after GCC 4.8 (e) (f) comply to fire safety regulations , perform third party fire audits annually. Failure to which the Contractor shall be penalized an amount set out in PCC.

	(g) Non-compliance to points (a), (c) to (f) , the Contractor shall be penalised an amount set out in PCC
GCC 4.8 (f)	A penalty of Rs. 1,00,000 for failing to comply to fire safety regulations , perform third party fire audits annually
GCC 4.8 (g)	A penalty of Rs. 10,000 per case will be imposed on Contractor on non-Compliance
GCC 4.18	Not Applicable, the Contract Price is deemed to include all things necessary to meet the requirements of the EMP.
GCC 4.19	Except as stated below, the Contractor shall be responsible for the provision of all electricity, water and other services he may require. The Contractor shall be entitled to use for the purposes of the Works and provision of the Operation Service such supplies of electricity, water, gas and other services as may be available on the Site. In such a case the Contractor shall take over in his own name and shall be responsible for payment of the electricity, water, gas and other services to the utility provider. The Contractor will be allowed to take over the existing service entry and provision points and shall be responsible for taking and recording such information as is necessary for the utility providers to correctly charge the Contractor from the Commencement Date. Any additional requirements of electricity, water, gas and other services shall be the responsibility of the Contractor.
GCC 5.1	Period for notification of errors, faults and other defects: 30 days after the Commencement Date [*insert number of days*]
GCC 5.2	The Contractor's Documents, but not limited to, which require approval from the Employer's Representative are: *1. Design Schedule* *2. Preliminary Design* *3. Detailed Design and Work Plan* *4. Design for Environmental Consents/Permits* *5. Design for Construction* *6. Environmental Design* *7. Drainage Design* *8. Temporary and Permanent* *9. 3rd Party Access Design* *10. Design Safety Report* *11. Construction Safety Report* *12. Environmental and Social Impact Assessment* *13. Permitting and Consents Plan*

	In addition, the contractor shall provide • A detailed breakdown of the total cost incurred for all Works, Plant, Machinery, and Equipment during the Design and Engineering phase, duly audited and certified by a Chartered Accountant. • A detailed statement of total cost incurred during each of operation year duly certified by a Chartered Accountant • Any other document, information, training, knowledge transfer required for the commencement of Plant operation • Along with Hard copies of the documents, the contractor shall furnish to the Employer's Representative, soft copies through email or other digital media as convenient
GCC 6.5	The normal working hours are 2 shift of 8 Hours [i*nsert the normal working hours*]
GCC 6.9	_____ *[insert the name of each of the Contractor's Key Personnel to the extent agreed by the Employer prior to Contract signature]*
GCC 7.7	The Paragraph of the sub clause GCC 7.7 "For the avoidance of doubt, vehicles, trucks, mobile plant and site equipment (other than temporary mobile plant and temporary site equipment brought onto the site to undertake specific remedial tasks), tools, office equipment, software and office consumables used by the Contractor for the Operation Service shall become the property of the Employer. Vehicles used for personal transportation of the Contractor's Personnel and computers and mobile devices allocated for the personal use of the Contractor's Personnel shall be Contractor's Equipment" is modified as: For the avoidance of doubt, all deliverables covered under the scope of work and schedule of payment for design-build phase including but not limited to plant and machinery, equipment, immovable and movable assets, tools, office equipment, software and licenses, Technology rights, specialised spares, consumables including office consumables, used by the Contractor for the Operation Service shall become the property of the Employer. Vehicles used for personal transportation of the Contractor's Personnel and computers and mobile devices allocated for the personal use of the Contractor's Personnel shall be Contractor's Equipment". Vehicles for Collection and Transportation shall also be Contractor's Equipment.
GCC 7.8	Royalties shall be paid by the contractor and should be included in the unit rates of various items.
GCC 8.1(c)	Not Applicable

<table>
<tr><td></td><td></td></tr>
<tr><td>GCC 8.2</td><td>The Contractor shall provide the Operation Service for the period of: 120 months.</td></tr>
<tr><td>GCC 9.2</td><td>Time for Completion of Design-Build of the Works is: 365 days from the signing of agreement as per below milestone
<table>
<tr><th>Milestone</th><th>Activity Description</th><th>Time Period for Completion from Signing of Agreement in number of Days</th></tr>
<tr><td>1</td><td>Completion of Detailed Design and Engineering phase</td><td>90</td></tr>
<tr><td>1.1</td><td>Submission of Detailed Project Report, Work Plan, Implementation Schedule as per scope of work</td><td>60</td></tr>
<tr><td>1.2</td><td>Submission of Detailed Design and Engineering documents including Project Layout, Construction, electrical and Mechanical detailed design & Engineering documents and drawings for Technical Vetting as per scope of work</td><td>60</td></tr>
<tr><td>1.3</td><td>Project power, water supply approvals and consent from PCB</td><td>60</td></tr>
<tr><td>1.4</td><td>Incorporate all changes as suggested by Employer and/or Third-Party vetting agency and submission and approval of final Detailed Project Report, Work Plan, Implementation Schedule, all Detailed Design and Engineering Documents and reports as per scope of work</td><td>90</td></tr>
<tr><td>2</td><td>Completion of 30% of the Civil Works related to the Processing Plant</td><td>150</td></tr>
<tr><td>3</td><td>Placement of order for plant and Machinery for the Processing Plant and producing documentary evidence including Work Order/ Purchase Order of such order placement to the Authority</td><td>121</td></tr>
<tr><td>4</td><td>Upon Completion of 60% of the Civil Works related to the Processing Plant</td><td>200</td></tr>
<tr><td>5</td><td>Completion of all the Civil Works (100%) related to the Bio CNG facility</td><td>230</td></tr>
</table></td></tr>
</table>

	6	Receipt of all Machinery & Equipment at site as mentioned in the Agreement	211
	7	Completion of all Electrical works, firefighting, other related equipment installation and testing as per approved design documents	320
	8	Completion of all Mechanical and Piping work as per approved design	320
	9	Successful erection of Plant and machinery related to the BioCNG facility testing, trial run and receipt of provisional completion certificate	350
	10	Complete Commissioning of Plant and issue of commissioning certificate	365

Time for Completion of Design-Build of each Section is: Not Applicable

GCC 9.6

The delay damages for the whole of the Works is provided in table below. The maximum amount of damages for the whole of the Works is ***10%*** of the accepted Contract Amount for Design Build.

Milestone	Activity Description	Time Period for Completion from Signing of Agreement in number of Days	Liquidated Damages
1	Completion of Detailed Design and Engineering phase	90	
1.1	Submission of Detailed Project Report, Work Plan, Implementation Schedule as per scope of work	60	0.05% of the accepted Contract Amount for Design-Build
1.2	Submission of Detailed Design and Engineering documents including Project Layout, Construction, electrical and Mechanical detailed design & Engineering documents and drawings for Technical Vetting as per scope of work	60	0.05% of the accepted Contract Amount for Design-Build

	1.3	Project power, water supply approvals and consent from PCB	60	0.05% of the accepted Contract Amount for Design-Build Note: If the delay in securing approvals is due to conditions beyond control of the contractor, the Employer, upon written request from the contractor along with satisfactory justification and documentary evidence may extend the timeline or waive of part or full of the Liquidated damages for this activity
	1.4	Incorporate all changes as suggested by Employer and/or Third-Party vetting agency and submission and approval of final Detailed Project Report, Work Plan, Implementation Schedule, all Detailed Design and Engineering Documents and reports as per scope of work	90	0.05% of the accepted Contract Amount for Design-Build
	2	Completion of 30% of the Civil Works related to the Processing Plant	150	0.05% of the accepted Contract

				Amount for Design-Build
	3	Placement of order for plant and Machinery for the Processing Plant and producing documentary evidence including Work Order/ Purchase Order of such order placement to the Authority	121	0.05% of the accepted Contract Amount for Design-Build
	4	Upon Completion of 60% of the Civil Works related to the Processing Plant	200	0.05% of the accepted Contract Amount for Design-Build
	5	Completion of all the Civil Works (100%) related to the Bio CNG facility	230	0.05% of the accepted Contract Amount for Design-Build
	6	Receipt of all Machinery & Equipment at site as mentioned in the Agreement	211	0.05% of the accepted Contract Amount for Design-Build
	7	Completion of all Electrical works, firefighting, other related equipment installation and testing as per approved design documents	320	0.05% of the accepted Contract Amount for Design-Build
	8	Completion of all Mechanical and Piping work as per approved design	320	0.05% of the accepted Contract Amount for Design-Build
	9	Successful erection of Plant and machinery related to the BioCNG facility testing, trial run and receipt of provisional completion certificate	350	0.05% of the accepted Contract Amount for Design-Build
	10	Complete Commissioning of Plant and issue of commissioning certificate	365	0.05% of the accepted Contract Amount for Design-Build

GCC 9.12	Added a new clause after GCC 9.12 (d) GCC 9.12 (e) Submission of a detailed breakdown of the total cost incurred for all Works, Plant, Machinery, and Equipment during the Design and Engineering phase, duly audited and certified by a Chartered Accountant.
GCC 10.2	Commencement date shall be: 15 (Fifteen) days following the date of issuance of the Commissioning Certificate.
GCC 10.4 and 10.5	Maximum amount of Performance Damages payable by the Contractor (Operation Service): 10% of the Accepted contract Amount for Operation service period of 10 years Maximum amount of performance damages payable by the Contractor in any contract year during the Operation Service Period: 10% of the Accepted contract Amount for Operation Service period of 10 years
GCC 10.4 (b)	Not Applicable
GCC 10.7	During the Operation Service, any production output and revenue generated from the sale of By-product generated from the Bio CNG Plant including Bio CNG, FOM etc. shall be the exclusive property of the Contractor. Any other revenue generated from the Plant other than sale of By-products including, but not limited to, CDM Benefits (Carbon Credits), revenue due to any Central or State Government Schemes or External Aided schemes etc. shall be shared equally between the Changanassery ULB, and the Contractor on a 50:50 basis.
GCC 11.1	The Paragraph "The Employer shall be the sole beneficiary of any revenue or benefit resulting from the Tests on Completion of Design-Build" of GCC 11.1 modified as: The Contractor shall be the sole beneficiary of any revenue or benefit resulting from the Tests on Completion of Design-Build The Employer or Employer's representative shall witness the testing jointly with the contractor and establish performance parameters.
GCC 13.2	Value Engineering provisions shall not apply to this procurement.

GCC 13.5	Percentage rate to be applied to Provisional Sums is: Provisional sum for ES activities as provided in Appendix to Bid Financial Part:Part [1]: Bid Price Forms - Design-Build: Specified Provisional Sums
GCC 13.8	Contract Price and Rates and Prices to be adjusted for changes in cost as further detailed in the Schedule of Cost Indexation; a) Design-Build: No b) Operation Service: No
GCC 13.9	Deleted
GCC 14.2	The Advance Payments shall be: 5% of Accepted Contract Amount for the Design Build, payable on submission of an unconditional and irrevocable Bank Guarantee in the format given in Section X from a Nationalized or Scheduled Bank in India. The contractor can request for the Advance Payments within end of the 20% of the Design-Build Period The Contractor shall use the advance payment only to pay for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, or Liquidated Damages.
GCC 14.2 (a)	GCC 14.2 amended to: Deductions shall commence from first milestone payment bill for Design Build
GCC 14.2 (b)	Percentage deductions for the repayment of the Advance Payment is: equal installments of 12.5% of the advance payment amount (mobilization amount). Deductions shall commence from the first milestone payment bill for Design Build. Amortization rate of the amount of each Interim Payment Certificate changed to equal instalments @12.5% of the advance payment amount; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Accepted Contract Amount for Design Build less Provisional Sums has been certified for payment. If the advance payment has not been repaid prior to the issue of the Commissioning Certificate for the Works or prior to termination under

	Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 18 [Exceptional Risks] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Employer], except for Sub-Clause 15.5 [Employer's Entitlement to Termination for Employer's Convenience], payable by the Contractor to the Employer."
GCC 14.3 (c)	Not Applicable
GCC 14.5	As per Appendix 1 – Schedule of Payments
GCC 14.6	Minimum Amount of Interim Payment Certificate applicable for the Design-Build: Not Applicable Minimum Amount of Interim Payment Certificate applicable for the Operation Service: Not Applicable
GCC 14.8	If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges on the unpaid amounts during the period of delay at simple interest of 3% per annum.
GCC 14.9	Not Applicable
GCC 14.17	Deleted
GCC 17.1 (b) (iii)	Operation of forces of nature: This may include, but not be limited to, acts of the bidder in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes
GCC 17.8	Maximum total liability of the Contractor shall not exceed the total accepted contract amount
GCC 18.1 (g) & (h)	Not Applicable
GCC 19.2 (a)(i)	Deductible limits for Works, together with Materials and Plant for incorporation therein: *Not Applicable*
GCC 19.2 (a)(ii)	Additional sum to be insured to cover any additional costs: 15%
GCC 19.2 (a)(4)	Employer's Risks to be insured if different to Sub-Clause 17.1: As per sub clause 17.1
GCC 19.2 (a)(5)	Exceptional Risks to be insured if different to Sub-Clause 18.1: As per sub-clause 18.1

GCC 19.2 (b)	Insurance of Contractor's Equipment (minimum amount required): 1% of the accepted contract amount of the Design Build Phase
GCC 19.2 (c)	Minimum amount of professional liability insurance required: *Equivalent to accepted contract amount for design build phase* Period for which professional liability insurance required: Till the end of the contract period.
GCC 19.2 (d)	Minimum amount of insurance required for injury to persons and damage to property: Equal to two times of the accepted contract amount for design build phase *[Note: this minimum amount per occurrence should be commensurate with the risk of damage specific to the Contract]*
GCC 19.2 (f)	Other insurances required from the Contractor : (i). Third Party Insurance for Community Health and Safety for minimum amount equivalent to two times of the accepted contract amount for design build phase (ii) Other insurance as per local regulations.
GCC 19.3 (a)	Minimum amount of fire extended cover insurance required: As per local regulations
GCC 19.3 (b)	Minimum amount of insurance required to cover injury to any person and damage to property: Two times of the Accepted Contract Amount for Operation Service phase
GCC 19.3 (d)	Other insurances required by law from the Contractor (give details): Contractor shall be responsible for ensuring compliance on local regulatory requirements pertaining to insurance coverage as necessary
GCC 19.3 (e)	Other optional insurances required from the Contractor (give details): (i). Third Party Insurance for Community Health and Safety for minimum amount equivalent to two times of the accepted contract amount for operation service phase (ii) Other insurance as per local regulations.
GCC 19.3 (f)	Minimum amount of professional liability insurance required: *Equivalent to accepted contract amount for operation service phase* Period for which professional liability insurance required: Till the end of the contract period.
GCC 20.3 (i)	Last paragraph of the clause GCC 20.3 (i) is modified as:

	An agreement should be signed with the Adjudicator jointly by the Employer and the Contractor in the form attached – Appendix A.
GCC 20.3 (i) and (ii)	Appointing Authority for the Adjudicator: Indian council of Arbitration or any such neutral body agreed by the Employer and the contractor jointly after signing of agreement The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the request of either party in the event of any dispute that arises in or out of this Contract. If the Employer and the Contractor do not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the PCC, to appoint the Adjudicator within 14 days of receipt of such request
GCC 20.3 (iv)	Daily rate and types of reimbursable expenses to be paid to the Adjudicator: Rs …….. Rate per day plus Travelling Allowance (TA) & Daily Allowance (DA) shall be determined as mutually agreed upon between the parties.
GCC 20.3 (v)	The Entire 'Alternatively' Clause written in end paragraph is deleted.
GCC 20.3 (v) (c)	The clause is modified as: Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Employer's Representative, the Contractor and the Adjudicator shall not be altered by reason of the arbitration being conducted during the progress of the Works
GCC 20.3 (v)(d)	Arbitration proceedings shall be held at: Thiruvananthapuram or Changanassery, Kerala as the parties may agree.
GCC 20.3 (v) (e)	The decision of the majority of Arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings shall be borne by each party itself. The fees and expenses paid to the Arbitrator(s) appointed shall be borne equally by the parties.

Table: Summary of Sections

Section Name/Description (Sub-Clause 1.1.74)	Time for Completion of Design Build (Sub-Clause 1.1.82)	Damages for Delay (Sub-Clause 9.6)

SECTION X. – CONTRACT FORMS

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security, Advance Payment Security, and Retention Money Security when required, shall only be completed by the successful Bidder after contract award.

Notification of Award - Letter of Acceptance

[letterhead paper of the Employer]

[The Letter of Acceptance shall be the basis for formation of the Contract as described in ITB Clause 48. This Standard Form of Letter of Acceptance shall be filled in and sent to the successful Bidder only after evaluation of bids has been completed, subject to any review by the World Bank required under the Loan Agreement]

[date]

To: *[name and address of the Contractor]*

This is to notify you that your Bid dated *[date]* for execution of the *[name of the Contract and identification number, as given in the PCC]* for the Accepted Contract Amount *[amount in Rs. in numbers and words]*, as corrected and modified[30] in accordance with the Instructions to Bidders, is hereby accepted by our Agency.

The amount is made up of the following components:

The Accepted Contract Amount for the Design-Build of:

……

(amount in Rs. in figures)

The Accepted Contract Amount for the Operation Service of:

……

(amount in Rs. in figures)

You are requested to furnish the Performance Security, plus additional security for unbalanced bids in terms of ITB Clause 51, and an Environmental, Social, Health and Safety Performance Security ***[Delete ESHS Performance Security if it is not required under the contract]*** within 21 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Security and an Environmental, Social, Health and Safety Performance Security ***[Delete ESHS Performance Security if it is not required under the contract]*** Forms included in Section X, Contract Forms, of the bidding document. The securities shall be valid upto 28 days from the date of completion i.e. upto …….

[Choose one of the following statements:]

[30] *Delete "corrected and" or "and modified" if not applicable*

We accept that _____ ***[insert the name of Adjudicator proposed by the Bidder]*** be appointed as the Adjudicator[31].

[or]

We do not accept that _____***[insert the name of the Adjudicator proposed by the Bidder]*** be appointed as the Adjudicator, and by sending a copy of this Letter of Acceptance to _____***[insert name of the Appointing Authority]***, the Appointing Authority, we are hereby requesting such Authority to appoint the Adjudicator in accordance with ITB 52.1 and GCC 20.3[32].

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

[31] *To be used only if the Contractor disagrees in the Bid with the Adjudicator proposed by the Employer in the Instructions to Bidders, and has accordingly offered another candidate.*

[32] *To be used only if the Contractor disagrees in the Bid with the Adjudicator proposed by the Employer in the ITB, has accordingly offered another candidate, and the Employer does not accept the counterproposal.*

Contract Agreement

THIS AGREEMENT made the _____ day of _____, _____, between _____of _____ (hereinafter "the Employer"), of the one part, and _____ of _____ (hereinafter "the Contractor"), of the other part:

WHEREAS the Employer desires that the Works known as _____ _____ should be designed, executed and operated by the Contractor, and has accepted a Bid by the Contractor for the design, execution, completion and operation and maintenance of these Works and the remedying of any defects therein,

The Employers and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

   (i) the Letter of Acceptance

   (ii) the Letter of Bid

   (iii) the addenda Nos _____(if any)

   (iv) the Particular Conditions of Contract

   (v) the General Conditions of Contract, including Appendices

   (vi) the Employer's Requirements

   (vii) the completed Schedules

   (viii) The Operating License

   (ix) The Contractor's Bid and any other documents forming part of the Contract

   (x) Joint Venture Agreement [for JVs only], and

   (xi) any other documents forming part of the contract, including, but not limited to:

      i. the ESHS Management Strategies and Implementation Plans; and

      ii. Code of Conduct (ESHS).

3. In consideration of the payments to be made by the Employers to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to design, execute, complete,

operate and maintain the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract and Operating License.

4. The Employers hereby covenants to pay the Contractor in consideration of the design, execution, completion operation and maintenance of the Works and the remedying of defects therein, the Contract Price, or such other sum as may become payable under the provisions of the Contract, at the times and in the manner prescribed by the Contract and to grant the Contractor (or cause the Contractor to be granted) a royalty-free license to enable him to operate and maintain the Works during the Operation Service Period

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of _____ on the day, month and year specified above.

Signed by _____ (for the Employers)

Signed by _____ (for the Contractor)

Appendices to the Contract Agreement:

Appendix 1: Schedule of Payments
Appendix 2: Schedule of Cost Indexation
Appendix 3: Schedule of Performance Standards
Appendix 4: Schedule of Performance Damages

Appendix 1 – Schedule of Payments

1) Procedures for payment of the Design-Build

Milestone	Description	Percentage of accepted Design Build Price
(1) Design Construction, Procurement, Erection, Testing of TPD biodegradable Municipal Solid Waste Processing Plant including civil works	*(a) Upon completion of Detailed Design and Engineering- (On submission and approval of Detailed Design & Engineering, Work Plan, and Implementation Schedule as per the scope of work)*	5.00%
	(b) Upon Completion of 30% of the Civil Works related to the Processing Plant	5.00%
	(c) Upon placement of order for plant and Machinery for the Processing Plant and producing documentary evidence including Work Order/ Purchase Order of such order placement to the Authority	10.00%
	(d) Upon Completion of 60% of the Civil Works related to the Processing Plant	5.00%
	(e)Upon completion of all Electrical works, firefighting, other related equipment installation and testing as per approved design documents	5.00%
	(f) Upon Completion of all the Civil Works relate d to the Processing Plant as per the approved design	10.00%
	(g) Upon receipt of all Machinery & Eq uipment at site as per the approved design	15.00%
	(h) Upon completion of all Mechanical and Piping work as per approved design	10.00%
	(i) Upon Successful erection of Plant and machinery related to the BioCNG facility testing, trial run and receipt of provisional completion certificate	25.00%
	Sub Total (1)	**90.00%**
(2) Complete Commissionin g of Plant and Trial Run	Upon issue of Commissioning Certificate	5.00%

(3) Successful Operation of Plant	Upon six (6) months of successful operation after Commissioning certificate	5.00%
	Total	**100.00%**

KSWMP (Employer for Design Build Phase) shall be responsible for making all payments related to the Design-Build Phase. Such payments shall be made in accordance with the terms and milestones specified in the Schedule of Payment, subject to the submission of requisite documentation and approvals as stipulated in the RFB and Conditions of Contract.

2) Payment of the Operation Service Fees

The Operation Service Fees shall be paid on a monthly basis, prorated in accordance with the accepted Operation Service fee in the contract. Payments shall be based on the actual work executed, as certified by the Employer, and shall be subject to adjustments for any advances paid, performance-related damages, or other applicable deductions. The weight of the quantities (tonnage) recorded at the Bio CNG facility weighbridge shall be considered for payment purposes. **Changanassery Municipality, shall be solely responsible for making all payments related to the Operation Services of 10 years.**

Illustration:
The mechanism for calculating the monthly Operation Service Fee is illustrated in the table below for reference purposes only. Bidders are hereby informed that actual payments shall be made strictly based on the verified quantities of waste collected, transported, and processed. The quantities mentioned in the illustrative table below shall not be construed as binding or definitive for payment purposes.

S. No.	Operation Service Activity	Quantity of Waste Processed in the Month (MT/Month)	Accepted unit Rate (Rs/ MT) [from bidders quote]	Calculated Monthly Payment
1	Payment towards Operation and Maintenance of Bio CNG Facility	900 MT (Assuming 30 TPD x 30 days)	$R_{Processing}$	900 x $R_{Processing}$ = A
2	Payment towards Primary and Secondary Collection and Transportation of Waste from Changanassery Municipality	270 MT (Assuming 9 TPD x 30 days)	$R_{C\&T\text{-}Changanassery}$	270 x $R_{C\&T\text{-}Changanassery}$ =B

S. No.	Operation Service Activity	Quantity of Waste Processed in the Month (MT/Month)	Accepted unit Rate (Rs/ MT) [from bidders quote]	Calculated Monthly Payment
3	Payment towards Secondary Collection and Transportation of Waste from Participating Urban Local body(ies) and Gram Panchayats	630 MT (Assuming 21 TPD x 30 days)	$R_{C\&T\text{-other ULB}}$	630 x $R_{C\&T\text{-other ULB}}$ = C
			Total Monthly Payment*	A +B+C

Note:

1. **Payments shall be based on the actual work executed (Quantity Collected and Transported and Processed), as certified by the Employer, and shall be subject to adjustments for any advances paid, performance-related damages & Penalties, or other applicable deductions.**
2. **The weight of the quantities (tonnage) recorded at the Bio CNG facility weighbridge shall be considered for payment purposes**

Appendix 2 – Schedule of Cost Indexation[33] -Not Applicable

1. General requirements

To the extent, that the PCC allows for price adjustment, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, goods and other inputs to the Works or Operation Service by the addition or deduction of the amounts determined by the formulae prescribed in this Appendix. To the extent that full compensation for any rise or fall in costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.

The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae given hereunder. No adjustment is to be applied to work valued on the basis of Cost or current prices.

2. Adjustment of Design-Build Prices

If the PCC allows for price adjustment of design-build amounts, the formulae shall be of the following general type:

Pn= a + b Ln/ Lo + c En/ Eo + d Mn/Mo + ...

where:

"Pn" is the adjustment multiplier to be applied to the estimated contract value of the work carried out in period "n", this period being a month unless otherwise stated in the Appendix to Bid;

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d", ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

"Ln", "En", "Mn", ... are the current cost indices or reference prices for period "n", expressed in Indian Rs., each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

"Lo", "Eo", "Mo", ... are the base cost indices or reference prices, expressed in Indian Rs., each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Employer's Representative. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth column of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.

[33] Entries in this Appendix should be consistent with the entries in the Schedule of Adjustment Data – Table A and Table D.

Until such time as each current cost index is available, the Employer's Representative shall determine a provisional index for the Issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.

If the Contractor fails to complete the within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price: whichever is more favourable to the Employer.

3. Adjustment of Operation Service amounts

[Separate indexation provisions may be required for each component of the operation service fee.]

If the PCC allows for price adjustment of Operation Service amounts, the formulae shall be of the following general type:

$$Pn = b\ Ln/lo + c\ En/Eo + d\ Mn/Mo + ...$$

where:

"Pn" is the adjustment multiplier to be applied to the amount in period "n", this period being a month unless otherwise stated in the Appendix to Bid;

"b", "c", "d", ... are coefficients representing the estimated proportion of each cost element in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

"Ln", "En", "Mn", ... are the current cost indices or reference prices for period "n", each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period to which the particular Payment Certificate relates;

"Lo", "Eo", "Mo", ... are the base cost indices or reference prices, each of which is applicable to the relevant tabulated cost element on the Base Date.

Appendix 3 - Schedule of Performance Standards

I. During Design Build Phase:

Milestone	Activity Description	Time Period for Completion from Signing of Agreement in number of Days
1	**Completion of Detailed Design and Engineering phase**	90
1.1	Submission of Detailed Project Report, Work Plan, Implementation Schedule as per scope of work	60
1.2	Submission of Detailed Design and Engineering documents including Project Layout, Construction, electrical and Mechanical detailed design & Engineering documents and drawings for Technical Vetting as per scope of work	60
1.3	Project power, water supply approvals and consent from PCB	60
1.4	Incorporate all changes as suggested by Employer and/or Third-Party vetting agency and submission and approval of final Detailed Project Report, Work Plan, Implementation Schedule, all Detailed Design and Engineering Documents and reports as per scope of work	90
2	Completion of 30% of the Civil Works related to the Processing Plant	150
3	Placement of order for plant and Machinery for the Processing Plant and producing documentary evidence including Work Order/ Purchase Order of such order placement to the Authority	121
4	Completion of 60% of the Civil Works related to the Processing Plant	200
5	Completion of all the Civil Works (100%) related to the Bio CNG facility	230
6	Receipt of all Machinery & Equipment at site as mentioned in the Agreement	211
7	Completion of all Electrical works, firefighting, other related equipment installation and testing as per approved design documents	320
8	Completion of all Mechanical and Piping work as per approved design	320
9	Successful erection of Plant and machinery related to the BioCNG facility testing, trial run and receipt of provisional completion certificate	350

10	Complete Commissioning of Plant and issue of commissioning certificate	365

II. During Operation Service

(a) Availability Guarantee

(i) The Contractor shall ensure that the Availability of the Project Facilities maintain a cumulative availability of 100% for each year during the 10-year Operation and Maintenance (O&M) period

The 'Availability' of the Project Facilities will be determined as a ratio of the number of days in a year during which the Project Facilities are available to accept and process Acceptable Waste up to its Design Capacity, to the total number of days (365 days) in the year , and the term 'Available' shall be construed accordingly.

(ii) In computing the Availability of the Project Facilities, the Contractor agrees that the Facilities shall be considered Available at all times, other than during the following periods during which the Project Facilities will be deemed to be not Available

(A) an unscheduled outage affecting the Project Facilities and or operation of the facility including processing of the Waste attributable to the Contractor;

Or,

(B) Scheduled Maintenance period of more than cumulative 30 days in a year of operation service and more than 5 days in a stretch.

Or,

(C) suspension of the O&M services for the Project Facilities, for reasons attributable to the Contractor, or;

(D) an Emergency affecting the Project Facilities, attributable to the Contractor,

(iii) Notwithstanding anything contained in this Agreement, the Project Facilities will be deemed to be Available in case of the following (list of exceptions that shall be excluded when calculating availability):

(A) Scheduled Maintenance – Downtime for planned preventive or corrective maintenance activities, as mutually agreed in advance. The Scheduled maintenance period shall be limited to cumulative 30 days in a year of Operation Service and not more than 5 days in a stretch.

(B) Force Majeure Events – Any period during which the Facilities are non-operational due to events beyond the Contractor's control, such as natural disasters, war, or government-imposed restrictions.

(C) a Forced Unavailability not attributable to the Contractor; or.

(D) Approved Shutdowns – Any shutdowns requested or approved in writing by the Employer or relevant authority.

(E) Safety or Emergency Shutdowns – Periods when the Facilities are shut down to prevent accidents, ensure safety, or respond to emergencies, in accordance with standard operating procedures."

(F) Unavailability of waste – In the event of unforeseen circumstances not attributable to the contractor, where the monthly average quantity of Biodegradable Waste (BDW) at the waste collection source/ designated collection points within the project area falls below the designed capacity.

(iv) If the Contractor is unable to achieve the Availability Guarantee in any year during the Operation Service Period, then the Contractor shall be liable to pay Performance Damages calculated in accordance with the provision of schedule of performance damages. In addition the Contractor will also have to manage the waste generated at their own cost for the said period. The strategy for management of waste in such a case, should be detailed in the DPR submitted by the operator, which should also approved by the employer

(v) The Availability Liquidated Damages payable by the Contractor for its failure to achieve the Availability Guarantee, if any, shall accrue on a yearly basis during the Operation Service Period and will be payable by the Contractor within [7 (seven)] days from the end of the year in which the Contractor has failed to achieve the Availability Guarantee.

(b) **Throughput Guarantee**

(i) The Contractor shall ensure that it processes all the Waste transported to the Waste to Bio CNG facility excluding the rejected quantity (rejects) . In any month during the Operation Service Period, if the Contractor is unable to process monthly average quantities of Waste excluding the rejects equivalent to a) 80% (Eighty Percent) Waste received at the Bio CNG facility for the first six month from the operation service start date and b) 90% (Ninety Percent) of the Waste received at the Bio CNG facility (the Throughput Guarantee), then the Contractor shall be liable to pay Throughput performance Damages outlined in schedule of performance damages. The monthly average quantity of the waste will be determined as ratio of total waste processed in the facility in a month excluding waste quantity rejected, and total number of days in such month

$$\text{Monthly Average Quantity of Waste} = \frac{\text{(Quantity of Waste Received at Facility} - \text{Reject (preprocessing) Quantity)}}{\text{Number of available days in the Month}}$$

Where:

- **Quantity of Waste Received at Facility** = Total waste collected by the Contractor and delivered to the Bio-CNG facility in a month, certified by weighment at the facility's weighbridge. The weighbridge quantity should be certified by the employers representative (of the O&M Phase) on a weekly basis
- **Reject Quantity** = The rejects from pre-processing segregation of the plant shall only be non-biodegradables like inert, non-recyclables, combustibles and recyclables. However, the preprocessing rejects can also include coconut shell and wooden logs. Portion of waste rejected in a month, certified by the Employer or designated personnel, and weighed at the facility prior to disposal as per the Scope of Work.
- **Number of available days in the month** = Total calendar days in the respective month in which waste is available excluding exceptions days mentioned above in 'a (iii)'

(ii) The Contractor shall be exempt from achieving the Throughput Guarantee in case of the following:

(A) a Forced Unavailability which is not attributable to the Contractor; or

(B) an Emergency affecting the Project Facilities, which is not attributable to the Contractor.

(C) Scheduled Outage period

(iii) The Throughput performance Damages payable by the Contractor for its failure to meet the Throughput Guarantee, if any, shall accrue during a month and will be payable by the Contractor for the entire month in aggregate, within [7 (seven)] days from the end of each month during the Operation Service Period. Provided that, the Contractor shall not be liable to pay any Throughput Guarantee Damages during the Trial Operations period.

(c) Collection and Transportation Guarantee by the Contractor

The Contractor shall ensure Collection and Transportation of Waste from the designated Project area as per the scope of work. Failure to comply with the below performance standards, mentioned below shall attract performance damages to the contractor. The Collection and Transportation Guarantee Damages payable by the Contractor for its failure to meet the C & T Guarantee, if any, shall accrue during a month and will be payable by the Contractor for the entire month in aggregate, within [7 (seven)] days from the end of each month during the Operation Service Period

(i) The Contractor shall ensure daily waste collection from each assigned waste generator within the area as defined in the scope of work.

(ii) The Contractor shall ensure that all waste is transported as defined in the scope of work

(iii) Contractor shall ensure to maintain or submit the daily weighing report.

(iv) The Contractor or its personnel shall not dump waste at any location other than the designated facility

(v) C & T workers to ensure proper protective gears, Dress or Identity Card during activity

(d) Compliance with the Quality Standards of Bio CNG as defined in the Scope of Work

IS16087:2016		
S. No.	**Characteristic**	**Requirement**
1	Methane percentage (CH_4), minimum	90%
2	Only Carbon Dioxide percentage (CO_2), maximum	4%
3	Carbon Dioxide (CO_2)+ Nitrogen (N_2)+ Oxygen (O_2) percentage maximum	10%
4	Oxygen (O_2) percentage maximum	0.5%
5	Total sulphur (including H_2S) mg/m^3, maximum	20 mg/m^3
6	Moisture mg/m^3, maximum	5mg/m^3

The Quality Standards penalty payable by the Contractor for its failure to meet the Quality Standards, if any, shall accrue during a month and will be payable by the Contractor for the entire month in aggregate, within [7 (seven)] days from the end of each month during the Operation Service Period. If the quantity and quality of Biodegradable Waste (BDW) collected and brought to the Bio-CNG facility by the contractor are not adequate to meet the above specified quality standards, no penalty shall be imposed, provided the shortfall is due to reasons not attributable to the contractor or outside the purview of agreed scope of work and terms and conditions of the contract. Such instances must be formally reported to the Employer's representative during the Operation Service phase in writing with appropriate documentary evidence and relevant test certificates, as applicable, for approval.

Appendix 4 - Schedule of Performance Damages

The Contractor shall pay to the Employer performance damages, in addition to the penalty events mentioned in GCC, in accordance with GCC Sub-Clauses 10.4 and 10.5 in the amounts specified below:

Performance Damages for Delay and Interruptions

For Design Build Phase

Milestone	Activity Description	Time Period for Completion from Signing of Agreement in number of Days	Liquidated Damages
1	Completion of Detailed Design and Engineering phase	90	
1.1	Submission of Detailed Project Report, Work Plan, Implementation Schedule as per scope of work	60	0.05% of the accepted Contract Amount for Design-Build per day
1.2	Submission of Detailed Design and Engineering documents including Project Layout, Construction, electrical and Mechanical detailed design & Engineering documents and drawings for Technical Vetting as per scope of work	60	0.05% of the accepted Contract Amount for Design-Build per day
1.3	Project power, water supply approvals and consent from PCB	60	0.05% of the accepted Contract Amount for Design-Build per day Note: If the delay in securing approvals is due to conditions

			beyond control of the contractor, the Employer, upon written request from the contractor along with satisfactory justification and documentary evidence may extend the timeline or waive of part or full of the Liquidated damages for this activity
1.4	Incorporate all changes as suggested by Employer and/or Third-Party vetting agency and submission and approval of final Detailed Project Report, Work Plan, Implementation Schedule, all Detailed Design and Engineering Documents and reports as per scope of work	90	0.05% of the accepted Contract Amount for Design-Build per day
2	Completion of 30% of the Civil Works related to the Processing Plant	150	0.05% of the accepted Contract Amount for Design-Build per day
3	Upon placement of order for plant and Machinery for the Processing Plant and producing documentary evidence including Work Order/ Purchase Order of such order placement to the Authority	121	0.05% of the accepted Contract Amount for Design-Build per day
4	Upon Completion of 60% of the Civil Works related to the Processing Plant	200	0.05% of the accepted Contract Amount for Design-Build per day
5	Completion of all the Civil Works (100%) related to the Bio CNG facility	230	0.05% of the accepted Contract Amount for Design-Build per day

6	Receipt of all Machinery & Equipment at site as mentioned in the Agreement	211	0.05% of the accepted Contract Amount for Design-Build per day
7	Completion of all Electrical works, firefighting, other related equipment installation and testing as per approved design documents	320	0.05% of the accepted Contract Amount for Design-Build per day
8	Completion of all Mechanical and Piping work as per approved design	320	0.05% of the accepted Contract Amount for Design-Build per day
9	Successful erection of Plant and machinery related to the BioCNG facility testing, trial run and receipt of provisional completion certificate	350	0.05% of the accepted Contract Amount for Design-Build per day
10	Complete Commissioning of Plant and issue of commissioning certificate	365	0.05% of the accepted Contract Amount for Design-Build per day

For Operation Service Period

Ref:	Item	Unit	A mount	Exclusions (if any)
1	Availability Guarantee	Yearly	Rs 1,00,000 for each percentage Shortfall below 95% Availability Illustration: Availability = 90 % Performance damage = 5 x Rs 1,00,000.00	*As per Appendix 3*
2	Throughput Guarantee	The Throughput Performance Damages payable by the Contractor for its failure to meet the Throughput Guarantee, if any, shall accrue during a month on a daily basis but will be payable by the Contractor for the entire month in aggregate	Daily Shortfall in processed waste below 90% x Rs 5,000.00/- Illustration: processed waste on any day = 20 TPD Shortfall = 7 TPD Performance damage = 7 * Rs 5,000/-	*As per Appendix 3*
3	Failure to Collect and Transport Waste			
3.1	Average Monthly Waste Collected and Transported to the Bio CNG Plant is less than a. 90% for the first six months from the operation service date	Per Month shall accrue during a month on a daily basis but will be payable by the Contractor for	<u>for the first six month</u> For shortfall between >=80% - < 90% = Rs 50,000	• *Not applicable during trial run* • *suspension of the C&T services by the Project*

	b. 100% for the rest of the Operation Service Period of the Waste Generation/ tipped at designated collection points	the entire month in aggregate	For Shortfall between > = 75% - <80% = Rs 75,000 For less than 75% = Rs 1,00,000 <u>for the rest of the O & M Period</u> For shortfall between >=90% - < 100% = Rs 50,000 For Shortfall between > = 80% - <90% = Rs 75,000 For less than 80% = Rs 1,00,000	*Manager/ Employer* • *rejection/ non acceptance of the waste supplied by Participating ULB/ Gram Panchayats at designated collection points and approved by the Employer (quantity of the rejected/ non accepted waste shall be adjusted in calculation of Monthly Average)* • *An , not attributable to the contractor, affecting the Project Facilities.* • *Shortfall of Waste availability at collection source designated collection points for the reasons not attributable to the contractor. Such shortfall quantity shall be excluded from the performance*

				standard computation for the C & T activity. • *Factors not under the control of the contractor (to be requested by the contractor in written and approved by the Employer*
3.2	Waste is not transported using covered vehicles to prevent spillage, leakage, or environmental hazards, as stipulated in the scope of work of this Agreement and applicable regulations.	Per incidence A cure period shall be provided by the Employer to correct the damages and if the damages are not corrected the penalty shall be repeated	Rs 50,000	
3.3	Failure to maintain and submit the daily weighing report.	Per day till the compliance is achieved	Rs 10,000	
3.4	Dumping waste at any location other than the designated facility	Per incidence A cure period shall be provided by the Employer to correct the damages and if the damages are not corrected the penalty shall be repeated	Rs 50,000	

3.5	Failure to use proper protective gears, Dress or Identity Card during activity	Per incidence per person A cure period shall be provided by the Employer to correct the damages and if the damages are not corrected the penalty shall be repeated	Rs 5,000	
4	Failure to Comply with the Quality Standards of Bio CNG as defined in the Scope of Work	Per incidence A cure period shall be provided by the Employer to correct the damages and if the damages are not corrected the penalty shall be repeated	Rs. 50,000	If the quantity and quality of Biodegradable Waste (BDW) delivered to the Bio-CNG facility by the contractor are not adequate to meet the specified quality standards, no penalty shall be imposed, provided the shortfall is justified. Such instances must be formally reported to the Employer in writing with appropriate documentary evidence and relevant test certificates, as applicable, for approval.
5	Failure to meet Environment and Social Standards as per	Per Incidence	Rs 50,000	In addition to KSPCB/ Statutory body

	approved Work Plan/ DPR and Statutory Guidelines	A cure period shall be provided by the Employer to correct the damages and if the damages are not corrected the penalty shall be repeated		imposed penalty if any
6	Improper disposal of Leachate i.e. discharge of Leachate (non compliance to Zero Liquid Waste Discharge) outside the facility via drains if any	Per Incidence A cure period shall be provided by the Employer to correct the damages and if the damages are not corrected the penalty shall be repeated	Rs 50,000	In addition to KSPCB penalty if any imposed

The performance damages listed above shall be payable in Indian Rupees

The performance damages above shall be in addition to any fines or penalties that may be imposed on the Contractor by the courts, statutory authorities in respect of pollution of the environment and/or breach of the terms of the applicable permits, licenses or consents.

Issue of Notice to proceed with the work

(letterhead of the Employer)

_____ (*date*)

To

_____(*name and address of the Contractor)*

_____

_____

Dear Sirs:

Pursuant to your furnishing the requisite securities as stipulated in ITB clause 51.1, insurance policy as per GCC 19, as stated in letter of acceptance and signing of the contract agreement for the construction of_____@ a Bid Price of Rs._____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of signatory authorized to sign on behalf of Employer)

Performance Security : Demand Guarantee

[including Additional Performance Security for unbalanced bids]

[Guarantor letterhead or SWIFT identifier code]

Performance Guarantee No……. *[insert guarantee reference number]*
Date……. *[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*

_____ *[address of Employer]*

WHEREAS _____ *[name and address of Contractor[34]]* (hereinafter called "the Applicant") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Applicant shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Applicant such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Applicant, up to a total of _____ *[amount of guarantee[35]]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Applicant before presenting us with the demand.

[34] *In the case of a JV, insert the name of the Joint Venture*

[35] *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sums, if any, plus additional performance security for unbalanced bids if any, and denominated in Indian Rupees.*

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Applicant shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until ……[36], and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[36] *Insert the date twenty-eight days after the expected date of issue of Contract Completion Certificate as described in GC Clause 8.6. 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 Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.*

Environmental, Social, Health and Safety (ESHS) Performance Security

ESHS Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

ESHS Performance Guarantee No.: *[Insert guarantee reference number]*

Date……. *[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*

_____ *[address of Employer]*

WHEREAS _____ *[name and address of Contractor[37]]* (hereinafter called "the Applicant") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ *[name of Contract and brief description of Works]* (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Applicant shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his Environmental, Social, Health and/or Safety (ESHS) obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Applicant such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Applicant, up to a total of _____ *[amount of guarantee[38]]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Applicant before presenting us with the demand.

[37] *In the case of a JV, insert the name of the Joint Venture*

[38] *An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sums, if any, and denominated in Indian Rupees.*

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Applicant shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until …… [39] , and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[39] *Insert the date twenty-eight days after the expected date of issue of Contract Completion Certificate as described in GC Clause 8.6. 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 Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.*

Advance Payment Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Advance Payment Guarantee No……. *[insert guarantee reference number]*
Date……. *[insert date of issue of the guarantee]*

To: _____ *[name of Employer]*

_____ *[address of Employer]*

_____ *[name of Contract]*

Gentlemen:

In accordance with the provisions of the Conditions of Contract, Subclause 14.2 ("Advance Payment") of the above-mentioned Contract, _____ *[name and address of Contractor[40]]* (hereinafter called "the Applicant") shall deposit with _____ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ *[amount of guarantee[41]]* _____ *[in words]*.

We, the _____ *[bank or financial institution]*, as instructed by the Applicant, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ *[name of Employer]* on his first demand without whatsoever right of objection on our part and without his first claim to the Applicant, in the amount not exceeding _____ [amount of guarantee] _____ *[in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contract documents which may be made between _____ *[name of Employer]* and the Applicant, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ *[name of Employer]* receives full repayment of the same amount

[40] In the case of a JV, insert the name of the Joint Venture

[41] An amount shall be inserted by the bank representing the amount of the Advance Payment, and denominated in Indian Rupees.

from the Applicant. Consequently any demand for payment under this guarantee must be received by us at this office on or before that date.

Yours truly,

Signature and seal: _____

Name of Bank: _____

Address: _____

Date: _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Retention Money Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

_____ *[Bank's name and address of issuing branch or office]*

Beneficiary: _____ *[Name and Address of Employer]*

***Date:* _____**

RETENTION MONEY GUARANTEE NO.: _____

We have been informed that _____ *[name of contractor[42]]* (hereinafter called "the Applicant") has entered into Contract No. _____ *[reference number of the contract]* dated _____ with you, for the execution of _____ *[name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, when the Commissioning Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment, payment of _____ *[insert* the second half of the Retention Money*]* is to be made against a Retention Money guarantee.

At the request of the Applicant, we _____ *[name of Bank]* hereby irrevocably undertake to pay you the sum or sums not exceeding in total an amount of _____ *[amount in Rupees]* (_____) *[amount in words[43]]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Applicant is in breach of its obligation under the Contract without cavil or argument.

It is a condition for any claim and payment under this guarantee to be made that the payment of the second half of the Retention Money referred to above must have been received by the Applicant on its account number _____ at _____ *[name and address of Bank].*

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[42] *In the case of a JV, insert the name of the Joint Venture*

[43] *The 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 Commissioning 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.*

This guarantee shall expire no later than …… [44], and any demand for payment under this guarantee must be received by us at this office on or before that date.

_____

[Signature(s) and seal of the guarantor]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[44] Insert the same expiry date as set forth in the Performance Security, representing the date twenty-eight days after the completion date described in GC Clause 8.6. 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."

Annexure – 1 to Section VII Employer's Requirement
Social Management Plan

The establishment of a Compressed Natural Gas (CNG) plant in Changanassery Municipality represents a pivotal step toward sustainable waste management and environmental responsibility, transforming organic waste into renewable energy while reducing greenhouse gas emissions and enhancing resource efficiency. As a flagship initiative under the Kerala Solid Waste Management Project (KSWMP), the project offers substantial environmental and economic benefits. However, its success hinges on effectively managing potential social risks and challenges. To address these, the Social Management Plan (SMP) serves as a robust framework to ensure the plant's installation and operation are socially inclusive, equitable, and aligned with legal and regulatory standards, emphasizing proactive measures to safeguard the interests of communities, workers, and stakeholders while maximizing social benefits.

The Social Management Plan has been prepared based on the social screening and social impact assessment. Considering the risks associated with the construction phase, it is categorized as **Moderate risk**. The identified risks can be addressed through the implementation of

1. Labour Management Plan
2. Preventive GBV Action Plan
3. Labour influx management plan
4. Citizen Engagement Plan.

The activities mentioned in the Citizen Engagement Plan will ensure regular community engagement and a citizen feedback mechanism during the implementation and O&M phases.

1. Labour Management Plan

The successful implementation of the proposed CNG Project in Fathimapuram requires a comprehensive labor management plan. The contractor must address key potential labor risks, comply with applicable labor laws, establish implementation arrangements, adhere to policies and procedures, and ensure the proper functioning of grievance redressal mechanisms.

Labour Risks

Labor risks associated with the installation and operation of the CNG plant encompass a wide range of challenges that can impact worker safety, well-being, and productivity. These risks include occupational safety and health hazards such as exposure to hazardous materials, gas leaks, and potential fires or explosions, as well as physical injuries from machinery and equipment handling. Workers may also face exposure to toxic substances, insufficient skill development, and inadequate labor standards, including non-compliance with laws, inequitable wages, and poor living and working conditions. Additionally, gender discrimination, harassment, and risks of child labor or forced labor within supply chains present significant ethical and operational concerns. Psychosocial risks, such as high stress due to poor conditions or lack of job security, and potential conflicts with local communities over labor practices, further underscore the need for proactive management. Addressing these risks is essential to ensuring a safe, equitable, and productive working environment.

1. **Occupational Safety and Health Hazards**: Exposure to hazardous materials, gas leaks, fire, or explosion.
2. **Accidents and Injuries**: Physical injuries from machinery, equipment handling, or slips and falls.
3. **Exposure to Toxic Substances**: Workers may be exposed to harmful chemicals or gases during operations.
4. **Lack of Skill Development:** Untrained workers may struggle to operate advanced technology and equipment, leading to inefficiencies and potential accidents.

5. **Inadequate Labor Standards**: Non-compliance with labor laws, inequitable wages, excessive working hours, inadequate accommodation, poor sanitation and healthcare facilities, or the absence of essential benefits can significantly affect worker well-being and productivity.
6. **Gender Discrimination and Harassment**: Workers from women's communities and gender minorities may encounter discrimination or harassment in the workplace, potentially impacting their safety, dignity, and equal opportunities.
7. **Child Labor and Forced Labor**: Risk of employing underage or forced labor in supply chains.
8. **Psychosocial Risks**: High stress due to long hours, poor working conditions, or lack of job security.
9. **Community Conflicts**: Disputes with local communities over labor recruitment or working conditions refer to potential disagreements or tensions between the project management or contractors and the local population.

Brief Overview of Labour Legislation

The Contractor will implement labor management procedures in full compliance with national and state labor regulations to ensure fair and transparent hiring practices for the workforce. This Labour Management Plan (LMP) will apply to direct workers, contracted workers, community workers, and primary supply workers. The procedures outlined in the plan will define clear terms and conditions of employment, including working hours, wages, overtime, compensation, benefits, holidays, and leave entitlements. It will also establish protocols for preventing and addressing harassment, intimidation, and exploitation in the workplace, ensuring that all workers are treated with respect and dignity.

To maintain compliance with relevant legal frameworks and promote fair labor practices, the following labor laws will be applicable to the project (though not limited to the ones listed):

- **Employees' Compensation Act, 1923**: Provides for compensation to workers for injury or death arising out of and in the course of employment.
- **The Contract Labour (Regulation and Abolition) Act, 1970**: Regulates the employment of contract labor and aims to improve working conditions.
- **Minimum Wages Act, 1948**: Ensures workers are paid at least the minimum wages prescribed for their category of work.
- **Payment of Wages Act, 1936**: Governs the timely and fair payment of wages to workers.
- **Equal Remuneration Act, 1976**: Mandates equal pay for equal work for men and women workers.
- **Inter-State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979**: Protects the rights of migrant workers, including their wages and working conditions.
- **Child Labour (Prohibition and Regulation) Act, 1986**: Prohibits the employment of children in hazardous conditions and regulates their working conditions.
- **Employees State Insurance Act, 1948**: Provides social security benefits to workers in case of sickness, maternity, and injury.
- **Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013**: Aims to prevent and address sexual harassment at the workplace.
- **Industrial Disputes Act, 1947**: Regulates the resolution of industrial disputes and worker rights.
- **Trade Unions Act, 1926**: Protects the right of workers to form and join trade unions for collective bargaining.

These laws will ensure that all workers engaged in the project are treated fairly, work in safe environments, and are entitled to appropriate compensation, benefits, and protection from exploitation. The implementation of these procedures will also foster a culture of respect and safety within the workforce, thereby reducing the risk of disputes and promoting harmonious labor relations.

Responsibility Mapping

Responsibility mapping is the process of clearly defining and assigning specific tasks, roles, and duties within a project to ensure effective execution and accountability. In the context of the CNG plant implementation at Changanassery, responsibility mapping helps identify which parties are responsible for various tasks of the project, such as labor management, worker protection, occupational health and safety, and grievance handling. This structured allocation of responsibilities ensures that all tasks are properly managed, compliance with relevant laws and regulations is maintained, and social and environmental standards are upheld throughout the project's lifecycle. The following table outlines the key responsibilities for various aspects of labor management in the CNG plant implementation, highlighting the roles of the contractor, KSWMP, and other stakeholders.

S.No.	Particulars	Responsibility
1.	Engagement and management of direct contracted workers	The contractor is responsible for ensuring compliance with labor laws.
2.	Engagement and management of contractors/subcontractors	The contractor is responsible for managing vendors. KSWMP ensures compliance and monitors adherence to the project's social and labor standards.
3.	Measures of protection and assistance to address the vulnerabilities of project workers, including specific groups such as women, people with disabilities, migrant workers, and children	The contractor is responsible for implementing measures to address the vulnerabilities of project workers. The Employer will monitor and verify implementation through regular site inspections and reports.
4.	Occupational health and safety (OHS)	The contractor is responsible for ensuring compliance with health and safety protocols, with oversight from KSWMP to ensure adherence to national and international standards.
5.	Training of workers	The contractor is responsible for providing necessary training for workers, ensuring they are equipped with the skills to perform safely and efficiently.

6.	Addressing worker grievances	The contractor is primarily responsible for resolving worker grievances. If the grievance escalates, the District Labour Officer will enforce regulations, and labor courts will handle unresolved disputes. KSWMP provides overall guidance and oversight.

Key Clarifications:

- Contractor's Responsibility: The contractor is directly responsible for managing labor relations, including engaging workers, subcontractors, and addressing worker grievances. They must also ensure that OHS standards and worker training are adhered to.
- Oversight Mechanisms: The Employer is involved in regular inspections, monitoring, and verification of the contractor's compliance with labor and social protection measures.

Code of Conduct for Project Workers

A comprehensive Code of Conduct (CoC) should be incorporated into all contracts under the KSWMP to ensure the ethical and legal compliance of project workers. This CoC should set clear expectations for behavior and responsibilities throughout the project lifecycle. The following principles should be addressed:

1. **Compliance with Laws and Regulations**: All workers must adhere to applicable local, national, and international laws, regulations, and project-specific standards, including health and safety requirements.
2. **Health and Safety**: Workers are required to comply with all health and safety protocols, including wearing prescribed personal protective equipment (PPE), reporting unsafe practices, and preventing accidents to safeguard themselves, their colleagues, and the environment.
3. **Substance Abuse**: The use of illegal substances is strictly prohibited within the project site.
4. **Non-Discrimination**: Discrimination based on family status, ethnicity, race, gender, religion, language, marital status, age, disability, political beliefs, or any other form is strictly prohibited. All workers must be treated with fairness and respect.
5. **Respectful Interaction with the Community**: All workers should interact with community members respectfully, ensuring non-discriminatory behavior and consideration for cultural sensitivities.
6. **Sexual Harassment**: The use of inappropriate, sexually provocative, harassing, or demeaning language or behavior is strictly prohibited. This includes protecting women and children from any form of sexual harassment in the workplace and project areas.
7. **Prohibition of Violence and Exploitation**: Any form of exploitation, including the exchange of goods, money, or services for sex, is prohibited. This includes sexual favors or degrading behavior.
8. **Protection of Children**: There should be strict prohibitions against child abuse or exploitation. Workers should limit interactions with children and ensure their safety while on-site.
9. **Sanitation and Hygiene**: Workers must use the specified sanitation facilities provided by the employer and avoid using open areas for personal purposes.
10. **Conflict of Interest**: Workers should avoid conflicts of interest by not offering or accepting preferential treatment, benefits, or services to/from individuals with personal, financial, or familial connections.
11. **Respect for Work Instructions**: All workers are expected to follow reasonable work instructions, including environmental and social norms, to ensure smooth and sustainable operations.

12. **Protection of Property**: Workers must respect and properly use all project-related property and equipment, avoiding theft, carelessness, or waste.
13. **Duty to Report Violations**: Workers are obligated to report any violations of the Code of Conduct they observe. Reporting should be done through the proper channels, and workers will be protected from retaliation if they report in good faith.
14. **No Retaliation**: Workers who report violations in good faith must be protected from any form of retaliation, ensuring they are safe and supported in raising concerns.

This Code of Conduct will be incorporated into all worker contracts, and adherence will be monitored by the contractor, with oversight from KSWMP through regular audits and inspections. By establishing and enforcing these guidelines, the project aims to foster a safe, respectful, and legally compliant working environment for all involved, while safeguarding the rights and dignity of all workers and the community.

Systematizing the Code of Conduct

To ensure effective implementation, the Contractor will develop and maintain a system for continuous awareness-raising and training on the Code of Conduct. This will include regular sessions for workers, management, and local communities to ensure full understanding and adherence to the guidelines. The Contractor will also make sure that local communities are informed about the Code of Conduct, empowering them to report any concerns or incidents of non-compliance. The process of awareness-raising will be ongoing throughout the project lifecycle, with refresher training to reinforce the importance of the Code and to address any emerging issues.

Transparency in Contract-Specific Terms and Conditions

All worker contracts will contain clear and transparent terms and conditions, which will be communicated effectively to ensure workers' rights and responsibilities are well understood. The contracts will include the following provisions:

1. **Wages:** Clearly defined wages, payment modalities, and timelines for remuneration will be outlined in the contract to ensure timely and accurate payment for all workers.
2. **Working Hours:** The contract will specify the standard working hours, maximum permissible hours per day/week, overtime provisions, and compensation for extra hours worked. These terms will ensure compliance with applicable labor laws.
3. **Leave Entitlements:** The contract will detail leave provisions, including weekly rest, annual leave, maternity leave, and sick leave, ensuring that workers have sufficient time for rest and personal well-being.
4. **Benefits:** Provisions for medical treatment in case of work-related accidents or health issues will be specified, ensuring workers' health and safety are prioritized.
5. **Termination and Severance:** Clear guidelines on notice periods, grounds for termination, and details on severance payments will be included, ensuring transparency and protection for workers in the event of employment cessation.
6. **Collective Agreements:** If applicable, the contract will reference any collective agreements or industry-specific agreements that apply to the project, outlining the terms that govern workers' conditions in addition to the general provisions.
7. **Grievance Redressal Mechanism:** The contract will provide clear information about the grievance redressal process, including how workers can report issues, file complaints, and seek resolution. This will ensure a fair and transparent process for addressing concerns and disputes.

Incorporating these transparent and systematic provisions into all worker contracts ensures that labor conditions are well-defined, fair, and legally compliant, creating a supportive work environment that protects workers' rights and promotes their dignity.

Summary of Activities under Labour Management Plan and Responsibility Matrix

Activity	Target Plan	Timeline	Means of Verification	Implementation Responsibility	Monitoring Responsibility
Procure Labour License under The Inter-State Migrant Workmen Act, 1979, and The Contract Labour (Regulation and Abolition) Act, 1970	Two licenses and one registration under relevant Acts	Before commencing work at the site	License and registration certificate issued by the competent authority	Contractor	DPMU
Procure Workmen's Compensation Insurance Policy for Labour Force	One insurance policy covering the workforce deployed	Before commencing work	Copy of the insurance policy	Contractor	DPMU
Register under ESI Act 1948 and Enroll Workers	Complete registration under the ESI Act	As soon as work starts	Employer Code Number	Contractor	DPMU
Display Certificate of Registration at the Worksite	One notice board displaying registration details	As soon as work starts	Photographs of the notice board displaying the registration	Contractor	DPMU
Establish Labour Information Signboard at Site	One large noticeboard with required details (payment dates, working hours, wages, inspector contact)	Before work commencement	Photographs of the signboard, verified through checklist	Contractor	DPMU

Conduct Pre-Employment Medical Examination	All workers examined	Prior to work commencement	Medical certificates issued by a registered medical practitioner	Contractor	DPMU
Conduct Periodical Medical Check-ups (every six months)	Medical check-up for all workers	Every six months	Medical certificates	Contractor	DPMU
Provide Safe Drinking Water at the Worksite	Safe drinking water available to workers	Throughout the contract period	Photographs of water supply facilities, water bill	Contractor	DPMU
Provide First Aid Facility at the Worksite and Campsite	One First Aid Kit for every 50 labourers	Throughout the contract period	First Aid register, purchase bills, photographs	Contractor	DPMU
Provide First Aid Room at the Worksite	One first aid room with necessary equipment	Before work commencement	Photographs of the room	Contractor	DPMU
Link with Local Hospitals for Emergency Assistance	Tie-up with at least one local hospital	Within one month of commencement	Agreement with the hospital	Contractor	DPMU
Establish Rest Rooms at the Worksite or Campsite	Installation of one rest room	Before work commencement	Photographs of the rest room	Contractor	DPMU
Maintain Essential Registers (Form A, Attendance, Wages, Incident Reports)	All necessary registers available and maintained	As work commences	Copy of registers (models issued by Employer)	Contractor	DPMU

Constitute Grievance Redressal Committee (GRC) for Labourers	Formation of committee with equal employer and employee representation	As work starts	Minutes of meetings, complaint box, register	Contractor	DPMU
Constitute Internal Complaints Committee (ICC)	Formation of committee with minimum of 4 members, presided by a senior female employee	As work starts	Minutes of meetings, complaint box, register	Contractor	DPMU
Publish Abstracts of Labour Laws in Labour Camp	Display abstracts of relevant laws (e.g., Payment of Wages Act, Contract Labour Act)	As soon as the camp is established	Photographs of the displayed notices	Contractor	DPMU
Provide Code of Conduct and Induction Training for Workers	Signed code of conduct from all workers	Upon joining	Signed documents, training records	Contractor	DPMU
Install Project Information Board at the Site	Installation of one project information board	At project initiation	Photographs of the information board	Contractor	DPMU

Conduct HIV/AIDS Awareness Programs	Awareness program for workers	Every six months	Program reports, photographs	Contractor	DPMU
Verify that All Drivers Have Valid Driving Licenses	All drivers must possess a valid driving license	Before work begins	Photocopies of driving licenses	Contractor	DPMU
Ensure All Vehicles Are Covered by Third-Party Insurance	Vehicles must be insured for third-party risks	Before vehicles are used in the project	Copy of insurance certificates	Contractor	DPMU

LABOUR INFLUX MANAGEMENT PLAN

The primary objective of the Labor Influx Management Plan is to ensure that the influx of labor due to the project does not adversely affect local communities or workers. It includes risk management and mitigation measures addressing the social, economic, and health issues caused by labor influx, in compliance with the PIM and ESMF.

Risk and Mitigation Measures

Risk	Mitigation Measures	Implementation Responsibility	Monitoring Indicators	Monitoring Responsibility
Social and Community Wellbeing	- Conduct joint meetings with the local community, ULB officials, and elected members to address concerns and inform them about the labor force influx. - Encourage local community engagement and participation in the project.	Contractor	- Risk identification report - Proposed action/mitigation plan - Action taken report/progress report.	DPMU
Economic and Livelihood Issues	- Provide skilled/unskilled jobs for local community members in the sub-project. - Ensure that a percentage of the workforce is from the local community to reduce economic stress.	Contractor	- Risk identification report - Proposed action/mitigation plan - Action taken report/progress report.	DPMU

Accommodation/Labour Camp	- Ensure the provision of basic amenities in labor camps (e.g., toilets, water, kitchen facilities, sleeping arrangements). - Regularly brief laborers about camp regulations and safety.	Contractor	- List of facilities in the labor camp - Details of laborers in the camp - Report on facility inspection	DPMU
Communicable Diseases-Preventive measures	- Conduct medical check-ups for all workers before they start and at regular intervals. - Provide health awareness sessions for laborers on preventing communicable diseases.	Contractor	- SOP for communicable disease prevention - Medical check-up report - Health awareness training records	DPMU
Crimes	- Notify local police authorities about the presence of a labor camp. - Establish a grievance redress mechanism for reporting crimes.	Contractor	- Worksite complaint register - Number of cases reported - Action taken report	DPMU

Child Labour	- Ensure that no underage workers are hired for the project. - Verify laborers' Adhar card before hiring.	Contractor	- Number of child labor issues reported - Number of laborers verified by Adhar card	DPMU
Gender-Based Violence, including Sexual Harassment, Child Abuse, and Exploitation	- Conduct gender sensitization briefings for laborers to raise awareness about gender-based violence. - Establish a mechanism for reporting and addressing complaints of violence and harassment.	Contractor	- Number of gender-based violence complaints reported - Number of complaints resolved - Time taken to resolve complaints	DPMU
Labour Licenses	- Ensure all workers have valid labor licenses as required under the relevant labor laws. - Provide necessary documentation for legal compliance.	Contractor	- Number of workers with valid labor licenses	DPMU

Additional Mitigation Measures for Effective Management

The Labor Influx Management Plan will include several key components to ensure its successful implementation. Regular monitoring mechanisms will involve inspections and audits to verify compliance with the plan, ensuring that all activities are carried out as per the prescribed guidelines. Community awareness will be fostered through continuous information-sharing with the local population, helping to reduce tensions and improve transparency regarding the progress and activities of the project. Additionally, regular feedback mechanisms will be established

by setting up a grievance redressal system that addresses community concerns, labor-related issues, and worker grievances in an efficient and timely manner.

Conclusion:

This Labor Influx Management Plan aims to mitigate the risks associated with the influx of labor during the implementation phase of the Project. By ensuring legal compliance and addressing social concerns proactively, this plan ensures that the project benefits both the community and the workforce, in alignment with the objectives and guidelines of the KSWMP.

3. Preventive Gender-Based Violence (GBV) Action Plan

The proposed project of setting up a 30 TPD Bio CNG facility for biodegradable waste management in Changanassery Municipality will be implemented under the Kerala Solid Waste Management Project (KSWMP). While the project is still in the pre-planning stage, it is crucial to establish a comprehensive plan for managing and preventing gender-based violence (GBV) to ensure a safe and respectful working environment for all involved, especially female workers.

1. Details of Labor Force

As the project is in the pre-planning stage and the contractor/agency is yet to be finalized, the exact number of laborers is currently unavailable. However, the labor force will include both skilled and unskilled workers, with gender-sensitive measures planned to accommodate and protect women workers specifically.

2. GBV Issues Likely to be Identified at the Site

Potential GBV issues at the project site may include:

- **Issues against female workers**: This could involve discrimination, harassment, or violence directed at women employees.
- **Lack of safe and gender-friendly toilets at the worksite**: Women workers may face significant challenges regarding privacy and adequate sanitation facilities, which are essential for their health and dignity.
- **Disparity in wages based on gender**: Male and female workers may not receive equal pay for equal work, reflecting gender-based wage discrimination.
- **Sexual harassment**: Female workers may experience unwanted advances, inappropriate comments, or other forms of sexual misconduct by male coworkers or supervisors.
- **Intimidation or retaliation for reporting GBV**: Workers, particularly women, may be intimidated or retaliated against for reporting instances of GBV, discouraging them from speaking out and contributing to an unsafe environment.
- **Lack of awareness about GBV issues**: Workers may not recognize certain behaviors as gender-based violence due to a general lack of awareness about its different forms, which can contribute to underreporting and unaddressed issues.
- **Inadequate protection and security measures**: Without proper security measures, particularly for female workers in isolated or late-night work situations, there may be an increased risk of GBV.
- **Exclusion from decision-making processes**: Women workers may be excluded from critical decisions regarding their safety, working conditions, and project-related matters, which can undermine their autonomy and well-being.
- **Limited access to support services**: Women workers may face barriers in accessing GBV support services, such as awareness gaps, cultural stigmas, or logistical challenges, preventing them from seeking necessary help.

3. Activities Under GBV Action Plan

3.1 Formation of Internal Complaints Committee (ICC): An Internal Complaints Committee (ICC) will be established to address any grievances related to GBV. The committee will be presided over by a senior female

member(Work site) , and more than half of the committee members will be women. An external member, preferably a social worker, advocate, or NGO representative with experience in dealing with women's issues, will also be included. The committee will handle complaints, conduct investigations, and take necessary actions.

3.2 Displaying ICC Boards at Worksite Clear, visible signage will be placed at the worksite with details about the project, the ICC, and the associated support services. These boards will include contact information for the ICC and relevant organizations, and display the logos of the KSWMP, World Bank (WB), and the Asian Infrastructure Investment Bank (AIIB).

Model for ICC Board

<table>
<tr><td colspan="4">Insert Logos of KSWMP,WB,AIIB</td></tr>
<tr><td colspan="4">Project Name (KERALA SOLID WASTE MANAGEMENT PROJECT)</td></tr>
<tr><td colspan="4">Sub: CNG Project Name:_____</td></tr>
<tr><td colspan="4">Internal Complaints Committee</td></tr>
<tr><td>Sl.No</td><td>Name</td><td>Designation</td><td>Contact Number</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="4">EMERGENCY CONTACT NUMBER</td></tr>
</table>

3.3 Gender Sensitization Training for Laborers A one-day gender sensitization training program will be organized for all laborers to raise awareness about different forms of GBV, the actions to take in the case of victimization, the laws protecting women, and the role of the ICC. The training will also include information on the support organizations available to GBV victims and provide workers with details on the contact mechanisms for reporting issues.

3.4 Allocation of Gender-Friendly and Safe Toilet Facilities for Women. The project will ensure the availability of separate, safe, hygenic and gender-friendly toilet, washing, and rest facilities for women workers to safeguard their privacy and safety. The contractor will be responsible for arranging these facilities.

3.5 Wage Register and Monitoring of Wage Disparities: To prevent wage disparities based on gender, a wage register will be maintained at the site. This register will monitor wages for all workers, ensuring gender parity in wages and preventing any form of discrimination.

3.6 Identification of GBV Service Providers: Snehitha Gender Help Desk promoted by the Kudumbashree Mission of Government of Kerala, will assist victims of GBV. The project will liaise with the help desk and other local organizations to ensure access to services. Contact details for these service providers will be shared with the workers, prominently displayed at the worksite, and made accessible in the project's communication materials.

Preventive GBV Management Plan Matrix

Action	Tasks	Timeline	Responsibility	Monitoring Indicators	Deliverables	Mentoring Responsibility
Formation of ICC	Nominate members, set up the committee, organize orientation and meetings, and inform staff.	Within a week of starting the work at the site.	Contractor	Minutes of meetings, reports, and publishing details of ICC members.	List of members, orientation session, meeting reports.	DPMU
Map GBV Issues	Identify and report GBV risks at the site.	Within a week of starting the work at the site.	Contractor	GBV mapping report, GBV assessment report with risks and recommendations.	Risk assessment report.	DPMU
Map GBV Service Providers	Identify and map non-government and private agencies providing GBV support, including grassroots organizations. Display the list of Service providers at site	Within a week of starting the work at the site.	Contractor	Directory of service providers, list of key partners, roles, and responsibilities.	Information board displaying contact details of service providers.	DPMU

Facilitate GBV Awareness and Sensitization Programs	Develop and organize a sensitization plan, display signboards around the site, and conduct awareness workshop.	Along with the commencement of work.	Contractor	Activity plan, progress reports, and completion report.	Report on workshop, personnel trained.	DPMU
Create GBV Response and Support Mechanism	Partner with GBV support organizations, create an SOP for prevention, protection, rescue, rehabilitation, and restoration.	During the implementation stage.	Contractor	SOP for prevention and rehabilitation, IEC plan for awareness generation.	Implementation report, response matrix, GBV report.	DPMU
Reporting, Monitoring, and Review	Establish GBV data fields, conduct quarterly reviews, and maintain monthly progress and complaint reports.	During the implementation stage.	Contractor	Monthly and quarterly progress reports, complaint status and action taken report.	Review report, ICC report, monitoring and review documents.	DPMU

Develop a Code of Conduct for GBV	Ensure all laborers sign a Code of Conduct (CoC) addressing GBV before beginning work.	At the beginning of the project or as workers join.	Contractor	Signed copies of the CoC.	Signed Code of Conduct copies.	DPMU

4. Citizen Engagement Plan for the Proposed CNG Plant at Changanassery

1. Introduction

The proposed project involves the establishment of a Compressed Natural Gas (CNG) plant at Fathimapuram in Ward 16 of Changanassery Municipality, Kerala. This initiative, part of the Kerala Solid Waste Management Project (KSWMP), is strategically designed to address organic waste management challenges by converting biodegradable waste into renewable energy. The site, spanning 2.14 acres of vacant municipal land near the Fathimapuram dumpsite, offers an ideal location that ensures minimal social and environmental impacts.

The project aligns with Central Public Health and Environmental Engineering Organisation (CPHEEO) and Kerala State Pollution Control Board (KSPCB) guidelines, maintaining a safe buffer distance of 30 meters from the nearest residence and over 200 meters from major infrastructure. With no displacement of households, disruption to agricultural activities, or adverse effects on livelihoods, the project is anticipated to have a low social impact.

By processing organic waste into cleaner energy, the CNG plant will reduce reliance on landfills, mitigate environmental pollution, and support sustainable waste management practices. Additionally, the plant will create local employment opportunities, contribute to a healthier environment, and enhance the quality of life for the community.

This Citizen Engagement Plan outlines the strategies to ensure active participation, transparency, and effective communication with stakeholders throughout the planning, implementation, and operational phases of the project.

2. Objectives of Citizen Engagement

1. To foster inclusivity in planning, implementation, and post-implementation phases of the project.
2. To build trust and ensure transparency with stakeholders and the host community.
3. To mitigate social risks and ensure alignment with environmental and social safeguards.
4. To promote awareness about the project's benefits, waste management practices, and grievance redress mechanisms (GRM).

3. Stakeholder Identification and Roles

A detailed table of stakeholders and their roles is already provided in the data and will serve as the foundation for targeted engagement. Key stakeholders include Changanassery Municipality, nearby residents, waste generators, service providers, and technical experts.

SL No	Stakeholder	Roles and Responsibilities in Relation to the Proposed Project
1	**Changanassery Municipal Council**	Oversee project implementation, including tendering, contractor/agency finalization, and approvals. Facilitate public consultations and ensure compliance with social and environmental safeguards.

2	**Officials and Staff Members of Changanassery Municipality**	Provide administrative support, monitor progress, and ensure alignment with local regulations and safeguards. Address grievances through the grievance redress mechanism (GRM).
3	**Vazhapally, Paippadu, Madappally, Thrikkodithanam, and Kurichi Grama Panchayats**	Ensure timely collection of organic waste within their jurisdictions and deliver it to the CNG plant. Support awareness campaigns and community mobilization.
4	**Government Institutions (PCB, KSEB, KWA, etc.)**	Issue necessary permits and approvals, ensure regulatory compliance, and provide technical support in areas such as electricity, water, and pollution control.
5	**Health Department**	Offer health and medical support, including first aid and emergency response, for workers and community members. Conduct health awareness sessions, if required.
6	**Employer**	Provide overall monitoring and evaluation of the project, ensure compliance with the ESMF, and facilitate capacity-building programs for stakeholders.
8	**Contractor**	Execute project activities in adherence to the Labour Management Plan (LMP), Environmental and Social Management Plan (ESMP), and Preventive GBV Action Plan. Ensure worker safety and timely project completion.
9	**Service Providers/HKS of Changanassery Municipality and Selected Grama Panchayats**	Facilitate waste segregation, collection, and timely transportation to the CNG plant. Conduct IEC (Information, Education, and Communication) activities to improve waste management practices.
10	**Laborers/Agency Staff at the Site**	Execute construction and operational work while complying with safety, health, and labor standards outlined in the LMP and GBV Action Plan. Participate in training and awareness programs.
11	**Waste Generators (Changanassery Municipality and Grama Panchayats)**	Segregate and dispose of waste as per ULB/Grama Panchayat guidelines. Participate in awareness programs and provide feedback through the GRM.

12	**Media**	Promote positive messaging and public awareness about the project to create an enabling environment for successful implementation. Highlight the project's environmental and social benefits.
13	**Police**	Maintain law and order during project activities. Assist in addressing any security or public safety concerns, including emergencies.
14	**Fire and Safety Services**	Respond to emergencies and provide support in fire safety training and equipment handling for project workers and stakeholders.

4. Socio-economic Profile and Vulnerability Analysis

The socio-economic profile and vulnerability analysis of the host community offers key insights into its demographics, health conditions, and social challenges. It identifies vulnerable groups and prioritizes their needs for targeted interventions. Key findings include gender distribution, marginalized communities, health issues, and the prevalence of women-headed households. The table below outlines the population's composition, guiding inclusive, equitable, and need-based strategies for stakeholder engagement and project implementation while addressing vulnerabilities and supporting at-risk groups effectively.

Sl.No	Categories	Male	Female	Total
1	below 6 Years	16	12	28
2	Disabled Persons	4	3	7
3	Persons under Palliative care	2	2	4
4	Persons above 60 years	5	6	11
5	Destitutes	0	2	2
6	Pregnant women	0	3	3
7	Women headed family	0	30	30
8	Total No of lactating mothers	0	2	2
9	Scheduled Caste Members	164	175	339
10	Male-Female population	507	670	1177
11	Anaemic Adolescent Girls	0	2	2

12	Skin disease	1	1	2
13	Cancer patients	1	0	1
14	Kidney disease (Under dialysis)	1	0	1
15	Asthma patients	2	3	5

The socio-economic profile and vulnerability analysis align with the Project Implementation Manual (PIM) and Environmental and Social Management Framework (ESMF) of the Kerala Solid Waste Management Project (KSWMP) by emphasizing inclusivity and equity in project planning and execution. The analysis identifies critical vulnerabilities, including a significant proportion of women-headed households (30), marginalized Scheduled Caste members (339), and individuals with specific health challenges such as disabilities (7), chronic illnesses (9), and palliative care needs (4). Additionally, the demographic distribution reveals a higher female population (670 females vs. 507 males), with dependents such as children under six (28) and the elderly (11) requiring targeted support. These insights underscore the necessity for gender-sensitive engagement strategies, robust health and social support mechanisms, and tailored communication for illiterate or less-informed stakeholders. By addressing these vulnerabilities, the project can foster equitable participation, mitigate risks, and ensure effective implementation aligned with the principles of social inclusion and sustainability outlined in the PIM and ESMF.

5. Public Disclosure Mechanisms

In alignment with the Kerala Solid Waste Management Project (KSWMP) and its Environmental and Social Management Framework (ESMF), the Citizen Engagement Plan for the proposed CNG plant at Changanassery emphasizes the importance of transparency and inclusive communication. The goal is to ensure that project information is accessible to all stakeholders, promoting informed participation and facilitating feedback. The public disclosure mechanisms for this project will include the following strategies:

1. **Public Consultations and Stakeholder Meetings**

   Regular public consultations and stakeholder meetings will be organized in Changanassery and the surrounding areas to engage with residents, local authorities, and other key stakeholders. These consultations will provide a platform for stakeholders to understand the project's objectives, ask questions, and express their views or concerns. This will help build trust and ensure that the community's inputs are incorporated into the decision-making process.
2. **Display of Project-Related Documents**

   Key project documents will be made available in public spaces and online to ensure transparency and accessibility. These documents will include:
   - **Project Summary:** A brief description of the proposed CNG plant, its benefits, and potential environmental and social impacts, available in both English and Malayalam to cater to the local population.
   - **Draft ESMF Report:** The full Environmental and Social Management Framework report in English, accompanied by a concise Malayalam summary for local stakeholders.
3. **Interactive Sessions and Presentations**

   Interactive sessions and presentations will be organized to explain the details of the proposed CNG plant, including its expected benefits and safeguards. These sessions will be designed to provide stakeholders with a clear understanding of the project and its potential impacts, allowing for active feedback and discussion.

4. **Culturally Compatible Communication Methods**
   Recognizing the diversity within the community, especially with regard to literacy levels, the project will use culturally compatible and accessible communication methods. These will include:
   - **Audio-Visual Tools:** Use of videos, infographics, and animations to present project details in a simple and engaging way, particularly for illiterate or less-informed stakeholders.
   - **Local Media:** Information about the CNG plant will be disseminated through local newspapers, radio, and television channels, ensuring broad outreach to the community.
   - **Community-Based Communication:** Local community leaders, NGOs, and trusted intermediaries will be engaged to share project information, helping to ensure that all segments of the population are informed and able to contribute to the process.

These public disclosure mechanisms aim to ensure that the proposed CNG plant project is transparent, inclusive, and responsive to the needs and concerns of the local community. By employing these strategies, the Citizen Engagement Plan will foster meaningful participation and ensure that vulnerable and marginalized groups are adequately informed and able to participate in the project's implementation. This approach aligns with the KSWMP's commitment to sustainable and socially inclusive project development.

6. Awareness for Agency Workers

In alignment with the Project Implementation Manual (PIM) and the Environmental and Social Management Framework (ESMF) of the Kerala Solid Waste Management Project (KSWMP), the proposed CNG plant at Changanassery will ensure comprehensive training and awareness programs for all workers involved in the project. This initiative is aimed at safeguarding the health, safety, and rights of workers while promoting an environment of respect and accountability. The following areas of training and awareness will be provided to all workers:

1. **Occupational Health and Safety (OHS)**

   All workers will undergo training on occupational health and safety (OHS) protocols to ensure a safe working environment. This will cover proper handling of equipment, use of personal protective equipment (PPE), and adherence to safety regulations. Workers will be made aware of the potential hazards on the site and the measures to mitigate risks, thus reducing the possibility of accidents or health issues.

2. **Basic Labor Laws and Grievance Mechanisms**

   Workers will be informed about their legal rights under local and national labor laws, including fair wages, working hours, and conditions. The training will also provide information on available grievance mechanisms for workers to report concerns or disputes. This will ensure that workers are aware of their rights and how to exercise them if necessary, contributing to a fair and transparent working environment.

3. **Gender-Based Violence (GBV) Prevention and Response**

   In line with the KSWMP's commitment to gender equity and safety, workers will be educated on the prevention of gender-based violence (GBV) in the workplace. This will include awareness of respectful behavior, zero-tolerance policies for harassment, and the importance of creating a safe working environment for all, especially women and vulnerable groups. Response protocols and support systems for survivors of GBV will also be communicated to ensure that incidents are promptly addressed.

4. **Emergency Response Protocols**

Workers will be trained on emergency response procedures, including fire safety, medical emergencies, and the roles of police and fire services. This will ensure that workers are prepared to act swiftly and efficiently in case of emergencies, minimizing potential harm and ensuring the safety of all personnel on the project site.

These awareness programs will be conducted during the initial phase of worker engagement and will be reinforced periodically throughout the project. The goal is to create a culture of safety, respect, and responsiveness among all workers, aligning with the KSWMP's focus on worker welfare, gender sensitivity, and overall project sustainability.

7. Citizen Engagement Plan Matrix

inclusion of vulnerable and marginalized groups:

Sl. No	Objective	Stakeholder	Proposed Activities	Implementation Responsibility	Time Plan	Monitoring Indicators	Monitoring Responsibility
1	Ensure community inclusion and awareness	Nearby residents, shop owners, religious institutions, and marginalized groups (e.g., women-headed households, elderly, persons with disabilities)	Meetings, consultations, IEC activities, and community outreach through local leaders, including vulnerable groups. Use culturally compatible methods like audio-visuals for illiterate stakeholders.	Contractor/ ULB	Before commencement of work; ongoing during implementation.	Attendance records, feedback forms, program reports, inclusion of vulnerable groups in consultations.	DPMU
2	Disseminate GRM information	Public, host community, businesses near the site, marginalized groups	Installation of GRM boards with toll-free numbers, apps, and clear, accessible instructions in local languages; community meetings to	Contractor/ULB	At the start of work.	GRM usage statistics, photographs, records of grievances raised and resolved, accessibility of GRM for all.	DPMU

			explain GRM process and provide contact details.				
3	Publicize project commencement	Public, stakeholders, host community, vulnerable groups	Project inauguration event with district administration and municipal authorities. Use local media for ongoing project updates and involve community representatives in the process.	Contractor	Start of work.	Photos, press coverage, reports, feedback from stakeholders on project awareness.	DPMU
4	Address complaints locally	Host community, ULB, contractor personnel, marginalized groups	Formation of Citizen Engagement Platform (WhatsApp group, local meetings, and helpdesk) for complaint resolution and real-time communication, with outreach to marginalized groups via local community leaders.	Contractor/ULB	Before work begins, ongoing during implementation.	Meeting minutes, complaint resolution records, timeliness of resolutions, satisfaction of marginalized groups.	DPMU

5	Manage traffic during construction	Public, host community, nearby businesses, especially vulnerable groups affected by traffic disruption	Traffic management planning and implementation, public notices, regular consultations with affected stakeholders including vulnerable groups, and updates on changes in traffic conditions.	Contractor/ULB	Before work begins.	Traffic management plans, consultation feedback, reports, photos of traffic-related issues, effectiveness of mitigation measures.	DPMU
6	Promote health, safety, and gender awareness for workers and community	Workers, local residents, women, and other vulnerable groups	Training for workers on Occupational Health and Safety (OHS), GBV prevention, basic labor laws, grievance mechanisms, and emergency protocols. Public health campaigns for the community.	Contractor/ULB	Ongoing during project implementation.	Training attendance records, feedback from workers and community on awareness, number of grievances related to safety/Gender-based violence (GBV).	DPMU

Responsibility of the Contractor

Activity	Requirement/Number	Remarks
Consultation with host community	1	Arrangement of venue, backdrop, refreshment
Consultation with ULB officials	1	Arrangement of venue, backdrop, refreshment

Consultation with service providers	1	Arrangement of venue, backdrop, refreshment
Monthly work progress posters to the public (Preparation of Digital Posters) -	15	Design and layout as per the direction from SPMU
Project Inauguration event	1	Before the commencement of the work
IEC Materials – preparation of project information video and digital poster regarding the scope, need and success factors of the project.	Video – 1 Poster - 3	The script idea will be given by SPMU (3-minute video)
Workshop to Media persons	1	Arrangement of venue, backdrop, refreshment
Behaviour change communication activities		
Community workshop & training	3	Arrangement of venue, backdrop, refreshment
Public awareness campaign 1. Student orientation program 2. Orientation to Kudumbasree members 3. Orientation to Resident association 4. Preparation of 10 different information posters (digital) will be suggested by SPMU regarding the public awareness program.		Arrangement of venue, backdrop, refreshment
Project information board at 5 Places (Size: 5x4)	5	As per the standard design to be provided by SPMU.
GRM & GBV board at site	2	As per the standard design to be provided by SPMU

8. Grievance Redress Mechanism (GRM)

The Grievance Redress Mechanism (GRM) for the proposed CNG Plant at Changanassery will be designed to ensure effective community engagement and responsive project implementation. The GRM will provide a transparent and accessible process for addressing concerns from all stakeholders, with particular emphasis on marginalized and vulnerable groups.

Key Components of the GRM:

1. Clear Accessibility Channels:
    - Toll-Free Number, Email, and Web Portal: These details will be prominently displayed at the project site and in surrounding areas. To ensure that the GRM is accessible to all, including illiterate or digitally disadvantaged stakeholders, clear instructions will be provided in both English and Malayalam, and through audio-visual materials where necessary.

- Physical GRM Board Display: GRM boards, which include easy-to-understand graphics, will be displayed in public spaces within the community (e.g., community centers, local shops, and religious institutions) to encourage broad participation and awareness. These will also include contact details and instructions on how to lodge a complaint.

2. Vulnerable Group Consideration:

   Special outreach will be carried out to ensure that vulnerable groups—such as women-headed households, elderly, disabled individuals, and marginalized communities—are informed about the GRM and have access to it. This may involve additional communication methods, such as direct communication through local leaders, community meetings, or culturally sensitive campaigns that ensure no one is excluded from the grievance process.

3. Complaint Registration and Tracking:
   - All complaints, whether related to social, environmental, or operational issues, will be officially logged and tracked. The GRM will maintain a digital and physical record of all complaints and their resolution status, ensuring that all complaints are addressed within a reasonable timeframe. The project will adhere to the PIM's guidelines, which require tracking the nature of grievances, time taken for resolution, and any corrective actions taken.
4. Transparency and Accountability:
   - The GRM will be regularly monitored and reviewed by the Employer to ensure that complaints are addressed transparently and fairly. The resolutions will be documented, and updates on the status of grievances will be shared with the complainants and the broader community through periodic reports or public meetings. This will provide assurance that the project is accountable and responsive to community concerns.
   - Regular reporting of GRM activities will be shared with stakeholders, ensuring that the project complies with both the ESMF's and PIM’s emphasis on transparency and community involvement.
5. Feedback Mechanisms:
   - Feedback will be solicited from complainants to assess the effectiveness of the GRM and to make improvements where necessary. This feedback loop is crucial for ensuring continuous improvement of the system and will also allow the project team to adjust its engagement strategies as needed.
6. Training and Capacity Building:
   - Project staff, contractors, and community representatives will be trained on the GRM process, with a particular focus on ensuring that sensitive and confidential issues are handled appropriately, particularly concerning gender-based violence (GBV) or other sensitive social matters. This will ensure that all complaints, especially from vulnerable groups, are handled with dignity, respect, and confidentiality.
7. Regular Review and Monitoring:
   - The GRM's performance will be reviewed regularly against the monitoring indicators outlined in the PIM and ESMF to ensure that it meets the objectives of addressing stakeholder concerns, promoting social inclusivity, and ensuring that marginalized and vulnerable groups have their concerns heard and acted upon. The review will also track the timeliness and effectiveness of the grievance resolution process.

The GRM for the proposed CNG plant will align with the best practices outlined in the PIM and ESMF of KSWMP, ensuring that all stakeholders, including marginalized and vulnerable groups, have a clear, accessible, and effective avenue for addressing their concerns. By promoting transparency, accountability, and responsiveness, the GRM will contribute to building trust within the community and ensuring that the project proceeds smoothly with the full support of local stakeholders.

9. Feedback and Reporting

Regular feedback from stakeholders will be systematically collected, documented, and analyzed to refine the citizen engagement process for the CNG Plant at Changanassery, ensuring it remains responsive to the community's needs. Feedback will be gathered through various channels such as consultations, surveys, and the grievance redress mechanism (GRM), with the analysis used to identify trends and adjust project activities accordingly. Quarterly reports on citizen engagement activities will be prepared, documenting the activities, stakeholder concerns, and resolutions, and submitted for review. This process ensures transparency, accountability, and continuous improvement, fostering trust between the project team and the community while aligning with the PIM and ESMF of Employer.

ANNEXURE 1 EMP

Key activities associated with the proposed project—such as biogas production, odor management, occupational health and safety, environmental monitoring, and waste disposal—have been identified as having the potential to cause environmental impacts.

A detailed overview of project activities, their potential environmental impacts, and the corresponding mitigation measures is provided in **Table** below by considering the backward and forward linkages accordingly ensuring the safe and sustainable operations, the plant will commence operations only after all essential management mechanisms are fully implemented. These include environmental safeguard measures, health & safety and pest control measures during handling of biodegradable waste, C&T, proper handling of rejects including inert, non-recyclables, combustibles and recyclables and the secure storage of finished products and by-products.

Table: Environmental Management Plan

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
PRE-CONSTRUCTION STAGE						
1	Permissions & sanctions	Statutory clearance and the permits	Non-compliance of applicable rules	**Before Pre- Construction Phase** **1. Municipal Approvals:** Council approval Building Permit in line with KMBR from ULB **2. Health & Safety:** NOC and license from District Health Department **3. Factory License:** NOC and license from State Labour Department BoCW registration (for subcontractors) **4. Utilities:** Permissions from KSEB (electricity) and KWA (water) **Before Construction Phase** **1. Pollution Control:** Registration under White Category from KSPCB. Authorization required for ULB. **2. Fire Safety:** NOC and license from District Fire Department **3. PESO Certification:** License from Petroleum and Explosives Safety Organization **4. FOM Sales:** License from Principal Agricultural Officer	ULB & Contractor	KSWMP along with ULB
2	Location selection	Site /location identification	Disturbance / hazards to neighborhood / nearby activities	• Core area should be finalized in such a way that the project activity should not make any inconvenience to the personnel's working/residing nearby. • The facility will be designed to minimize disturbances to the surrounding neighborhood, in compliance with the distance criteria outlined by the KSPCB, buildings lines and setbacks by Kerala State government.	ULB	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
3	EMP implementation	Environmental Management	Inadequate implication of EMP by contractor	• Develop a site-specific Environmental Management plan (C-EMP) before undertaking any activity on ground. • Any changes in technology or design or forward linkages and also backward linkages (transfer points) will necessitate an Updation of EIA including activities & risks/impacts of all sites (Bio-CNG Plant and Transfer Points) accordingly. • Also, consequently, the contractor's EMP and EMoP needs to be prepared/updated in line with the requirements of bid document. • Prepare Environment, Health, and Safety Organization Chart. • Ensure training of personnel and contractors on EMP monitoring and reporting. • EMP should be included in tender and bid documents. • The contractor must strictly implement the EMP in line with ESHS clauses, and also prepare Management Strategies and Implementation Plans (MSIP) to effectively manage ESHS risks.	ULB & Contractor	KSWMP along with ULB
4	Site preparation activities	Land use Changes	Site preparation, profile changes & disturbance to existing flora, fauna	• Site clearance within the compound shall be minimum. • Tree cutting should be avoided and limited to the absolute minimum if avoidance is not feasible. • Compensatory Plantation must be done if any tree cutting is involved. For each tree cut, 10 trees are required to be planted as a part of compensatory plantation.	Contractor	KSWMP along with ULB
5	Site Development	Localized small-scale dust emission. Dust impacts due to Site Preparation	Impact on Air environment	• Proper planning shall be taken for providing suitable enclosure around the Site to prevent the dust reaching the nearby community i.e. Provide temporary high screens or green nets around the site before the start of work to curtail dust Emissions.	Contractor	KSWMP along with ULB
6	Procurement of Machineries and Construction Equipment (such as Diesel Generators, Batching Plant,	Air & Noise Pollution	Inadequate implementation of EMP by Developer/Contractor, leading to potential emissions and noise pollution.	● Ensure contractors comply with stipulated pollution control conditions and regulatory requirements. ● No equipment installation until legal clearances are obtained. Additionally, there must be no unsafe storage of machinery or vehicles on site and the site must remain fully restricted to authorized personnel, with appropriate safety protocols in place. ● Use machinery, meeting latest noise and emission standards.	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
	Concrete Mixing Plant, etc.)			● Ensure all vehicles and machinery have valid PUC certificates. • CPCB guidelines for CNG plants shall be followed and design shall incorporate all requirements. • (Refer:*https://cpcb.nic.in/uploads/Categorization_Environmental_26102023.pdf*)		
7	Flooding of the site during excessive rainfall	Water, Soil Contamination	Impacts on water quality, contaminating nearby lands	● Ensure that the facility is constructed above the HFL levels. ● Plan to provide cut off drain around the facility and proper storm water management (including reuse, recharge) for the area nearby to prevent flooding of nearby properties and to prevent storm water from washing the treatment facility.. ● Ensure safe storage of construction materials, biodegradable waste, sub-products like FOM and gas & fuels, chemicals, and other items used during construction and operation from excessive rainfall. Ensure that fuel for DG sets, Bio CNG cylinders are stored properly and safely, with adequate protection against excessive rainfall and spills.	Contractor	KSWMP along with ULB
8	Existing Buildings	Effect on existing buildings	The ongoing operations of Anganwadi and camp survey office buildings will be affected due to the project	• The Honorable Council of Changanassery Municipality has approved the relocation of the existing Anganwadi and Camp Survey Office buildings to an alternative site, as per Council Resolution File No. 31317-2025, Decision No. 7 dated 15 April 2025. • During the relocation process, all belongings and assets of both existing buildings must be carefully and completely relocated in coordination with the Urban Local Body (ULB), ensuring minimal disruption and adherence to safety and administrative protocols before pr-construction activities. • As explained in RFB, both the buildings can be used by the operator for associated activities for the functioning of the BioCNG facility, like administrative purposes, storage purposes, laboratory facilities etc. But all renovations and retrofitting to suit the utility of the new building as per National Buildings Codes and as per safeguards as prescribed under KSWMP need to be done by the contractor, at their own cost. The use of the building and the designed renovations need to be detailed as part of the DPR prepared by the contractor during the design stage.	Contractor	KSWMP along with ULB
CONSTRUCTION STAGE						

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
1	Site preparation activities	Land use Changes-Land/flora/ fauna	Uncontrolled tree cutting may affect fauna/ avifauna leading to soil erosion	• Clearing and grubbing should be avoided beyond that which is directly required for construction activities. • If tree cutting is involved, compensatory plantation (1:10 trees) with suitable native species must be carried out on-site or nearby, preferably at the earliest, and in accordance with regulatory norms during construction.	Contractor	KSWMP along with ULB
2	Site Development & Construction	Dust emission during construction activities	Impact on Air	• Appropriate green nets shall be provided around the construction area during construction to avoid the air pollutant reaching the neighboring area.	Contractor	KSWMP along with ULB
		Leak from heavy machineries, runoff from site to nearby drains, use of construction materials such as concrete, paint, and solvents	Water quality Contamination	● Ensure regular maintenance and inspection of machinery to prevent leaks. ● Use drip pans and spill containment systems under machinery to catch leaks. ● Spill kits has to be readily available and train workers to clean up spills. ● Store materials in covered areas to prevent exposure to rain and reduce the risk of spill	Contractor	KSWMP along with ULB
3		Topsoil removal, movement of heavy machinery, use of lime cement etc.,	Soil Quality Impact	● Removed Topsoil shall be temporarily stockpiled on site in covered manner & later used for green belt. ● Movement of heavy equipment to be limited to the required space only. ● Ensure sufficient plants are planted to stabilize the soil to avoid soil erosion. ● Regularly monitor soil pH and other properties to prevent adverse effects on soil health and take appropriate measures to improve soil fertility for good green belt.	Contractor	KSWMP along with ULB
4		Stacking of construction materials, Transportation of materials Deposition of debris at site causes visual Impact	Aesthetics & Visual Impact	● Proper stacking of construction materials based on their types. ● Regular housekeeping on the site. ● Construction debris will be stored in a covered manner and removed every two days, or as deemed appropriate, to prevent visual, dust, or other environmental impacts. The debris will be collected using mechanical equipment, transported in covered vehicles, and disposed of at designated locations in accordance with KSPCB regulations. ● Non-hazardous debris waste may be utilized for landfilling or site leveling, subject to approval and in accordance with applicable building codes.	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
5	Dumping of solid / construction waste materials/debris	Dumping of construction waste near water bodies/land can pollute the water bodies/land	Contamination of land and water resources	• Construction waste shall be disposed as per the direction of the ULB, as per the C&D waste rules. • Domestic & construction waste like recyclables viz paper, plastic, glass, scrap metal waste etc. will be properly segregated and stored in designated waste bins /containers and periodically sold to local recyclers. • Any waste/damaged machinery part of the plant will be sent back to the vendor for disposal. • Hazardous wastes shall be stored in leak-proof containers and disposed of to disposal facilities registered with the CPCB. • The Bio-waste, NBD waste and Sanitary waste will be collected in color coded bins with suitable capacity as per generation and handed over to HKS workers or private agencies who are engaged in collection of waste currently in Changanassery municipality. • During the operational phase, bio waste will be collected and treated within the facility. The NBD waste and sanitary waste will be collected in color coded bins with suitable capacity as per generation and handed over to HKS workers. • Contractor to ensure timely disposal of waste to avoid the pest attack.	Contractor	KSWMP along with ULB
6	Transportation of Construction materials	Dust emission from transported Construction materials including sand	Air pollution	• Vehicles to be covered during transportation. Soil/Sand to be dampened during its transportation. • Materials should be properly stored and covered in the designated places. • Peak time should be avoided for transporting the material. • Construction sites should be protected by screen / garden net to avoid dust disturbance to the public. • Regularly sprinkling water on the vehicle pathways within the construction area to prevent dust from the unpaved roads. • Contractor to ensure that workers in the site use proper PPEs. • A traffic management plan will be implemented by the contractor to minimize vehicle-related disruptions at the congested site, in coordination with the traffic police and ULB.	Contractor	KSWMP along with ULB
7	Stacking of Construction materials	Improper stacking of construction materials can cause loose materials to scatter across the site	Land pollution/air / water pollution	• Contractor to ensure that all materials are stacked on stable, level surfaces to prevent shifting and collapsing. • Avoid excessive stacking heights to prevent visibility and weight issues. • Construction materials to be covered with sheet to avoid the suspension of the same in the air.	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				• Contractor to provide secondary containment/ barricades whenever required. • Maintain a tidy site to reduce slip and trip hazards. • The contractor should provide thorough training on proper stacking techniques and manual handling. • Keep aisles and passageways clear to ensure safe movement around the site.		
8	Operation of DG sets during Construction activities	Release of air pollutants such as Nox, CO and PM10	Impact on Air	• DG sets should follow the system and procedure developed by CPCB for its functioning and have an exhaust emission Certificate. • Use appropriate DG set recommended by regulators. • Required stack height to be provided. • Use soundproof enclosures around DG sets to contain noise. • Erect temporary or permanent noise barriers to block sound transmission. • Schedule noisy operations during less sensitive times of the day to avoid impact on the communities. • Regularly maintain DG sets to ensure they operate efficiently and quietly. • Contractor to ensure that workers in the site use proper PPEs while working in noisy periods. • Avoid storing large quantities of fuel on-site. Store only the daily required amount, in compliance with regulations and with proper safety measures to prevent spills and fire hazards. • Necessary precaution to be taken by the contractor if fuel for DG is stacked in the site.	Contractor	KSWMP along with ULB
9	Wash water from construction site	Discharge of construction wash water	Impact on Water	• Direct discharge of water contaminated with construction materials shall not be allowed from the construction area to outside the premises. • Contractor to ensure that the wash water is collected and utilized properly. • Water consumption is limited to minimum, and all steps shall be taken to avoid wastage/ excess water consumption. • Peripheral drains with silt traps / sedimentation basins etc to be provided outside the plant boundary, hence preventing the silt contaminated surface run-off from site to enter into the adjoining lands	Contractor	KSWMP along with ULB
10	Sewage from Toilets	Discharge of sewage from the existing and proposed toilets as per design of the facility in DPR.	Groundwater contamination	• There exist toilet facilities in the existing buildings within the project layout boundary. The need for additional toilets or renovation or upgrading of these toilets shall be assessed during the DPR stage of Project based on functional requirements, user accessibility, and overall project design considerations. The cost is considered in the estimate of project.	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
11	Health and safety of workers	Unsafe action and unsafe working condition in construction site Physical injuries when workers involved in loading/unloading activities and don't adhere to proper ergonomics discipline.	Accidents/incidents	• Proper orientation/awareness & training to be given to the workers on safe working practice. • Safety to be prioritized during tool box talks including on all High energy hazards, and all bacteriological, chemical physical hazards related to works. • Contractor shall ensure all safety measures at the site are in place, including personal protective gears and first aid kit. • Accidents, if any, occur at the site necessary actions shall be initiated at the earliest including transferring to hospitals, to provide required medical care without ant time delay to save life and prevent severe impacts and reported by the Contractor immediately. Adequate capacity ELCB, Proper earth line shall be provided for the electric connection during electrification work. • Contractor to ensure proper housekeeping within the construction site to avoid accidents. • Contractor has to promote Worker Participation so as to encourage workers to report hazards and participate in safety planning. • Contractor must ensure that only authorized personnel are allowed entry to the site with appropriate PPEs for various works & work permit system.	Contractor	KSWMP along with ULB
12	Storage of oil drums/ lubricants/ paint drums without spill containment	Spillage during the handling and Storing of oil or other lubricants can damage the land /soil properties of the area	Land contamination	• Store fuel and lubricants only in required and approved quantities. Obtain necessary licenses for storage and keep copies available on-site. • Secondary containment to be ensured by contractors (shall keep on the floor over the PVC sheet or metal sheet.) • A spill response kit must be available on-site, and workers should be trained in its proper use.	Contractor	KSWMP along with ULB
13	Welding activities and Concreting activities	Health and Safety-	Health Impacts can occur during construction phase	• ensure the safety of personnel and the surrounding environment during welding, proper personal protective equipment must be used, and the project/site area must be enclosed. • Ensure appropriate mask during handling of cement and welding.	Contractor	KSWMP along with ULB
14	Traffic & Transport	Traffic related accidents and injuries	Community health & safety	• Only trained drivers with valid license shall be recruited by contractor to transfer of material. • The communities shall be made aware about the schedule prior to the movement of trucks & transportation in the project area.	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				• Regular maintenance of vehicles and use of manufacturer approved parts should be adopted to minimize potentially serious accidents caused by equipment malfunction or premature failure. • Restrict heavy vehicle movement during peak hours. Prepare a traffic management plan in coordination with the ULB and traffic police, obtain necessary permissions, and inform local communities about increased vehicle activity during construction and operation phases. • The Traffic Management Plan will be in line with RFB Document.		
15	Occupational health and safety impacts of the workers	Health impacts of exposure to a variety of harmful materials of waste-related pollutants. • Accidental spillage by moving vehicles. • Cut & Bruises during handling of materials/rejects • Allergies from pathogen and airborne dust	Occupational health and safety	• All centers of labor contact points shall be provided with First Aid and other related activities. • Emergency Preparedness plans shall be prepared and implemented for all manpower. • An Environment Health & Safety policy shall be prepared and implemented throughout the activities area. • Workers will be provided with PPE such as face masks, gloves, shoes, nose masks & goggles. • Proper training will be provided regarding the maintenance of Health. H and S orientation training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protective protection, and preventing injuring to fellow workers • Workers shall be provided with rest areas, toilet facilities (with septic tanks), food, and water in a hygienic environment (with proper hand wash). Provide clean eating areas where workers are not exposed to hazardous or noxious substances. • Tie-up with the local hospital / Primary Health Centre (or responsible JHI) will be arranged to provide an ambulance to handle emergency cases if required and for regular health checkups. • Routine inspections, housekeeping, and maintenance will be carried out at regular intervals. • Secure all installations from unauthorized intrusion and accident risks • Ensure the visibility of workers through their use of high visibility vests when working in or walking through heavy equipment operating areas • Ensure moving equipment is outfitted with audible back -up alarms. • Mark and provide signboards for hazardous areas such as energized electrical devices and lines, service	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				rooms housing high voltage equipment, and areas for storage and disposal. • Signage shall be following international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate. • Disallow worker exposure to noise level greater than 85 dBA for more than 8 hours a day without hearing protection. • All workers shall be registered as per prevalent labor laws (including a workforce of subcontractors) and provided insurance cover. Also, third party insurance in case of communities affected. • Workers and their kith and kin shall be suitably informed about the registration, other details of • workers, and insurance details and provide contact details of contractor's person/insurance agent. • While using heavy machinery like JCB, cranes, etc, inform workers on possible dangers and prevent going near operating / movement areas. Flagmen should be arranged on-site with a whistle. • While using heavy machinery like JCB, cranes, etc, inform communities to prevent children and others from going near operating / movement areas. • Flagmen shall be arranged if work is near schools, hospitals, major roads, and traffic control is required with the support of police.		
16	Community	Effect on existing buildings	Buildings inside the project site will be affected due to the project	• The Honorable Council of Changanassery Municipality has approved the relocation of the existing Anganwadi and Camp Survey Office buildings to an alternative site, as per Council Resolution File No. 31317-2025, Decision No. 7 dated 15 April 2025. • During the relocation process, all belongings and assets of both facilities must be carefully and completely transferred in coordination with the Urban Local Body (ULB), ensuring minimal disruption and adherence to safety and administrative protocols before pre-construction phase. • Both the buildings can be used by the operator for associated activities for the functioning of the BioCNG facility, like administrative purposes, storage purposes, laboratory facilities etc. But all renovations and retrofitting to suit the utility of the new building as per National Buildings Codes and as per safeguards as prescribed under KSWMP need to be done by the contractor, at their own cost. The use of the building and the designed renovations need to be detailed as	ULB	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				part of the DPR prepared by the contractor during design stage.		
		Crematoriums	Traffic congestion	• Traffic arrangements will be managed during the construction phase to ensure that the movement of heavy vehicles does not affect burial or cremation activities. • The traffic management plan has to be prepared by the contractor prior to the start of any activity on site In close coordination with ULB & approved by traffic police.	Contractor	KSWMP along with ULB
		Temple	Traffic congestion	• Work Scheduling and Traffic arrangements are planned to be developed by the contractor during the construction phase to ensure that the movement of heavy vehicles does not affect the temple procession.	Contractor	KSWMP along with ULB
		Fathimapuram MCF/RRF	Traffic congestion	• The contractor is responsible for planning and implementing traffic arrangements during the construction phase to ensure that the movement of heavy vehicles does not disrupt the operations of the MCF/RRF facilities. • The Urban Local Body (ULB) shall ensure that adequate space is made available at the designated MCF for any temporary storage or parking requirements. In such cases, clear segregation of activities must be maintained within the yard to prevent conflicts between vehicles and between vehicles and pedestrians. Oversight of these operations shall be carried out by the Health Inspector to ensure safety and regulatory compliance.	Contractor	KSWMP along with ULB
17	Green Belt	Air & Community	Improper management of saplings can result in a low survival rate of plants, adding community disturbances like odor, noise and fire risks, etc.	• Plant low-maintenance, native species in varied heights—herbs, shrubs, and trees—for effective odour filtration. Include fragrant, fast-growing, pollution-absorbing plants. • The saplings need to be nurtured till they reached maturity. • The green belt needs to be provided a barrier to safeguard the tree saplings. • The trees on the side of the green belt to the utility area need to be well pruned to ensure that it will not create obstacle to movement of men, vehicle or materials.	Contractor	KSWMP along with ULB
OPERATION STAGE						
1	Segregation Efficiency	Low segregation efficiency causes poor operation of BioCNG	Failure of Plant leading to soil and water contamination	The segregated waste collection will also be supported by an extensive citizen engagement program that will ensure	Contractor & ULB	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				100% segregated storage of waste at source by the waste generators. (ULB) The ULB/Panchayats must ensure that segregation of waste from the generators is 100% and the waste is collected via primary vehicles by IEC activities. (ULB) Continuous Awareness to be provided to waste generators on the need for waste segregation. (ULB) Contractor must follow the designated route and strictly adhere to lane discipline while transporting waste via secondary vehicle. This ensures that generators systematically hand over the segregated waste to the workers. (Contractor)		
2	Backward Linkage (Collection & Transportation, (**Specific to Participating ULBs & Grama panchayats**)	Traffic, Leachate Spill, Odor.	Pollution to land & water due to spillage. Odor issues to the workers, community OHS & CHS if not properly collected, transported and transferred.	**C&T Services for Changanassery Municipality** ● The DPR submitted by the operator should have a detailed Collection and Transportation plan for the ULBs and Grama panchayats. ● The C&T Plan should include primary and secondary collection strategy for 100% door to door collection of waste to the BioCNG facility. ● The C&T plan should include detailed collection routes, optimized route plan, number of trips, detailed specifications of collection vehicles and manpower requirement. The cost of collection and transport need to be borne by the contractor. The collection and transport of waste should be done in accordance to the national rules including the SWM rules 2016. Some of the mandatory requirements are listed below:	Contractor	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				● The collection system should be designed avoiding the need for manual handling of waste and following SWM rules. ● Waste should be collected in compartmentalized vehicles to prevent spillage and bad odour. ● In the DPR, the capacity of proposed vehicles needs to be provided in both tonnage of waste and Cu.m capacity. ● Vehicles should have a hydraulic tipping mechanism. ● All collection vehicles should be fitted with GPS system and a live tracking MIS system should be developed. The access for live tracking of vehicles should also be provided to the nodal officer of the employer. ● All vehicles need to have a leachate collection system with liners and leachate collection tank with sufficient capacity, designed as per requirements of waste generated in project area. ● All vehicles need to have a public address system (Mike and Announcement system) for public awareness during waste collection. ● ISI marked fire extinguisher mounted inside the cabin. ● All vehicles need to be color coded and labelled as per SWM rules. ● All vehicles should have epoxy/anti-corrosive paint for enhanced visibility and durability. All the vehicles must meet BS-VI emission norms and have ARAI (Automotive Research Association of India) certification. ● All waste can only be transported in a covered manner. **The specific C&T obligations include the following:** ● Daily Door to Door collection of BDW from all waste generators in Changanassery Municipality. ● Provide end to end collection and transportation system (Both primary and secondary as per the collection designed submitted by the contractor) from waste generator to the BioCNG facility. The collection system includes both vehicles and manpower required. ● Primary collection needs to be completed before 9am and the entire C&T operations need to be completed before 11.30 am. ● No hindrance to traffic should be created by the C&T vehicles during peak hours of the day 10am – 6pm. ● Timely collection, transportation and transfer to be ensured to minimize odor issues and traffic nuisance. ● Provide PPEs during handling the wastes. ● Regular awareness to be given to workers on proper waste collection and handling techniques to ensure that		

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				waste is transferred without any spillage. (ULB and Contractor) ● ULB/Panchayat to ensure that the waste generators use reusable bins for collecting their BDW so that bags will be avoided. ● Use sealed, leak-proof containers/ provide a leachate collection tank to prevent any liquid waste from spilling during transportation. ● Ensure that primary collection vehicles are covered and regularly maintained to prevent leaks and spills. ● Plan collection routes to minimize the distance and time waste is transported, reducing the risk of spills. ● The vehicles have to be washed on daily basis in the designated area and the wash water to be treated at an ETP plant. ● Make alternate arrangement for storing the wasted during breakdown/heavy rains and to be a part of design. **C&T Services for Thiruvalla Municipality and the Grama panchayats:** ● The common BDW collection and transfer point (transfer point) in each LSGI needs to be identified by the contractor in discussion with the KSWMP team and LSGIs and details need to be provided in the DPR. ● Daily waste collection needs to be provided from the transfer point to the BioCNG facility. ● Ensure vehicle to vehicle transfer of BDW and no waste is directly unloaded at the transfer points, nor any leachate is spilled at the transfer points. Any infrastructure like ramps that is required for vehicle to vehicle transfer and the space required need to be clearly mentioned at DPR stage. ● Further, the client & contractor will make all necessary arrangements to ensure that no pollution, health & safety risks or pest issues related to transferring the waste at transfer points during the operation phase of the project. If there is a need of storage of bio-waste required a transfer points, contractor has to take necessary arrangements and should be a part of DPR. ● An SOP need to be followed to immediately take care of any spillage of material that might take place by accident or adverse weather. Every secondary collection vehicle should maintain a Spill kit post-collection cleaning of the transfer point and the hopper of the compactor truck (Secondary collection vehicle), in case any spillage situation.		

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				● The spill kit should include disinfectant and cleaning agents, waste disinfectants (like Hypochlorite solution), deodorizers, cleaning tools (like mop, shovel, scrubbers etc) and disposable PPEs. ● No hindrance to traffic should be created by the C&T vehicles during peak hours of the day 10am – 6pm. appropriate traffic management shall be planned and carried out during operations. ● Any infrastructure required at transfer point need is in the scope of contractor. The cost of collection and transport need to be borne by the contractor.		
3	Collection of Segregated BDW from Primary and Secondary Sources (transfer points)	Spillage of BDW during C&T	Soil & water contamination, OHS and Pest issues.	**For Changanassery Municipality** **(Primary Collection)** • 100% door to door segregated collection and transportation of waste will be provided by Changanassery municipality. While NBDW will be collected using HKS, the BDW collection is proposed under this project. • The segregated waste collection will also be supported by an extensive citizen engagement program that will ensure 100% segregated storage of waste at source by the waste generators. **For Thiruvalla Municipality and Panchayats,** **(Primary Collection)** • At Thiruvalla Municipality and 5 Grama Panchayats, primary collection will be conducted Thiruvalla ULB and panchayats respectively using own vehicles. and transported to transfer points within the Panchayat. • Similar to Changanassery, in the Panchayats also citizen engagement programs are proposed under the project to ensure 100% segregated waste storage by waste generators, to ensure that segregated waste is available for the authorities to collect and transport. • Citizen engagement programs are designed as part of the project and will ensure segregated waste storage at source by waste generators. • Regular awareness to be given to workers on proper waste collection and handling techniques to ensure that waste is transferred without any spillage. • The segregated waste collection will also be supported by an extensive citizen engagement program, that will	ULB/Panchayats	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				ensure 100% segregated storage of waste at source by the waste generators.		
				For Thiruvalla Municipality and Panchayats, **(Secondary Collection)** • Waste from Thiruvalla municipality and 5 Grama Panchayats will be collected by corresponding panchayats and Thiruvalla municipality itself and will be transferred to secondary vehicles at their corresponding transfer points. • The contractor will be bringing vehicles as per the contract terms set in the RFB. • Contractor has to ensure that waste will not get spilled at the transfer point and Contractor has to follow the SOP while handling the waste and has to ensure that they will be having a sanitation kit to maintain the cleanliness of the transfer point. • Further, the client & contractor will make all necessary arrangements to ensure that no pollution, health & safety risks or pest issues related to transferring the waste at transfer points during the operation phase of the project. If there is a need of storage of bio-waste required a transfer points, contractor has to take necessary arrangements and should be a part of DPR. • Contractor has to conduct regular inspections of containers and vehicles to ensure they are in good condition and free from leaks. • Use sealed, leak-proof containers/ provide a leachate collection tank to prevent any liquid waste from spilling during transportation. • Ensure that collection vehicles are regularly maintained to prevent leaks and spills. • Contractor has to develop and implement a spill response plan, including training for workers on how to handle spills. • Plan collection routes to minimize the distance and time waste is transported, reducing the risk of spills. • Ensure vehicles are not overloaded.	Contractor	ULB + KSWMP (for Year 1)
4	Movement of collection vehicles	Continuous emission form MCV and LCV	Air Pollution	• Contractor to ensure that all vehicles has PUC certification • Routine maintenance of vehicles to be ensured by contractors to avoid the air emission. • Route chart to be provided by the contractor to minimize unnecessary travel.	Contractor (Route chart to be verified using GPS tracker on daily basis)	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
5	Leachate generation	Leachate generated during the collection and transportation of BDW	Land & water pollution	• The contractor has to ensure that the BDW collection vehicle contains a leachate collection tank (fixed in the LCV and MCV's). • Collected waste has to be completely transferred to the collection bin in the facility. Additionally, any leachate generated from the waste tipping area will be efficiently collected through a dedicated drainage system and pumped directly into the digester itself, ensuring full containment and treatment. • The MCV's and LCV has to be washed on a daily basis in the designated area and the wash water to be treated at the ETP plant before disposal/reuse. • Route optimization must be implemented to reduce travel time and minimize leachate buildup during transportation. • Waste storage area must be located on an impermeable surface with a slope guided for leachate flow. • Odour issues from the storage area must be controlled through regular cleaning and use of deodorizers. • Proper waste handling and sanitation measures are essential to prevent pest infestation in the storage area. • The storage area should be well-organized and covered to minimize visual clutter and maintain site aesthetics. • Properly designed drainage channels should be in place to collect and convey leachate from the storage area to the digestor. • Incoming waste storage area should be covered with a roof to prevent rainwater ingress, which could increase leachate volume. • Limit the on-site BDW storage to a maximum of 24 hours to avoid decomposition, odour, fly infestation and vermin.	Contractor	ULB + KSWMP (for Year 1)
6	Unloading of BDW at secondary collection Point.	Contamination due to the unloading of waste from primary collection vehicle and loading into the secondary transportation vehicles	Soil and Water contamination	• Collection from secondary points must be carried out strictly via vehicle-to-vehicle transfer. • The contractor must ensure that no leakage occurs during the transfer of BDW (Biodegradable Waste). • In the event of any spillage, the affected area must be cleaned immediately, and appropriate odor and pest control measures should be implemented without delay. • Further, the client & contractor will make all necessary arrangements to ensure that no pollution, health & safety risks or pest issues related to transferring the waste at transfer points during the operation phase of	Contractor	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				the project. If there is a need of storage of bio-waste required a transfer points, contractor has to take necessary arrangements and should be a part of DPR. • Every secondary collection vehicle will maintain a Spill kit / Sanitation kit post-collection cleaning of the transfer point and the hopper of the compactor truck, in case any spillage situation. The spill kit will include disinfectant and cleaning agents, waste disinfectants (like Hypochlorite solution), deodorizers, cleaning tools (like mop, shovel, scrubbers etc) and disposable PPEs.		
7	BioCNG operation	Emission of VOC	Air pollution	• Ensure leak-proof design and install necessary equipment to prevent gas leaks inside the Bio-CNG facility and design will be vetted by competent institution as detailed in RFB. • Install advanced gas leak detection systems with in the facility to enhance operational safety and mitigate potential hazards. These will be part of design parameters which will be vetted by competent institution as detailed in RFB. • Implement continuous, real-time monitoring protocols to ensure early detection and prompt response to any gas leakage incidents. • Contractor has to conduct regular maintenance of equipment to ensure optimal performance and minimize emissions. • Contractor has to continuously monitor air quality and report emissions to ensure compliance with environmental regulations. • Contractor has to prepare a SOP for handling the chemicals used for the scrubbing process. (C-EMP of Operational Phase). • During emergencies (e.g., natural calamities like floods, earthquakes etc., fall or), the waste cannot be collected and will be managed at source. • During shutdowns or major repairs of the bio-CNG plant, the contractor has to make necessary arrangements for management of bio-waste on daily basis, at his own cost. Carry out periodic preventive maintenance of the BioCNG facility without shutting down the entire plant and obstructing the daily flow of waste. • The Strategy for alternative arrangements needs to be detailed in the DPR stage and appropriate penalties for non-compliance shall be ensured and made part of contract.	Contractor	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
8	Biogas Production	Anaerobic digestion process	Odor and methane leakage	• The biogas (biomethane) fuel shall be free from particulate matter such as dust, dirt and mist. • Biogas (biomethane) delivered to any vehicle, stationary engine or piped network, shall be odorized similar to a level found in the local distribution (see IS 15319). • Implement gas monitoring systems and routine leak checks to prevent methane leaks. • Use odour control systems to minimize unpleasant smells. • Regularly maintain biogas storage tanks and pipelines to ensure safe operations. Depending on the type of mechanism used, appropriate pollution abatement measures shall be adopted & detailed out in C-EMP. CBG Plants use following types of scrubbers: a) Iron chelating based for H2S removal. Disposal of sulphur recovered from the process should be sold/disposed off in correct manner as per rule. All waste streams coming from plant should be suitably treated & recycled/reused. In no case, effluent enters water body. b) PSA for CO2 removal Exhaust gas being released to atmosphere in safe manner. Height of exhaust gas chimney to be raised to 3m above the roof level at least. Iron filings, silica gel should be disposed of through certified vendors. c) Membrane for CO2 removal Membrane material disposal should be done through registered vendors only. d) Water scrubber for CO2 and H2S removal. Effluent generated which is high in acids should be neutralized by using suitable method & then disposed off after meeting the notified effluent discharge norms.	Contractor	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
9	Energy Production	BioCNG generation	Renewable energy production with safety concerns	• Optimize biogas capture and storage to prevent methane loss. • Ensure gas processing units are safely maintained and conduct regular safety audits. • Provide emergency shut-off systems and train staff on handling gas leaks and emergencies.	Contractor	ULB + KSWMP (for Year 1)
10	Odor Management	Foul odors from waste decomposition	Unpleasant odors affecting nearby communities	• Implement bio-filtration systems, regularly clean digesters, and ensure rapid processing of incoming waste to reduce odor issues. • Monitor air quality and maintain odor control equipment. • Implement efficient waste handling and storage practices to minimize odor generation. • Conduct regular maintenance of equipment to ensure optimal performance and prevent odor issues. • Contractor to set up continuous monitoring systems to detect and address odor issues promptly. • The anaerobic digester should be airtight with sealant and other inflating bags. • The amount of incoming BDW stored on-site should be limited to less than one week of requirements where possible. • Regular cleaning and approved pest control measures to be adopted. • Biopesticides / biological control shall be followed. • Banned pesticides/insecticides shall not be used. • Workers shall be made aware of storage and use of pest control measures and PPEs to be used.	Contractor	ULB + KSWMP (for Year 1)
11	Occupational Health & Safety	Operation of the unit	Wastewater/leachate generation from the unit or waste storage area	• The technology provider's instructions must be followed to ensure that there is no leachate accumulation in the area. • Avoid run-off from any particularly wet BD waste by storing it undercover or in a contained manner where necessary. • Regular cleaning and approved pest control measures to be adopted: Biopesticides / biological control shall be adopted. Banned pesticides/insecticides shall not be used. • Workers shall be made aware of storage and use of pest control measures and PPEs to be used.		

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
12	Occupational Health & Safety and Community Health & Safety	Worker exposure to gases and equipment hazards, fire safety	Health risks and choking/asphyxiation for workers and nearby residents	• Provide workers with PPE. • Training on safe handling of biogas equipment • Regular health check-ups. • Maintain emergency response equipment onsite, including fire extinguishers and first aid kits. Conduct regular safety drills. • Workers handling the chemicals used for purification of gas have to be given proper regular training and ensure the use of PPE kits during operations. • The contractor has to ensure the safe storage of chemicals using secondary containment. • The Transferring of digestate from the digestor tank will be done by mechanical process via pipes. Hence, there will not be any manual transferring. However, all the operators coordinating the same shall use all the required PPEs during the operational phase. • The Transferring of waste from Collection Tank to digestate is fully mechanized. Hence, there will not be any manual transferring. **Fire Hazard** • Design the facility based on fire norms, National Building Code – Fire Safety, KMBR fire safety requirements and shall have adequate access by firefighting vehicles and equipment, including clear aisles and access to adequate stored water for firefighting at all times. • Ensure workers are briefed on fire hazard management. • Regular inspection of plant to identify any potential hazards for fire • Mock drill to be conducted for the management of fire • Provide signages and safety instructions in different languages (English, Hindi, Malayalam) at places readable for workers and communities. • Up-to-date fire-fighting equipment should be made available on-site and stored in an Accessible. • All operating staff should be trained and able to manage fire outbreaks at any part of the facility, • Clear signage should be established to inform workers no usage of fire sources (cigarettes) and the public that flammable liquids are not permitted on the site. This should be reinforced by advice to customers at the gatehouse and inspection of loads at the organic reception area. • All fuels or flammable solvents for operational use should be stored in an appropriately ventilated and	Contractor	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				secure store. This store should be located away from the reception, material storage, and processing areas. Spillage should be prevented by all means and spills if any shall be well-contained. • All flammable liquids should be stored within a bund that can hold 110% of the volume of the flammable liquids stored there so that any release of raw or burning fuel cannot cause a fire in the combustible organics present on the site or have an impact on contaminating stormwater. • Any contaminated soil shall be scraped and disposed of in hazardous waste TSDF after requisite approvals. • Full fire access to be provided on all sides of site • Fire line should be maintained in coordination with ULB between site & neighbors for managing the fire in case of any. • Fire barriers / cuts around core area shall be incorporated in design. Measures for **Community Health and safety:** • Contractor has to regularly monitor the air quality to detect any harmful emission such as methane H2S is present or not and has to take corrective actions if levels exceed safety thresholds • Implement odor control systems such as biofilter, activated carbon filters, and proper ventilation to minimize unpleasant smells that can affect nearby communities. • Contractor to use noise barriers and soundproofing techniques to reduce noise pollution from the plant's operations, ensuring it does not disturb the local community. • Develop and maintain a comprehensive emergency response plan that includes evacuation procedures, communication strategies, and coordination with local emergency services. • Properly manage and dispose of waste materials to prevent contamination of local water sources and soil		
13	Monitoring & Reporting	Compliance with environmental standards	Risk of regulatory non-compliance	• Perform regular monitoring of air, water. • Record emissions and water usage data and report any non-compliance to authorities. • Implement corrective actions promptly if any regulatory limits are exceeded.	Contractor	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				• FOM must meet Fertilizer Control Order standards and be stored, packed, and sold as per regulations. Each batch should undergo continuous quality checks.		
14	By product /Digestate	Digestate and residual waste	Potential soil and water contamination	• Ensure covered, leak-proof storage facilities/silos to prevent FOM from leaching into the soil. • Implement secondary containment systems, such as berms or liners, to catch any potential leak of FOM while handling. • Conduct regular inspections of storage facilities to identify and address any leaks or structural issues promptly. • Only FCO-compliance FOM will be made available for sale through authorized agencies or departments. • Maintain documentation of test results and sale records for regulatory compliance and public transparency. • The DPR should clearly describe the process of enriching the bi-product FOM to meet FCO standards which will be adopted by the contractor. • The solid FOM/digestate is rich in organic matter which is collected from the dewatering unit is conveyed through enclosed conveyors belts and and stored in silos (with a storage capacity of 5 days) to be sold as FOM. • Incoming waste shall be sorted at the table into separate colored containers for plastics, glass, paper, inerts (stones, gravel, ceramics), etc. These containers must be regularly emptied and stored in an accessible, secure, and hazard-free facility designed to hold at least three days' worth of material. The facility should support easy handling by HKS workers and ULB staff and be cleared daily. The cost of these items to be borne by the contractor. The hazardous waste from ETP and any other hazardous waste will be collected by KEIL via MoU. • The FOM is emptied into trucks and transported to consumers in a covered manner. A material storage facility will also be constructed to collect, additional generation of FOM if any and pack it into water resistant gunny bags and store safety until sales. • CPCB guidelines for CNG plants shall be followed and design shall incorporate all requirements Refer: https://cpcb.nic.in/uploads/Categorization_Environmental_26102023.pdf	Contractor	ULB + KSWMP (for Year 1)

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
15	Traffic Management	Movement of waste collection and product distribution vehicles	Traffic congestion and increased emissions	• Schedule vehicle movements during off-peak hours to reduce traffic impacts. • Use fuel-efficient vehicles and maintain them regularly to reduce emissions. • Establish designated routes to minimize disruption to local traffic. • Once weighed at the entrance, over 30 vehicles can be accommodated within the parking facilities. • Proper traffic management plan to be adopted for end product distribution.	Contractor	ULB + KSWMP (for Year 1)
16	Noise Management	Noise from routine operations of plant and vehicle movements	Disturbance to surrounding community	• Install noise barriers or soundproofing around noisy equipment. Schedule high-noise activities during daytime hours. • Conduct regular noise monitoring and maintenance to ensure equipment operates quietly. • Green belt to be provided around the plant, which will in turn act as a Noise barrier. • Restrict the movement of heavy vehicles carrying FOM and gas during peak hours. • Vehicles used for bio-waste transport should be designed to minimize noise emissions. This includes using low-noise engines, installing effective mufflers, and ensuring proper insulation. Regular maintenance of vehicles—especially the engine, exhaust system, and brakes—is essential to prevent excessive noise due to wear and tear. • Drivers should be trained to operate vehicles smoothly, avoiding sudden acceleration, harsh braking, and unnecessary honking. Awareness programs can help drivers understand the importance of noise control and encourage responsible driving practices, especially in noise-sensitive areas. • Noise generated during the loading and unloading of bio-waste can be minimized by using sealed containers and automated lifting systems. These reduce the clanging and rattling sounds typically associated with manual handling. Ensuring that bins and containers are properly secured during transit also helps reduce noise. • Route chart to be fixed for the movement of vehicles. • Noise barrier systems will be incorporated into the facility's design to mitigate sound emissions. Noise control within the biogas plant will specifically address key sources such as gas compression units. • Additionally, vehicle movement within the premises will comply with relevant Indian Standards (IS codes) to ensure minimal noise impact.	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
17	Incoming BDW management	Biodegradable waste	Failure of plan/operation/ low quality FOM generation	• Concerned authority to ensure that required incoming BDW to be collected. • Segregation, if possible, can be done prior to loading into the plant. • Continuous awareness to be given to waste generators on the segregation of waste to ensure quality of incoming BDW. • Implement pre-sorting practices to ensure that only high-quality biodegradable waste (BDW) reaches the digester. • The segregated non-biodegradable waste (approximately 1% during the presorting process) will be stored in the material storage space allocated in the facility. The same will be handed over to nearby MCF through HKS workers and this has been agreed by ULB.	Contractor	KSWMP along with ULB
18	Pest issues due to poor housekeeping	Attacks of flies, rodents etc	Health issues Visual blight	• Avoid stacking of organic waste. • Proper housekeeping to be followed in unloading areas of waste. • FOM should be stored in a closed container to avoid pest issues. • Use of natural pest repellents if any.	Contractor	KSWMP along with ULB
19	Rejects Storing	Non-Biodegradable waste	Improper disposal of rejects causes Land Contamination	• Management of rejects including inert should not cause any pollution or health and safety issues for workers or communities. • The rejects should be stored safely and disposed of from time to time. • The preprocessing rejects can also include coconut shells and wooden logs. Portion of waste rejected in a month, certified by the Employer or designated personnel, and weighed at the facility prior to disposal as per the Scope of Work. • • Although arrangements will be made for collection of reject materials by HKS workers to transport to MCF on daily basis. As per the design, the contractor has to allocate space for storage of reject materials for a period of three days. This will be ensured during the pre-construction phase. • The NBD waste, which is roughly 1% of the sorted out material (0.25 – 0.35 TPD) is stored at the pre-sorting area in separate color coded containers which will be later moved to a material storage area (which will be well labelled and secured). • The material will be mostly mixed non-recoverable soiled material, which will be considered as inert material (as per the definition in the contract existing	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				between Changanassery ULB and Green Evo Tech) and transported for disposal in SLF by Green Evo Tech, a private waste management company to manage NBDW in the city. The fact that the Changanassery municipality engaged private party to manage inert waste form the MCFs is included in the RFB document and will be discussed with contractor during design phase. • The presorting area should have fire extinguishers and the waste should be stored in closed containers only. • The pre-sorting area must be equipped with fire extinguishers and all waste should be stored in securely closed containers to prevent fire hazards and environmental contamination. The area should be maintained free from odour, leachate, and flies through regular cleaning and strict odour management practices, ensuring overall hygiene and operational safety.		
20	Worker's facilities	Water, electricity, washing area, toilets Lighting.	Workers Health & Safety	• The facility shall be provided with adequate water for maintaining cleanliness of the premises, tools and workers, and electric connection shall be provided for the lighting and artificial ventilation to ensure safety and pest management. • Contractor has to ensure that the workers are provided with potable water which meets the drinking standards IS 10500;2012 by providing facilities like RO in the plant. • Wash area/hand wash and washrooms for workers shall be provided. • The facility shall be functional after ensuring all facilities required to ensure H&S of workers. • Space is available within the location; the plant will be functional only after the establishment of this facility. • Proper ventilation & lighting to be provided in the entire facility to ensure safe working condition for the workers and operation	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
21	FOM storing facility	Soil Contamination	Improper storage of the FOM leads to contamination of soil	• As per the project design, the only by-product from the Bio-CNG process will be dewatered (FOM), which will be stored in silos. This eliminates the risk of soil contamination. • The FOM will be directly loaded from the silos into transfer vehicles, minimizing the possibility of spillage during handling. • In accordance with the Request for Bid (RFB), the contractor is required to provide an additional 15 days of safe storage capacity within the facility. This will be incorporated during the design phase to ensure that even in cases of extended storage, there will be no risk of soil contamination. • In case of a situation of emergency, where the FOM cannot be transported for a long time, then the FOM will be safely packed and stored in the material storage facility. • Cost of all refurbishments and construction is added in the Construction cost and Scope of the contractor. The designs need to be submitted in the DPR during design phase of the project. • The dewatered FOM should be transported from the BioCNG plant on a scheduled basis to avoid any leachate, smell or any disturbance at the facility. The schedule need to be clearly provided in the DPR and it should not be stored at the plant for more than 5 days period	Contractor	KSWMP along with ULB
22	Vehicle wash water	Wash water generated form the cleaning of Vehicles. Sludge generation after ETP operation	Land and water contamination	• Contractor to ensure that the vehicles has to be washed on daily basis in the designated area and the wash water to be treated at the ETP. • The wash water treated will be reused for vehicle washing purposes only, inside the facility. • Before execution of work, the contractor shall enter into a formal agreement with KEIL in coordination with Changanassery ULB outlining the procedures and responsibilities for the safe disposal of sludge. Following the execution of this agreement, sludge disposal activities will be carried out periodically in accordance with the agreed terms.	Contractor	KSWMP along with ULB
23	Leachate	From loading platform	Water & Land contamination	• Leachate generated from the platform is collected and circulated into the BioCNG itself.	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
24	High energy hazards due to Handling of BioCNG gas plant **(1) Fire Hazard**	Fire hazard due to any leakages	Air pollution, OHS (injuries, fatalities,) & Community	• Contractor has to regularly inspect and maintain the system to ensure there are no leaks. • All the applicable fire safety measures have to be ensured by the contractor during the operational phase. • Regular training & mock drills to the workers on the usage of firefighting systems to be ensured by the contractor. • Contractor has to conduct auditing on the fire hydrants and has to refill the same on a regular basis. • Statutory clearance from the fire department has to be ensured by the contractor. • Maintain full fire tender access roads around the plant, allowing emergency vehicle entry from all sides. • Maintain a fire line buffer zone (minimum 6 meters) between plant structures and adjacent plots as per fire safety norms. • Use only flameproof/explosion-proof electrical fittings in hazardous areas.	Contractor	KSWMP along with ULB
	(2) **Gas Leaks**	Leakage of gas from the plant during operation causing release of toxic pollutant	Methane and other gases can cause asphyxiation, poisoning, and contribute to greenhouse gas emissions.	• Regularly inspect and maintain gas pipelines and storage tanks. • Use gas detection systems to monitor for leaks. • Ensure proper ventilation in areas where gases are stored or used. • Inform and involve the local community in safety planning and emergency response drills to ensure they are prepared in case of an incident.	Contractor	KSWMP along with ULB
	(3) **Mechanical Failures**	Due to poor loading of poor segregated waste or mechanical issues	Equipment malfunctions can lead to accidents, injuries, and operational downtime.	• Implement a preventive maintenance program. • Use high-quality, certified equipment. • Train staff on proper equipment use and emergency procedures. • Ensure proper segregation of waste.	Contractor	KSWMP along with ULB
	(4) Chemical Hazards	Poor handling of chemicals used in facility	Exposure to hazardous chemicals can cause health issues and environmental damage	• Store chemicals in designated, secure areas. • Provide personal protective equipment (PPE) to workers. • Ensure proper labeling and handling procedures for all chemicals	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
25	Forward linkage of Manure produced	Soil / water contamination	Contamination due to spillage/ over stacking/ storing of manure	• The FOM will be dewatered and dry FOM will be coming out of the machinery, which will be stored in the silo. The FOM in the Silo will be directly loaded onto the truck and sent to customers. • In case of a situation of emergency, where the FOM cannot be transported for a long time, then the FOM will be safely packed and stored in the material storage facility with proper odor control, pest management, and fire prevention measures in place. • The FOM need to be managed on-site through a completely mechanized manner. The FOM from the de-watering unit needs to be fed into the Silo using enclosed conveyors and chutes. The Silo needs to have the capacity to manage the produce of atleast 7 days. The Silos should be designed to be able to be emptied into the transportation vehicles (trucks) and the material need to be transported without any spillage. • There should also be provision to pack and store the FOM onsite in a secured building for a period of atleast 15 days. • The solid manure/digestate is rich in organic matter which is collected from the dewatering unit is conveyed through and stored in silos (with a storage capacity of 7 days) to be sold as FOM. • The FOM is emptied into trucks and transported to consumers in a covered manner. A material storage facility will also be constructed to collect, additional generation of manure if any and pack it into water resistant gunny bags and store safety until sales. • Cost of all refurbishments and construction is added in the Construction cost and Scope of the contractor. The designs need to be submitted in the DPR during design phase of the project. • Timely handing over of manure produced daily to the vendors to prevent environmental contamination. • Contractor to place agreement with the vendors prior to operation for ensuring safe handling and management of the FOM. • The forward linkage must be updated in the C-EMP once the contractor has been onboarded. • Also, it should be in line with SWM Rules and in accordance with FCO guidelines.	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
26	Forward linkage of Bio gas produced	Air	Fire risks, GHG emissions	• The purified biogas is compressed using a high-pressure compressor before being stored in a high-pressure storage unit (Usually cascade storage system). The gas stored in the cascade system will be connected to a gas filling unit, from which gas tankers can be filled to transport the gas. • To achieve the desired quality stated in IS 16087:2016, The raw biogas needs to be cleaned /Scrubbed. • Biogas (biomethane) shall be stored and transported through cylinders conforming to IS 7285 (Part 2). • Proper sampling of biogas (biomethane) is extremely important, if the tests are to be significant. • Samples of biogas (biomethane) are examined by various test methods to determine physical and chemical characteristics. It is, therefore, essential that the samples be representative of the product to be tested. • The representative samples of biogas (biomethane) shall be drawn as prescribed under IS 15125. • Any excess gas generated that cannot be transported will be stored in the floating tank/balloon system (with a capacity of upto 30 days storage). The gas storage system will also have a flaring system that will be used to burn the gas in case of an emergency/excess production of gas than the storage capacity.	Contractor	KSWMP along with ULB
27	Flaring activity	Air & Community	Local and Global air quality, Visual impact, Noise impact, Odour nuisance	• Setting emission limits for a range of outputs (such as SOx, NOx, CO, dust and HCl). • Monitoring regimes should be specific to the individual flare and location and be designed based on the results of the detailed assessment. • Failure of some of the flare stack components (flame detector, flame arrestor spark system etc), poor maintenance, operational error or extraordinary operating conditions can cause the release of the biogas to the atmosphere. Regular maintenance of all these components should be done	Contractor	KSWMP along with ULB
28	Community	Existing Buildings	Lack of Facilities impose risks	• The Anganwadi building can be repurposed as a storage facility. During the Detailed Project Report (DPR) stage, the contractor must ensure the provision of essential infrastructure, including proper ventilation, pest control, odor management, and installation of fire extinguishers. • But all renovations and retrofitting to suit the utility of the new building as per National Buildings Codes and as per safeguards as prescribed under KSWMP need	Contractor	KSWMP along with ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
				to be done by the contractor, at their own cost. The use of the building and the designed renovations need to be detailed as part of the DPR prepared by the contractor during design stage		
		Crematoriums (The major fuel for these crematoriums were electric, wood and Gas.)	Traffic congestion	• Traffic arrangements will be managed to ensure that the movement of heavy vehicles does not affect burial or cremation activities. During peak hours, the contractor shall ensure that there will not be any vehicle disturbances. • The traffic management plan has to be prepared by the contractor prior to the start of any activity on site. • During operation phase, sufficient parking facility is to be provided for the transportation vehicles inside the facility and there will not be any traffic problems for crematorium activities.	Contractor	KSWMP along with ULB
		Temple	Traffic congestion	• Traffic arrangements are planned to be developed by the contractor during the operational phase to ensure that the movement of heavy vehicles does not affect the temple procession.	Contractor	KSWMP along with ULB
		Operations of Dumping Yard	Traffic congestion	• During the operational phase, the contractor will develop traffic management arrangements to ensure that the movement of heavy vehicles involved in dumpsite operations does not interfere with the functioning of the Bio-CNG plant	Contractor	KSWMP along with ULB
29	Green belt management	Air and Odor	Lack of regular monitoring can allow invasive plants to dominate, harming native ecosystems. Improper management and failure may lead to noise, odor, & fire risks	• The green belt needs to be well maintained to prevent rodents, snakes etc. Intermitted planting of snake-repelling plants need to be ensured. • Every year of operation, the dead saplings/trees need to be replanted with new ones and at any point of time it should be ensured that minimum 80% of the saplings are alive. • Plants must be watered regularly; otherwise, they may wither and die due to lack of moisture.	Contractor	KSWMP along with ULB
Decommissioning Phase						
1	Dismantling of infrastructure (tanks, pipelines, digesters, conveyors, and associated structures)	Occupational Health & Safety	Risk of accidents, injuries, and exposure to hazardous materials	● Implement a site-specific Health & Safety Plan ● Provide Personal Protective Equipment (PPE) ● Conduct safety training for workers ● Disaster & emergency management plan to be prepared as a part of DPR.	ULB	ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
2	Demolition waste handling & disposal	Waste Management	Generation of solid waste, risk of improper disposal	● Segregate waste into recyclable, reusable, and landfill categories ● Ensure safe disposal at authorized facilities. ● Implement a waste tracking system	ULB	ULB
3	Soil excavation & land restoration	Land & Soil Quality	Soil degradation and contamination from debris	● Test soil quality before and after decommissioning ● Remove contaminated soil if necessary ● Conduct site grading and re-vegetation	ULB	ULB
4	Noise and vibration from demolition activities	Noise Pollution	Disturbance to nearby communities and workers	● Schedule work during daytime hours ● Use low-noise equipment ● Install temporary noise barriers	ULB	ULB
5	Decommissioning of utilities (electricity, water supply, drainage systems, etc.)	Resource Management	Wastage of resources and risk of spills/leakages	● Ensure controlled shut-off of utilities ● Reuse materials where possible ● Monitor for leaks during decommissioning	ULB	ULB
6	Air pollution from dust generation	Air Quality	Increased dust emissions affecting workers and nearby residents	● Use dust suppression measures (e.g., water spraying) Install temporary wind barriers. ● Conduct air quality monitoring	ULB	ULB
7	Impact on biodiversity & ecological resources	Ecology & Biodiversity	Disturbance to flora and fauna, habitat destruction	● Avoid disturbance to sensitive habitats ● Implement habitat restoration programs. ● Ensure proper disposal of debris to prevent water pollution	ULB	ULB
8	Impact on local communities	Socio-Economic	Temporary job loss, disturbance to local businesses	● Provide alternative job opportunities where possible Inform local communities in advance. ● Conduct grievance redressal meetings	ULB	ULB
9	Decommissioning of wastewater treatment units	Water Quality	Risk of wastewater spills and contamination	● Ensure safe shutdown of treatment units. ● Conduct wastewater quality monitoring ● Prevent discharge into nearby water bodies	ULB	ULB
10	Transportation of decommissioned materials	Traffic & Transport	Increased traffic, road safety risks	● Develop traffic management plans. ● Ensure safe transport routes. ● Use covered vehicles to prevent dust and debris spillage	ULB	ULB

Sl. No.	Activity	Environmental Aspect	Potential Impact	Mitigation Measures	Implementation Responsibility	Monitoring Responsibility
11	Closure and post-decommissioning site monitoring	Site Restoration & Future Land Use & Hazard Identification	Risk of improper closure, leaving behind pollutants and risk of fire	● Conduct final site assessment. ● Develop a post-decommissioning monitoring plan. ● Ensure soil and groundwater testing before closure. ● Conduct a site audit to identify all potential hazards, including residual gases, chemical contaminants, and structural risks. ● Safely vent any residual gases. ● Neutralize biochemical substances as required. ● Ensure proper disposal of dry waste and non-biodegradable waste (NBDW). ● Confirm that the site is completely free from all types of hazards, ensuring it is safe for future use or repurposing.	ULB	ULB
		Monitoring	Risk of Contamination	● Monitor air quality during the decommissioning phase to detect and control any emissions of harmful gases. ● Conduct environmental audits to ensure that the soil and water around the site remain free from contamination. ● Demolished debris must be safely transported and disposed of at a Secured Landfill Facility (SLF). Care must be taken to prevent any soil contamination during transportation. ● Subject to approval by the Urban Local Body (ULB), the land and existing buildings may be renovated and repurposed for other waste management activities. ● All personnel involved in demolition activities must wear appropriate Personal Protective Equipment (PPE) based on the specific contaminants identified within the facility. ● If any soil within the facility is found to be contaminated, it should be replaced with clean, good-quality earth to maintain environmental safety and site integrity.		

ENVIRONMENTAL MONITORING PLAN

Environmental monitoring will be carried out to assess the efficiency of recommended environmental measures and ensure adherence to environmental regulations. Periodic groundwater monitoring and ambient air quality monitoring will be performed in accordance with applicable standards, leveraging in-house laboratories. Further, the organic manure generated by the plant will undergo regular analysis, and the results will be submitted to the concerned Pollution Control Board from time to time. The EMoP of the biogas plant with responsibility is given in the below table.

The environmental monitoring plan for the pre-construction, construction, operational phase & decommissioning phase is given as below.

Table: Environmental Monitoring Plan for Proposed Project

S.No	Monitoring Particulars	No. of locations	Monitoring Frequency	Duration of Monitoring	Monitoring Parameters	Implementing Responsibility	Monitoring Responsibility
Pre-Construction Phase							
1	NoC for establishments	Obtain necessary approvals for BioCNG plant	Once prior to Construction Phase	-	-	Contractor	KSWMP along with ULB
Construction Phase							
1	Air Quality Monitoring	Within Project Premises	Monthly	24 hourly sample	As per KSPCB requirement	ULB	KSWMP along with ULB
2	Noise monitoring	Within Project Premises	Once in six months	Day and night	As per KSPCB requirement	ULB	KSWMP along with ULB
3	Water Quality	upgradient and down gradient	Once in a month	Grab	As per KSPCB requirement	ULB	KSWMP along with ULB
4	Soil quality	Within Project Premises	Once in six months	Composite Sample	As per KSPCB requirement	ULB	KSWMP along with ULB
5	Photography/Documentary evidence	Within Project Premises	Continuous	Ensuring the Inclusion of safety measures	-	Contractor	KSWMP along with ULB

S.No	Monitoring Particulars	No. of locations	Monitoring Frequency	Duration of Monitoring	Monitoring Parameters	Implementing Responsibility	Monitoring Responsibility
6	SOP, Do's and Don'ts board shall be installed near biogas plant	Within Project Premises	-	Ensuring the Inclusion of safety measures	-	Contractor	KSWMP along with ULB
7	Obligatory Signboard and Project Information Board	Within Project Premises	-	Ensuring the Inclusion of safety measures	-	Contractor	KSWMP along with ULB
8	Accident logbook for construction phase	Within Project Premises	Continuous		-	Contractor	KSWMP along with ULB
9	Green net & Dust suppression by water sprinkling	Within Project Premises	-		-	Contractor	KSWMP along with ULB
10	Training to the workers on EHS	-	-	-	-	Contractor	KSWMP along with ULB
11	Plantation (as a part of green belt development)	Inside the Project Premises	Daily monitoring of green belt and watering to plants.			Contractor	ULB
12	Validation of PUCC of vehicles, Driving license, RTO documents	-	As per Requirement	-	Pollution Check certificate renewal	Contractor	KSWMP along with ULB
Operational Phase							
1	Testing of Incoming BDW	Within Project Premises	Continuous Monitoring		As per KSPCB requirement	Contractor	KSWMP along with ULB
2	Ambient Air Quality Monitoring	Within Project Premises	Continuous Monitoring		As per KSPCB requirement	Contractor	KSWMP along with ULB
3	Noise Monitoring	Within Project Premises	Quarterly	Day and night	As per KSPCB requirement	Contractor	KSWMP along with ULB
4	Ground Water quality Monitoring	Pre monsoon & Post Monsoon	-	Grab	As per KSPCB requirement	Contractor	KSWMP along with ULB

S.No	Monitoring Particulars	No. of locations	Monitoring Frequency	Duration of Monitoring	Monitoring Parameters	Implementing Responsibility	Monitoring Responsibility
		(up-gradient, downgradient))					
5	FOM Analysis	15 Samples	Quarterly		Parameters as mentioned in FCO guidelines	Contractor	KSWMP along with ULB
6	Soil Quality	Within Project Premises	Every six months	Composite Sample	As per KSPCB requirement	Contractor	KSWMP along with ULB
7	Fire Monitoring	Within Project Premises	Continuous Monitoring		Checking of leaks, Flaring unit, Checking of Fire Hydrants.	Contractor	KSWMP along with ULB
8	Maintenance of Green Belt Plantation	Within Project Premises	Daily	Watering of Plants, Usage of Manure to Plants, etc.,		Contractor	KSWMP along with ULB
9	Pest Management and Housekeeping	Within Project Premises	Daily	-	On Visual Bases	Contractor	KSWMP along with ULB
10	Odour Management (Odour nuisance at down-wind direction on the boundary of processing plant)	Within Project Premises	Weekly by maintaining complaint register	-	On Visual Bases	Contractor	KSWMP along with ULB
11	Biodiversity	Within Project Premises	Monthly	-	Visual inspection of project site to record any spillage/leakage of project related chemicals/waste water document any injury of any.	Contractor	KSWMP along with ULB
12	Self-monitoring system	Within Project Premises	Daily	-	Flow-meter shall be installed at the wastewater/slurry generation/discharge line, all water abstraction points for measuring water consumption &	Contractor	KSWMP along with ULB

S.No	Monitoring Particulars	No. of locations	Monitoring Frequency	Duration of Monitoring	Monitoring Parameters	Implementing Responsibility	Monitoring Responsibility
					maintain logbook for the same.		
13	Inoculum	-	Once in six months	-	Procurement of Inoculum	Contractor	KSWMP along with ULB
14	Awareness sessions (Sessions on proper waste segregation and storage for waste generators & ULB councilors, officials and gram panchayat representatives)	-	One time		-	ULB	KSWMP along with ULB
15	Ensuring the segregation efficiency of the incoming BDW (awareness to waste generators on regular basis)		Daily	-	-	Contractor	KSWMP along with ULB
16	PPE kits	-	Biannually	-	-	Contractor	KSWMP along with ULB
17	Inward and Disposal register for PPE kits and first aid kits	-	Once in six months during Operational Phase	-	-	Contractor	KSWMP along with ULB
18	Training/Awareness on Segregation of wastes into different fractions & proper storage at source– to generators (Panchayat/Municipality Wise)	-	Recurring – Once in 6 months	-	-	ULB	KSWMP along with ULB
19	Photographs/documentary evidence showing Do's and Don'ts displayed	-	Once during Operational Phase	-	-	ULB	KSWMP along with ULB
20	Training to staff on Operational & Maintenance of Plant, Fire Training	-	Once in every six months	-	-	Contractor	KSWMP along with ULB

S.No	Monitoring Particulars	No. of locations	Monitoring Frequency	Duration of Monitoring	Monitoring Parameters	Implementing Responsibility	Monitoring Responsibility
21	Agreements with vendors for waste collection and storage for both hazardous & non-hazardous waste	-	Every six months	-	-	Contractor	KSWMP along with ULB
22	Agreements with authorized dealers for ETP sludge disposal	-	Once in two months	-	-	Contractor	KSWMP along with ULB
23	Sanitation Kits for transfer points	-	Every six months	-	-	Contractor	KSWMP along with ULB
24	Rain water harvesting management in the facility	-	Once in a year	-	-	Contractor	KSWMP along with ULB
25	Validation of PUCC of vehicles, Driving license, RTO documents	-	Once in a year	-	-	Contractor	KSWMP along with ULB
26	PTZ camera shall be installed at storage tank and bio-compost area to monitor the bio-composting operation.	Near Storage Tank	Daily	-	-	Contractor	KSWMP along with ULB
27	SOP at Transfer Points	To be decided at DPR stage (at present six location)	As and when required	The client & contractor will make all necessary arrangements to ensure that no pollution, health & safety risks or pest issues related to transferring the waste at transfer points during the operation phase of the project. If there is a need of storage of bio-waste required a transfer points, contractor has to take necessary arrangements and should be a part of DPR.		Contractor	KSWMP along with ULB
Decommissioning Phase							
1	Environmental Monitoring (Air, Noise, Water & Soil)	To check the contamination of site due to the project activity.				ULB	ULB

ANNEXURE 2 SMP

The establishment of a BioCNG plant in Changanassery Municipality represents a pivotal step toward sustainable waste management and environmental responsibility, transforming organic waste into renewable energy while reducing greenhouse gas emissions and enhancing resource efficiency. As a flagship initiative under the Kerala Solid Waste Management Project (KSWMP), the project offers substantial environmental and economic benefits. However, its success hinges on effectively managing potential social risks and challenges.

To address these, the Social Management Plan (SMP) serves as a robust framework to ensure the PLANT'S plant's installation and operation are socially inclusive, equitable, and aligned with legal and regulatory standards, emphasizing proactive measures to safeguard the interests of communities, workers, and stakeholders while maximizing social benefits.

The Social Management Plan has been prepared based on the social screening and social impact assessment. Considering the risks associated with the construction phase, it is categorized as **Moderate risk**. The identified risks can be addressed through the implementation of

- **Labour Management Plan**
- **Preventive GBV Action Plan**
- **Labour influx management plan**
- **Citizen Engagement Plan**.

1. Labour Management Plan

Activity	Target Plan	Timeline	Means of Verification	Implementation Responsibility	Monitoring Responsibility
Procure Labour License under The Inter-State Migrant Workmen Act, 1979, and The Contract Labour (Regulation and Abolition) Act, 1970	Two licenses and one registration under relevant Acts	Before commencing work at the site	License and registration certificate issued by the competent authority	Contractor	TSC/DPMC/ DPMU
Procure Workmen's Compensation Insurance Policy for Labour Force	One insurance policy covering the workforce deployed	Before commencing work	Copy of the insurance policy	Contractor	TSC/DPMC/ DPMU
Register under ESI Act 1948 and Enroll Workers	Complete registration under the ESI Act	As soon as work starts	Employer Code Number	Contractor	TSC/DPMC/ DPMU
Display Certificate of Registration at the Worksite	One notice board displaying registration details	As soon as work starts	Photographs of the notice board displaying the registration	Contractor	TSC/DPMC/ DPMU
Establish Labour Information Signboard at Site	One large noticeboard with required details (payment dates, working hours, wages, inspector contact)	Before work commencement	Photographs of the signboard, verified through checklist	Contractor	TSC/DPMC/ DPMU
Conduct Pre-Employment Medical Examination	All workers examined	Prior to work commencement	Medical certificates issued by a	Contractor	TSC/DPMU

			registered medical practitioner		
Conduct Periodical Medical Check-ups (every six months)	Medical check-up for all workers	Every six months	Medical certificates	Contractor	TSC/DPMC/ DPMU
Provide Safe Drinking Water at the Worksite	Safe drinking water available to workers	Throughout the contract period	Photographs of water supply facilities, water bill	Contractor	TSC/DPMC/ DPMU
Provide First Aid Facility at the Worksite and Campsite	One First Aid Kit for every 50 labourers	Throughout the contract period	First Aid register, photographs	Contractor	TSC/DPMC/ DPMU
Provide First Aid Room at the Worksite	One first aid room with necessary equipment	Before work commencement	Photographs of the room	Contractor	TSC/DPMC/ DPMU
Link with Local Hospitals for Emergency Assistance	Tie-up with at least one local hospital	Within one month of commencement	Agreement with the hospital	Contractor	TSC/DPMC/ DPMU
Establish Rest Rooms at the Worksite or Campsite	Installation of one rest room	Before work commencement	Photographs of the rest room	Contractor	TSC/DPMC/ DPMU
Maintain Essential Registers (Form A, Attendance, Wages, Incident Reports)	All necessary registers available and maintained	As work commences	Copy of registers	Contractor	TSC/DPMC/ DPMU
Constitute Grievance Redressal Committee (GRC) for Labourers	Formation of committee with equal employer and employee representation	As work starts	Minutes of meetings, complaint box	Contractor	TSC/DPMC/ DPMU

Constitute Internal Committee (IC)	Formation of committee with minimum of 4 members, presided by a senior female employee	As work starts	Minutes of meetings, register	Contractor	TSC/DPMC/ DPMU
Publish Abstracts of Labour Laws in Labour Camp	Display abstracts of relevant laws	As soon as the camp is established	Photographs of the displayed notices	Contractor	TSC/DPMC/ DPMU
Provide Code of Conduct and Induction Training for Workers	Signed code of conduct from all workers	Upon joining	Signed documents, training records	Contractor	TSC/DPMC/ DPMU
Install Project Information Board at the Site	Installation of project information board	At project initiation	Photographs of the information board	Contractor	TSC/DPMC/ DPMU
Conduct HIV/AIDS Awareness Programs	Awareness program for workers	Every six months	Program reports, photographs	Contractor	TSC/DPMC/ DPMU
Verify that All Drivers Have Valid Driving Licenses	All drivers must possess a valid driving license	Before work begins	Photocopies of driving licenses	Contractor	TSC/DPMC/ DPMU
Ensure All Vehicles Are Covered by Third-Party Insurance	Vehicles must be insured for third-party risks	Before vehicles are used in the project	Copy of insurance certificates	Contractor	TSC/DPMC/ DPMU

2. Labour Influx Management Plan

Risk	Mitigation Measures	Implementation Responsibility	Monitoring Indicators	Monitoring Responsibility
Social and Community Wellbeing	- Conduct joint meetings with the local community, ULB officials, and elected members to address concerns and inform them about the labor force influx.	Contractor	Risk identification report Proposed action/mitigation plan, Action taken report/progress report.	TSC/DPMC/ DPMU
Economic and Livelihood Issues	- Provide skilled/unskilled jobs for local community members in the sub-project. - Ensure that a percentage of the workforce is from the local community to reduce economic stress.	Contractor	Risk identification report Proposed action/mitigation plan, Action taken report/progress report.	TSC/DPMC/ DPMU
Accommodation/Labour Camp	- Ensure the provision of basic amenities in labor camps (e.g., toilets, water, kitchen facilities, sleeping arrangements). - Regularly brief laborers about camp regulations and safety.	Contractor	List of facilities in the labor camp, Details of laborers in the camp, Report on facility inspection	TSC/DPMC/ DPMU
Communicable Diseases-Preventive measures	- Conduct medical check-ups for all workers before they start and at regular intervals. - Provide health awareness sessions for laborers on preventing communicable diseases.	Contractor	SOP for communicable disease prevention, Medical check-up report, Health awareness training records	TSC/DPMC/ DPMU

Crimes	**- Notify local police authorities about the presence of a labor camp. - Establish a grievance redress mechanism for reporting crimes.**	**Contractor**	**- Worksite complaint register - Number of cases reported - Action taken report**	**TSC/DPMC/ DPMU**
Child Labour	**- Ensure that no underage workers are hired for the project. - Verify laborers' Adhar card before hiring.**	**Contractor**	**Number of cases reported, Number of laborers verified by Adhaar card**	**TSC/DPMC/ DPMU**
Gender-Based Violence, including Sexual Harassment, Child Abuse, and Exploitation	**- Conduct gender sensitization briefings for laborers to raise awareness about gender-based violence. - Establish a mechanism for reporting and addressing complaints of violence and harassment.**	**Contractor**	**- Number of gender-based violence complaints reported - Number of complaints resolved - Time taken to resolve complaints**	**ULB/TSC/DPMC/ DPMU**
Labour Licenses	**- Ensure all workers have valid labor licenses as required under the relevant labor laws. - Provide necessary documentation for legal compliance.**	**Contractor**	**- Number of workers with valid labor licenses**	**PIU/TSC/DPMC/ DPMU**

3. Preventive Gender Based Violence (GBV) Action Plan

Action	Tasks	Timeline	Responsibility	Monitoring Indicators	Deliverables	Mentoring Responsibility
Formation of ICC	Nominate members, set up the committee, organize orientation and meetings, and inform staff.	Within a week of starting the work at the site.	Contractor	Minutes of meetings, reports, and publishing details of ICC members.	List of members, orientation session, meeting reports.	TSC/DPMC/ DPMU
Map GBV Issues	Identify and report GBV risks at the site.	Within a week of starting the work at the site.	Contractor	GBV mapping report, GBV assessment report with risks and recommendations.	Risk assessment report.	TSC/DPMC/ DPMU
Map GBV Service Providers	Identify and map non-government and private agencies providing GBV support, including grassroots organizations.	Within a week of starting the work at the site.	Contractor	Directory of service providers, list of key partners, roles, and responsibilities.	Information board displaying contact details of service providers.	TSC/DPMC/ DPMU
Facilitate GBV Awareness and Sensitization Programs	Develop and organize a sensitization plan, display signboards around the site, and conduct awareness workshops.	Along with the commencement of work.	Contractor	Activity plan, progress reports, and completion report.	Report on workshop, personnel trained.	TSC/DPMC/ DPMU

Create GBV Response and Support Mechanism	**Partner with GBV support organizations, create an SOP for prevention, protection, rescue, rehabilitation, and restoration.**	**During the implementation stage.**	**Contractor**	**SOP for prevention and rehabilitation, IEC plan for awareness generation.**	**Implementation report, response matrix, GBV report.**	**TSC/DPMC/ DPMU**
Reporting, Monitoring, and Review	**Establish GBV data fields, conduct quarterly reviews, and maintain monthly progress and complaint reports.**	**During the implementation stage.**	**Contractor**	**Monthly and quarterly progress reports, complaint status and action taken report.**	**Review report, ICC report, monitoring and review documents.**	**TSC/DPMC/ DPMU**
Develop a Code of Conduct for GBV	**Ensure all laborers sign a Code of Conduct (CoC) addressing GBV before beginning work.**	**At the beginning of the project or as workers join.**	**Contractor**	**Signed copies of the CoC.**	**Signed Code of Conduct copies.**	**TSC/DPMC/ DPMU**

4. Citizen Engagement Plan

Sl. No	Objective	Stakeholder	Proposed Activities	Implementation Responsibility	Time Plan	Monitoring Indicators	Monitoring Responsibility
1	Ensure community inclusion and awareness	Nearby residents, shop owners, religious institutions, and marginalized groups (e.g., women-headed households, elderly, persons with disabilities)	Meetings, consultations, IEC activities, and community outreach through local leaders, including vulnerable groups. Use culturally compatible methods like audio-visuals for illiterate stakeholders.	Contractor	Before commencement of work; ongoing during implementation.	Attendance records, feedback forms, program reports, inclusion of vulnerable groups in consultations.	TSC/DPMC/ DPMU
2	Disseminate GRM information	Public, host community, businesses near the site, marginalized groups	Installation of GRM boards with toll-free numbers, apps, and clear, accessible instructions in local languages; community meetings to explain GRM process and provide contact details.	Contractor	At the start of work.	GRM usage statistics, photographs, records of grievances raised and resolved, accessibility of GRM for all.	TSC/DPMC/ DPMU

3	Publicize project commencement	Public, stakeholders, host community, vulnerable groups	Project inauguration event with district administration and municipal authorities. Use local media for ongoing project updates and involve community representatives in the process.	Contractor	Start of work.	Photos, press coverage, reports, feedback from stakeholders on project awareness.	TSC/DPMC/ DPMU
4	Address complaints locally	Host community, ULB, contractor personnel, marginalized groups	Formation of Citizen Engagement Platform (WhatsApp group, local meetings, and helpdesk) for complaint resolution and real-time communication, with outreach to marginalized groups via local community leaders.	Contractor	Before work begins, ongoing during implementation.	Meeting minutes, complaint resolution records, timeliness of resolutions, satisfaction of marginalized groups.	TSC/DPMC/ DPMU

5	Manage traffic during construction	Public, host community, nearby businesses, especially vulnerable groups affected by traffic disruption	Traffic management planning and implementation, public notices, regular consultations with affected stakeholders including vulnerable groups, and updates on changes in traffic conditions.	Contractor	Before work begins.	Traffic management plans, consultation feedback, reports, photos of traffic-related issues, effectiveness of mitigation measures.	TSC/DPMC/ DPMU
6	Promote health, safety, and gender awareness for workers and community	Workers, local residents, women, and other vulnerable groups	Training for workers on Occupational Health and Safety (OHS), GBV prevention, basic labor laws, grievance mechanisms, and emergency protocols. Public health campaigns for the community.	Contractor	Ongoing during project implementation.	Training attendance records, feedback from workers and community on awareness, number of grievances related to safety/Gender-based violence (GBV).	TSC/DPMC/ DPMU

7	BCC activities	Host community, ULB officials, service providers, labors	Interactive engagement activities, stakeholder collaboration, addressing concerns and building trust	Contractor	Before work execution, during implementation and post implementation	Number of participants, Support of host community, Number of HHs in host community participate/involved in the meetings, Sustainable suggestions raised by participants in the consultations/meetings.	TSC/DPMC/ DPMU

Design, Build and Operation (DBO) of 30 TPD capacity Bio-CNG (CBG) Plant at Changanassery Municipality including Collection and Transportation from the Project Area

RFB Reference No.: IN-SUCM -533554-CW-RFB

Note related to Bid Security

With reference to the submission of the bid security, In accordance with ITB 19.3, bidders may submit the Bid Security either (i) through online payment on the e-tender portal, or (ii) in the form of a Bank Guarantee as provided in Section IV of the RFB.

It is reiterated that Bidders opting to submit a Bank Guarantee may ignore the system-generated online payment requirement in the portal. The scanned copy of the Bank Guarantee shall be uploaded along with the bid, and the original Bank Guarantee must be submitted to the Employer's office on or before the bid opening time. Only bids complying with the above requirement shall be opened.

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Date: 28/02/2026

Project Director
Kerala Solid Waste Management Project