



**GOVERNMENT OF THE DEMOCRATIC SOCIALIST
REPUBLIC OF SRI LANKA**

Ministry of Power and Renewable Energy

REQUEST FOR PROPOSALS

**REQUEST FOR COUNTER PROPOSALS UNDER SWISS
CHALLENGE PROCEDURE FOR THE ESTABLISHMENT
OF AN OFFSHORE FLOATING STORAGE AND
REGASIFICATION UNIT (FSRU) AND PIPELINE
INFRASTRUCTURE AND SUPPLY OF LIQUEFIED
NATURAL GAS (LNG) FOR CEYLON ELECTRICITY
BOARD**

TENDER NO: PE/TEN/LNG/SP/2017/55

International Competitive Bidding (ICB)

VOLUME I

INVITATION TO TENDER

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A. INVITATION TO TENDER

1. INTRODUCTION

1.1 Project

(a) Background

An LNG import and floating regasification terminal is planned for development in the Laccadive Sea, off the coast of Colombo, the Democratic Socialist Republic of Sri Lanka (**Sri Lanka**). The terminal is to provide natural gas (**Gas**) to newly converted power plants within Colombo city, namely:

- power plants existing and to be located at Kerawalapitiya; and
- power plants located at Kelanitissa.

The estimated initial base load LNG demand is 0.6 MTPA, increasing to 1 MTPA in accordance with the GSA. As set out in the Technical Requirements, all Bidders must propose a LNG regasification system that meet a regasification rate of 1 MTPA nominal capacity (2 MTPA peak capacity) with one installed spare regasification train.

All Bidders must submit their price on the assumption that the Bidders will bear the investment cost of the FSRU upfront and the term of the GSA will be 20 years.

(b) Scope

The Project encompasses the design, construction and installation of a floating, storage and regasification unit (**FSRU**) to be moored approximately 9 km north - northwest of Colombo Port entrance. The supply of LNG (including transportation) by an LNG Carrier Vessel (**LNGC**) which is to be moored near the FSRU is required. LNG is then regasified on-board the FSRU and the regasified LNG is sent into two subsea pipelines. Each pipeline is then routed to the power plants located at Kelanitissa and Kerawalapitiya.

The scope of this integrated LNG Project (the **Integrated Project**) is:

(i) Procurement of LNG

- (A) The procurement of LNG and transportation of LNG through and LNGC to the FSRU.

(ii) Regasification Project

The development (including EIA), design, engineering, procurement, financing, completion, testing, ownership, financing, construction, commissioning, operation and maintenance of:

- (A) a standard new-build FSRU;
- (B) offshore terminal including mooring and unloading facilities; and
- (C) delivery of regasified natural gas to the Delivery Points at the power plants at Kerawalapitiya and Kelanitissa.

(iii) Gas transportation and delivery

The development (including EIA), design, engineering, procurement, financing, completion, testing, ownership, construction, commissioning, operation and maintenance of:

- (A) high pressure pipelines, including subsea and onshore segments, for the connection of the offshore terminal to onshore receiving facilities;
- (B) pipeline tie-in connection from the onshore receiving facilities to the Delivery Points at the power plants at Kerawalapitiya and Kelanitissa; and
- (C) Gas network control and management systems.

(c) Gas Delivery Points

The Bidder shall enter into a contract for the transportation of Gas to, and sale of Gas at, the Delivery Points (the **GSA**, as defined in paragraph 1.3 below).

Gas shall be supplied by the Bidder to CEB at the Delivery Points.

The Delivery Points shall be the fiscal measurement points for the Gas sales and supply.

CEB shall provide and install (or cause to be provided and installed) all pipelines, other equipment and facilities downstream of the Delivery Points.

(d) Gas Specifications and Delivery Conditions

Gas supplied by the Bidder to CEB at the Delivery Points shall meet the specifications and delivery conditions detailed in the Technical Requirements.

1.2 Purpose of the document

The purpose of this Invitation to Tender (**ITT**) is to provide the information and instructions needed for Bidders to prepare Tenders for the Integrated Project and to allow MOPE and the Proponent to perform the Swiss Challenge. This document briefly describes the Integrated Project details, the scope of Work and the procedures for Tender preparation, submission, evaluation and, following the completion of the Swiss Challenge, the award of the Integrated Project to a Tenderer or the Proponent.

1.3 Definitions

Terms not otherwise defined in this ITT and the appendices to this ITT shall have the meaning given to them in the Conditions of Contract. The following additional definitions shall apply to this ITT:

Definitions	Meaning
Award Procedure	means the procurement procedure (including the Swiss Challenge) leading to the award of the Integrated Project as described in this ITT.
Bidder	means an entity or Consortium submitting a Tender for the Integrated Project. To the extent the Bidder is a Consortium, the term includes all members of the Consortium.
Bid Security	means the security to be provided by the Bidder to MOPE on or by the deadline for submission of Tenders in the form as set out in

	Appendix 4 (Bid Security Form).
Bid Security Discharge Date	has the meaning given in paragraph 23(g).
Brent Crude	<p>means the arithmetic average expressed in US Dollars per barrel, and rounded to four (4) decimal places, of BRENT for Month n-1, Month n-2, and Month n-3 where:</p> <p>Brent for a specified Month (Month 'n') means the arithmetic average, expressed in US Dollars per barrel rounded to four (4) decimal places, of all settlement prices of the front month ICE Brent Crude Futures contract as published by the Intercontinental Exchange for each quoted day of Month 'n', except that for the quoted day which coincides with the expiration date of such futures contract the settlement price of the futures contract with the immediately following maturity shall be used.</p>
Business Day	means any day (other than a Sunday or public holiday) when banks are open for the transaction of domestic business in Sri Lanka.
CEB	means Ceylon Electricity Board.
Commercial Package	has the meaning given in paragraph 18.1.
Conditions of Contract	means the terms and conditions of the GSA and the IA as set out in Volume 2 (Form of Gas Supply Agreement) and Volume 3 (Form of Implementation Agreement).
Consortium	means any joint venture, partnership or other combination of entities formed or to be formed by a Bidder in relation to the Integrated Project.
Delivery Points	means the points at which Gas will be delivered by the Bidder to CEB in accordance with the Technical Requirements.
Development Costs	has the meaning given in paragraph 7(b)(v).
EIA / Environmental Impact Assessment Report	has the meaning given in paragraph 10.
FSRU	has the meaning given in paragraph 1.1(b).
FSRU Company	means the FSRU Company that will own and operate the FSRU. Such FSRU Company will be established by the Bidder or the Proponent who has been awarded the Integrated Project pursuant to this ITT in which CEB (or its nominee) will hold forty-nine per cent (49%) equity interest.
Gas	has the meaning given in paragraph 1.1(a).
GSA / Gas Supply Agreement	means the gas supply agreement for the supply and sale of gas by the successful Bidder or Proponent (as the case may be) to CEB from the

	Regasification Project, substantially in the form as set out in Volume 2 (Form of Gas Supply Agreement).
HSE	means Health, Safety and Environment.
IA / Implementation Agreement	means the implementation agreement, substantially in the form as set out in Volume 3 (Form of Implementation Agreement), to be entered into by and between the successful Bidder or Proponent (as the case may be) and the Government of the Democratic Socialist Republic of Sri Lanka, acting through the Secretary of the Ministry of Finance pursuant to which the Government of the Democratic Socialist Republic of Sri Lanka, acting through the Secretary of the Ministry of Finance will provide certain support required for the development and operation of the Integrated Project to the successful Bidder or Proponent and the Project Company(ies) (as the case may be).
Integrated Project	has the meaning given in paragraph 1.1(b).
Invitation to Tender / ITT	means this document and the appendices to this document.
Mandatory Documents Package	has the meaning given in paragraph 18.1.
MOPE	means the Ministry of Power and Renewable Energy of the Government of Sri Lanka.
MTPA	means million tonnes per annum.
Negative Deviation	<p>means, in respect of a Tender, any non-compliance of that Tender with the terms and conditions of this ITT or the inclusion in the Tender of any amendment to GSA and/or the IA, in each case that, in the opinion of MOPE would or is likely reduce the benefits of the Project accruing to MOPE by modifying:</p> <ul style="list-style-type: none"> (a) the risk allocation under the GSA and/or the IA or any other term or condition of the GSA and/or the IA; (b) the Technical Requirements set out in Appendix 10 of this ITT; (c) the scope of the Integrated Project; (d) the quality and standards applicable to the Integrated Project as reflected in this ITT; or (e) [CEB]'s rights or the Bidder's obligations to the Integrated Project.

Onshore Receiving Facilities / ORF	means the onshore receiving facilities which is the point of transfer from the offshore gas facilities and pipelines, and as a minimum provides a point of isolation between the offshore and onshore facilities and includes the pig receiver, gas filter, pressure regulation and protection skids (N+1), custody transfer metering skids (N+2), analyser facility, vent system and administration buildings. For this development there are two ORF's which are located within the power plant with respect to Kelanitissa and located at an empty plot north of the existing plant, with respect to Kerawalapitya.
Preferred Bidder	has the meaning given in paragraph 7(b)(ii).
Price	means the price payable for Gas supplied under and in accordance with the GSA.
Project Company(ies)	means the single purpose project company(ies) that will finance, design, procure, construct, test, commission, own, operate and maintain the Regasification Project to be established by the successful Bidder (or Proponent as the case may be).
Proponent	means SK E&S Co. Ltd. and its affiliates.
Sri Lanka	means the Democratic Socialist Republic of Sri Lanka.
Sub-contractor	means any person to whom performance of any part of the Integrated Project is to be sub-contracted.
Swiss Challenge	means the process described in the Swiss Challenge Guidelines and more generally in this ITT pursuant to which the Proponent is granted the right to match the Tender submitted by the Preferred Bidder and be awarded the Integrated Project in accordance with section 3.5 of the Swiss Challenge Guidelines.
Regasification Project	has the meaning given in paragraph 1.1(b).
Summation	has the meaning given in paragraph 16(b).
Swiss Challenge Guidelines	means Supplement 30 to the Guidelines on Government Tender Procedure – Part II (Private Sector Infrastructure Project) Reference 237 – Dealing with Unsolicited Project Proposals “Introduction of Swiss Challenge”.
Technical Package	has the meaning given in paragraph 18.1.
Technical Requirements	means Appendix 10 to this ITT which sets out certain technical requirements which the Bidders must respond to as part of a Tender.
Tender	means a Bidder's proposal in response to this ITT, including the tender form and all other documents which the Bidder must submit with its response.

Tender Documents	means all of the documents issued by MOPE to the prospective Bidders in relation to the Integrated Project including this ITT, Volume 2 (Form of Gas Supply Agreement) and Volume 3 (Form of Implementation Agreement).
TOR	has the meaning given in paragraph 10.
USD	means the lawful currency of the United States of America from time to time, currently being the United States Dollar

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Works	means all works, services and obligations which the Bidder is, or the Project Company or Project Companies are, required to carry out pursuant to the terms of the GSA and IA, including (without limitation) all other equipment and materials (excluding the Buyer's Equipment and the Buyer's Facilities) in accordance with the Conditions of Contract.
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1.4 Interpretation

Throughout this ITT, the term **writing** means any printed communication including email, and **day** means a calendar day. Singular also means plural and vice-versa.

2. SCOPE OF TENDER

- (a) MOPE invites Bidders to tender for the Integrated Project, as described in this ITT.
- (b) For the purpose of this ITT, the contracting authority is MOPE. The name and address of MOPE is as follows:

Attention: Director (Power & Energy)
Chairman, Special Committee
C/O Secretary to the Ministry of Power and
Renewable Energy
Ministry of Power and Renewable Energy
Address: No. 72, Ananda Coomaraswamy Mawatha, Colombo 07, Sri Lanka
Phone: +94 11 2574879, +94 11 2574922 Ext. 270

Fax: +94 11 2574752, +94 11 2574880
Email: lngproject@powermin.gov.lk

3. ELIGIBLE BIDDERS

- (a) This ITT is open to any Bidders who wish to participate in the tender process.
- (b) Notwithstanding paragraph 3(a) above, a Bidder must meet (and demonstrate in its Tender that it meets) the minimum requirements set out in paragraph 18.2 below. If MOPE notifies a Bidder that its participation in the Award Procedure is subject to the Bidder satisfying certain conditions, the Bidder must satisfy such conditions in accordance with the requirements of MOPE as soon as is possible and in any event by the deadline for submission of Tenders as set out in this ITT. If a Bidder fails to satisfy such conditions in accordance with the requirements of MOPE or by the deadline for submission of Tenders, MOPE will exclude the Bidder from any further participation in the Award Procedure and/or may disregard any Tender submitted by such Bidder.

4. ONE TENDER PER BIDDER

- (a) Each Bidder must submit only one Tender, either by itself or as a member of a Consortium. A Bidder who submits or participates in more than one Tender will be disqualified.
- (b) A Bidder must immediately notify MOPE in writing of any changes in circumstances or fact that renders any information submitted as part of its Tender, inaccurate or misleading. Without prejudice to paragraph 29(d) of this ITT, MOPE may, at its absolute discretion, exclude any Bidder from any further participation in the Award Procedure if that Bidder:
 - (i) fails to notify MOPE, in writing, of any such changes to the information supplied by

it to MOPE as part of its Tender; or

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- (ii) it is discovered that the relevant Bidder submitted inaccurate or misleading information as part of the Award Procedure.

5. COST OF TENDERING

- (a) The participation by a Bidder in the Award Procedure will be at the sole cost and expense of that Bidder. No costs incurred by any Bidder in preparing submissions or Tenders or participation in the Award Procedure will be compensated or reimbursed by MOPE or the Proponent.
- (b) Bidders are responsible for all expenses and costs they incur as part of the Award Procedure. Neither MOPE nor the Proponent will have any liability to any Bidder for the reimbursement of such costs and expenses, nor have any liability for any other financial entitlement of the Bidder in connection with the Bidder's participation in the Award Procedure.
- (c) Due to the importance of the Integrated Project and the strong desire of the Government of Sri Lanka to achieve commercial operation in 2020, it is not MOPE's intention to amend the Award Procedure timetable set out in paragraph 6. Notwithstanding the foregoing, MOPE reserves the right to shorten or to extend the Award Procedure. Bidders will have no right or entitlement to claim any kind of compensation from MOPE for any cost, loss or damage suffered due to any adjustments to the timetable or procedures (including shortening or lengthening) for the Award Procedure.

6. TIMETABLE

The timetable for this Award Procedure is:

Activity	Key Dates
ITT to market (ITT Commencement)	05 November 2018
Receipt of Bidders' questions	From ITT Commencement to and including 10 Business Days following ITT Commencement
Clarification sessions	From 10 Business Days following ITT Commencement to and including 20 Business Days following ITT Commencement
Tender submission deadline (Tender Deadline)	12 December 2018 at 10:00 hrs

7. SWISS CHALLENGE

- (a) The Proponent has to-date developed the Integrated Project at its own cost and expense and has submitted to the Government of Sri Lanka, a proposal to deliver the Integrated Project.
- (b) The Government of Sri Lanka wishes to procure the Integrated Project. The Government of Sri Lanka, MOPE and the Proponent have agreed that such procurement should be undertaken as a 'Swiss challenge' in accordance with the Swiss Challenge Guidelines under the process as described in this paragraph 7 and more generally in the ITT. Accordingly:
 - (i) the Proponent has submitted its proposal for the Integrated Project and will not be a 'Bidder' for the purposes of this ITT;
 - (ii) following Tender submission by the Bidders in accordance with this ITT, MOPE shall evaluate the Tenders in accordance with this ITT, and the most responsive Tender shall be selected as the preferred Bidder (the **Preferred Bidder**);
 - (iii) to the extent the Tender submitted by the Preferred Bidder is more competitive than the proposal submitted by the Proponent (in terms of price and technology), the Proponent shall be granted a right of first refusal to (A) match the Tender of the Preferred Bidder and (B) if the Proponent matches such Tender, be awarded the Integrated Project;
 - (iv) to the extent that the Preferred Bidder is unable or elects not to accept the award of the Integrated Project, the second most responsive Tender shall be selected as the preferred Bidder and for all intents and purposes such Bidder shall be considered the Preferred Bidder. To the extent the Tender submitted by such Preferred Bidder is more competitive than the proposal submitted by the Proponent, the Proponent shall be granted a right of first refusal to (A) match the Tender of such Preferred Bidder and (B) if the Proponent matches such Tender, be awarded the Integrated Project;
 - (v) to the extent that the Proponent is unable or elects not to match the proposal submitted by the Preferred Bidder, and subject to paragraph (vi) below, the Preferred Bidder shall be awarded the Integrated Project;
 - (vi) where the Proponent is unable or elects not to match the Tender submitted by the Preferred Bidder and MOPE decides to award the Integrated Project to the Preferred Bidder, it is a condition precedent to the Preferred Bidder being awarded the Integrated Project that the Preferred Bidder reimburses the Proponent's project development costs of USD 10,074,000.00 (the **Development Costs**) by making payment of such amount to the Proponent.
 - (vii) MOPE:
 - (A) will open and assess the Proponent's price proposal, at the same time as the "Commercial Package" of the Tenders;

- (B) will not make an award of the Integrated Project to any Bidder until the Development Costs have been paid to the Proponent;
 - (C) will not waive or amend any term of this ITT in relation to the payment of Development Costs without the prior written consent of the Proponent; and
 - (D) must award the Integrated Project to the Proponent, if the Preferred Bidder fails to pay such Development Costs within 20 Business Days of such notice.
- (c) The Proponent is entitled to make demand and enforce the provisions in relation to the payment of Development Costs against MOPE and the Preferred Bidder.
- (d) If either or both of the Proponent or the Preferred Bidder is not satisfied with the decision of MOPE, the Proponent or the Preferred Bidder (as the case may be) may make representations to the procurement appeals board established in terms of the Swiss Challenge Guidelines within one (1) week of being informed of the recommendation of MOPE.

8. RISK

- (a) For the purposes of submitting the Tender and submitting a price in accordance with the requirements of the ITT, Bidders are required to assume risk on ground conditions for all construction work undertaken by the Bidders as part of the Integrated Project (including without limitation for tunneling required for any pipeline).
- (b) MOPE and CEB require the GSA to provide an all-inclusive Price for the Gas (subject to the provisions in this ITT regarding tax), with the successful Bidders accepting all risks in respect of the construction and performance of the Integrated Project and the delivery of Gas at the Delivery Points, other than those risks expressly reserved to CEB under the Conditions of Contract.
- (c) Each Tenderer will be required to take out construction all risks and operational risks insurance including third party liability insurance in accordance with international standards of coverage on with respect to the Integrated Project after its award with reputable international insurers rated at least “BBB-” or higher (S&P) or an equivalent rating from AM Best or Moody’s. If the insurers do not have these ratings, reinsurance on a facultative basis will be required to be taken out meeting these rating requirements. Insurance costs must be included in the pricing proposal.

9. SECURITY

The Bidder needs to include in the Price the cost and expenses of providing the security for all construction sites for the Regasification Project, including the pipeline routes of the Regasification Project, the pipeline stations and the logistics of major equipment (e.g. line pipe).

10. ENVIRONMENTAL CONSIDERATIONS

In accordance with the National Environment Act no 47 of 1980 and amendments thereto, and such other relevant Act, the Project Company(ies) is required to obtain the Environmental Protection License for the Integrated Project upon submitting the Environmental Impact Assessment (EIA) Study Report in regard to the Integrated Project. In this regard, the Tenderer or the Proponent awarded the Integrated Project in terms of this ITT is required to submit an EIA following award of the Integrated Project. Please note that to commence the EIA, the Project Company(ies) is required to make an application to the Central Environmental Authority (CEA) of Sri Lanka and obtain Terms of Reference (TOR) for the EIA.

B. ITT DOCUMENTS

11. CONTENTS OF THE ITT

- (a) The Integrated Project required, tender procedures and contract terms are described in the following documents issued by MOPE as part of this ITT:

	Cover letter
Volume I	Invitation To Tender
	ITT information to be provided by Bidder
	Appendix 1- Tender Form
	Appendix 2 - Deviations to the Technical Requirements
	Appendix 3 - Deviations to the GSA and IA
	Appendix 4 - Bid Security Form
	Appendix 5 - Company Statement Form
	Appendix 6 - Authority to Represent Bidder During Tender Period
	Appendix 7 - Form of Acknowledgement Letter
	Appendix 8 - Responsiveness Test
	Appendix 9 - Form of Integrity Pact
	Appendix 10 - Technical Requirements
Volume II	Draft Gas Supply Agreement
Volume III	Key Terms of Draft Gas Supply Agreement
Volume IV	Draft Implementation Agreement

Each Bidder must have paid a non-refundable payment of LKR 300,000 to the Ministry of Power and Renewable Energy to purchase the Tender documents as a prerequisite to submitting its Tender to the Ministry of Power and Renewable Energy and a condition to continuing to participate in the Award Procedure.

- (b) Each Bidder must submit a signed copy of the Form of Acknowledgement Letter (Appendix 7 of this ITT) as soon as possible after receiving this ITT. A Responsiveness Test has been provided to the Bidders at Appendix 8 to this ITT for the convenience of the Bidders.
- (c) The Bidder is expected to examine all instructions, forms, terms, and specifications in this ITT and the Tender Documents. Failure to submit all required information or the submission of partial or incomplete information, or the submission of a Tender that is not fully responsive

to the ITT and the Tender Documents in every respect will be at the Bidder's risk will result in the rejection of its Tender.

- (d) By participating in the Award Procedure, including (without limitation) by submitting a Tender, the Bidder unconditionally accepts and agrees to be bound by the conditions and contents of this ITT.

12. CLARIFICATION OF TENDERING DOCUMENTS

A prospective Bidder requiring any clarification of the Tender Documents may notify MOPE in writing at MOPE's address indicated in paragraph 2 of this ITT. MOPE will respond in writing to any request for clarification of the Tender Documents which is received in writing no later than as the date for receipt of Bidders' questions prescribed in paragraph 6 of this ITT. Written copies of MOPE's response to a clarification (including an explanation of the query but without identifying the source of clarification) will be sent to the Proponent and all prospective Bidders that have received the Tender Documents.

13. AMENDMENT OF TENDER DOCUMENTS

- (a) At any time prior to the deadline for submission of Tenders, MOPE may, for any reason, modify the Tender Documents by issuing an addendum amending the terms of the Tender Documents.
- (b) All Bidders that have received the Tender Documents will be notified, in writing, of any amendment to the Tender Documents. The amendments to the Tender Documents made through an addendum shall be deemed to form part of the Tender Documents. The prospective Bidders will be bound to act in accordance with, and subject to the terms of, the Tender Documents as may be amended from time to time.
- (c) MOPE may, with the agreement of the Proponent, extend the deadline for submission of Tenders to afford Bidders reasonable time in which to take an addendum to the Tender Documents into account in preparing their Tenders.
- (d) At any time prior to the deadline for submission of Tenders, a Bidder may modify its Tender in response to any addendum amending the Tender Documents as issued by MOPE in terms of 13(a) above.

C. TENDER PREPARATION AND REQUIREMENTS

14. LANGUAGE OF TENDER

The Tender prepared by the Bidder, as well as all correspondence and documents relating to the Tender exchanged by the Bidder and MOPE, shall be written in the English language. Supporting documents and printed literature furnished by the Bidder may be in another language if they are accompanied by an accurate translation of the relevant passages into English. Where a document is provided in both English and another language, the English version of that document shall prevail to the extent of any inconsistency. Translations of any documents prepared in a language other than English must be notarised.

15. TENDER FORM

- (a) The Bidder(s) shall complete the Tender Form (Appendix 1 of this ITT).
- (b) The Tender Form shall be duly signed by an authorized representative of the Bidder.

16. PRICE

- (a) Bidders shall submit a Price in USD/mmbtu for the completion of the following price formula (the **Price Formula**):

$$Price = (A \times B) + C$$

Where:

A = the gradient to be submitted as part of the Price;

B = Brent Crude to be submitted as part of the Price;

C = the constant to be submitted as part of the Price.

- (b) Bidders shall also submit the Price based on B as provided in the GSA (the **Summation**).
- (c) Prices quoted by the Bidder shall be fixed for the duration of the term of the GSA subject only to amendment in accordance with the GSA if the Bidder is chosen as the successful Bidder. Any Tender submitted with a price quotation which is adjustable, except on account of those adjustments specified in the Conditions of Contract, will be treated as not responsive and may be rejected.

17. TENDER CURRENCIES

Price for Gas should be quoted in USD/mmbtu. If a Bidder submits a Tender with rates or prices quoted in a currency which does not comply with the currency requirements of the GSA, MOPE will treat such submission as a deviation and may disqualify that Bidder from the Award Procedure.

18. MANDATORY PROPOSAL REQUIREMENT

18.1 Documents Constituting the Tender

- (a) The Tender shall be prepared and submitted in three separate packages namely the "Mandatory Documents Package", "Technical Package" and the "Commercial Package".

- (b) The Mandatory Documents Package shall comprise the following documents to be completed and submitted by the Bidder in the manner stated in this ITT:
- (i) Tender Form (Appendix 1 of this ITT);
 - (ii) Bid Security (Appendix 4 of this ITT);
 - (iii) Power(s)-of-attorney enforceable under the Laws of Sri Lanka with the requisite certificate of non-revocation confirming the authority of the signatories to sign for and on behalf of the Bidder;
 - (iv) If the Bidder is a Consortium, the authority to represent the Bidder during Tender/award process (Appendix 6 of this ITT);
 - (v) If the Bidder is a Consortium, a pre-bid agreement, joint venture agreement and/or consortium agreement where the members of the Consortium agree to jointly carry out their obligations pursuant to the GSA and the IA;
 - (vi) Resolutions from the Board of the Bidder or each member company of a Consortium authorising their participation in the Tender;
 - (vii) The Integrity Pact (Appendix 9 of this ITT);
 - (viii) The Proposed Execution Plan;
 - (ix) If the Bidder is a Consortium, the Company Statement Form (Appendix 5 of the ITT); and
 - (x) Documents evidencing that the Bidder meets each eligibility criteria, requirement and condition set out in paragraph 18.2.
 - (xi) A memorandum from all intended subscribers of equity committing them to the full amount of Required Equity, being no less than 15% of the Integrated Project's total capital requirements with a commitment to retain its shareholding for not less than five (5) years.
 - (xii) A statement from the Bidder confirming that the Bidder (or its affiliate), if awarded the Integrated Project in accordance with this ITT, undertakes to enter into a shareholders' agreement in respect of the FSRU Company with CEB within one (1) year (or such other period as the parties may agree) of the award of the Integrated Project which shall include provisions relating to voting rights of CEB and provision for CEB to hold forty-nine per cent (49%) of the total issued share capital of the FSRU Company. It is a mandatory requirement of this Tender that CEB has a forty nine per cent (49%) equity interest in the FSRU Company. However, CEB will not be entitled to any dividend rights until the later of the expiry of the GSA and date on which the Project Company(ies) has delivered 19.5MTPA equivalent of gas to CEB.
 - (xiii) Responsiveness Test (Appendix 8 of this ITT).

Any Tender that does not include any of the documents listed in paragraph 18.1(b) or provides any document which is incomplete, ineligible or inconsistent shall be rejected by MOPE and will not be further evaluated.

- (c) The Technical Package shall comprise the following documents to be completed and submitted by the Bidder in the manner stated in this ITT:

- (i) The Bidder's technical proposal in response to the Technical Requirements;
- (ii) A statement from the Bidder detailing how their Tender will comply with the requirements of the Technical Requirements in sufficient detail to allow MOPE to check the Bidder's confirmations;
- (iii) Technical deviations from the Tender Documents (if any) in the form provided at Appendix 2 of this ITT; and
- (iv) Any contractual and financial deviations from the Tender Documents (if any) in the form provided at Appendix 3 of this ITT.

Any Tender that does not include any of the documents listed in this paragraph 18.1(c) or provides any document which is incomplete, ineligible or inconsistent shall be rejected by MOPE. If a Bidder elects to not submit a deviation document(s) referred to in 18.1(c)(iii) and 18.1(c)(iv) above, such Bidder shall be assumed to have complied with the requirements of this 18.1(c).

- (d) The Commercial Package shall comprise of the following documents to be completed and submitted by the Bidder in the manner stated herein below:
 - (i) Price for completion of the Price Formula (paragraph 16 to this ITT), duly filled in and signed by the Bidder);
 - (ii) the Summation; and
 - (iii) a detailed Commercial Plan for the Integrated Project prepared in accordance with the requirements of paragraph 22.

Any Tender that does not include any of the documents listed in this paragraph 18.1(d) or provides any document which is incomplete, ineligible or inconsistent shall be rejected by MOPE.

18.2 Bidder's Eligibility

Only those Bidders that meet the criteria set out in this ITT are permitted to participate in the tender process for the Integrated Project.

- (a) Commercial requirements
 - (i) Each Bidder shall prepare a proposal as a sole company or a joint-venture company or other forms of partnership.
 - (ii) Each Bidder or, in the event the Bidder is a Consortium, each member of the Consortium shall meet the following financial capacity requirements:
 - (A) No red ink figure on net profit (or net loss) in each member company's consolidated financial statement for the past five years (2013 – 2017);
 - (B) Net profits exceed USD 300,000,000 per year or aggregated profits exceed USD 1,500,000,000 for the past five financial years (2013 – 2017); or
 - (C) Standard and Poor's credit rating of BBB negative or higher (or similar rating from Moody's).

- (b) Technical experience requirements
- (i) Each Bidder or, in the event the Bidder is a Consortium, the Lead Member:
 - (A) shall have and be operating a natural gas pipeline (including a subsidiary company which a Bidder or a member of the Consortium has 40% or more shareholding); and
 - (B) shall own or have rights to sufficient natural gas reserves to satisfy the Bidder's obligation to supply LNG to the CEB in accordance with the GSA.
 - (ii) Any Bidder or the Lead Member, in the case that the Bidder is a consortium, shall have experience in successful development (from the inception of the financial closure) of at least one regasification project in the past fifteen years with an aggregate capacity of 1 MTPA or more.
 - (iii) The Bidder shall provide expression of interests from the intended ship builders one of whom will be selected as the ship builder for the construction of the Regasification Project by a Project Company. Such ship builders should have built a minimum of three (3) floating storage and regasification units with a specification similar to the required FSRU or greater regasification projects. Such floating storage and regasification units shall be in successful operation for a period of not less than two (2) years prior to the date of submission of the Tender.
 - (iv) The Bidder shall provide details of the proposed country of origin of all elements or aspects of the Works with a value in excess of USD 1,000,000.
 - (v) Any Bidder or the Lead Member, in the case that the Bidder is a consortium, shall have experience in successful operation and maintenance of at least one regasification project in the past fifteen years with an aggregate capacity of 3 MTPA or more for a period of more than a year.

Tenders from Bidders that are unable to satisfy the eligibility requirements set out in paragraphs 18.2(a) and 18.2(b) will be rejected by MOPE.

19. ADDITIONAL MANDATORY REQUIREMENTS

Failure of the Bidder to comply with the requirements of this paragraph 19 shall constitute grounds for rejection of the Tender.

- (a) The Tender is not responsive and may be rejected if the following conditions are not met:
 - (i) Proof of purchase of this ITT;
 - (ii) The Tender is marked and sealed in accordance with the requirements in paragraph 26;
 - (iii) Certificate of registration under Public Contract Act No. 3 of 1987 (including for local agents);
 - (iv) A pre-bid agreement; joint venture agreement and/or consortium agreement is provided where the various participants agree to jointly carry out their obligations pursuant to the GSA and the IA;

- (v) Resolutions from the Board of each member company authorising their participation in the Tender; and
 - (vi) Power(s)-of-attorney enforceable under the Laws of Sri Lanka are provided with the requisite certificate of non-revocation confirming the authority of the signatories to sign for and on behalf of the Bidder.
- (b) MOPE (through its procurement committee) will not consider any Tender that proposes the following:
- (i) Regasification Project or Gas that do not conform to the Specifications;
 - (ii) Incomplete scope, ill-defined site or contractual interfaces, or open assumptions (e.g. subsurface conditions at the Site, future market conditions for fuel in Sri Lanka);
 - (iii) A GSA that is not on a one hundred per cent (100%) take-or-pay basis with less than a 20 year term;
 - (iv) A terminal design capacity of the FSRU accommodating:
 - (A) a nominal capacity of less than 1MTPA; or
 - (B) a peak capacity of less than 2 MTPA;
 - (v) Relaxation of compliance with Local Regulatory and Environmental Quality Guidelines and other applicable National and International codes and standards. Where there is a conflict with between the Local Regulatory and Environmental Quality Guidelines and the National and International codes and standards, the National and International codes and standards shall prevail;
 - (vi) The proposal of an FSRU that has been converted from LNG carrier or any other carrier (the FSRU for the Tender must be a new build as per the Technical Requirement);
 - (vii) Use of second-hand plant, equipment, components and materials;
 - (viii) Reliance on Government privileges, concessions and/or guarantees not expressly provided for in the GSA and the IA; or
 - (ix) Material deviations to the draft GSA and IA.

20. DEVIATION

- (a) Bidders should note that the positions adopted in this ITT, including the Conditions of Contract, represent MOPE's considered and approved contractual position. MOPE has a strong preference to preserve these positions.
- (b) Any deviation to the Technical Requirement must be detailed in the form set out in Appendix 2 and duly signed by an authorized representative of the Bidder. Any deviation to the GSA and the IA must be set out in 'track changes' and each deviation must be detailed in the form set out in Appendix 3 which must be duly signed by an authorized representative of the Bidder. Failure to comply with this instruction and disclose all deviations, will result in the Bidder's Tender being rejected. Any deviation to the Technical Requirements must be accompanied by a detailed explanation and reason for the proposed deviation (including its

practical advantages). Failure to provide such information will be a ground for the rejection of Bidder's Tender.

- (c) Tenders containing material deviations or deviations which fail to demonstrate practical advantages may be rejected at MOPE's discretion. Each Negative Deviation, will be treated as a single deviation for the purposes of paragraph 39(c). Each clause which is amended and in the opinion of MOPE, would not or is likely not to reduce the benefits of the Project accruing to MOPE, will not be treated as a single deviation for the purposes of paragraph 39(c). Details of the deviations will be shared by MOPE with the Proponent as part of the Swiss Challenge.

21. CONSORTIUMS

If the Bidder is a Consortium, the Bidder shall meet the following conditions:

- (a) The Bidder shall identify a lead member who shall be responsible for the Tender (the Lead Member)
- (b) The Lead Member shall undertake to maintain not less than 15% of the required equity for the Regasification Project for a period of not less than 5 years from the Operation Date. This shall be included in the articles of association of the Project Company(ies).
- (c) The Lead Member shall be responsible for all communications with and for the Bidder. The Lead Member shall submit the Tender with powers of attorney, in terms acceptable to the MOPE, executed by all members authorising the Lead Member and all signatories to execute the Tender on their behalf.
- (d) The Lead Member shall also submit duly certified resolutions from the Board of each member company authorising that members' participation in the Tender.
- (e) In the case of a company or incorporated joint venture, the Bidder shall provide its memorandum and articles of association, in the case of some other form of partnership agreement, it shall provide a memorandum amongst its members demonstrating their commitment to the Integrated Project and stating the proposed equity contributions.
- (f) The Tender shall be signed so as to legally bind all members, jointly and severally, and the Tender shall be submitted with a copy of the consortium agreement providing the jointly and severally responsible with respect to the Integrated Project.
- (g) The Bidder shall provide as part of its Tender details of the role to be played by each of its members, their intended equity commitment and the organisation of the proposed Project Company or Project Companies.
- (h) Once the Bidder has submitted its Tender and for as long as the Tender is under consideration by the MOPE, the members may not dispose of their interest in, or withdraw from, or add new members to the bidding consortium prior to execution of the GSA and the IA without the prior written consent of MOPE in accordance with paragraph 29(d).

22. COMMERCIAL PLAN

The Bidders must provide details of their commercial plan, including but not limited to:

- (a) Price Formula and Summation;

- (b) financial model for the Integrated Project, in a live excel spread-sheet detailing as a minimum:
 - (i) provision for payment of the Development Costs in accordance with this ITT if the Bidder is awarded the Integrated Project;
 - (ii) capital structure;
 - (iii) financing costs prior to financial close;
 - (iv) senior debt;
 - (v) equity participation;
 - (vi) expected operation and maintenance costs on an annual basis throughout the term;
 - (vii) inflation rate, interest rate and exchange rate assumptions;
- (c) lenders' letter of support including export credit agency support, addressed to MOPE, providing clear evidence of engagement of funders and breakdown of committed and uncommitted funding; and
- (d) letters of support from parent companies of the Bidder or Project Companies providing equity to the Integrated Project.

23. BID SECURITY

- (a) The Bidder shall, as part of its Tender, submit a Bid Security. The value of the Bid Security shall be USD 3,120,000. The Bid Security is to be issued in favour of, and be payable to, MOPE and, for the avoidance of doubt, should be included in the Mandatory Documents Package. In addition to the Bid Security, any Bidder who has been awarded the Integrated Project shall be obliged to submit an annual performance bond of an amount equal to USD 15,600,000 to MOPE under the relevant Sri Lankan law.
- (b) The Bid Security is required to protect MOPE against the risk of the Bidder's acts or omissions which would warrant the security's forfeiture pursuant to paragraph 23(i).
- (c) The Bid Security shall be denominated in USD and shall be in the form set out in Appendix 4 of this ITT from an internationally reputable bank approved by Central Bank of Sri Lanka and based in or with a branch in Sri Lanka and a minimum credit rating of A- at Standard and Poor's or A3 at Moody's.
- (d) If the Bid Security issuer's credit rating falls below the minimum credit rating set out in paragraph 23(c) above, the Bidder shall promptly and in any event within ten (10) Business Days following the date upon which the credit rating was downgraded, deliver to MOPE a duly executed replacement Bid Security meeting the requirements of this ITT for a Bid Security. It is agreed that breach of this paragraph 23(d) shall entitle MOPE to make a call on the outstanding value of the Bid Security (notwithstanding that such outstanding value of such Bid Security may not be commensurate with the loss which MOPE may, or may not, have suffered at the time of such call) and retain such amount as security for compliance by the respective Bidder with all its obligations and liabilities under this ITT. If such breach is, in the absolute discretion of MOPE, adequately remedied by the issue of a new or amended Bid Security or by arrangements in either case satisfactory to MOPE (in its absolute discretion), MOPE shall repay to the Bidder those amounts, if any, received by MOPE on the calling of the

Bid Security on account of such breach less any costs and expenses incurred by MOPE as a result of such breach.

- (e) The Bid Security shall be valid and maintained by the Bidder until one hundred and ninety (190) Business Days from the Tender Deadline (the **Bid Security Discharge Date**). If the Bid Security is due to expire before the Bid Security Discharge Date, the Bidder shall replace such Bid Security at least fifteen (15) Business Days prior to the date of expiry with a Bid Security that satisfies the requirements of this paragraph 23. It is agreed that breach of this paragraph 23(e) shall entitle MOPE to make a call on the outstanding value of the Bid Security (notwithstanding that such outstanding value of such Bid Security may not be commensurate with the loss which MOPE may, or may not, have suffered at the time of such call) and retain such amount as security for compliance by the Bidder with all its obligations and liabilities under this ITT. If such breach is, in the absolute discretion of MOPE, adequately remedied by the issue of a new or amended Bid Security or by arrangements in either case satisfactory to MOPE in its absolute discretion, MOPE shall repay to the Bidders those amounts, if any, received by MOPE on the calling of the Bid Security on account of such breach.
- (f) Any Tender not secured in accordance with this paragraph 23 will be rejected by MOPE as non-responsive.
- (g) A Bidder's Bid Security will be discharged or returned to the respective Bidder by the MOPE within ten (10) Business Days of:
 - (i) in the case of an unsuccessful Bidder, MOPE's written rejection of the Bidder's Tender; or
 - (ii) in the case of a successful Bidder, MOPE confirming receipt from the Bidder of both the executed Gas Supply Agreement and the executed Implementation Agreement.
- (h) The original Bid Security must be delivered to MOPE. A Bid Security submitted through telex or fax will not be accepted.
- (i) The Bid Security will be forfeited (and MOPE may make one or more demands under the Bid Security):
 - (i) if a Bidder:
 - (A) withdraws its Tender during the period of Tender validity specified at paragraph 24 of this ITT; or
 - (B) does not replace a Bid Security in accordance with the requirements of paragraphs 23(d) or 23(e) of this ITT; or
 - (ii) in the case of a successful Bidder, (A) if the Bidder fails to sign the GSA and Implementation Agreement in accordance with paragraph 42 of this ITT, or (B) fails to make payment of the Development Costs to the Proponent in accordance with this ITT.

24. PERIOD OF VALIDITY OF TENDERS

- (a) Tenders must remain valid for a period of one hundred and eighty (180) Business Days counting from the Tender Deadline set out in paragraph 6 (the **Bid Validity Date**). MOPE may accept a Bidder's Tender at any point within that validity period.
- (b) MOPE reserves the right to request the Bidder's consent to an extension of the period of validity of the Tender. The request and the responses thereto shall be made in writing. If the Bidder accepts the extension of the period of validity of the Tender, the Bidder must procure that the Bid Security provided under paragraph 23 is also be correspondingly extended to reflect the extended validity period. A Bidder may refuse the request for such extension of the validity period without forfeiting its Bid Security. A Bidder accepting the request will not be permitted to change the substance of its Tender.

25. FORMAT AND SIGNING OF TENDER

- (a) As set out above, Tenders must be prepared and submitted in three separate Tender packages:
 - (i) Mandatory Documents Package;
 - (ii) Technical Package; and
 - (iii) Commercial Package.
- (b) Each of these packages must contain the following:
 - (i) one original of the documents (clearly marked as “original”) required to be submitted in the relevant tender package (as listed at paragraph 18 above);
 - (ii) three hardcopy copies of the documents required (clearly marked as “copy”) to be submitted in the relevant tender package (as listed at paragraph 18 above); and
 - (iii) two sets of CDs containing the relevant documents in electronic format (native DOC, XLS etc. files) organised in an easily navigable manner.
- (c) The original and both copies of the Tender must be typed or written in indelible ink and must be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Tender. All pages of the Tender and schedules to Tender must be initialled and stamped by the person or persons signing the Tender.
- (d) Any interlineations, erasures or overwriting will be valid only if they are initialled by the person(s) signing the Tender.

D. SUBMISSION OF TENDERS

26. SEALING AND MARKING OF TENDERS

- (a) Each page of the Tender must bear the name of the Bidder.
- (b) The Bidder must seal each of the original and the copies as referred to in paragraph 25 above in separate envelopes, duly marking the envelopes as follows:
 - (i) the original documents as "Original of Mandatory Documents Package", "Original of Technical Package" or "Original of Commercial Package" (as applicable); and
 - (ii) the hardcopy copies as "Copy 1 of Technical Package", "Copy 2 of Technical Package", "Copy 3 of Technical Package", "Copy 1 of Commercial Package", "Copy 2 of Commercial Package" or "Copy 3 of Commercial Package" (as applicable).

The envelopes must then be sealed in separate envelopes marked "Mandatory Documents Package", "Technical Package" or "Commercial Package" (as applicable) before being included in an outer envelope.

- (c) The inner and outer envelopes must:
 - (i) be addressed to MOPE at the contact address set out in paragraph 2(b) above; and
 - (ii) bear the project name: Gas Integrated Project.
- (d) The inner envelopes must also indicate the name and address of the Bidder to enable the Tender to be returned unopened in case it is declared "late" because of receipt after the deadline.
- (e) If the outer envelope is not sealed and marked as required by paragraphs 26(c) and 26(d), MOPE will assume no responsibility for the Tender's misplacement or premature opening.
- (f) Successive numbers should be given to all pages of the Tender, provided that those numbers should then also continue consecutively through the dossiers and schedules to the Tender. Bidders should include a table of contents to their Tender. All original pages of the Tender, except for printed literature, must be signed by the person or persons signing the Tender.

27. DEADLINE FOR SUBMISSION OF TENDERS

The Tender packages must be delivered to the Auditorium (First Floor) of the Ministry of Power and Renewable Energy on or before 12 December 2018, at 10:00 hrs.

28. LATE TENDERS

Tenders received after the deadline will be declared 'late' and will be rejected.

29. MODIFICATION AND WITHDRAWAL OF TENDERS

- (a) The Bidder may modify or withdraw its Tender before the Tender submission deadline, provided that written notice of the modification, including substitution or withdrawal of the Tenders, is received by MOPE prior to the deadline prescribed for the submission of Tenders.

- (b) A Bidders' modification or withdrawal notice must be prepared signed, sealed, marked and delivered to MOPE with the outer and inner envelopes additionally marked "Modification", "Substitution" or "Withdrawal", as appropriate.
- (c) No Tender shall be modified after the deadline for submission of Tenders and the Bidder will be bound by its Tender until the expiry of the Tender validity period as stated in this ITT.
- (d) Each Bidder is required to obtain the prior written approval of MOPE (the provision of such approval being at the absolute discretion of MOPE) prior to any change (including withdrawal, substitution or addition) of the members comprising the Consortium or any other change in the identity of the Bidder at any time during the Award Procedure. MOPE may (at its absolute discretion) exclude from any further participation in the Award Procedure any Bidder that fails to obtain the written approval of MOPE prior to making any such changes.
- (e) No Tender may be withdrawn in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified in paragraph 24. Withdrawal of a Tender during this interval will result in the Bidder's forfeiture of its Bid Security, pursuant to paragraph 23(i).

30. CONFIDENTIALITY

- (a) All information supplied to the Bidder by MOPE and all information which the Bidder provides to MOPE or will provide as part of the Award Procedure:
 - (i) will be shared with the Proponent as part of the Swiss Challenge;
 - (ii) must be kept confidential and the Bidder must not communicate this information to any third parties.
- (b) The Bidder must not publish or allow third parties other than the Proponent to be informed about the terms and conditions of this ITT, the Tender Documents and/or any information relating to the Integrated Project. The Bidder must not, and shall procure that other third parties do not, make or release any announcements or issue or release any publications, notifications, or correspondence (whether to the media, public or otherwise) regarding its participation in the Integrated Project, the Award Procedure or this ITT, unless a Bidder has obtained the prior written consent of MOPE (at MOPE's absolute discretion).
- (c) Bidders may communicate the aforementioned information to their employees, advisors and consultants on a need-to-know basis if their involvement in the Award Procedure is required, provided that the Bidder procures that such third parties are subject to an equally onerous obligation of confidentiality and in accordance with the terms of the confidentiality agreement signed by the Bidders prior to receipt of this ITT.
- (d) This obligation of confidentiality is not applicable if the information is already available to the general public (other than as a result of a breach of this paragraph 30 or any similar provision contained in the Tender Documents). This obligation of confidentiality is not applicable when expressly permitted by the Tender Documents or when expressly allowed by MOPE. If the Bidder is required by applicable laws, or a court or tribunal of competent jurisdiction, or by applicable regulatory requirements, to disclose the information to third parties, for example, on the basis of a legal obligation or within the framework of legal proceedings, the Bidder must:
 - (i) notify MOPE; and

- (ii) limit the information that is provided to third parties as much as possible.
- (e) Bidders must sign a copy of the Acknowledgement Letter (Appendix 7 of this ITT) in accordance with paragraph 11(b) of this ITT.

31. ACKNOWLEDGEMENT

- (a) The Bidder is deemed to have examined, read and fully understood all terms of this ITT and the Tender Documents, including all instructions, specifications, reports, terms and drawings supplied herein and must clearly state this acknowledgement in its Tender.
- (b) Failure to furnish the information required by this ITT and the Tender Documents or submission of a Tender not substantially responsive to the ITT will result in the rejection of the Tender.
- (c) The Bidder will be deemed to have satisfied itself before submitting its Tender as to the correctness and completeness of its Tender and of the rates and prices stated in its Tender. These rates and prices will cover all its obligations and all matters necessary for the completion of the Integrated Project.

32. FINAL OFFER

The Bidder must declare that its Tender is its only and final offer and no unsolicited re-tender of any description will be considered by MOPE.

33. TAX ISSUES

- (a) Subject to the Board of Investment of Sri Lanka, Law No 4 of 1978, the Tenderer or Proponent (as applicable) awarded the Integrated Project in terms of this ITT will be exempt from taxes in accordance with clause 9 (Taxation) of the IA which shall be negotiated in good faith between the Parties.
- (b) Price to be included in a Bidder's Tender will be deemed inclusive of all charges relevant to the performance of the Integrated Project required by the GSA, but will be exclusive of:
 - (i) VAT/sales tax, and
 - (ii) all other taxes/customs/excise duties chargeable by the relevant governmental authorities in Sri Lanka in respect of the Integrated Project.

E. OPENING AND EVALUATION OF TENDERS

34. OPENING OF TENDERS BY MOPE

- (a) The opening of Tenders by MOPE shall be conducted in three stages:
- (i) The first stage entails a review of the overall completeness of the documentation submitted to determine if the Tender has been submitted in accordance with the information specified in this ITT and associated documentation. It will involve a review by MOPE of the full "Mandatory Documents Package". Evaluation of the technical and commercial elements of the Tenders will only be performed for Bidders that have met the requirements stipulated in the ITT;
 - (ii) The second stage will involve a review by MOPE of the full "Technical Package". As part of MOPE's review of the full "Technical Package", MOPE will evaluate the technical and commercial elements of the Tenders and will seek clarifications from Bidders as and when required in accordance with paragraph 35 below. Bidders should note that unless their Tenders pass the full "Technical Package" review, their "Commercial Package" will not be considered by MOPE; and
 - (iii) Provided that a Bidder has passed the first and second stage of the Tender evaluation procedure, and in particular once MOPE has carried out a comprehensive review of the "Technical Package", MOPE will finally open and assess the "Commercial Package". At the same time that the "Commercial Package" is opened, MOPE will open and assess the price proposal of the Proponent. Any Bidder who has qualified to this stage may be present at the time of the opening of the "Commercial Package". MOPE shall open each qualified Tender and read out the Price contained in that Tender. MOPE shall convene to evaluate each Tender in accordance with this ITT (including to assess the overall score of each qualified Tender) and following MOPE's review, MOPE will identify the Preferred Bidder.
- (b) Notwithstanding paragraph (a) above, MOPE may open and review the "Mandatory Documents Package", "Technical Package" and "Commercial Package" concurrently in order to expedite the review process of the Tenders.
- (c) Once a Preferred Bidder has been identified by MOPE, MOPE will share the details of the Preferred Bidder's Tender with the Proponent in order that the Proponent can exercise its right of refusal to match Preferred Bidder's Tender.

35. CLARIFICATION ON TENDERS

- (a) To assist in the examination, evaluation and comparison of Tenders and the performance of the Swiss Challenge, MOPE may, at its discretion, ask any Bidder for clarification of its Tender. Such clarification may include clarifying any manifest errors (including arithmetic errors) included in the Bidder's Tender. In the absence of any response from the Bidder within the specified period as notified by the MOPE, MOPE reserves the right to make its own decision in relation to such clarification.
- (b) The request for clarification and the response from the Bidder must be in writing but no change in the price or substance of the Tender must be sought, offered or permitted except in the case of correction of arithmetic errors discovered by MOPE.
- (c) Bidders may be asked to attend meetings in order to facilitate this clarification process.

- (d) MOPE shall have the right to reject a Tender if the Bidder does not accept a correction of a manifest arithmetical error identified by MOPE.

36. PRELIMINARY EXAMINATION

- (a) Preliminary examination of Tenders shall be performed to ensure the completeness of the Tender documentation submitted by the Bidder. MOPE shall determine the completeness and responsiveness of each Tender.
- (b) A substantially responsive Tender is one which:
 - (i) satisfies all of the requirements set out in the ITT;
 - (ii) has been properly signed;
 - (iii) is accompanied by the required Bid Security in strict compliance with the ITT; and
 - (iv) conforms to all the terms, conditions and specifications of the Tender Documents, without material deviation or reservation. A material deviation or reservation is one:
 - (A) which affects in any substantial way the scope, quality or performance of the Integrated Project; or
 - (B) which limits in any substantial way, inconsistent with the Tender Documents, MOPE's rights or the Bidder's obligations under the GSA and the IA.

37. EVALUATION AND COMPARISON OF TENDERS

MOPE reserves the right only to evaluate those Tenders which it deems to be substantially responsive. MOPE will assess the following factors when evaluating and comparing the Tenders:

- (a) Commercial proposal, including (without limitation):
 - (i) the Price and the Summation; and
 - (ii) the Bidder's submissions in relation to the financing of the Integrated Project.
- (b) Technical capabilities to design, construct, operate and maintain the Regasification Project and perform the Integrated Project; and
- (c) the Bidder's response to the Technical Requirements.

In evaluating the Tenders, MOPE will determine for each Tender the evaluated Price by adjusting the Price making any correction for manifest errors as agreed between MOPE and the Bidder.

38. CONTACTING MOPE

- (a) From the time of Tender opening to the time of contract award, if any Bidder wishes to contact MOPE on any matter related to the Tender, it should do so in writing. All correspondence must be marked for: "Integrated Project Tender" to the contact address or email address given in paragraph 2(b) of this ITT.
- (b) MOPE reserves the right to reject a Bidder's Tender if that Bidder has tried to influence MOPE in its decisions on Tender evaluation, Tender comparison, the Swiss Challenge or contract

award. A Bidder who canvasses for the Tender in any form or attempts to influence the Tender evaluation process will be disqualified.

Information Copy - Not for Bidding

F. CONTRACT AWARD

39. PREFERRED BIDDER IDENTIFICATION CRITERIA

Tenders will be assessed and evaluated against the following criteria:

- (a) Tender's completeness and compliance with the ITT and Tender Documents.

The Tenders will be assessed as to their completeness and conformity with the formal requirements and conditions stated in this ITT and the Tender Documents. MOPE will verify whether the documents submitted comply with the formal requirements such as, but not limited to, timely submission, being signed by the authorised person and containing all the documents required. MOPE will determine completeness and compliance with this ITT by assessing each Tender to the mandatory requirements as set out in paragraphs 18, 19, 36 and 39.

Notwithstanding MOPE's right to request clarifications, an incomplete Tender or a Tender that does not comply with the requirements of this ITT may be excluded by MOPE.

- (b) Evaluation on the basis of the selection criteria,

In evaluating the Tenders, MOPE will take account of and evaluate the following:

- (i) whether the Tender is fully responsive to the requirements of the ITT based on the checklist provided in Appendix 8 of this ITT (the **Responsiveness Test**); and
- (ii) how commercially competitive and advantageous to MOPE the Tender is.

At any stage of the Tender evaluation, MOPE may require Bidders to provide information concerning their professional, technical, financial, legal or managerial competence whether already pre-qualified or not.

- (c) An overall score will be determined by applying the following formula:

$$\text{Score} = \text{Price Formula} \times (1 + n \times 1\%)$$

Where:

n = the total number of Negative Deviations submitted as part of a proposal in the Tender Documents

For the purposes of this paragraph, deviations are departures from the specification and requirements for the Integrated Project described in this ITT including without limitation the required response to the Technical Requirements and changes or amendments to the GSA and IA and any document required to be signed by the Bidders as part of the delivery of the Integrated Project.

40. MOPE'S RIGHT TO ACCEPT ANY TENDER AND TO REJECT ANY OR ALL TENDERS

MOPE reserves the right to accept or reject any Tender or to annul the tender process and reject all Tenders at any time prior to the award of the Integrated Project, without thereby incurring any liability whatsoever to the affected Bidder(s).

41. NOTIFICATION OF AWARD

- (a) Prior to the expiration of the period of Tender validity, MOPE will notify the successful Bidder (if any) in writing by registered letter that its Tender has been successful.
- (b) MOPE will separately notify the name of the successful Bidder or if applicable, the Proponent, if the Integrated Project is awarded to the Proponent following completion of the Swiss Challenge, to each unsuccessful Bidder.

42. SIGNING OF CONTRACT

MOPE and the successful Bidder, or Proponent (as applicable), will, upon the request of MOPE, sign the GSA and the IA within seventy two (72) Business Days after the notice of acceptance is dispatched to the successful Bidder or the Proponent (as applicable).

43. INTEGRITY PACT

- (a) The Bidder must provide with its Tender the duly signed Form of Integrity Pact (Appendix 9 of this ITT). Failure to do so may result in the rejection of the Bidder's Tender. The Bidder must also provide copies of its policies and methods for good governance and ethical behaviour, and its plans for compliance with the anti-bribery requirements of the GSA in the execution of the Integrated Project, and must ensure that it, its employees, representatives, suppliers adhere to those policies and methods. The Bidder must provide its plans for the application of these principles, practices and policies.
- (b) If the Bidder (or, in the case of a Consortium, any member), or persons associated with the Bidder (or, in the case of a Consortium, any member), including its advisors, beneficial owners, shareholders, directors, employees, agents or consultants, has:
 - (i) breached the provisions of the ITT or Tender Documents or otherwise attempts to influence an act or omission in connection with the Award Procedure (for example, by contacting MOPE or its employees, shareholders, advisors or consultants otherwise than in accordance with the terms of the ITT); or
 - (ii) accessed or attempted to access information not intended for the Bidder; or
 - (iii) directly or indirectly, engages in or engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in connection with the Award Procedure; or
 - (iv) has been indicted or convicted of any civil or criminal offence related to environmental harm or harm to local communities from their actions; or
 - (v) submitted false, misleading or incorrect information, data, evidence or responses, or otherwise provided inaccurate or misleading responses, to MOPE (or any of MOPE's advisers or agent),

MOPE may exclude each of the Bidder and/or persons associated with the Bidder from the Award Procedure and any Tender submitted by that Bidder will be rejected.

44. RESERVATION OF RIGHTS

- (a) MOPE reserves the right to:

- (i) amend, suspend or terminate (part or all of) the current Award Procedure, including the scope of the Integrated Project and/or any of the options set out in this ITT (including the Conditions of Contract);
 - (ii) not to award the Integrated Project; and/or
 - (iii) exclude Bidders from further participating, for any reason, in the Award Procedure (without limitation, for example if the documents and/or information submitted by the Bidder do not comply with the requirements set out in this ITT, or with required formats, if they are incomplete or incorrect).
- (b) The Bidder shall not be entitled to claim or receive any form of compensation if MOPE exercises any of these rights.

45. APPLICABLE LEGISLATION

- (a) Each Bidder is presumed to be aware of and to accept the applicable Laws and regulations.
- (b) This ITT and the Award Procedure (and any non-contractual obligations arising under or in connection with it) are governed by the laws of Sri Lanka.
- (c) Each Bidder agrees that any disputes or claims arising under or in connection with this ITT and/or the Award Procedure shall be subject to the exclusive jurisdiction of the Courts of Sri Lanka.
- (d) For the avoidance of doubt, English procurement legislation does not apply to MOPE, to this ITT, the Tender Documents or to any other aspect of the Award Procedure.

46. LANGUAGE

All Tender Documents are available in the English language. Documents to be submitted by the Bidders have to be in the English language. If any of the required information, or official documents is not in English, you must supply the original document, with an English translation thereof.

47. DISCLAIMER

Neither MOPE nor the Proponent will have any liability to any Bidder or other third party for information contained in the ITT or for any representation or statement made in the ITT whether express or implied.

APPENDIX 1

TENDER FORM

[Note to Bidders: To be completed on Bidder headed paper.]

To: Ministry of Power and
Renewable Energy (MOPE)
Email: ●

Title: Gas Supply Agreement

Tender ref. no.:

Dear Sirs,

Our tender for the GSA incorporating FSRU and Pipeline Infrastructure in Sri Lanka (the Integrated Project) (the Tender)

1. Capitalised terms in this letter have the same meaning as they have in the Invitation to Tender issued by MOPE (the ITT).
2. Having examined the Tender Documents including the ITT, Conditions of Contract, Technical Requirements, etc. together with Addendum No:...../Addenda Nos issued by MOPE during the Tender period, we, the undersigned, offer to perform our obligations and complete the Integrated Project, in strict conformity with the Tender Documents for the rates and prices stated in this Tender and attached hereto.
3. We agree to abide by this Tender for a period of one hundred and eighty (180) Business Days counting from the Tender submission deadline set out in the ITT (or any extended period agreed in accordance with the ITT) and we agree that this Tender shall remain binding upon us and can be accepted by MOPE at any time before the expiration of this period.
4. We enclose a Bid Security(s), in the form required by the terms of the ITT, amounting to USD 3,120,000US Dollars) in the form as set out in the Tender Documents.
5. We submit herewith our Tender in compliance with the requirements of paragraph 25 of the ITT, including for each tender package one original of the documents required along with three copies and two sets of CDs.
6. Having duly noted our obligation under the Conditions of Contract we agree if our Tender is accepted to supply Gas in compliance with the provisions of the GSA from the Start Date of the Gas Supply Agreement or within such other times as may be agreed with you in accordance with the Gas Supply Agreement. We understand that MOPE is not bound to accept the lowest or any Tender MOPE receives and that MOPE is not liable to give any reasons for its decision.
7. We declare that our Tender is our only and final offer and no unsolicited re-tender of any description will be considered by MOPE.
8. We hereby declare the following:
 - We have acknowledged, fully understood and accept the contents of: the ITT including its annexes; and all clarifications or addendums issued by MOPE in connection with the Award Procedure.

- We understand that non-compliance with the requirements of the ITT or with the instructions given by MOPE may lead to us being excluded by MOPE from (further) participation in the Award Procedure.
- We confirm that we accept being bound by this Tender. In the event we bid as a Consortium, we acknowledge that the members of the Consortium are jointly and severally liable for the Consortium's commitments under this Tender. We also acknowledge that the legal entity that prequalified must submit the Tender (and in the event of a Consortium the initial members), unless MOPE has approved changes hereto.

9. We understand that you do not bind yourself to accepting any Tender and will not pay for any costs incurred by us in the preparation of our Tender.

Dated this _____ day of _____

Signature:

Name:

In the capacity of:

Duly authorized to sign Tender for and on behalf of the Bidder:

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APPENDIX 2

DEVIATIONS TO THE TECHNICAL REQUIREMENTS

The following table must be completed by Bidder (if applicable). Bidders should note that Tenders should be submitted in strict accordance with the Tender Documents. MOPE reserves the right to reject any Tender which does not comply with the requirements set out in this ITT.

Deviation No.	Document Reference	Clause / Article Section No.	Description	Proposed Deviation	Reasons for the Proposed Deviation

The Bidder confirms its acceptance of, and willingness to execute, the Integrated Project based on the Technical Requirement without amendment saved only the deviations noted above.

Signature:

Duly authorised to sign for and on behalf of

Bidder:

APPENDIX 3

DEVIATIONS TO THE GSA AND IA

The following table must be completed by Bidder (if applicable). Bidders should note that Tenders should be submitted in strict accordance with the Tender Documents. MOPE reserves the right to reject any Tender which does not comply with the requirements set out in this ITT.

Deviation No.	Document Reference	Clause / Article Section No.	Description	Proposed Deviation	Reasons for the Proposed Deviation

The Bidder confirms its acceptance of the GSA and Implementation Agreement without amendment saved only the deviations noted above.

Signature:

Duly authorised to sign for and on behalf of

Bidder:

APPENDIX 4

BID SECURITY FORM

[On the letterhead of the Bank]

To: Ministry of Power and
Renewable Energy
[Address]

Date: [] 20[]

Dear []

Tender for the supply of Gas to power plants in Sri Lanka (the Project)

1. We understand that you:
 - (a) intend to enter into a contract for the supply of Gas (**GSA**);
 - (b) have issued an invitation to tender for the GSA, reference [insert contract reference] dated [insert date] (**Invitation to Tender**);
 - (c) the Invitation to Tender contains an obligation on the part of the GSA or to provide a bid bond (**Bond**) in the amount of USD 3,120,000 ; and
 - (d) [insert name of bidder] (**Bidder**) has responded to the Invitation to Tender with a bid, reference [insert bid reference], dated [insert date] (**Bid**), to enter into the GSA.
2. Capitalised terms in this Bond have the same meaning that they have in the Invitation to Tender.
3. We, [Bank], irrevocably and unconditionally promise that we will, notwithstanding any objection which may be made by the Bidder and without any right of set-off or counterclaim, immediately pay to you on your first written demand a sum or sums not exceeding (when aggregated with any amount(s) previously paid) the Maximum Amount.
4. This Bond is valid from the date of this letter for the full amount payable under the Bond from time to time, and continues to be fully valid until the earlier to occur of:
 - (a) the date of your written notice to the Bidder rejecting the Bid;
 - (b) the date of your written notice confirming receipt from the Bidder of the executed Gas Supply Agreement and an executed bank guarantee in the form, and by an issuer, required by the terms of the GSA; or
 - (c) 190 Business Days following Tender Deadline as defined in the Invitation to Tender,being the **Expiry Date**.
5. Our obligations under this Bond to make payment in respect of any notice issued to us on or before the Expiry Date shall not be affected or discharged by the occurrence of the Expiry Date. Subject to the following, provided that there is no unpaid demand outstanding under the Bond, it will be returned to the Bidder within a reasonable period after the Expiry Date.

6. Any payment(s) by us in accordance with this Bond will be in immediately available and freely transferable USD free and clear of and without any deduction for or on account of any present or future taxes, levies, imposts, duties, charges, fees, set off, counterclaims, deductions or withholdings of any nature whatsoever and by whomsoever imposed.
7. You may make multiple demands under the Bond.
8. Our obligations under this Bond constitute direct primary, irrevocable and unconditional obligations. Our obligations will not require any previous notice to or claim against the Bidder and will not be discharged or otherwise prejudiced or adversely affected by any time, indulgence or forbearance which you may grant to the Bidder; any amendment, modification or extension which may be made to the Invitation to Tender; any intermediate payment or other satisfaction made by us; any change in the constitution or organisation of the Bidder; or any other matter or thing which in the absence of this provision would or might have that effect, except a discharge or amendment expressly made or agreed to by you in writing.
9. This Bond may be assigned by you to any of your Affiliates provided that you notify us in writing of any such assignment. An assignment to any other person shall require our prior written consent, not to be unreasonably withheld or delayed. We undertake to make any payment claimed under this Bond to you or any person to which you have assigned the benefit of this Bond in accordance with this clause 9, which is to constitute a full and valid discharge to us in relation to that payment.
10. Any demand issued by you under this Bond must be submitted by hand, registered post or recorded delivery. A demand made under this Bond must be in the form set out in the Annex to this Bond. Any demand issued in relation to this Bank Guarantee is deemed to be duly given:
 - (a) when delivered (in the case of delivery by hand); or
 - (b) 48 hours after being dispatched by prepaid registered post or recorded delivery (in the case of letter).

In proving service of a demand, it shall be sufficient to prove that delivery was made or that the envelope containing the notice was properly addressed and posted by registered post or as a prepaid recorded delivery. Any demand made in accordance with this clause 10 shall be accepted by us as conclusive evidence that the amount claimed is due to you under this Bond.
11. The Bank will reimburse you for all legal and other costs you incur in connection with the enforcement of this Bond. All sums payable by us to you pursuant to this clause shall not be regarded as part of the Maximum Amount and shall be payable in addition thereto.
12. This Bond and any non-contractual obligations under or in connection with it are governed by and construed in accordance with the laws of England and we agree to submit to the exclusive jurisdiction of the courts of England.
13. This Bond is executed by us as a deed.

IN WITNESS of which the [Bank] has duly executed this Bond as a deed on the date stated above.

SIGNED by)

[as attorney for **XXXXXXXXXXXXXXXXXX**)

under power of attorney dated dd.mm.yyyy])

in the presence of:)

.....)

Signature of witness)

.....)

Name of witness (block letters))

.....)

Address of witness)

.....)

Occupation of witness)

.....)

.....)

.....)

[By signing this deed the attorney states that the attorney has received no notice of revocation of the power of attorney.]

Address for notices

[]

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ANNEX
FORM OF DEMAND

To: [ISSUING BANK]

[Date]

Dear Sirs

Bond no. [] issued in favour of Ministry of Power and Renewable Energy (the Bond)

We refer to the Bond. Terms defined in the Bond have the same meaning when used in this Demand.

We demand payment of the sum of USD[].

Payment should be made to the following account:

Name:

Account Number:

Bank:

Yours faithfully

(Authorised Signatory)

(Authorised Signatory)

For

1. [BENEFICIARY]

APPENDIX 5

COMPANY STATEMENT FORM

[Note to Bidders: This Appendix only needs to be completed if the Bidder is a Consortium.]

To: Ministry of Power and
Renewable Energy
Email: ●
Title: Gas Supply Agreement

Tender Ref. no.:

Dear [],

Tender for the GSA for the supply of Gas to power plants in Sri Lanka (the Integrated Project) (the Tender)

Capitalised terms in this letter have the same meaning as they have in the Tender.

We, the Bidder submit the Tender as a Consortium consisting of the following entities:

- *[Details of Consortium members and split of Consortium to be provided.]*

We hereby declare that each member of the Consortium that will sign the Gas Supply Agreement (which terms and conditions shall be substantially in the form as set out in the GSA), within days of Award, if so selected, shall be the same Bidder (or, in the case of a Consortium, the same Consortium members) as the Bidders (or, in the case of a Consortium, the same Consortium members) which is submitting a Tender for the Gas Supply Agreement for the Integrated Project.

Date

Bidder

Signature

APPENDIX 6

AUTHORITY TO REPRESENT BIDDER DURING TENDER PERIOD

[*Note to Bidders: This Appendix only needs to be completed if the Bidder is a Consortium.*]

To: Ministry of Power and Renewable Energy
Email: ●

Title: Gas Supply Agreement (

Tender Ref. no.: (By Company)

Dear [],

Tender for the GSA for the supply of Gas to power plants in Sri Lanka (the Integrated Project) (the Tender)

Capitalised terms in this letter have the same meaning as they have in the Tender.

The undersigned [is/are] authorised on behalf of [*insert name of Consortium*] as the Bidder to negotiate and make decisions regarding the Tender and, if the Bidder is the successful Bidder, the GSA:

[*Amend as required*]

Name of Consortium Member.....

Address:.....

Signed By:

Name of Consortium Member.....

Address:.....

Signed By:

Name of Consortium Member.....

Address:.....

Signed By:

APPENDIX 7

FORM OF ACKNOWLEDGEMENT LETTER

To: Ministry of Power and
Renewable Energy
Email: ●

Dear Madam/Sir(s)

Title: Gas Supply Agreement

Tender Ref. no.:

PLEASE COMPLETE THIS FORM, SIGN AND RETURN TO MOPE WITHIN 5 BUSINESS DAYS OF RECEIPT OF THE ITT

Capitalised terms in this form have the same meaning as they have in the Invitation to Tender issued by Ministry of Power and Renewable Energy in connection with the engineering, procurement and construction contract(s) for the Integrated Project (the **ITT**).

We the undersigned hereby confirm that we are in receipt of the ITT for the Gas Supply Agreement for the Integrated Project:

- We agree to comply with the requirements of the ITT, including the requirements for confidentiality.
- We will be submitting a Tender, and the Tender will be submitted in time to reach the due date for receipt of the Tender
- We will NOT be submitting a Tender and hereby either return the complete ITT and Tender Documents or confirm that we have destroyed the ITT and Tender Documents. We are not submitting a Tender for the following reasons:

*N.B. Please check the appropriate box(es)

Our contact person with regard to this acknowledgment is:

Name _____

Bidder: _____

Telephone. No.:

E-mail: _____

For and on behalf of Bidder:

Signature: _____

Name: _____

Title: _____

Date: _____

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APPENDIX 8

RESPONSIVENESS TEST

The responsiveness of the Tender will be determined in part by reference to the Bidder’s ability to satisfy all requirements of this Appendix 8

1. Tender Documents (paragraph 18.1 of this ITT)	Yes	No	Remarks
a. Tender Form	_____	_____	_____
b. Bid Security	_____	_____	_____
c. Power(s)-of-attorney with the requisite certificate of non-revocation	_____	_____	_____
d. Authority to represent the Bidder during Tender/award process	_____	_____	_____
e. Pre-bid agreement, JV agreement and/or consortium agreement	_____	_____	_____
f. Resolutions from the Board of each member company	_____	_____	_____
g. Integrity Pact	_____	_____	_____
h. Proposed Execution Plan	_____	_____	_____
i. Company Statement	_____	_____	_____
j. Deviations to the GSA and IA	_____	_____	_____
k. Technical proposal in response to the Technical Requirements	_____	_____	_____
l. Details on how the Tender will comply with the Technical Requirements	_____	_____	_____
m. Deviations to the Technical Requirements, if any	_____	_____	_____
n. Price for completion of the Price Formula and Summation	_____	_____	_____
o. Memorandum from subscribers of equity for the full amount of Required Equity	_____	_____	_____
p. Statement undertaking to enter into a shareholders’ agreement with CEB in relation to the FSRU Company	_____	_____	_____
q. Commercial Plan	_____	_____	_____
2. Eligibility Requirements	Yes	No	Remarks
a. Meets the commercial requirements under paragraph 18.2(a) of the ITT	_____	_____	_____
b. Meets the technical experience requirements under	_____	_____	_____

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paragraph 18.2.(b) of the ITT

3. Additional Mandatory Requirements

- a. Proof of purchase of the ITT _____
- b. Tender is correctly sealed and marked (paragraph 25 of the ITT) _____
- c. Certificate of Registration under Public Contract Act No. 3 of 1987 _____
- d. If the Bidder is a Consortium, the additional documents required under paragraph 21 of the ITT _____

4. Technical Requirement

- a. proposed design is in compliance with international codes and standards in accordance with Appendix 10 (Technical Requirements) _____
- b. full inclusion of all components of the scope including
 - i. FSRU; _____
 - ii. offshore terminal including mooring and unloading facilities; _____
 - iii. high pressure pipelines, including subsea and onshore segments, for the connection of the offshore terminal to Onshore Receiving Facilities (ORF); and _____
 - iv. Pipeline tie-in connection from ORFs to the power plants at Kerawalapitiya and Kelanitissa, _____
- c. gas network control and management systems; _____
- d. FSRU is a new build in accordance with design specifications outlined in Appendix 10 (Technical Requirements) _____
- e. terminal design capacity accommodates a peak capacity of 2 MTPA _____
- f. sales gas specifications for the power plants are met with provision for custody transfer metering at the tie-in locations _____
- g. project execution schedule can meet the first gas December 2020 schedule _____
- h. facilities are designed with a minimum 20 year design life with the FSRU being 20 years on-station with no planned dry-docking requirement _____
- i. proposed offshore location, pipeline route and _____

onshore receiving facilities minimise the impacts of existing operations, restricted areas, future expansion activities, surrounding communities and the environment as far as practicable

- j.** availability target value is provided with consideration of site environmental conditions _____
- k.** safety system design concept is provided in compliance with international HSSE standards _____
- l.** emissions to the environment are minimised with no venting allowed during normal operations _____
- m.** QA / QC plan for management throughout the project is provided _____

5. Any Bidder that does not provide, as part of their proposal, adequate demonstration of how the above technical requirements are achieved shall be rejected by MOPE and will not be further evaluated.

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APPENDIX 9

FORM OF INTEGRITY PACT

To: Ministry of Power and Renewable Energy (MOPE)

●
Email: ●

[Date]

Tender No. _____ Dated _____

Tender Title: _____

Dear [],

We declare and covenant that neither we nor anyone, including any of our directors, employees, agents, joint venture partners or sub-contractors, where these exist, acting on our behalf with due authority or with our knowledge or consent, or facilitated by us, has engaged, or will engage, in any Prohibited Conduct (as defined below) in connection with the tendering process or in the execution or supply of any works, goods or services for [specify the GSA or tender invitation] (the "GSA") and covenant to so inform you if any instance of any such Prohibited Conduct shall come to the attention of any person in our organisation having responsibility for ensuring compliance with this Covenant.

We shall, for the duration of the tender process and, if we are successful in our tender, for the duration of the GSA, appoint and maintain in office an officer, who shall be a person reasonably satisfactory to you and to whom you shall have full and immediate access, having the duty, and the necessary powers, to ensure compliance with this Covenant.

If (i) we have been, or any such director, employee, agent or joint venture partner, where this exists, acting as aforesaid has been, convicted in any court of any offence involving a Prohibited Conduct in connection with any tendering process or provision of works, goods or services during the five years immediately preceding the date of this Covenant, or (ii) any such director, employee, agent or a representative of a joint venture partner, where this exists, has been dismissed or has resigned from any employment on the grounds of being implicated in any Prohibited Conduct, or (iii) we have been, or any of our directors, employees, agents or joint venture partners, where these exist, acting as aforesaid has been excluded by any major Multi-lateral Development Bank (including World Bank Group, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank or Inter-American Development Bank) from participation in a tendering procedure on the grounds of Prohibited Conduct, we give details of that conviction, dismissal or resignation, or exclusion below, together with details of the measures that we have taken, or shall take, to ensure that neither this company nor any of our directors, employees or agents commits any Prohibited Conduct in connection with the GSA [give details if necessary].

In the event that we are awarded the GSA, we grant MOPE and auditors appointed by either of them, as well as any authority or body having over the GSA, the right of inspection of our records and those of all our sub- contractors under the GSA. We accept to preserve these records generally in accordance with applicable law but in any case for at least six years from the date of substantial performance of the GSA.

For the purpose of this Covenant, **Prohibited Conduct** includes,

- Corrupt Practice is the offering, giving, receiving or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party.

- Fraudulent Practice is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
- Coercive Practice is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of any party to influence improperly the actions of a party.
- Collusive Practice is an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.
- Obstructive Practice is (a) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation; 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 a Lender's contractual rights of audit or access to information or the rights that any banking, regulatory or examining authority or other equivalent body may have in accordance with any law, regulation or treaty or pursuant to any agreement into which a Lender has entered in order to implement such law, regulation or treaty;

.....

Name:

Title:

for and on behalf of *[name of Bidder]*

[To be signed by an executive director(s) or officer(s) of the Bidder]

[Note to Bidders: This Covenant must be executed and sent to MOPE together with the Tender.]

Name of Company: Name of Bidder:

Signature: Signature:

[Seal]

[Seal]

APPENDIX 10

TECHNICAL REQUIREMENTS

1. INTRODUCTION

1.1 Project Background

- (a) An LNG Import and Regasification Terminal is planned for development in the Laccadive Sea, off the coast of Colombo, Sri Lanka. The terminal is to provide natural gas to newly converted power plants within Colombo city, namely:
 - (i) Power plants existing and to be located at Kerawalapitiya
 - (ii) Power plants located at Kelanitissa
- (b) The estimated initial base load LNG demand is 0.6 MTPA, increasing to 1 MTPA within [2] years.

1.2 Scope

- (a) The scope of the project includes:
 - (i) Floating, Storage and Regasification Unit (FSRU)
 - (ii) Offshore Terminal including mooring and unloading facilities
 - (iii) High Pressure (HP) pipelines, including subsea and onshore segments, for the connection of the Offshore Terminal to Onshore Receiving Facilities (ORF)
 - (iv) Pipeline tie-in connection from ORFs to the power plants at Kerawalapitiya and Kelanitissa
 - (v) Gas network control and management systems

1.3 Abbreviations

- (a) Table 1-1 presents the abbreviations used throughout this Appendix 10.

Table 1-1: Abbreviations

Abbreviation	Definition
API	American Petroleum Institute
AS	Australian Standards
ASME	American Society of Mechanical Engineers
ASTM	American Section for Testing Materials
BOG	Boil-Off Gas
BS EN	British Standard European Norm
CAPEX	Capital Expenditure
CEB	Ceylon Electricity Board
CFSR	Climate Forecast System Reanalysis
DNV	Det Norske Veritas
ECMWF	European Centre for Medium-Range Weather Forecasts
EI	Energy Institute
ESD	Emergency Shut Down
FSRU	Floating Storage and Regasification Unit
GDAS	Global Data Assimilation System
HAT	Highest Astronomical Tide
HP	High Pressure
Hs	Significant Wave Height
HSSE	Health, Safety, Security and the environment
HWP	High Water Neap
HWS	High Water Spring
IACS	International Association of Classification Societies
ICCP	Impressed Current Cathodic Protection
IEC	International Electrotechnical Commission
IMO	International Maritime Organisation
ISO	International Standards Organisation

Abbreviation	Definition
ISPS	International Ship and Port Facility Security
LAT	Lowest Astronomical Tide
LNG	Liquefied Natural Gas
LNGC	Liquefied Natural Gas Carrier
LPG	Liquefied Petroleum Gas
LWN	Low Water Neap
LWS	Low Water Spring
MIJ	Monolithic Insulating Joint
MSL	Mean Sea Level
MTPA	Million Tonnes per Annum
MW	Mega Watt
NCEP	National Centre for Environmental Prediction
NFPA	National Fire Protection Association
OCIMF	Oil Companies International Marine Forum (OCIMF)
OPEX	Operating Expenditure
ORF	Onshore Receiving Facility
PIANC	Permanent International Association of Navigation Congresses
Ref	Reference
SIGTTO	Society of International Gas Tanker and Terminal Operators
SIMOPS	Simultaneous Operations
UNDP	United Nations Development Program
WW3	WaveWatch III Global Model

2. CODES AND STANDARDS

2.1 Application

- (a) The applicable sections of the latest edition of the codes, standards and specifications, including revision, addenda and other documents incorporated by reference, shall be considered an integral part of the LNG Terminal development.

- (b) It should be noted that the list of codes and standards in this document are not exhaustive and are to be considered the minimum requirements. The relevant codes and standards are to be reviewed as part of design development.

2.2 Order of Precedence

- (a) The precedence applying for use of the Codes, Standards, Specifications and Regulation requirements is as follows:
 - (i) Federal Laws, Regulations and Standards
 - (ii) Local Laws, Regulations and Standards and Port Authority Requirements
 - (iii) International Laws and Standards
 - (iv) Industry Standard Practice
 - (v) Engineering Company Guidelines and Standards will be applied where an approved deviation has been obtained or other standards and guidelines are not available
- (b) In the event of an inconsistency, conflict or discrepancy between any of the Standards, Specifications and Regulations, the most stringent and safest requirement applicable to the project will prevail to the extent of the inconsistency, conflict or discrepancy. Any inconsistencies critical to the design shall be brought to the attention of the Project Manager for resolution.

2.3 International Codes and Standards

- (a) The applicable international codes and standards may include but are not limited to the following:
 - (i) International Organization for Standardization (ISO)
 - (ii) American Petroleum Institute (API)
 - (iii) American Society of Mechanical Engineers (ASME) / American Section for Testing Materials (ASTM)
 - (iv) British Standard European Norm (BS EN)
 - (v) Australian Standards (AS)
 - (vi) International Electrotechnical Commission (IEC)
 - (vii) Energy Institute (EI)
 - (viii) National Fire Protection Association (NFPA)

2.4 FSRU

- (a) In general, the FSRU shall comply with the relevant sections of the following:
 - (i) International Maritime Organisation (IMO) Convention and Code
 - (ii) Society of International Gas Tanker and Terminal Operators (SIGTTO)

- (iii) World Association for Waterborne Transport Infrastructure (PIANC)
 - (iv) Oil Companies International Marine Forum (OCIMF) Standards and Recommendations
 - (v) IACS Classification Society
 - (vi) Maritime regulations of the registry government (Flag State)
 - (vii) Local Port Authority requirements
- (b) The design, supply, construction, inspection, installation, commissioning and operation of the FSRU shall comply with relevant Sri Lankan Codes and Standards. Where applicable Sri Lankan Standards do not exist or cannot be applied, other industry recognized International Standards and classification rules may be used.
- (c) The FSRU design, procurement, construction, pre-commissioning, commissioning, start-up and operation phases shall all be implemented in accordance with the requirements of the Quality Management system described in International Standards Organisation (ISO) 9001.
- (d) The latest edition of all codes and standards shall be applied. All local Sri Lankan legal and regulatory requirements shall be strictly adhered to.

2.5 Classification Requirements

- (a) The FSRU shall be designed, constructed, installed and surveyed in compliance with the rules and regulations of an IACS classification society experienced in FSRU.
- (b) In addition to the certification required for the FSRU to operate as a specialized fully refrigerated gas carrier for hull, machinery and cargo systems, the FSRU shall have the appropriate classification society notations.
- (c) The Bidder shall propose the class notation for approval.

2.6 Security Requirements

The security requirements shall be in accordance with the International Ship and Port Facility Security (ISPS) Code.

3. GENERAL DESIGN PARAMETERS

3.1 Location

- (a) Project Background
 - (i) An LNG Import and Regasification Terminal is planned for development in the Laccadive Sea, off the coast of Colombo, Sri Lanka. The terminal is to provide natural gas to converted power plants within Colombo city, namely:
 - (A) Power plants existing and to be located at Kerawalapitiya
 - (B) Power plants located at Kelanitissa
 - (b) The estimated initial base load LNG demand is 0.6 MTPA, increasing to 1 MTPA within [2] years.

(c) Offshore Site

- (i) The LNG Import and Regasification Terminal will be an offshore facility utilising a FSRU located off the Port of Colombo, Sri Lanka in the Laccadive Sea as shown in Figure 3-1.
- (ii) The Offshore terminal site selection is to be completed by the Bidder.
- (iii) The following restrictions are imposed on the offshore site by the Port Authority:
 - (A) Neither the FSRU nor LNGC should be located inside the harbour.
 - (B) LNG terminal should not affect current port operations and should take into consideration future Colombo port expansion / development plans.
 - (C) LNG terminal should avoid the south and west areas of the port which are in the vicinity of possibly new land reclamation projects.
 - (D) The LNG terminal should not be located near the entrance to the port approach channel or the port main anchorage point. Locations with high frequency of traffic should be avoided.
 - (E) FSRU exclusion zones proposed should not encroach into any approach channels or restricted areas.
- (iv) Any deviation from the Port Authority restrictions outlined above require a written letter of acceptance by the Port Authority at the time of the Tender submission.

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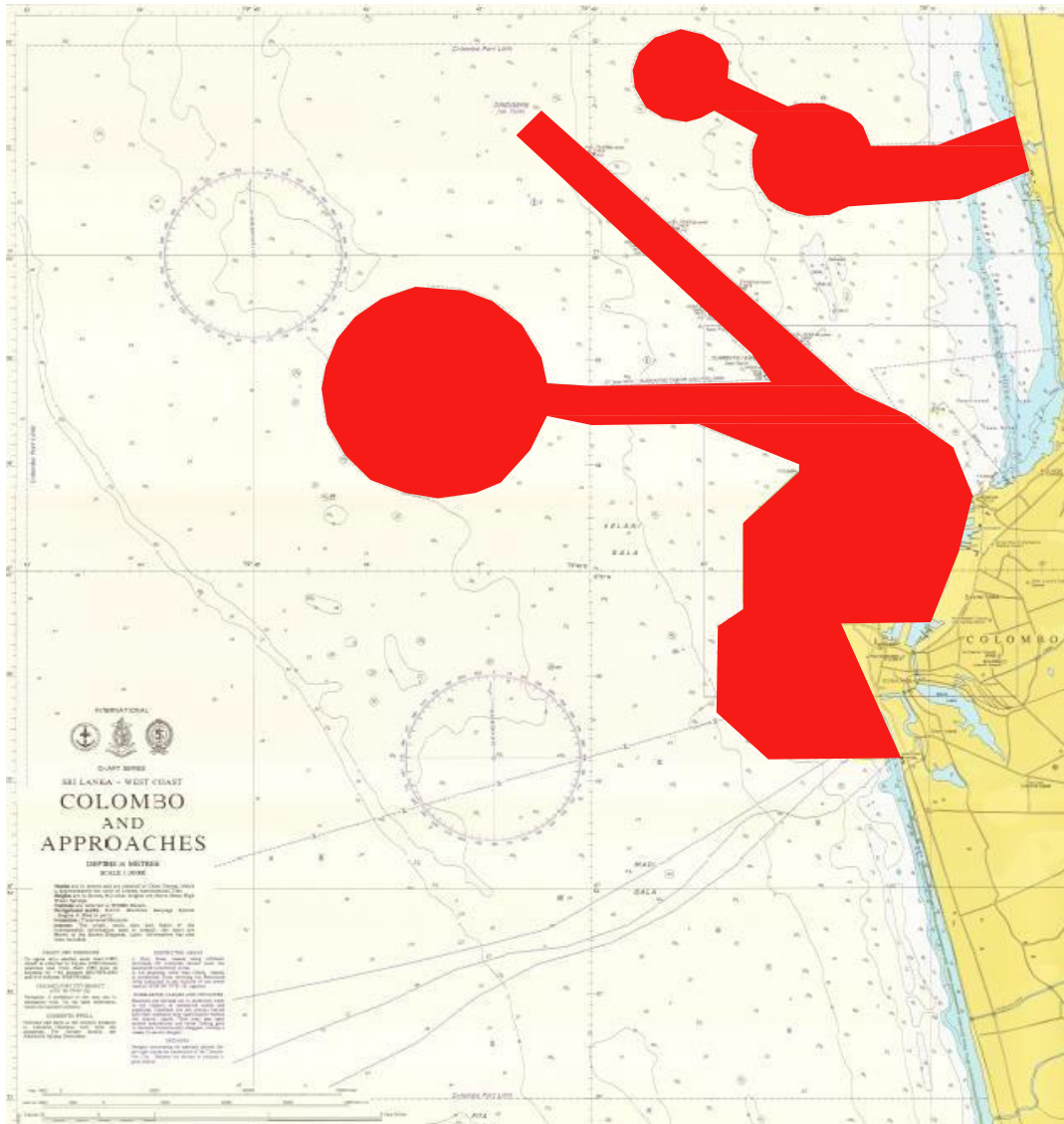


Figure 3-1 LNG Import and Regasification Terminal Location - Port of Colombo, Sri Lanka, extract of Admiralty Chart 1655¹ (red indicates restricted areas)

¹ Reference: Admiralty Chart 1655, Sri Lanka – West Coast, Colombo and Approaches, 2017.

3.2 Power plant Locations

- (a) The power plants at Kerawalapitiya and Kelanitissa will be located in Colombo, Sri Lanka and have the following estimated co-ordinates per Table 3-1.

Table 3-1 Power Plant Estimated Co-ordinates

Facility	Latitude	Longitude	Remarks
Kerawalapitiya	7°0'45"N	79°52'11"E	Inside Colombo city
Kelanitissa	6°57'8"N	79°52'44"E	North of Colombo city

- (b) The Kerawalapitiya and Kelanitissa locations are also depicted in Figure 3-2.



Figure 3-2: Kerawalapitiya and Kelanitissa Sites²

3.3 Project Design Life

The project design life is considered to be 20 years.

3.4 Overall LNG Terminal Availability

- (a) The facility target availability has not been fixed as yet. Two availability targets shall be nominated by the Bidder, one for monsoon seasons and the other for periods outside the monsoon seasons.
- (b) The nomination shall be based on assessment of the environmental conditions experience on site considering the high seasonal variation and conditions which are not benign.

² Reference: Google Maps, <https://maps.google.com/>.

- (c) The target availability will consider the LNG terminal to be the primary source of fuel supply to the power plant.

3.5 Sales Gas Specification

- (a) The sources of LNG supply are yet to be defined and shall be proposed by the Bidder based on LNG supply chain logistics. The LNG composition is to be suitable for supply to each of the power plants with LNG conditioning as required to meet the expected power plant specifications.
- (b) The power plant gas supply specification is yet to be defined, however, is expected to be typical for newly developed facilities. In the absence, of specific requirement from the power plants, the gas delivery conditions at the power plant tie-in conditions shall be:
 - (i) Design Delivery Pressure – 40 barg at 10°C
 - (ii) Maximum Delivery Pressure to be within a 300# system Design Pressure
- (c) The required power plant gas specification is to be confirmed as the project progresses to subsequent stages of engineering.
- (d) Custody transfer metering is required at the tie-in location to each of the power plants.

3.6 Design Capacities

The selected maximum instantaneous LNG regasification capacity is 2 MTPA based on Ceylon Electricity Board (CEB) Long Term Generation Plan 2018-2037.

4. FSRU DESIGN REQUIREMENTS

The following outlines the functional specification for the FSRU as part of the planned LNG Import and Regasification Terminal. The functional specification shall be deemed as the minimum performance requirements for the FSRU. The FSRU mooring and offloading system is to be nominated by the Bidder.

4.1 General FSRU Design Specifications

- (a) The design conditions for the FSRU including mooring and offloading system shall be consistent with the general LNG Terminal design parameters outlined in this document.
- (b) The FSRU shall be newly constructed and designed for the requirements of the Integrated Project. It shall be installed and commissioned on station in accordance with the best practice in the industry.
- (c) The salient features specific to the FSRU are summarised in Table 4-1.

Table 4-1 Preliminary FSRU Design Parameters

Parameter	Description
FSRU Cargo Storage Capacity	150,000 – 216,000 m ³
Tank Type	Membrane or suitable alternative.
FSRU Tank Design Pressure	70 kPaG
Cryogenic System Design Temperature	-163°C
Minimum Regasification Output	TBC based on power plant minimum supply specification.
Nominal Regasification Output	1 MTPA
Peak Regasification Output	2 MTPA
Boil Off Rate	Max 0.15% per day
Nominal Gas Send-Out Pressure	80 barg (Max. 100 barg)
Minimum HP Gas Send Out Temperature	10 °C
BOG Management	Efficient BOG management for up to 20 days of zero send-out. No venting allowed under normal operating conditions required.

- (d) Design Life Requirements
 - (i) The design life of the FSRU shall be a minimum of 20 years on station with no planned dry-docking requirement.
 - (ii) The design of the mooring system shall be a minimum 20 years.
 - (iii) Cumulative fatigue life of the FSRU as of December 2020 shall be 40 years. For fatigue purposes, the unit shall be designed for a fatigue life of 40 years plus appropriate safety factor on fatigue damage as required given that the hull will not be accessible or repairable for 20 years. Design fatigue life of the hull structure is to be based on worldwide operational wave data.
- (e) Vessel Availability
 - (i) The overall gas send-out availability of the FSRU including berth availability is yet to be confirmed. The required availability will be based on ensuring the overall LNG

Terminal availability target (uptime target) can be met for gas supply to the power plants.

- (ii) The process and marine systems shall have an availability per annum of better than 99% availability for cargo, ballast, LNG regasification and power generation systems on-board the FSRU, considering onsite maintenance, sparing, warehousing of spares, and redundancy of critical equipment based on the full range of send-out capacities and conditions.
- (f) Operating Scenarios
- (i) The FSRU shall be suitably designed for the following operating scenarios:
 - (ii) Maximum Send-Out during Maximum Offloading from LNGC (SIMOPS)
 - (iii) Minimum Send-Out during Maximum Offloading from LNGC (SIMOPS)
 - (iv) Maximum Send-Out during Maximum Unloading to LNGC (SIMOPS)
 - (v) Minimum Send-Out during Maximum Unloading to LNGC (SIMOPS)
 - (vi) Zero send-out condition in Holding Mode
 - (vii) Maximum Send-Out during Holding Mode (No LNG Offloading)
 - (viii) Minimum Send-Out during Holding Mode (No LNG Offloading)
 - (ix) Transferring LNG from one cargo tank to another one during Maximum Sending-Out (SIMOPS)
- (g) 'N+1' Philosophy
- (i) The FSRU design shall follow an 'N+1' philosophy for all equipment required when moored on station, specifically LNG regasification, BOG handling and power generation equipment, notwithstanding the need for a RAM analysis and equipment availability assessment.
 - (ii) Specifically the design of the LNG regasification system must meet a regasification rate of 1 MTPA nominal capacity with one installed spare regasification train.
 - (iii) The philosophy shall consider that the generator system can be maintained and repaired on-board within the maintenance cycle of the engines without compromising the N+1 philosophy.
 - (iv) The installed spare equipment shall always be available on request, both in case of fire and in case of the need for more than 100% of the nominal 1 MTPA capacity. Consequently, spare units shall be provided for these equipment items subjected to downtime. This will allow routine maintenance to be conducted without compromising the operational aspects of the FSRU facilities.

4.2 LNG Cargo Containment and Transfer

The LNG cargo containment system and the cargo handling system shall be designed based on an LNG sales gas composition suitable for supply to the power plants as specified in paragraph 3.5 above and be designed in accordance with IGC Code and Class Requirements.

- (a) LNG Storage Tank
 - (i) The LNG cargo containment system shall be a membrane type, or suitable alternative.
 - (ii) LNG cargo tanks shall be suitable for sloshing containment in the worst identified weather conditions, at any quantity of LNG storage. This is to be confirmed in accordance with the sloshing study in later stages of design and/or the cargo containment system manufacturer guidelines.
 - (iii) Adequate roll-over protection shall be provided for the cargo containment system.
- (b) LNG Transfer System
 - (i) The cargo loading system shall be designed with consideration of the metocean conditions. A one-day turnaround is considered typical for common LNGCs whilst moored at site.
 - (ii) The manifold and cargo pipeline configurations shall be designed to allow all vessel operations to take place if one tank is out of service or one tank is in the process of being warmed-up or cooled down.
- (c) Cold Retention Operations
 - (i) The main cryogenic liquid service lines shall be maintained under cold conditions (and liquid full) by passing a trickle flow of LNG.

4.3 LNG Regasification System

- (a) The LNG regasification technology type and configuration is to be nominated by the Bidder to ensure the HP gas send out requirements can be met. The LNG regasification system design is to be integrated with the FSRU cargo handling, power generation, general auxiliary / utilities, piping, on-board control and shutdown systems.
- (b) Due consideration shall be taken on emissions limits imposed by environmental impact assessment and approval process related to the operation of LNG regasification system during the selection of each equipment.
- (c) A major emphasis of the selection and design of the LNG regasification system, in particular the vaporization system, is to ensure the equipment is reliable and tolerant to FSRU motions in both operational and extreme weather conditions.
- (d) An integrated Emergency Shutdown (ESD) system shall be provided. The ESD system shall be designed based on independent programmable logic control in compliance with IMO (IGC) Rules and SIGTTO recommendations.

4.4 BOG Management and Pressure Balance

- (a) The LNG cargo tanks shall have a design boil off rate of maximum 0.15 vol% per day.
- (b) A Boil Off Gas (BOG) management system shall be in place to manage BOG production during all operating scenarios. This includes simultaneous LNG offloading from a LNGC and gas send out operations, as well as up to 20 days of zero send-out.
- (c) The BOG management system shall be designed for no venting under normal operating conditions.

- (d) The design shall include sufficient over pressure protection systems and measures to isolate affected cargo tank/s from over-pressurizing the BOG system.
- (e) The design of the LNG cargo tanks shall also consider over-pressurisation scenarios due to the following:
 - (i) Roll over in tanks due to stratification
 - (ii) Excess nitrogen purging into BOG system connected to FSRU vapour space

4.5 Metering System

- (a) Custody transfer from LNGC is established by two independent level measuring systems.
- (b) A custody transfer metering system (ultrasonic gas meters of equivalent) shall be provided for the HP gas export system.
- (c) Additionally, fuel gas and exhaust vent metering shall be provided.
 - (i) Gas Measurement, Regulation and Control Station

The Delivery Point(s) shall include the devices necessary for the control and regulation of pressure, filtering, heating (if required), conditioning, quantity and quality measurement and the appropriate supply in accordance with the conditions required at the Delivery Point(s). CEB will provide sufficient land and land rights at the Delivery points for the Bidder to situate operate and maintain these devices.

In addition to the foregoing, the Bidder shall provide instrumentation allowing for the continuous measurement, among other parameters, of the dew point of hydrocarbons and gas chromatography, in order to confirm that Gas supplied is within the Specifications.

Bidder's Equipment shall include systems and equipment to ensure compliance with required Gas availability and supply stability (in the event of maintenance or calibration to the measuring systems, a backup measuring system shall be contemplated). In addition, overpressure and locking protection systems shall be incorporated as necessary.

The design of the Bidder's Equipment shall comply with applicable Sri Lankan federal or state law, rule, regulation, by-law, treaty, directive, policy and code of any Sri Lankan federal or state governmental authority or agency or regulatory body (**Regulations**) which is binding on the Bidder and as for everything not foreseen thereunder, the applicable international codes and standards.

The facilities for the Regasification Project shall be isolated and under controlled access, fenced and with physical safety systems, in a metal structure-based roofed shed, with hoisting elements to allow preventive, corrective and major maintenance services to the equipment and systems. Bidder shall grant access to CEB's personnel to verify the operation, witness tests.

- (ii) Calculations

Calculations shall be carried out with precision of $\pm 0.001\%$. Precision and resolution of the data for display, and transfer of data and records shall contain not less than 3 decimal digits and maximum 6 decimal digits.

The uncertainty of computed results in terms of volume and normal volumetric flow shall be equal to $\pm 2.0\%$ the reading, with a trust level of 95% over the entire range.

Uncertainty values shall be calculated according to the international standards and shall include all the errors related to the primary measurement element, secondary instrumentation, signal conversion and the calculation.

All calculations used to determine the Dry Base Gross Heat Power shall be carried out in accordance with standards GPA 2172 and AGA 5, as required, with the subsequent base condition. Normalized and non-normalized molar fractions shall be calculated, and included in the Invoice under the terms of the Gas Supply Agreement. If at any time the non-normalized total is outside the 99%-101% range, an alternate analyzer shall be used, or otherwise, a laboratory analysis of the sample taken in the previous Month.

The measuring equipment shall integrate all flow and upper and lower dry base heat power measurements, and shall provide the calculation and total of the actual/standard volumetric, mass, and energy flow magnitudes. The system shall continuously update this information, entering the data from the primary measuring devices at least once per second. Accumulations shall cover a period of two (2) Months, minimum.

Total values shall be obtained and stored in the flow computer. Each measuring equipment unit shall have the capacity to store the totals (even under failure conditions of the equipment or electric power interruptions) for a period of sixty (60) Days.

For each flow system, through standard AGA 5, the parameters below shall be individually calculated and stored in the flow computer:

- (i) Actual volumetric flow;
- (ii) Standard volumetric flow at base conditions;
- (iii) Mass flow;
- (iv) Energy flow (considering the calorific power determined in the chromatograph);
- (v) Actual accumulated volumetric flow;
- (vi) Accumulated standard volumetric flow at base conditions;
- (vii) Accumulated mass flow;
- (viii) Accumulated energy flow (taking into account the calorific power determined in the chromatograph);
- (ix) Compensated density; and
- (x) AGA 8 compressibility.

Mass flow shall be calculated according to the equation of the applicable AGA 9 standard pursuant to the installed ultrasonic meter.

The Gas density and compressibility shall be continuously calculated by using the state equation (specified under standard AGA 8) together with the data for pressure, temperature and composition. Calculated compressibility shall be used to convert the actual volumetric flow rate to an ideal gas flow under base conditions of pressure and temperature.

The values of the Dry Base Gross Heat Power shall be calculated in kJ/kg and kJ/m³ at base conditions of pressure and temperature, using the formulas and procedures of the AGA 5 standard, and the gas composition analysis determined through a chromatograph on line and subsequent conversion of 15° C and 1.01325 bar to base Conditions of Pressure and Temperature.

The AGA 8 standard shall be used to calculate the values of density with the subsequent conversion of 15° C and 1.01325 bar to Base Conditions of Pressure and Temperature. In the event of failure, calculations shall be reverted to the omission values of the sample analysis. In such a case, equipment with capacity for the manual data entry will be required. Regarding the heat power values that are not included under AGA 5 standard, the “Engineering Data Book of the Gas Processors Suppliers Association” (GPSA), International System version, or GPA 2172 standard shall be used.

(iii) Dry Base Gross Heat Power

Measuring equipment shall be provided with adequate gas chromatographs to sample the Gas passing through the Regasification Project in continuous batches. Each chromatograph shall provide a typical precision of $\pm 1\%$ of the reading for the components of carbon C1 and C2, and $\pm 2\%$ for C3 and superior components of carbon.

The precision of the value obtained for heat power shall be within $\pm 0.05\%$.

Gas chromatographs shall be capable of analysing components of up to C9+ in molar percentage.

Gas chromatographs shall be checked with a certified standard gas, to the standards required under the Gas Supply Agreement and applicable Regulations.

The Gas analysis system shall be provided with availability figures similar to the remaining measuring equipment.

The Bidder shall incorporate an automatic sampling system in each measuring equipment unit.

(iv) Testing and Inspection

The Bidder shall inspect, test, and certify (through a certified organisation approved by CEB) the Gas quantity and quality measuring system, as necessary to ensure compliance with the GSA and Regulations.

Inspection and calibration of the Gas chromatographs shall be carried out in accordance with the Code of Practice for Calibrating Process Gas Analyzers, IP 340.

The Regasification Project shall install devices connecting to the measuring system to fully verify all the data inputs and outputs to the measuring system, and verify the precision and operation of the equipment that executes the calculations. This

operation shall automatically disconnect the equipment from any online calculation function. The Bidder shall provide and assume the costs of such a portable simulator.

The Bidder shall submit for CEB's consideration testing certificates, and shall notify CEB of any certification and functional tests it intends to carry out, at least five (5) Days in advance. CEB reserves its right to witness such tests.

(v) **Technical Characteristics of the Gas Measurement, Regulation and Control Station**

Shear valves and a calibration coil shall be installed from the process pipes to the safety valves in order to allow for maintenance during operations.

The gas/condensates separators, as well as the high efficiency coalescent and mesh filters that are necessary for Gas filtering and purifying shall be instrumented with local controls and indicators, differential pressure switches, transmitters, sound alarms, etc.

The system shall include local indicators of pressure and temperature at the input and output of: the Supplier's Facilities (i.e. at the mesh filters, separating filters, coalescent filters, control valves, pressure regulators) to verify any pressure drop in each equipment unit.

There shall be an uninterruptible power supply with at least 24 hours backup, with feeding for operating the system in the event of a normal electric power supply interruption.

4.6 Cold Vent

- (a) The FSRU shall be equipped with vent stack(s) provided with flame arrester that will be used only in the event of an emergency that requires disposal of natural gas to atmosphere. No venting shall be allowed under normal operating conditions.
- (b) The system shall be designed to enable handling of both high and low pressure vapour releases.
- (c) The cold vent system shall be designed to suit cryogenic temperatures and shall be provided with a heating system to re-gasify any emergency LNG releases.

4.7 Mooring Requirements

- (a) The mooring arrangement for the FSRU shall be designed to ensure the highest possible availability noting that the FSRU may be required to disconnect and sail away in the event of extreme metocean conditions e.g. cyclones. The mooring system is to be nominated by the Bidder.
- (b) The mooring equipment foundations shall be in accordance with Classification Society rules and shall be designed for a minimum of 20 years uninterrupted service life. All mooring equipment and mooring foundation material certificates shall comply with Class Society requirements.

4.8 HP Gas Offloading Requirements

- (a) The FSRU shall be equipped with an appropriately designed offloading system to allow for HP gas transfer from the FSRU. The HP gas offloading system shall be nominated by the Bidder.
- (b) Controls and instrumentation for the offloading system shall be provided to ensure condition monitoring of transfer operations and for leak detection.

4.9 Control, Navigation, ESD and Communications

- (a) The FSRU shall be equipped with a centralized, fully automated control system to provide both control and safeguarding functions, and is to be located in the FSRU CCR. The FSRU process control system, ESD system and F&G system shall be physically independent and dedicated to their function.
- (b) The control system shall enable integration of all independent automated control systems on-board the FSRU to function from the CCR as a centralised monitoring and control system. All systems shall be designed to ensure maximum availability consistent with their function, including built-in redundancy of communications, processors and power supplies, where required
- (c) There shall be an ESD system that shall provide a highly reliable, independent from the FSRU control system, and fault tolerant infrastructure providing both automatic and manual process and emergency shutdown functionality. SIL rating for ESD functions shall be determined via a SIL review, in accordance with IEC 61508³ and IEC 61511⁴, but ESD signal processors to be minimum SIL-2 rated.
- (d) Dedicated fire, gas and smoke systems shall be installed. The system is to be integrated into the ESD system and FSRU main control infrastructure.
- (e) Docking Assistance System, which provides vital information such as distances, angles and speeds to LNGC pilots and FSRU Operators to ensure that the vessel is safely docked and thereby reducing the risk of damage from collision between the vessels, shall be provided.
- (f) Mooring Load Monitoring System shall be equipped with navigation equipment as per SOLAS requirements, nautical and searching equipment, communication equipment and CCTV monitoring.

4.10 Power Generation

- (a) The FSRU power generation system shall have sufficient generation capacity for all vessel operations at sea, at berth and when sending-out HP gas at design capacity.

The FSRU must be capable of a black start with main power generation shut down and in the absence of fuel gas. The generating system shall be able to operate in a stable manner with sudden variations in load and for extended periods of time at reduced load.

- (b) The FSRU shall also provide backup and emergency electric power to maintain essential work, safety systems, cargo tank pressure maintenance, cargo loading/offloading operations, sailing operation, essential power for accommodation, propulsion, power generation utility, UPS and communication systems during imported power interruptions.

³ Reference: IEC 61508, Functional Safety

⁴ Reference: IEC 61511, Standard for Safety Instrumented Systems for the Process Industry Sector

4.11 Vessel Particulars

- (a) The FSRU shall have an all welded steel hull designed by a shipbuilder experienced with the construction of FSRU vessels, utilising a membrane type LNG cargo containment system, or suitable alternative, with the LNG regasification trains provided on deck. The FSRU shall also be designed and be in full compliance with the standards and Classification Society requirements.
- (b) All structural design and scantlings shall be in accordance with Classification Society requirements and shall make use of state-of-the art design techniques including 3D finite element structural analysis and spectral fatigue calculations.
- (c) The FSRU shall be protected from corrosion to prevent failure of the hull structure for a 20-year life and sail to site.
- (d) In addition to typical classification waterline/draft markings, the FSRU's wetted hull area is to be provided with markings to enable in-situ underwater surveys to be carried out in lieu of dry-docking. These markings will identify the location of all tank boundaries, and will comply with the technical standards for construction established by the Classification Society's requirements in this respect. These markings must be as durable as the in water life of the hull and will typically consist of anti-fouling painted surfaces.

4.12 Manning / Accommodation

- (a) The FSRU will be a marine crewed manned facility, providing control and monitoring for all operations and maintenance activities on-board the FSRU including mooring, LNG loading from LNGC, LNG storage, regasification and gas send-out operations.
- (b) Accommodation on board the FSRU shall be provided for the crew. The crew accommodation shall be compliant with following guidelines and regulations:
 - (i) International Labour Organization, Maritime Labour Convention 2006, Title 3. Regulation 3.1 Standard A3.1 Accommodation and recreational facilities (except swimming pool and separate sanitary facilities for men and for women)
 - (ii) Flag state Requirements

4.13 Health, Safety, Environment and Security

- (a) Safety and Risk Requirements
 - (i) Safety shall be of primary importance in the design, construction, commissioning and operation of all systems associated with the FSRU.
 - (ii) The FSRU shall be designed, constructed and commissioned in line with the highest international health, safety, security and environmental (HSSE) standards. In addition to IMO, SOLAS, Flag State and Classification Society requirements.
 - (iii) The rapid detection of any release of hydrocarbons, or other hazardous chemicals on the FSRU is vital, as is the rapid detection and extinguishment or containment of any resultant fire/explosion by either active or passive means in order to minimise the escalation potential. Adequate fire water pumps (inclusive of diesel-driven, electric-driven, jockey) shall be installed on the FSRU to cover all areas where firefighting services are required.

- (iv) Sufficient safety systems shall be included and implemented in the design of the FSRU. Such systems include, but are not limited to, the following:
- (A) Process overpressure protection systems should be in place in accordance with the IGC Code for Overpressure Protection Requirements
 - (B) Escape Routes / Paths and Escape Systems
 - (C) Emergency Response Plan
 - (D) LNG Spillage Protection System
 - (E) Life Saving and Fire Fighting Equipment
- (b) Exclusion Zones and Safety Zones
- (i) Safety and Exclusion zone shall be developed based on the acceptable international codes and standards and/or local regulations.
 - (ii) The potential major accident scenarios in relation to the proposed facilities shall be sufficiently identified in order to carry out an exclusion and safety zone. The analysis criteria and key assumptions shall be clearly stated with reference to acceptable international codes and standards which are most appreciate for applying in this project. The practicable and cost-effective measures shall be recommended if the potential major accident scenarios of the current proposed facility cannot meet the criteria and/or expose to restricted and/or sensitive locations.
- (c) Equipment in Hazardous Area
- (i) Classification of hazardous areas for selection of electrical equipment shall follow IEC standard or equivalent, and the Classification Society rules as applicable or equivalent.
 - (ii) Equipment for installation in hazardous areas shall be certified for use in appropriate zone, gas group and temperature class of the area based on the Hazardous Area Classification.
 - (iii) Electrical equipment which is required to be in operation upon initiation of ESD shall be Ex d certified, as minimum. The explosion protection requirements of electrical equipment shall conform to applicable IEC standards and shall be certified by approved bodies, or equivalent.
- (d) Sustainability Requirements
- (i) The FSRU shall implement, where practical, improvements in energy efficiency in new ship designs, retrofitting and operations throughout the life of the FSRU.
- (e) Environmental Requirements
- (i) All emissions from the FSRU are to comply with Local Regulatory and Environmental Quality Guidelines and other applicable National and International codes and standards.
 - (ii) Noise

- (A) Noise levels in accommodation and working spaces shall be in accordance with Noise code from IMO. In addition, the Occupational Health and Safety Noise Regulations require the FSRU facilities and equipment to be designed to be as quiet as is practicable, to minimize noise exposure to crew/operation personnel.
 - (B) Sound insulation and isolation treatment in the Vessel shall be provided as necessary to keep the noise levels within limits.
- (iii) Air Discharges
- (A) Air emissions resulting from the FSRU facilities shall be managed using best practice strategies and in accordance with the provisions of the applicable codes and standards.
 - (B) Gaseous emissions control must comply with the following principle:
 - I. Reducing gas emissions of species affecting air quality (H₂S, SO₂, NO_x, non-methane volatile organic compounds, etc.).
 - II. Monitoring flow and characteristics of significant emissions before release to the atmosphere.
 - (C) The following basic principles to reduce gas emissions shall be applied:
 - I. No venting of associated gas during normal operation with venting only allowed during maintenance activities or emergency scenarios
- (iv) Water Discharges
- (A) The FSRU shall be equipped with a drain and effluent management system to minimise overboard discharge of contaminated water. Limits for the discharge of liquid waste generated from the FSRU shall be set in compliance with Local Environmental Quality Guidelines as well as the latest International Convention for the Prevention of Pollution from Ships (MARPOL) requirements.
- (v) Solid Waste
- (A) The FSRU design will aim to reduce, wherever practicable, the volume of hazardous and non-hazardous solid waste generated during construction and operation, and to provide the basis for the management of waste. Solid waste discharge limits shall be in compliance with any applicable regulatory guidelines such as the latest International Convention for the Prevention of Pollution from Ships (MARPOL).
- (f) Security Requirements
- (i) Generally, the requirements stated in the ISPS Code shall be adhered to as a minimum for all security requirements for the FSRU, taking due note also of the following:
 - (A) Visual Assessment and Surveillance Systems
 - (ii) Security on-board FSRU e.g. provision of locks and communications systems

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5. PIPELINE DESIGN REQUIREMENTS

5.1 Pipeline Route

(a) Submarine Pipeline Route

- (i) The following key criteria shall be considered for offshore pipeline route:
- (ii) Pipeline routing shall comply with government regulations that apply to the jurisdiction or country along the route
- (iii) Ensure safety of marine users and environment
- (iv) Pipeline route should avoid seabed obstructions, hazards and areas of natural conservation interest, and not impede future Colombo port identified expansion and development plans.
- (v) Minimum straight section shall be calculated/ provided at the ends of a pipeline curvature to avoid curve instability during pipelaying and/or start-up
- (vi) Avoid altogether or minimize the number of pipeline or cable crossing
- (vii) Regulatory constraint and Authority permits
- (viii) Minimise disruption/ disturbance to the port operations and shipping movement
- (ix) Pipeline shall be buried and protected in shipping channel, marine traffic zones, anchorages, etc.

(b) Onshore Pipeline Route

- (i) The following key criteria shall be considered for onshore pipeline route:
 - (A) Legislative requirements
 - (B) Ensure safety of public, traffic, roads, waterways, buildings and environment
 - (C) Considering route that give shortest length of pipeline
 - (D) Topography profile with flat or gently sloping route shall be selected if possible, otherwise severity of the slope and type of ground need to be considered if other alternative route is selected
 - (E) Considering construction access
 - (F) Avoiding or minimising crossing with existing service lines and utilities such as power cables, water lines, sewer, etc.
 - (G) Safety codes and requirements
 - (H) Considering environmental sensitivity
 - (I) Considering local traffic conditions and working space constraints

- (J) Proposing feasible pipeline installation methods to avoid traffic interruption, such as horizontal directional drilling/ pipe jacking/ micro-tunneling instead of open cut and cover method for highly built-up/ congested areas
- (K) Minimising interference/ disturbance to local residents, buildings, etc. including relocation/ resettlement (if possible)

5.2 Key Design Data and Requirements

- (a) The submarine and onshore pipeline key design parameters are summarised in Table 5–1.

Table 5-1: Preliminary Submarine and Onshore Pipeline Design Parameters

Description	Unit	Value
Design life	years	40
Service type	-	Gas
Pipeline operating temperature	°C	10 (min)/ 50 (max)
Pipe Diameter to Kelanitissa	Inch	10
Pipe Diameter to Kerawalapitiya	Inch	20

Note: Pipeline system shall be designed for pigging operations.

- (b) The key pipeline design requirements are summarised in the following sections. Further requirements and criteria can be obtained from the relevant codes and standards in accordance with International Standards listed in paragraph 2.
- (c) Offshore and Onshore pipeline sizing is to be nominated by the Bidder.
- (d) Offshore Pipeline
 - (i) Mechanical Design
 - (A) The minimum pipeline wall thickness is to be designed against internal pressure containment (prevent pipe bursting), external pressure collapse (prevent pipe collapse/ flattening due to hydrostatic pressure/ surcharge), and buckle propagation (prevent propagating of local pipe buckle during installation and in-service) for all design conditions. The pipeline wall thickness shall be determined in accordance with DNV-OS-F101⁵.
 - (B) The selected wall thickness(es) for submarine pipeline shall be further validated for its adequacy against local buckling-combined loading criteria during pipelaying, as-laid, hydrostatic testing and operational conditions.
 - (ii) On-bottom Stability

The pipeline exposed to environments shall be stable during installation and in-service life (including metal loss due to corrosion/ erosion). The (lateral and vertical) stability of the submarine pipeline shall be checked in accordance with DNVGL-RP-F109⁶.
 - (iii) Cathodic Protection Design

⁵ Reference: DNV-OS-F101, Offshore Pipeline Systems.

⁶ Reference: DNVGL-RP-F109, On-bottom Stability Design of Submarine Pipelines.

(A) The pipeline is to be protected against external corrosion by combination of external anti-corrosion coating and cathodic protection. The cathodic protection system shall be designed in accordance with DNVGL-RP-F103⁷ and supplemented by ISO 15589-2⁸.

(B) The cathodic protection design shall ensure sufficient anodes are available to provide total current needed to protect the pipeline during its design life. The initial and final current densities are checked to ensure that anodes can provide sufficient current outputs to polarize the pipeline throughout its entire life.

(iv) Pipeline Protection Design

Offshore pipeline protection is required in order to protect against damage due to external interference and/or accidental situations such as impact due to dropped objects from marine vessels, dragged anchor, etc. The protection solution is to be determined based on a marine traffic study and risk assessment.

(v) Pipeline Crossing

Pipeline crossings, where applicable, are to be designed to minimise impacts on existing systems and the environment. The protection requirements should be designed in consultation with local authorities and owners.

(vi) Shore Crossing

The pipeline shore crossing is to be designed to ensure stability against environmental factors, protect against third party activities (vessel beaching / grounding) and to maintain the aesthetic look or clean beach for recreation.

(e) Onshore Pipeline

(i) Mechanical Design

The minimum pipeline wall thickness is to be designed against internal pressure containment and external pressure collapse for all design conditions. The pipeline wall thickness shall be determined in accordance with relevant onshore codes and standards.

(ii) Buoyancy

The onshore pipeline shall be buried below ground. If the pipeline is buried below the ground water table, the pipe shall be checked for buoyancy.

(iii) Cathodic Protection Design

(A) The onshore pipeline is to be protected against external corrosion by combination of external anti-corrosion coating and cathodic protection system. The onshore pipeline will be cathodically protected by an impressed current cathodic protection (ICCP) system.

⁷ Reference: DNVGL-RP-F103, Cathodic Protection of Submarine Pipelines.

⁸ Reference: ISO 15589-1, Petroleum, Petrochemical and Natural Gas Industries – Cathodic Protection of Pipeline Transportation Systems, Part 1: On-land Pipelines.

- (B) The ICCP design shall be carried out as per ISO 15589-1⁹. The ICCP system shall provide adequate current demand to protect the onshore pipeline throughout its entire life. The ICCP system for the onshore pipeline shall be designed to ensure minimal interference with the submarine pipeline cathodic protection system. Test points for routine monitoring and testing should also be installed at locations like crossings, close to high voltage cables, etc.
- (C) Monolithic insulating joint (MIJ) is recommended to be installed at the tie-in of submarine and onshore pipeline segments so as to isolate the two different cathodic protection systems.
- (iv) Pipeline Protection Design
- (A) Onshore pipeline protection is required for protection against damage due to external interference and/or accidental situations such as floods, washouts, vehicular traffic, etc. if it is left unburied. Protection of onshore pipeline includes cover provision, increased wall thickness, markers and marker tape, mechanical protection, controlling access to the pipeline route, or a combination of these measures.
- (B) The onshore pipeline minimum burial depth or cover requirements are to be in accordance with ISO 16263¹⁰. The cover depth shall be measured from the lowest possible ground surface level to the top of the pipe, including coatings and attachments.
- (C) For onshore pipeline, markers should be erected at road, rail, river and canal crossings and elsewhere, to enable other users of the area to identify the location of pipeline. The use of marker tape should also be considered for buried onshore pipelines.
- (v) Pipeline Crossing
- (A) Pipeline crossings, where applicable, are to be designed to minimise impacts on existing systems and the environment. The protection requirements should be designed in consultation with local authorities and owners.
- (B) Any future works associated with canal / river crossings such as dredging, deepening and widening of the canal/ river should also be considered when defining the protection requirements.
- (C) For road / railway crossings, the onshore pipeline shall have sufficient strength to resist external loads under the worst combination of conditions (minimum cover, low strength soil). The crossing design shall be carried out in accordance with API RP 1102¹¹. To ensure the safety of the pipeline at a road crossing, the stresses imposed on the pipeline due to the external dynamic load of vehicles need to be calculated and verified in accordance with API RP 1102.
- (vi) Existing Underground Services

⁹ Reference: ISO 15589-2, Petroleum, Petrochemical and Natural Gas Industries – Cathodic Protection of Pipeline Transportation Systems, Part 2: Offshore Pipelines.

¹⁰ Reference: ISO 16263, Petroleum and Natural Gas Industries – Pipeline Transportation Systems

¹¹ Reference: API RP 1102, Steel Pipelines Crossing Railroads and Highways.

- (A) Physical contact between a new pipeline and existing pipeline/ cable shall be avoided. Crossing pipeline and/or cable should be kept separated by a minimum vertical distance of 0.3m. Crossings should occur at as close as practicable to 90°.
- (B) It is noted that horizontal directional drilling method is preferred for highly built-up/ congested areas such as Colombo city.
- (C) Facilities along the selected pipeline route should be identified and their impact evaluated in consultation with the Operator/ Owner of these facilities. Trial pits will be required along the selected route to identify the services. Facilities should not be allowed closer than 4m from the pipeline. A wider restriction zone compared to public access may apply to future development (buildings, etc.).

6. SAFETY REQUIREMENTS

Facility safety system shall be designed in accordance with international codes, standards. In the event of an inconsistency, conflict or discrepancy between any of the Standards, Specifications and regulatory requirements, the most stringent and safest requirement applicable to the project will prevail to the extent of the inconsistency, conflict or discrepancy.

6.1 Hazardous Area Classification

- (a) Facility should be assessed and divided to zones to identify electrically classified areas in the plant.
- (b) Hazardous Area Classification Drawing shall be developed to indicate the area classification. Area classification shall be specified in accordance with the international codes and standards such as, IEC, IP, API, etc. Electrical equipment must be certified for the identified zone if installed inside hazardous areas.

6.2 Passive Fire / Cold Splash Protection System

- (a) Facility should be assessed for fire proofing requirements based on international codes and standards. Critical structures supporting critical equipment and systems should be fire proofed to be able to withstand prolonged fire.
- (b) Where structures are subjected to contact with liquefied natural gas provision should be made to avoid failure of structure members. Critical locations of cold splash should be identified and extended zone should be defined around the potential leakage points. Critical structures in the identified zone should be protected from cold splash.

6.3 Fire Fighting System

- (a) The approach to loss prevention shall be to:
 - (i) Design a facility with adequate and sufficient safety devices to prevent uncontrolled releases of toxic and flammable liquids and gases
 - (ii) Provide suitable fire protection systems to rapidly bring under control and extinguish any reasonably foreseeable fire which could develop during normal operations, commissioning, start-up and shutdown

- (iii) Allow adequate and sufficient means of escape from areas with high hazard potential
- (iv) Minimise the environmental impact of the Terminal in case of accidental spills, venting or flaring of hazardous materials to prevent any accidental escalation and potential domino effects
- (v) Provide gas detection and monitoring systems
- (b) Firewater System
 - (i) Firewater should be provided as a base for firefighting and fire controlling activity. Facility should be design with fire water storage, supply and distribution system as per international codes and standards. Fire water distribution system should be able to provide fire water for entire facility with acceptable coverage. Firefighting system should be design largest single fire in each facility.
 - (ii) Firefighting devices such as hydrants, monitors, hose reels, foam systems, water spray systems, and sprinkler systems should be considered where necessary to provide sufficient protection to facility and personnel.
- (c) Special Firefighting systems
 - (i) Special firefighting systems should be considered locations with special type of risk.
 - (ii) Automatic gas extinguishing systems, automatic powder extinguishing system etc. might be used for areas of plant with special fire risk.

6.4 Drainage and Containment Area

- (a) Firewater rundown and rain water which is predicted to be contaminated with flammable liquid spill should be controlled and should not be drained directly to the surface water drainage. The drainage system for firewater should be sufficiently designed for handling firewater from monitors and hydrants

7. QUALITY ASSURANCE AND QUALITY CONTROL REQUIREMENTS

7.1 General

- (a) The Bidder shall outline a plan for the establishment of a Quality Assurance (QA) / Quality Control (QC) system. The Bidder shall be responsible for all activities necessary to ensure that the project meets the requirements outlined in this QA / QC system as the project progresses.
- (b) All requirements applicable to the Bidder shall also be applicable to its sub-suppliers.
- (c) The Bidder shall establish and maintain a system in conformance with ISO 9001.
- (d) The basic objectives of the Bidder's QA / QC system shall be as follows:
 - (i) To ensure that all work adheres strictly to all requirements of the Contract and governing agencies.
 - (ii) To maintain quality procedures and provide documentation to ensure that tasks performed will comply with the requirements of the project.

- (iii) To prevent deficiencies through pre-construction quality coordination and to detect and correct deficiencies in a timely manner.
- (iv) To provide an auditable record of all tests, inspections, procedures, non-compliances and corrections, and any other pertinent data as required.
- (v) Verify compliance with the Bidder's quality procedures, including those quality procedures of subcontractors and suppliers.

7.2 QA / QC Plan

- (a) A plan outlining the QA / QC system to be implemented for the project must be submitted by the Bidder. The plan must include an outline of the system and its policies, an organisation / committee description and an audit plan.
- (b) The Bidder' procedures must address the system elements and activities appropriate to the project and the QA / QC standards.
- (c) During execution of the scope, the Bidder must ensure that copies of the procedures are available to the Sri Lankan Government representative at the location of the work for reference.

8. TECHNICAL ELEMENTS TO BE SUPPLIED BY THE BIDDER

The following elements shall be supplied by the Bidder as part of the Technical Proposal.

Table 8 1: Technical elements to be supplied by the Bidder

No.	Deliverable
1	Site Location and Overall Design Description
2	Overall Layout Diagram
3	Pipeline Design and Pipeline Route Drawings
4	Process Description and Terminal Operating Philosophy
5	Process Flow Diagram Schematics
6	Equipment List
7	Heat and Material Balance
8	Safety Concept Description
9	Construction Methodology
10	Scope of Work for Geotechnical / Geophysical /Metocean Survey
11	Project Execution Schedule
12	QA / QC Plan
13	Project Execution Plan including HSEQ requirements

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