

Invitation to Bid

(No.: ITB20-KCN-02-01)

Technical Consultation for Developing Optimum Flaw Evaluation Methodology of Reactor Vessel Internal Components

April 2020



KEPCO ENGINEERING & CONSTRUCTION COMPANY, INC.

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CHAPTER I

GENERAL INFORMATION

A. GENERAL INFORMATION OF THE SERVICES

A. GENERAL INFORMATION OF THE SERVICES

Current version of Sec. XI of ASME code does not provide the flaw evaluation methodology and flaw acceptance criteria of reactor vessel internal (hereinafter denoted as RVI). Therefore, EPRI and Westinghouse in US have developed a sort of guidelines for the flaw evaluation methodology, and published as MRP-227 and WCAP-17096.

KEPCO E&C has been developing the flaw evaluation methodology and flaw acceptance criteria of RVI sub-components for Korean WEC and CE type operating plants being based on MRP-227 and WCAP-17096. In this project, the sub-components which are classified as the primary in MRP-227 are considered for CE and WEC type plants. Also, general methodology in WCAP-17096 NP will be applied for fracture mechanics analysis to determine allowable flaw sizes of each sub-component.

In order to perform the fracture mechanics analysis for various sub-components of RVI, 1) stress intensity factor solutions as well as J-integral solutions, 2) fracture toughness data such as KIC and J-R curves, 3) crack growth rates for fatigue, stress corrosion cracking and irradiation assisted stress corrosion cracking are necessary.

Since the current version of Sec. XI of ASME code does not provide these data mentioned above, KEPCO E&C would like to determine the optimum data and methodology on these three areas via technical consulting.

CHAPTER II

INSTRUCTION TO BIDDER

A. GENERAL INSTRUCTIONS

B. SUBMISSION OF BID DOCUMENTS

C. DEADLINE FOR SUBMISSION AND VALIDITY OF BID DOCUMENTS

D. LATE SUBMISSION

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G. LANGUAGE OF BID

H. CONFIDENTIAL NATURE OF DOCUMENTS

I. OWNERSHIP OF BID AND COMPENSATION

J. MODIFICATION, REJECTION AND WITHDRAWAL OF BID

K. QUALIFICATION REQUIREMENT

L. COMPOSITION OF BID DOCUMENTS and BID EVALUATION

M. OTHERS

A. GENERAL INSTRUCTIONS

Bidders are requested to prepare and submit a technical proposal and a financial proposal (collectively, the “Bid Documents”) in accordance to all the requirements specified in this Invitation to Bid (ITB). ITB includes all chapters and appendixes indicated in the table of contents of this ITB.

B. SUBMISSION OF BID DOCUMENTS

1. Bidders shall submit Bid Documents to the following address **by e-mail**:

Attn. 1 : Mr. Lee Weonjoo
General Manager
Subcontract & Procurement Team
Contract Management Department
KEPCO Engineering & Construction Co., Inc.
E-mail: leewj@kepco-enc.com

Attn. 2 : Mr. Lee Seunghyun
Subcontract & Procurement Team
Contract Management Department
KEPCO Engineering & Construction Co., Inc.
E-mail: sh.lee@kepco-enc.com

2. Documentations to be Submitted

(a) Commercial Proposal

- Price Bid Form (A. PRICE BID FORM in CHAPTER III - INFORMATION for COMMERCIAL PROPOSAL) shall be completed and submitted.
- Deviation request, if any, using Deviation Request Form (B. DEVIATION REQUEST FORM in CHAPTER III - INFORMATION for COMMERCIAL PROPOSAL) and marked-up General Terms & Conditions (GTC) of appendix A. Deviation requests shall include explanations why the Bidder requests those deviations. Request(s) marked-up in GTC and written in Deviation Request Form both shall only be considered as the Bidder's deviation request.
- Any comments and/or proposals in connection with this Bid.

(b) Technical Proposal

- Technical Proposal (Bidder's forms shall be used)

Technical Proposal and Commercial Proposal shall be submitted in separated files and named accordingly. Two separated files using Zip files for each can be an option.

C. DEADLINE FOR SUBMISSION AND VALIDITY OF BID DOCUMENTS

Bidder(s) submit its Bid Documents no later than **09:00 a.m. Korean Standard Time on May 1, 2020** and the Bid Documents shall remain firm valid for a period of **six (6) months** from the date of this deadline. Once submitted, proposals shall not be withdrawn until the validity of the Bid Documents.

D. LATE SUBMISSION

Bid Documents received after the deadline for submission of the Bid pursuant to Section C above may be rejected.

E. CLARIFICATION

Should the any Bidder find discrepancies or should any doubt or question exist as to the true meaning or intent of any portion of the contents of this ITB, the Bidder may make a written request to KEPCO Engineering & Construction Co., Inc. (hereinafter called "KEPCO E&C"). However, the clarification shall be submitted no later than seven (7) days prior to deadline for submission of this Bid.

The request for clarification and the response shall be given in writing via e-mail.

Clarification inquiries and answers may be disclosed to all Bidders who intend to participate the Bid.

Bidder's questionnaire must be submitted to the following address:

Attn. : Mr. Lee Seunghyun

E-mail: sh.lee@kepc-enc.com

F. BID CURRENCIES

The Bidder shall submit its Bid Documents with amounts in **USD**.

G. LANGUAGE OF BID

The Bid Documents prepared by Bidder(s) and all correspondences and documents relating to the Bid exchanged between the Bidder and KEPCO E&C shall be written in English.

H. CONFIDENTIAL NATURE OF DOCUMENTS

The contents of this ITB shall only be used for the preparation of the Bid.

I. OWNERSHIP OF BID AND COMPENSATION

Bid Documents once submitted to KEPCO E&C shall not be returned to the Bidder regardless of whether it is accepted or rejected. The Bidder shall bear all costs associated with the preparation and submission of the Bid Documents, and in no case will KEPCO E&C be responsible or liable for those costs, regardless of the conduct or outcome of the Bid process.

J. MODIFICATION, REJECTION AND WITHDRAWAL OF BID

KEPCO E&C reserves the right to reject without any liability to the Bidder(s) any part of, or all Bids, to modify or withdraw this ITB at any time, and to enlarge or reduce the scope of Services to be included in the ITB.

K. QUALIFICATION REQUIREMENT

Only the Bidder(s) which meet all requirements described below shall be qualified for this Bid.

1. Experience on the EPRI research projects for PWR reactor vessel internal
2. Experience of the similar project to perform the integrity evaluation of PWR reactor vessel internal based on the MRP-227

L. COMPOSITION OF BID DOCUMENTS and BID EVALUATION

Any procedure, method and decision to be taken by KEPCO E&C with regard to the evaluation shall be decisive and any claim by the Bidder will not be accepted.

During the evaluation of Bid, KEPCO E&C may ask Bidder(s) for clarification of its Bid Documents.

The Bidder(s) shall prepare and submit its Bid Documents to KEPCO E&C by two different files separating for Part I. Commercial Proposal and Part II. Technical Proposal as follows:

Part I. Commercial Proposal (30%)

Terms and conditions attached as Appendixes in this ITB will be the basic terms and conditions to be finalized through contract negotiation. Unless the Bidder(s) clearly states its deviation request and/or exceptions to the terms and conditions in its Commercial Proposal, the Bid Documents shall be construed as an offered in compliance with the terms and conditions as described in the ITB including Appendixes.

Bidder(s) shall submit its Commercial Proposals using forms indicated in Chapter III [Information for Commercial Proposal]

1. Bid price made in accordance with Price Bid Form in Chapter III.
 - The lowest bid price will receive the maximum score
2. Exceptions and/or deviations to GTC of Appendix A, using Deviation Request Form and GTC.
 - The Bidder with no exceptions and/or deviations against terms and conditions will receive the maximum score
 - Bidder(s) requesting any exceptions and/or deviations shall clearly fill the Deviation Request Form and markup on the GTC.

Commercial evaluation shall be made based on 80% bid price and 20% deviation request

Part II. Technical Proposal (70%)

The factors to be considered in selecting the first eligible Bidder include, without limitation, the following. Therefore, each bidder shall prepare its proposal includes below information:

1. Bidder's experience on the EPRI research projects for PWR reactor vessel internal
2. Bidder's experience of the similar projects to perform the integrity evaluation for sub-components of PWR reactor vessel internal based on the MRP-227
3. Performance plan
4. Project management plan
5. Curriculum Vitae of key personnel

For Bidder's information, please see below table which will be used for technical evaluation of this bid.

- Evaluation Table(Technical)

No.	Evaluation Area	Evaluation Factors	Points	Detailed Evaluation Factors
1	Bidder's Qualification and Experience	Qualification and Experience	30	- Bidder's experience on the EPRI research projects for PWR reactor vessel internal (15)
				- Bidder's experience of the similar projects to perform the integrity evaluation for PWR reactor vessel internal based on the MRP-227 (15)
2	Performance Plan	Methodology	15	- Understanding on requirements of work scope in the technical specification (10)
				- Qualitative guarantees for deliverables (5)

		Working Plan	15	<ul style="list-style-type: none">- Completeness and effectiveness of work plan and performance method of the Services (5)
				<ul style="list-style-type: none">- Adequacy of the project manpower and suitability of the proposed man hour (10)
3	Project Management	Schedule Control	10	<ul style="list-style-type: none">- Adequacy of the project schedule (5)- Plan for the project schedule control (5)
4	Manpower	Expertize	30	<ul style="list-style-type: none">- Knowledge of key personnel on the fracture mechanics evaluation or crack growth evaluation for PWR reactor vessel internal (15)
				<ul style="list-style-type: none">- Similar project experience of designated personnel (15)
Total			100	

* Only of the bidders with score 85 or more from the technical evaluation will be considered qualified for this bid. However, bidders which do not satisfy the following items, which are the requirements for this bid shall be disqualified. For avoidance of doubt, bidder(s) which do not satisfy the qualification requirement described in K. **QUALIFICATION REQUIREMENT** shall be disqualified.

M. OTHERS

1. KEPCO E&C will not authorize the expenses related to Bidder's visit to Korea for the discussion of this ITB or contract negotiation.
2. The purpose of this ITB is only to select preferred bidder. Accordingly, KEPCO E&C is not obligated to accept the terms and conditions of the Bid Documents. In the event KEPCO E&C and the preferred Bidder fail to reach an agreement on the contract, KEPCO E&C shall have the right to select and negotiate with another Bidder without any liability or compensation to the selected Bidder. KEPCO E&C also reserves the right to reject any and all proposal received by reason of this ITB and to negotiate separately with any source whatsoever, in any manner deemed necessary, to serve the best interest of KEPCO E&C.

CHAPTER III

INFORMATION for COMMERCIAL PROPOSAL

A. PRICE BID FORM

B. DEVIATION REQUEST FORM

A. PRICE BID FORM

Total cost (including engineering works and travel expenses) for the Contract shall not exceed the budget (US\$ 61,045).

Lump Sum

Tasks	Position Assigned	MH Rate (USD/hr)	Required MH (hr)	Amounts (USD)
Task 1				
Task 2				
Task 3				
Task 4				
Total				

B. DEVIATION REQUEST FORM

Article #	DESCRIPTION	JUSTIFICATION

CHAPTER IV

INFORMATION for TECHNICAL PROPOSAL

- A. SCOPE OF THE SERVICES**
- B. METHOD OF PERFORMANCE**

A. SCOPE OF THE SERVICES

The Contractor shall identify various fracture mechanics parameters and provide technical justifications for their applicability, as follows:

The stress intensity factor solutions as well as J-integral solutions shall be applicable to various geometries (i.e. flat plate, shallow cylinder, solid bar, thin tube, etc.). In addition, technical justification for applicability of suggested solutions shall be provided in order to prepare future licensing activities.

The fracture toughness data and crack growth rates shall be applicable to typical austenitic stainless steel base metal and welds. In addition, technical justification for applicability of suggested data shall be provided in order to prepare future licensing activities.

Task	Activity	
Task 1	Optimum K/J-integral Solutions	<ul style="list-style-type: none">● Identification of stress intensity factor (K) Solutions for RVI Components● Identification of J-integral Solutions for RVI Components● Technical Justification for Solution Applicability
Task 2	Optimum Fracture Toughness Data	<ul style="list-style-type: none">● Identification of K_{IC} for RVI Components● Identification of J-R Curves including J_{IC} for RVI Components● Technical Justification for Applicability
Task 3	Optimum Crack Growth Rate	<ul style="list-style-type: none">● Identification of Fatigue Crack Growth for RVI Components● Identification of Stress Corrosion Crack Growth for RVI Components● Identification of Irradiated Assisted Stress Corrosion Crack Growth for RVI Components● Technical Justification for Applicability
Task 4	Consulting Report and Technical Meeting	<ul style="list-style-type: none">● Interim Report● Technical Meeting at Contractor's Office (at least two days)● Final Report

B. METHODS OF PERFORMANCE

1 Consulting Schedule

The consulting period for the tasks (Task 1 to 4) is 4 months from the Execution Date (contract signing), as follows:

Tasks	Month from the Contract Signing			
	1	2	3	4
Task 1 Optimum K/J-integral Solutions				
Task 2 Optimum Fracture Toughness				
Task 3 Optimum Crack Growth Rate				
Task 4 Consulting Report/Technical Meeting				

2 Method of Performance

The Contractor shall start the consulting service in accordance with the schedule shown as the above schedule, immediately after signing of the Contract agreement. The Contractor shall keep confidential all the data and information from this Contract, and shall not divulge them to any third parties.

The Contractor shall provide the interim report within three months after signing the Contract. KEPCO E&C will provide comments on the interim report within two weeks after receiving the interim report. The Contractor shall provide the final report incorporating the comments by KEPCO E&C within four months after signing the Contract.

Technical meeting between KEPCO E&C and the Contractor shall be held at the Contractor's Office after submitting the interim report to KEPCO E&C. The duration of technical meeting shall be two days at least.

3 Deliverables

- Interim Report will be provided by three months after Contract Signing.
- Final Report will be provided by four months after Contract Signing.

APPENDIX

TERMS and CONDITIONS

- A. GENERAL TERMS AND CONDITIONS**
- B. TEMPLATE OF LETTER OF PERFORMANCE**
- C. INTEGRITY PACT**
- D. PAYMENT TERMS**

A. GENERAL TERMS AND CONDITIONS

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PREAMBLE

This consulting services contract (the “Contract”) is made and entered into effective as of this ____ day of ____, 2020 (hereinafter called the “Execution Date”) by and between:

1. **KEPCO Engineering & Construction Co., Inc.** (“KEPCO E&C”), a company duly organized and existing under the laws of the Republic of Korea (“Korea”) and having its principal office of business at 269 Hyeoksin-ro, Gimcheon-si, Gyeongsangbuk-do, 39660, Korea; and
2. _____, a company duly organized and existing under the laws of _____ and having its principal office of business at _____ (the “Contractor”).

WITNESSETH:

WHEREAS, KEPCO E&C desires the Contractor to provide KEPCO E&C with certain services for _____;

WHEREAS, the Contractor offers to provide KEPCO E&C with such Services and to abide by the terms and conditions of this Contract;

WHEREAS, the Contractor has represented himself that it is technically qualified and experienced in the type of work as defined hereinafter and that it is professionally and financially capable of providing the Services for KEPCO E&C;

WHEREAS, KEPCO E&C and the Contractor (hereinafter referred to, individually, a “Party” and collectively, the “Parties”) desire to document their agreement to cover the conditions under which the Services shall be provided; and

WHEREAS, the representatives of the Parties possess proper and sufficient authority to agree.

NOW, THEREFORE, for and in consideration of the premises and the mutual covenants and agreements hereinafter set forth, the Parties agree as follows:

ARTICLE 1. [DEFINITIONS]

- “Contract” means this agreement entered into between KEPCO E&C and the Contractor for the supply of the Services.
- “Contractor” means [REDACTED] and its successors and assignees entering into this Contract with KEPCO E&C for the supply of Services in accordance with this Contract.
- “day” means calendar day unless expressly indicated as a working day.
- “KEPCO E&C” means KEPCO Engineering & Construction Company, Inc., having its headquarters in Gyeongsangbuk-do, Korea and its legal representatives, successors and assignees.
- “Korea” means the Republic of Korea.
- “Services” means all services to be performed by the Contractor in accordance with the terms and conditions of this Contract.

ARTICLE 2. [SCOPE OF THE SERVICES]

- 2.1 The Services to be performed by the Contractor under this Contract are described in Appendix A [Scope of Services and Method of Performance] attached hereto and made a part hereof.
- 2.2 Upon completion of all tasks in accordance with the schedule agreed between the Parties, the Contractor shall submit its work results including all deliverables to KEPCO E&C for its inspection and review. Upon acceptance in writing by KEPCO E&C of the work results, the Contractor shall be deemed to have completed the Services.

ARTICLE 3. [CONTRACT PRICE]

- 3.1 The maximum total amount to be paid by KEPCO E&C under the Contract and corresponding to the total contract price (the “Contract Price”) shall be USD \$_____ inclusive of labor cost and other direct costs. The Contractor agrees that any amount exceeding the above Contract Price shall not be paid by KEPCO E&C.
- 3.2 In case any increase or decrease in accordance with Article 7, "Revisions" or Article 13, "Termination" is required, such portion of increase or decrease shall be calculated based on the cost detail specified in Appendix B [CONTRACT PRICE & PAYMENT].

ARTICLE 4. [TERMS OF PAYMENT]

- 4.1 The Contractor shall submit invoices to KEPCO E&C in accordance with the following payment schedule described in Appendix B [CONTRACT PRICE & PAYMENT].

Notwithstanding anything to the contrary, the Contractor's invoice shall not be paid until and unless the Letter of Performance Commitment described in Article 10 is submitted to KEPCO E&C.

- 4.2 KEPCO E&C shall pay the accepted amount to the Contractor within thirty (30) days after the receipt of the invoice by telegraphic transfer to the Contractor's bank account. For the avoidance of any doubt, no invoice shall be paid unless and until KEPCO E&C has received and accepted the result (including but not limited to deliverables such as technical consulting service report) of Services performed by the Contractor.

Should any adjustment be necessary as a result of questioned or disallowed items, such adjustment shall be added to or deducted from, as the case may be, any following invoice. If there remains a questioned item, KEPCO E&C reserves the right to withhold payment for the items in question.

- 4.3 Except for banking charges incurred by KEPCO E&C to pay Contractor in connection with Article 3 "Contract Price", all banking charges shall be for the Contractor's account.

ARTICLE 5. [TAXES]

Except as otherwise specifically provided in this Contract, the Contractor shall bear and pay the corporate tax, personal income tax, inhabitant tax and any other taxes assessed on the Contractor, if any, by all local, state or national government authorities outside of Korea in association with the Services, while those levied by government authorities of Korea shall be borne by KEPCO E&C.

ARTICLE 6. [FORCE MAJEURE]

No Party shall be in default or shall be liable for any loss or damage due to delay in, or prevention of the performance of its obligations under this Contract if such delay or prevention results from the causes beyond such Party's control ("Force Majeure"). Force Majeure shall include, but are not limited to, the following:

- (a) Acts of God such as storms, floods or earthquakes;
- (b) Civil disturbances such as riots, strikes, revolutions, rebellions or insurrections;
- (c) Accidents or disruptions such as fires or explosions;
- (d) Any acts, laws, decrees, priorities, orders or regulations of any governmental authorities (national or local) including embargoes, quarantines, prohibitions of trade (including delays or failure to act), and delays or failures to issue any necessary license, permit or export or import authorization; or
- (e) Hostilities, invasions, wars (declared or not), or nuclear incidents.

ARTICLE 7. [REVISIONS]

- 7.1 KEPCO E&C shall have the right to request and subsequently to order the Contractor from time to time during the performance of the Services to make any changes to the Services for the

modification, addition or deletion of any part of the Services, provided that such changes fall within the general scope of the Services.

The Contractor shall promptly inform KEPCO E&C if the change result in changes to schedule and/or price and the Parties shall in good faith negotiate such schedule and/or price changes.

- 7.2 Notwithstanding Paragraph 7.1 above, any changes made necessary due to any default of the Contractor in the performance of its obligations under the Contract shall not be deemed to be the changes under Paragraph 7.1 above and such changes shall not result in any adjustment of the Contract Price.

ARTICLE 8. [INDEMNITY]

- 8.1 The Contractor shall indemnify, defend, and hold harmless KEPCO E&C and its successors and assigns, their directors, officers, agents and employees from and against any and all claims for loss or damages for bodily injury or death suffered by anyone whomsoever, or any property damage of third party, arising directly or indirectly or claimed to arise out of the Contractor's caused by the negligent conduct or negligent performance of the Services or resulting from the negligent performance by the Contractor's employees in the performance of the Services.
- 8.2 The Contractor, at its own expense, shall defend any suit or action brought against KEPCO E&C where the Contractor has agreed to indemnify and defend KEPCO E&C as provided in Paragraph 8.1 above, and shall pay all such judgments against each of them including reasonable attorney's fees and expenses arising and resulting therefrom. The Contractor shall keep KEPCO E&C fully informed of the progress of any such suits or actions, and shall agree to consult with KEPCO E&C at all reasonable times in regard to the progress of such suits or actions.

ARTICLE 9. [WARRANTY AND LIABILITY]

- 9.1 The Contractor warrants that it shall completely perform the Services for KEPCO E&C according to the provisions of this Contract, especially Appendix A [Scope of Services and Method of Performance].

In the event the Contractor ceases the performance of the Services due to any other reasons than those permitted by provisions of the Contract, KEPCO E&C may claim damages arising out of or resulting from such nonfulfillment based on the provision of Paragraph 8.1. In such case, KEPCO E&C shall have right to reject the payment invoiced by the Contractor for the performance of the Services.

- 9.2 The Contractor warrants that it shall perform the Services for KEPCO E&C making commercially utmost use of its skill and experience in an efficient, economic and thorough manner within its areas of expertise, in accordance with sound and currently acceptable engineering and management standards, practices, procedures, applicable laws and regulations.
- 9.3 In the event any of the Contractor's Services do not conform to the standards set forth in Paragraphs 9.1 and 9.2 above, KEPCO E&C shall promptly notify the Contractor of any nonconformity. The Contractor shall, at its own expense, upon receipt of written notice from KEPCO E&C, perform any additional Services necessary to correct the nonconformity so that negligent errors or omissions therein are removed to the reasonable satisfaction of KEPCO E&C. Any claims by KEPCO E&C for re-performance of the Contractor's Services shall be made within one (1) year from completion of such Services.
- 9.4 The Contractor's aggregate limit of liability for the Services, arising from violation of its obligations under this Contract, shall not exceed the total Contract Price set forth in Article 3.

ARTICLE 10. [LETTER OF PERFORMANCE COMMITMENT]

As a security for satisfactory performance of its obligation under this Contract, the Contractor shall provide KEPCO E&C with an unconditional Letter of Performance Commitment signed by the Contractor in favor of KEPCO E&C, in the amount of ten percent (10%) of the Contract Price shown in the Article 3 from the Execution Date of this Contract until thirty (30) days after the acceptance of the Services set forth in Article 22.

ARTICLE 11. [OWNERSHIP OF DATA AND PROPRIETARY INFORMATION]

- 11.1 All the reports and technical documents developed for KEPCO E&C by the Contractor under this Contract shall become the property of KEPCO E&C.
- 11.2 The Contractor shall keep confidential all the data and information provided and designated by KEPCO E&C as confidential or proprietary and shall not divulge them to any third parties.

ARTICLE 12. [SUSPENSION AND EXTENSION]

- 12.1 KEPCO E&C shall have the right to suspend or extend the completion of the Services for any reason upon fifteen (15) days prior written notice to the Contractor.
- 12.2 The completion shall be suspended or extended by a period of time reflecting the effect of the suspension or extension.

- 12.3 The Contractor shall resume the suspended Services within the earliest reasonable date after receipt of KEPCO E&C's request to do so, but not later than thirty (30) days following receipt of such notice.

ARTICLE 13. [TERMINATION]

- 13.1 KEPCO E&C may at any time terminate the Contract, with or without cause by giving the Contractor a fifteen (15) days' notice in writing ("Termination Notice"). Upon receipt of KEPCO E&C's Termination Notice, the Contractor shall either immediately or upon the date specified in the Termination Notice cease all further Services.
- 13.2 The Contractor shall be paid compensation for the Services performed up to the date of termination except in case the termination is made due to the Contractor's default.
- 13.3 In the event termination as described in Paragraph 13.1 above is made due to the Contractor's default or breach of obligations hereunder, the Contractor shall be liable to KEPCO E&C for all loss, damages and expenses as a result of such termination. In such case, KEPCO E&C shall have the right to reject payment to the Contractor.

ARTICLE 14. [ASSIGNMENT AND SUBCONTRACT]

- 14.1 Neither this Contract nor the benefits or obligations under this Contract shall be sold, assigned or transferred by either Party to any third parties including subsidiary or affiliated companies without the prior written approval of the other Party, with such approval not to be unreasonably withheld by either. In the event the approval is given by either for assignment or transfer, such an approval shall not relieve either from any liability and/or responsibility under this Contract.
- 14.2 Any subcontract, modification or termination hereof relating to the performance of the Services by the Contractor shall not be made without the prior written approval of KEPCO E&C.

ARTICLE 15. [DISPUTES AND ARBITRATION]

- 15.1 All disputes, controversies or differences which may arise between the Parties, out of or in relation to or in connection with this Contract, or for the breach thereof, if not settled by mutual agreement, shall, at the option of the initiating Party and upon written notice to the other Party, be finally settled by arbitration in Seoul, Korea in accordance with the International Arbitration Rules of the Korea Commercial Arbitration Board and under the laws of the Republic of Korea.
- 15.2 The award rendered by the arbitrator(s) shall be final and binding upon both the Parties concerned.

ARTICLE 16. [GOVERNING LAW]

All discrepancies, controversies or differences, or the validity, construction and performance of the Contract shall be governed by and interpreted in accordance with the laws of the Republic of Korea, without regard to its conflict of laws principles.

ARTICLE 17. [CONTRACT PERIOD]

The period of the Contractor's Services shall be _____ from the Execution Date. However, notwithstanding the forgoing, the contract period shall be regarded as the period from the Execution Date of this Contract to the expiration date of all rights and responsibilities including the Contractor's warranty, liability, settlement of all tax obligations, and any other obligation under this Contract.

ARTICLE 18. [LIQUIDATED DAMAGES FOR DELAY]

In the event that, for reasons attributable to Contractor, the Services are delayed beyond the completion date specified in the Contract documents, the Contractor shall pay liquidated damages to KEPCO E&C, not as a penalty, in an amount of zero point one two five (0.125) percent of the amount of each delayed portion for each day of delay. The liquidated damages shall not exceed ten (10) percent of the total Contract Price.

KEPCO E&C is entitled to deduct such liquidated damages from any payment due to the Contractor.

ARTICLE 19. [SEVERABILITY]

In the event that any articles, provision, portion or application thereof is held to be unenforceable or invalid by any court of competent jurisdiction, the validity and enforceability of the remaining provisions, portions or applications thereof shall not be affected thereby.

ARTICLE 20. [NOTICE]

All notices, communications and approvals required or permitted to be given hereunder shall be given in writing in English and shall be made to the address of the parties concerned in one of the following means ;

- Personal delivery to the designated representative of each of the parties ;
- by registered post ; or
- by telefax or email

the specific designation of the parties as set forth below ;

If to KEPCO E&C :

KEPCO Engineering & Construction Co., Inc.
269, Hyeoksin-ro, Gimcheon-si,
Gyeongsangbuk-do, 39660, the Republic of Korea
Attention: Mr. _____
Tel: +82-54-421-_____
E-mail: _____@kepcO-enc.com

If to the Contractor :

Attention: _____
E-mail: _____
Fax No.: _____

Either Party hereto may change its address by a notice given to the other Party in the manner set forth immediately above. Notice given as herein provided shall be considered to have been given upon receipt.

ARTICLE 21. [INFRINGEMENT OF PATENTS]

In the event any suit, claim, action or proceeding against KEPCO E&C or their designee arises from allegations that any proprietary rights arising from the Services provided by the Contractor under this Contract, including without limitation the computer programs, or any portion thereof constitute infringement of any patent, copyright, trade secret, Know-How, or any other proprietary right of any third party, the Contractor shall defend KEPCO E&C's or their designee's right, title and interest to the same against such suit, claim, action, or proceeding at the Contractor's expense and shall hold KEPCO E&C and their designee harmless from any damages or losses of any kind including without limitation legal fees. If as a result of such suit or proceeding, the proprietary rights or any part thereof is held to constitute an infringement and the use of said proprietary rights, or any part thereof, is enjoined, the Contractor promptly shall, at his option and expense, either procure for KEPCO E&C the right to continue using said proprietary rights, or the part thereof, or replace the same with non-infringing proprietary rights acceptable to KEPCO E&C.

ARTICLE 22. [ACCEPTANCE OF THE SERVICES]

22.1 The Contractor shall give KEPCO E&C written notice as soon as it has completed the Services. Within fifteen(15) calendar days after receipt of such notice, KEPCO E&C shall notify in writing whether to accept those Services or request Contractor for correction of any unfinished work or deficiencies.

- 22.2 If the Contractor performs or corrects the unfinished work or deficiencies and notifies KEPCO E&C that all such items of unfinished work or deficiencies have been corrected, KEPCO E&C shall give the Contractor the written notice of acceptance (“Acceptance of Services”) within fifteen(15) calendar days thereafter.
- 22.3 If KEPCO E&C fails to give notice of acceptance in the manner and at the times provided above, the Services shall be deemed to have been accepted by KEPCO E&C for all purposes of this Contract. The Acceptance of Services by KEPCO E&C shall in no event be considered a release of the Contractor's responsibilities, within the warranty period specified in Article 9.

ARTICLE 23. [RESPONSIBILITIES OF THE PARTIES]

23.1 KEPCO E&C's Responsibilities

- 23.1.1 KEPCO E&C shall provide available, data, criteria and other necessary information to the Contractor in a reasonably expeditious manner for the Contractor to perform the Services.

23.2 The Contractor's Responsibilities

- 23.2.1 The Contractor shall obtain necessary customary local licenses, permits, authorizations, customs clearances and handling, and agreements required for the Contractor to do business in the jurisdiction in which the Services are performed. The costs related to this Paragraph shall be for the Contractor's account.
- 23.2.2 The Contractor, its employees and agents shall comply with all legal provisions, regulations and safety rules for work applying in the territories in which the Services are carried out.

ARTICLE 24. [LANGUAGE AND UNITS]

The text of this Contract, technical specification or documents shall be made in English. The metric system and units shall be used for all principal instruction, instrumentation and other operating parameters. However, the foot-pound system can also be used in addition for reference.

ARTICLE 25. [ENTIRE AGREEMENT]

This Contract constitutes the entire agreement and understanding between the Parties as to the subject matter of this Contract and merges and supersedes all previous discussions, agreements and understanding of any and every nature between them. This Contract shall not be amended except by written agreement of the Parties.

ARTICLE 26. [CONTRACTUAL INTEGRITY]

- 26.1 The Contractor shall not offer or grant any bribes or undue benefits, including money, other articles, or treats, either directly or indirectly to any officials concerned, in the process of bid, award of contract, execution or performance of contract.
- 26.2 The Contractor shall not engage in any unfair practices that unreasonably undermine fair competition in a bid, such as bid-rigging or collusion to render the award of contract to a particular participant.
- 26.3 In the event of violation of the above, KEPCO E&C shall be entitled to:
- 1) terminate any contract with the Contractor including this Contract; and/or
 - 2) prohibit the Contractor from participating in any bids invited by KEPCO E&C for the period of two(2) years, and the Contractor shall not raise any objections or file any civil or criminal claims against KEPCO E&C for any measures taken by KEPCO E&C.
- 26.4 The Contractor shall be deemed to have signed and accepted the Integrity Pact attached hereto by signing this Contract.

ARTICLE 27. [EFFECTIVENESS]

This Contract shall be entered into full force and effect upon the signing of this Contract by the parties hereto.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be executed in duplicate each of which is deemed an original, by their respective duly authorized representatives as of the date first above written in the Preamble.

KEPCO Engineering & Construction Co., Inc.

By: _____

Name: Lee Weonjoo
Title: General Manager

By: _____

Name:
Title:

B. LETTER OF PERFORMANCE COMMITMENT

LETTER OF PERFORMANCE COMMITMENT

Date: [], 2020

Attn: []

To: Contract Management Department, KEPCO E&C
269, Hyeoksin-ro, Gimcheon-si
Gyeongsangbuk-do, 39660, the Republic of Korea

Re: Letter of Performance Commitment

As of [Date, 2020], we, [Guarantor Company's Name], a corporation duly organized under the laws of [Guarantor's Incorporated Country] with its principal place of business at [Guarantor's address] (the "Guarantor") write and submit this Letter of Performance Commitment ("Letter") for the rights and benefits of KEPCO E&C, a corporation duly organized under the laws of the Republic of Korea with its principal place of business at 269, Hyeoksin-ro, Gimcheon-si, Gyeongsangbuk-do, 39660, the Republic of Korea (the "Beneficiary") (the Guarantor and the Beneficiary may be referred as a "Party" individually or "Parties" collectively).

We, as the Guarantor, intends to provide the Beneficiary with a legally-binding commitment to perform obligations under [Contract No: KCN04-20-XX, Contract for "..."] executed between the Parties as of [Date, 2020] (the "Primary Contract"). Upon our receipt of the Beneficiary's notice of material breach of the Primary Contract and written request of payment, we hereby promise to unconditionally make payment in cash in the amount equal to ten percent (10%) of the Primary Contract amount unless we can prove with sufficient written evidence that we have not materially breached the Primary Contract.

We hereby duly submit this Letter to the Beneficiary with our representative's signature as below.

Company Name:
Authorized Signature: (Sign)
Print Name:
Print Title:

(+Notarization if necessary)

C. INTEGRITY PACT

Integrity Pact

In connection with conducting any business transactions with KEPCO Engineering & Construction Co., Inc. (KEPCO E&C), the undersigned hereby covenants the following:

1. We shall not offer or grant any bribes or undue benefits, including money, other articles, or treats, either directly or indirectly to any officials concerned, in the process of bid, award of contract, execution or performance of contract.
2. We shall not engage in any unfair practices that unreasonably undermine fair competition in a bid, such as bid-rigging or collusion to render the award of contract to a particular participant.

We acknowledge that, in case of breach of the above covenants, any of our contract with KEPCO E&C may be terminated and we may not be allowed to participate in any bidding invited by KEPCO E&C.

We will fully comply with this Integrity Pact, and will not raise any objections or file any civil or criminal claims against KEPCO E&C for the measures taken by KEPCO E&C.

By:_____

Name:_____

Title:_____

D. PAYMENT TERMS

- The Contractor shall submit an invoice to KEPCO E&C after completion of delivery of the final report;
- KEPCO E&C shall pay the accepted amount of the invoice to the Contractor within thirty (30) days after the receipt of the Contractor's invoice.