

Invitation to Bid

(No.: ITB21-KCN-05)

Technical Consulting Service for Development of the Statistics Based Radiological Characterization Guideline of very low contaminated wastes generated during decommissioning of the Commercial NPPs

September, 2021



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

The objectives of this technical consulting service are to provide the following services:

- (1) Survey of experiences of radiological characterization evaluation based on statistical techniques for clearance/recycling/reuse of solid material (e.g., metal and concrete) with low contamination during decommissioning.
- (2) Development of guideline for the radiological characterization based on statistical techniques for clearance/recycling/reuse of solid materials during decommissioning
- (3) Development of guideline for clearance/recycling/reuse of solid materials

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

E. CLARIFICATION

F. BID CURRENCIES

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.

For the avoidance of doubt, each entity shall submit only one (1) Bid Documents, and participating as a form of consortium with other entities is not allowed.

B. SUBMISSION OF BID DOCUMENTS

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

Attn. 1 : Mr. Lee Joonchul
General Manager
Contract Team
KEPCO Engineering & Construction Co., Inc.
E-mail: jclee76@kepc-co-enc.com

Attn. 2 : Mr. Lee Seunghyun
Contract Team
KEPCO Engineering & Construction Co., Inc.
E-mail: sh.lee@kepc-co-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 relevant evidences and/or descriptions, comments and/or proposals in connection with this Bid.

(b) Technical Proposal

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

(c) Applicable Bidder's Registration Certificate

- Bidders shall submit official registration certificate which proves that the Bidder is doing its business in accordance with the legal provisions of the country in which it is established.

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 October 19, 2021** 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@kepco-enc.com

F. BID CURRENCIES

The Bidder shall submit its Bid Documents with amounts in **U.S. Dollars (\$)**.

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.

All information provided by KEPCO E&C in the course of the bidding process is strictly confidential and must not be disclosed or distributed to any other third parties without KEPCO E&C's prior written consent, except for any information already in the public domain at the time of KEPCO E&C's first disclosure of this ITB to the bidder.

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 to submit a Bid Proposal pursuant to the ITB.

- Bidder(s) shall have experience in participating in research projects or services related to decommissioning the nuclear facilities including uranium mine as well as the nuclear power plants, or employee(s) who has such experience.
- Bidder(s) shall have experience in performing services related to radiological characterization evaluation of decommissioning wastes for the nuclear facilities including uranium mine as well as the nuclear power plants, or employee(s) who has such experience.

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.
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:

1. Bidder's qualification, experience, and capabilities for the task
 - Bidder's experience of the same or similar research projects or services related to decommissioning of the nuclear facilities including nuclear power plants as well as uranium mine
 - Experience or expertise associated with development of methodology or guideline for the radiological characterization evaluation of decommissioning radioactive wastes of nuclear power plants
 - Bidder's experience of the same or similar services related to the radiological characterization evaluation of decommissioning radioactive wastes for nuclear power plants
 - Description on the practical work experience related with the work scope

- Expertise or experience related to the projects of designated persons

2. Performance Plan

- Understanding on requirements of work scope in the technical specification.
- Qualitative guarantees for deliverables and time management
- Consistency with consultant objectives
- Adequacy of the project manpower and suitability of the proposed man hour
- Completeness and effectiveness of work plan and performance method of the Services

3. Manpower

- Project organization and qualification of the key personnel which the Bidder would propose for each task
- Knowledge on regulations, requirements, systems, and design.
- Similar project experience of designated personnel

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

- Evaluation Table(Technical)

No.	Title	Content	Score	Evaluation
1	Experience of Projects or Research	A. Experience of Projects or Research	15	- The number of performed(or participated) same/equivalent or similar projects or research experience related to the decommissioning of nuclear facilities (15)*
2	Project Management	A. Propriety of Project Management	15	- Consistency with technical consulting objective(15)
		B. Propriety of Project Plan	15	- Appropriateness of manpower allocation (MH) for each task (5) - Appropriateness of consultation schedule management (10)
3	Technical Level	A. Core Technology	15	- Possession of core technology related with radiological characterization evaluation of decommissioning radioactive wastes of nuclear power plants, or employee(s) who has such core technology. (15)
		B. Engineering Level	15	- Possession of experiences to perform the engineering services associated with radiological characterization evaluation of decommissioning radioactive wastes of nuclear power plants, or employee(s) who has such experience. (15)**

4	Manpower	A. Expertise and experience	25	- Expertise or Experience of designated persons(25)
Total			100	

* Same/equivalent experience : 3 or more project or research - 15 / 2 project or research - 12
/ 1 project or research - 9 / none - 6

Similar experience : 3 or more project or research- 10 / 2 project or research - 7
/ 1 project or research - 4 / none – 1

Between the same/equivalent experience score and similar experience score, higher score is applied

** Same/equivalent experience : 3 or more project or research - 15 / 2 project or research - 12
/ 1 project or research - 9 / none – 6

Similar experience : 3 or more project or research - 10 / 2 project or research - 7
/ 1 project or research - 4 / none - 1

Between the same/equivalent experience score and similar experience score, higher score is applied.

There will be 3 evaluators. Only the Bidders which get 85% or more score from technical evaluation shall be considered to be qualified for this Bid

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 Bidder shall be responsible for all costs and expenses associated with this Bid process including but not limited to Bidder's Bid Documents and clarification documents or meetings and has no right to claim the same against KEPCO E&C or any other related party.
3. 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 preferred 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.
4. Bidder(s) shall submit reference documents and/or attend meeting(s) (face-to-face, via teleconference, or any other platform as agreed) to clarify any aspect of the Bid Documents.
5. By the Bidder's submission of Bid Documents to KEPCO E&C, the Bidder agrees to all terms in this ITB and represents and warrants its Bid Documents to be true, correct and complete.
6. KEPCO E&C will not conclude a Contract with any bidder if the bidder will not accept the performance guarantee requirements described in CHAPTER III – INFORMATION for COMMERCIAL PROPOSAL. However, the guarantee may be provided with cash deposit into KEPCO E&C's account in case both parties agree.

CHAPTER III

INFORMATION for COMMERCIAL PROPOSAL

- A. PRICE BID FORM**
- B. DEVIATION REQUEST FORM**
- C. PERFORMANCE GUARANTEE REQUIREMENTS**

A. PRICE BID FORM

Budget for this contract is US\$ 90,970

Activity	Engineer	Rate, \$/WH	Workhour	Amount (US\$)
Task 1	Senior Engineer			
	Junior Engineer			
Task 2	Senior Engineer			
	Junior Engineer			
Task 3	Senior Engineer			
	Junior Engineer			
TOTAL Contract Price	-	-		

B. DEVIATION REQUEST FORM

Article #	DESCRIPTION	JUSTIFICATION

C. PERFORMANCE GUARANTEE REQUIREMENTS

Contractor shall furnish KEPCO E&C with a Performance Guarantee which shall be of Bank Guarantee or Standby Letters of Credit (LC). Guarantee shall be issued by KEB Hana Bank KEPCO E&C(S) branch.

All costs, expenses, fees and charges levied by all banks party to the Performance Guarantee shall be prepaid/borne by the Contractor. The Performance Guarantee shall contain all requirements of payment to KEPCO E&C.

Requirements of the Performance Guarantee:

- Designated bank information:
 - KEB Hana Bank (KEPCO E&C(S) Branch)
 - Swift Code: KOEXKRSE or KOEXKRSEXXX
 - Bank Address: 269, Hyeoksin-Ro, Gimcheon-Si, Gyeongbuk-Do, 39660, Republic of Korea
 - Tel.: +82-54-437-9405
- Application Rules: UCP Latest Version
- Guarantee period: Guarantee period described in the Contract
- Guarantee Amount: 10% of the Contract Price
- Beneficiary: KEPCO Engineering & Construction Co., Inc.
269, Hyeoksin-Ro, Gimcheon-Si, Gyeongbuk-Do, 39660, Republic of Korea
- The Performance Guarantee shall be denominated in the currency used in the Contract.
- It shall be the responsibility of the Contractor to ensure that its Performance Guarantee is valid at all times during the period of contract validity and further is in the full amount as contracted.
- The performance guarantee shall be held against payment to KEPCO E&C for any loss resulting from the Contractor's failure to perform its contractual obligations fully and properly without any reference to the Contractor.
- The performance guarantee shall be irrevocable shall be provided in as a first-demand guarantee.
- Bank shall use the wordings of the Appendix for the guarantee.

1. Bank Guarantee by KEB Hana Bank

APPLICANT: [To be Included]

BENEFICIARY: KEPCO ENGINEERING AND CONSTRUCTION CO., INC.
269, HYEOKSIN-RO, GIMCHEON-SI
GYEONGSANBUK-DO 39660, REPUBLIC OF KOREA

WE HAVE BEEN INFORMED BY OUR PRINCIPAL, [To be Included], CONCLUDED A CONTRACT THAT YOU HAVE SIGNED WITH THEM THE CONTRACT FOR [To be Included] WITH KEPCO ENGINEERING AND CONSTRUCTION CO., INC. (HEREINAFTER REFFERRED TO AS THE BENEFICIARY) FOR [Contract amount to be Included] TO PROVIDE CONSULTING SERVICE.

WE HAVE ALSO BEEN INFORMED THAT ACCORDING TO THE ABOVE-MENTIONED CONTRACT, A PERFORMANCE GUARANTEE IS REQUIRED.

AT THE REQUEST OF THE PRINCIPAL, WE, KEB HANA BANK, 35 ULCHIRO, CHUNG-GU, SEOUL, REPUBLIC OF KOREA, HEREBY IRREVOCABLY UNDERTAKE TO PAY YOU ANY SUM OF SUMS NOT EXCEEDING IN TOTAL AN AMOUT OF [To be Included] UPON RECEIPT BY US OF YOUR FIRST DEMAND IN WRITING AND YOUR WRITTEN STATEMENT STATING THAT THE PRINCIPAL IS IN BREACH OF HIS OBLIGATIONS UNDER THE UNDERLYING CONTRACT AND THE RESPECT IN WHICH THE PRINCIPAL IS IN BREACH.

THIS GUARANTEE WILL EXPIRE ON [To be Included], AT THE LATEST. CONSEQUENTLY, ANY DEMAND FOR PAYMENT MUST BE RECEIVED BY US AT THIS OFFICE ON OR BEFORE THAT DATE.

THIS GUARNATEE IS SUBJECT TO THE UNIFORM RULES FOR DEMAND GUARANTEES, ICC PUBLICATION NO.758.

2. Counter Guarantee by other bank and guaranteed by KEB Hana Bank

TO: KEB HANA BANK (KEPCO E&C(S) Branch)

Swift Code: KOEXKRSE or KOEXKRSEXXX

Bank Address: 269, Hyeoksin-Ro, Gimcheon-Si, Gyeongbuk-Do, 39660, Republic of Korea

AT THE REQUEST OF PRINCIPAL, PLEASE ISSUE ON OUR RESPONSIBILITY IN FAVOR OF KEPCO ENGINEERING AND CONSTRUCTION CO., INC. YOUR GUARANTEE IN THE FOLLOWING WORDING:

QUOTE

APPLICANT: [To be Included]

BENEFICIARY: KEPCO ENGINEERING AND CONSTRUCTION CO., INC.
269, HYEOKSIN-RO, GIMCHEON-SI
GYEONGSANBUK-DO 39660, REPUBLIC OF KOREA

WE HAVE BEEN INFORMED BY OUR PRINCIPAL, [To be Included], CONCLUDED A CONTRACT THAT YOU HAVE SIGNED WITH THEM THE CONTRACT FOR [To be Included] WITH KEPCO ENGINEERING AND CONSTRUCTION CO., INC. (HEREINAFTER REFFERRED TO AS THE BENEFICIARY) FOR [Contract amount to be Included] TO PROVIDE CONSULTING SERVICE.

WE HAVE ALSO BEEN INFORMED THAT ACCORDING TO THE ABOVE-MENTIONED CONTRACT, A PERFORMANCE GUARANTEE IS REQUIRED.

AT THE REQUEST OF THE PRINCIPAL, WE, KEB HANA BANK, 35 ULCHIRO, CHUNG-GU, SEOUL, REPUBLIC OF KOREA, HEREBY IRREVOCABLY UNDERTAKE TO PAY YOU ANY SUM OF SUMS NOT EXCEEDING IN TOTAL AN AMOUT OF [To be Included] UPON RECEIPT BY US OF YOUR FIRST

DEMAND IN WRITING AND YOUR WRITTEN STATEMENT STATING THAT THE PRINCIPAL IS IN BREACH OF HIS OBLIGATIONS UNDER THE UNDERLYING CONTRACT AND THE RESPECT IN WHICH THE PRINCIPAL IS IN BREACH.

THIS GUARANTEE WILL EXPIRE ON [To be Included], AT THE LATEST. CONSEQUENTLY, ANY DEMAND FOR PAYMENT MUST BE RECEIVED BY US AT THIS OFFICE ON OR BEFORE THAT DATE.

THIS GUARANTEE IS SUBJECT TO THE UNIFORM RULES FOR DEMAND GUARANTEES, ICC PUBLICATION NO.758.

UNQUOTE

IN CONSIDERATION OF YOUR ISSUING YOUR GUARANTEE AS ABOVE, WE, [To be Included], HEREBY GIVE YOU OUR IRREVOCABLE COUNTER-GUARANTEE AND UNDERTAKE TO PAY YOU ANY SUM OR SUMS NOT EXCEEDING IN TOTAL AMOUNT OF [To be Included] UPON RECEIPT BY US AT THIS OFFICE NO LATER THAN [To be Included] OF YOUR FIRST WRITTEN DEMAND. SUCH A DEMAND SHALL BE SUPPORTED BY YOUR WRITTEN STATEMENT THAT YOU HAVE RECEIVED A DEMAND FOR PAYMENT UNDER YOUR GUARANTEE IN ACCORDANCE WITH ITS TERMS AND WITH ARTICLE 18 OF THE UNIFORM RULES FOR DEMAND GUARANTEES.

THIS COUNTER-GUARANTEE IS SUBJECT TO THE UNIFORM RULES FOR DEMAND GUARANTEES, ICC PUBLICATION NO. 758.

PLEASE CONFIRM TO US THE ISSUANCE OF YOUR GUARANTEE.

CHARGES: ALL BANKING CHARGES SHALL BE FOR THE ACCOUNT OF THE APPLICANT.

CHAPTER IV

INFORMATION for TECHNICAL PROPOSAL

A. SCOPE OF THE SERVICES

B. METHOD OF PERFORMANCE

[Attachment – List of Participants to perform Services]

A. SCOPE OF THE SERVICES

To achieve the above objectives, the Contractor shall provide the technical consulting services to KEPCO E&C with the following tasks:

Task 1. Conduct of Kick-off Meeting

Contractor will host a 2-hour kick-off meeting in video conference with staff from KEPCO E&C within 2 weeks after the Contract signing (Execution Date). Activities that will be done during the meeting are as follows:

- Explanation and clarification of purpose and content of the technical service
- Contractor presents the plan and strategy for performing this engineering service.
- Both discuss details on how to perform the consulting services and on the schedule

The Contractor provides the meeting minute including the presentation materials to KEPCO after the meeting

Task 2. Preparation of Technical Report

The Contractor prepares a technical report which includes the following information.

- (2.1) Survey of cases/experiences (including licensing process with regulatory authority and lessons learned) of radiological characterization evaluation based on statistical techniques for unrestricted clearance and restricted clearance (i.e., recycling/reuse) of solid material (e.g., metal and concrete) with low contamination during decommissioning.
- (2.2) Development of guideline for the radiological characterization based on statistical techniques for unrestricted clearance and restricted clearance (i.e., recycling/reuse) of solid materials (e.g., metal and concrete) with low contamination during decommissioning including the following but not limited to:
 - ※ *It should be noted that all the necessary information shall be incorporated into the guideline to be developed*
 - (a) Methodology of the radiological characterization (including evaluation model) based on statistical including the following but not limited to:
 - Methodology of selecting the suite of radionuclides of concern
 - Methodology of deriving (or evaluating) nuclide vector and scaling factor based on the statistical distribution for each of the various waste
 - Methodology of validation of representativeness/homogeneity of radiological measurements

- Applicability of background level (i.e., natural radionuclides)
- (b) The methodology of the radiological measurement (including techniques) for solid materials with low contamination for each type and configuration of solid materials and each type of contamination, including the following but not limited to :
- Survey of radiological measurement techniques
 - Method and process/procedure of radiological measurement
 - Method of selecting the measurement techniques (considering MDA, etc.)
 - Permitted averaging areas and masses
 - Survey of sampling techniques/methods
 - Method of determination of the number of sampling and its locations
- (2.3) Development of guideline (including process/procedure) for unrestricted clearance and restricted clearance (i.e., recycling/reuse) of solid materials including the following but not limited to:
- ※ *It should be noted that all the necessary information shall be incorporated into the guideline to be developed*
- Statistical estimation method for each type of contamination distributions (statistical tests)
 - Method for determining survey units for each type of wastes
 - Methodology and procedure for decision-making of (un)restricted clearance of solid materials

The Contractor provides the Preliminary Technical Report to KEPCO E&C when the above work activities are completed. KEPCO E&C will review the report and send comments and questions, if any. The comments shall be reflected in the Final Technical Report.

Task 3. 2nd Technical Meeting

A technical meeting is held after completion of Preliminary Technical Reports performed in Task 2 at Contractor's office for three (3) days with KEPCO E&C staff, or, if not available, in video conference. Activities that shall be done during the meeting are as follows

- (3.1) The Contractor presents the Preliminary Technical Report in detail.
- (3.2) Both sides discuss the results of the performance in the Preliminary Technical Report.

The Contractor shall revise the reports if there is any comment which impact on the reports during the technical meeting and submit the Final Technical Report to KEPCO.

Details of the technical meeting agenda will be prepared at the time of completion of the Preliminary Technical Report

B. METHOD OF PERFORMANCE

Consultation Schedule

The Contract Period shall be 8 months from the Execution Date.

Tasks	Months from the Contract							
	1	2	3	4	5	6	7	8
Task 1 Kick-off meeting	◆●							
Task 2 Preparation of technical report	◆	—	—	—	—	—	—	●
Task 3 Technical meeting	◆	—	—	—	—	—	—	●
Final Technical Report for Task 2	◆	—	—	—	—	—	—	●

Method of Performance

The Contractor shall keep confidential all the data and information from this Contract, and shall not divulge them to any third parties. KEPCO E&C will provide information so that the Contractor could perform the tasks. KEPCO E&C will review the results of each task and Preliminary Technical Report which is prepared by the Contractor. KEPCO E&C will discuss the problems and issues encountered during the execution of Task 1 to Task 3.

Deliverables

The final deliverables are fully verified technical report which incorporates the KEPCO E&C's comments and all of the analysis input and output files in the tasks.

No	Activities/Deliverables	Date of Submittal*
1	Meeting minute including Presentation materials for each meeting	Within 2 weeks after each meeting
2	Preliminary Technical Report	T0 + 7 months
3	Final Technical Report	T0 + 8 months

*T0 : Execution Date

Attachment (This part will be attached to the Contract)

List of Participants to perform Services

Name	Position	Rate/Hour

Contractor shall obtain KEPCO E&C’s prior approval to change participants to perform the Services.

APPENDIX

TERMS and CONDITIONS

A. GENERAL TERMS AND CONDITIONS

B. INTEGRITY PACT

C. PAYMENT TERMS

A. GENERAL TERMS AND CONDITIONS

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PREAMBLE

This service contract (the “Contract”) is made and entered into effective as of this ____ day of ____, 2021 (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 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 AND INTERPRETATION]

- “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 U.S. \$_____ 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].

- 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, including Appendixes, 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. Taxes 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 assignees, their directors, officers, agents and employees from and against any and all claims for loss or damages including 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 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. 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 with degree of skill and care ordinarily exercised as professionals performing similar services under similar circumstances and conditions and 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 to KEPCO E&C for the Services, arising from violation of its obligations under this Contract, shall not exceed the total Contract Price set forth in Article 3. The limitations of liability set out shall not operate to exclude Contractor's liability for Contractor's willful misconduct or gross negligence.

ARTICLE 10. [PERFORMANCE GUARANTEE]

As a security for satisfactory performance of its obligation under this Contract, the Contractor shall provide KEPCO E&C with an unconditional irrevocable performance guarantee in a form of a bank guarantee or standby L/C furnished by a bank designated by KEPCO E&C. The guaranteed amount shall be ten percent (10%) of the Contract Price, and the duration shall be at least from Execution Date of this Contract until thirty (30) days after the end of Contractor's Services period described in Article 17 [CONTRACT PERIOD].

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.
- 11.3 Contractor shall retain any pre-existing intellectual property ("IP") and hereby grants to KEPCO E&C and its affiliates an irrevocable, non-exclusive, fully paid world-wide sublicensable license to use the Contractor's IP and/or any embedded IP to the extent necessary to utilize results of the Services under this Contract.

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. In the event the approval is given by a Party for assignment or transfer, such an approval shall not relieve the other Party 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 until _____ 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 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. [TIME ZONE/TIME PERIOD]

Any reference in this Contract to a specific time shall refer to Korea Standard Time (KST).

ARTICLE 26. [DRAFTING]

Each of the Parties hereto acknowledges that each Party was actively engaged in the negotiation and drafting of this Contract and that no law or rule of construction shall be raised or used which the provisions of this Contract shall be construed in favor or against any Party hereto because one is deemed to be the author thereof.

ARTICLE 27. [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 28. [CONTRACTUAL INTEGRITY]

- 28.1 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.
- 28.2 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.
- 28.3 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.
- 28.4 The Contractor shall be deemed to have signed and accepted the Integrity Pact attached hereto by signing this Contract.

ARTICLE 29. [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, Joon Chul
Title: General Manager

By: _____
Name: _____
Title: _____

B. 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:_____

C. PAYMENT TERMS

Contractor shall submit to KEPCO E&C an invoice of total Contract Price after completion of all the tasks.

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.