

30th July 2020

Dear Interested EPC Bidders,

SUBJECT : INVITATION FOR EXPRESSION OF INTEREST ON EPC PROJECT OF BIOREFINERY SYSTEM AT EASTERN ECONOMIC CORRIDOR OF INNOVATION

Dear Sir,

Worley (Thailand), have been assigned from NSTDA for acting as the engineering consultant for the EPC Project of Biorefinery Pilot Plant at EECi that belongs to the National Science and Technology Development Agency (NSTDA), is hereby inviting all interested EPC bidders to prepare and submit the Expression of Interest (EOI) for Engineering Procurement and Construction ("EPC") on a Lump Sum Turn Key basis of the Biorefinery Pilot Plant at the Eastern Economic Corridor of Innovation (EECi), located at Pa Yup Nai, Wang Chan District, Rayong Province, Thailand.

This Expression of Interest Enquiry has been issued to establish the interest of bidders for this EPC, who are interested in performing service of EPC for this project. The basic information and scope of work in this project is presented in **Attachment 1**.

In case that your company is interested in participating in the bidding process of this project, please fill in the EOI questionnaire given in **Attachment 2** in order to provide your company background and technical capability. In additional, please review and sign the Non-disclosure Agreement (NDA) form as attached in **Attachment 3** and return together with the EOI form in order to proceed to the next clarification sessions where further project information will be provided.

Your response of Attachment 2 and Attachment 3 shall be returned by email no later than **30th August 2020 at 14.00 hrs.** Bangkok standard time at biorefinery-epc@eecr.or.th

Should you have any queries, please do not hesitate to send your query via biorefinery-epc@eecr.or.th

Remarks:

1. This EOI does not constitute an invitation to bid. Thus, submitting this EOI form does not automatically guarantee a firm commitment from NSTDA that your company will be on the bid list until you are in a receipt of the tender document when issued. However, a company that does not participate in this EOI process can also participate in the bidding process later when the official procurement process starts by NSTDA.
2. The main purpose of this EOI process is to collect preliminary information on potential and capability of EPC companies in Thailand. This information will help NSTDA prepare the official procurement process in the most effective way.
3. Your questions and our answers via biorefinery-epc@eecj.or.th will be collected and distributed among all participants via the registered email address, and also be published on EECi Website at www.eeci.or.th

Yours faithfully,

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1. Attachment 1-Scope of Work
2. Attachment 2-EOI questionnaire
3. Attachment 3-NDA

Attachment 1- Scope of Work:

1. **Tentative Start Date:** 1st January 2021
2. **Tentative Work Duration:** 24 months
3. **Project Overview & Description of Services**

Project Name: EPC Project of Biorefinery Pilot Plant at EECi

Project Schedule: Q (1) 2021 to Q (4) 2022

Project Overview:

The Thai Cabinet resolved on June 28, 2016, to endorse the development of the Eastern Economic Corridor (EEC) covering Chonburi, Rayong and Chachoengsao provinces as a focal point for the implementation of Thailand 4.0 initiative. Thailand 4.0 initiative aims at promoting 10 strategic industries as the “New Engines of Growth” for the country and uplifting Thailand from an efficiency-driven economy to an innovation driven one. Such endeavour will need high-level technologies and advanced knowledges to enable the strategic industry development; therefore, the Ministry of Higher Education, Science, Research, and Innovation (MHESI) proposed the development of the Eastern Economic Corridor of Innovation (EECi) as the innovation hub inside the EEC to support the government initiative.

Biorefinery enables the use of agricultural resources and is expected to grow at a rapid pace in the future. Many technology-leading countries and agricultural-oriented countries have put the biorefinery industry as a targeted industry with mechanism to support R&D investment in private sector as this will create value-added in raw materials of agricultural and biological resources. In terms of raw material readiness, Thailand is a major producer of sugar and starch.

The biorefinery industry is a key solution to transform biomaterial into energy or other valuable substances in other industries. As such the government has approved the investment policy in biorefinery infrastructure at EECi as a central facility to advance targeted biorefinery technologies to higher Technology Readiness Level (TRL).

The National Science and Technology Development Agency (NSTDA) has been assigned to be responsible for the development of the innovation zone Eastern Economic Corridor (EECi), which will be a center for research and technology development to meet new industrial development. By the government's policy with a project to establish a city for Bio-innovation (BIOPOLIS) in Eastern Economic Corridor.

The Biorefinery Industry is one of the target industries in response to the BCG Economy policy of the country, which Thailand has the potential to push for the development of the bio-refinery industry to be a mechanism for the growth of economy by using the important advantage that is availability of raw materials.

Project Scope of Work:

This scope of work is for Engineering Procurement and Construction ("EPC") on a Lump Sum basis of the Biorefinery Pilot Plant at EECi, located at Pa Yup Nai, Wang Chan District, Rayong Province, Thailand.

Perform Detailed Engineering, Procurement, Construction & Construction Management, Commissioning and Start Up.

The project covers the followings: (The details of scope of work will be indicated in TOR.)

- GMP Process Facility
- Non-GMP Process Facility
- Process Utilities
- Laboratory Analytical Equipment
- Laboratory Furniture and Utilities
- Office, Meeting Room Furniture and Accessories

The EPC's scope of work consists of, but not limited to, the below list.

PROJECT Management (General Requirements)

- General Requirements: The EPC CONTRACTOR shall effectively plan, schedule, monitor, control, co-ordinate and manage the performance and implementation of the WORK and all interfaces and CONSTRAINTS for the duration of the EPC CONTRACT in accordance with the requirements of the CONTRACT and APPLICABLE LAWS.
- The EPC CONTRACTOR shall ensure that his management strategy implemented for the PROJECT includes for all risks and the principles of continuous improvement and learning from within the EPC CONTRACTOR's own organization and industry best practices.

Engineering (General Requirements)

- The EPC CONTRACTOR shall verify engineering data and information from Basic Engineering Design or FEED and perform all required and necessary engineering for the correct and complete detailed definition of the work and the plant in accordance with the terms and requirements of the TOR and APPLICABLE LAWS.
- Engineering shall comprise detailed engineering design of:
 - GMP Biorefinery Pilot Plant and Utilities System
 - Non-GMP Biorefinery Pilot Plant and Utilities System
 - Process Utilities
 - Laboratory Furniture and Utilities
 - Office, Meeting Room Furniture and Accessories

- Verification of the Existing Building included Sign Approval as per Thai Law Requirement
- Constructability Review and Development of Construction Procedure

Procurement Services and Supply (General Requirements)

- The EPC CONTRACTOR shall perform all required and necessary procurement services and shall supply all required and necessary EPC CONTRACTOR ITEMS in a correct and timely manner in accordance with the requirements in TOR.
- Procurement of laboratory analytical equipment
- Equipment Logistics

Construction (General Requirements)

- The EPC CONTRACTOR shall perform construction including but not limited to fabrication, assembly, construction, testing, pre-commissioning and commissioning, preservation, loadout of the new Biorefinery Pilot Plant (GMP, Non GMP, Utilities, Office, Furniture & Laboratory and Accessory) in accordance with the requirements in TOR

Pre-Commissioning & Commissioning Engineering

- EPC CONTRACTOR shall develop verification check sheet of general construction completion which is to be used as pre-requisite condition to initiate pre-commissioning activity. The verification shall include NSTDA APPROVAL of general construction for partial or full completion of sub system.

COMPLETION OF WORK

- HANDOVER CERTIFICATES
- Final Assessment and FINAL ACCEPTANCE CERTIFICATE
- Warranty
- The details of warranty and 2-year spare part will be indicated in TOR.

--End of Attachment 1--

Attachment 2- EOI questionnaire

1. CONFIRMATION OF INTEREST

a) Name of Company (Bidder entity who wish to participate in bid)	
b) Address	
c) Place of Incorporation/Registration:	
d) Year of Incorporation/Registration:	
e) Business Activities	[list all lines of business and provide notarized copies of original documents]
f) Contact Person <ul style="list-style-type: none"> • Name • Position (in Company) • Phone No./ Mobile Phone (with complete ISD codes) • Fax No. (with complete ISD codes) • Contact E-Mail Address 	
g) Confirmation of Interest	<p>We are:</p> <p><input type="checkbox"/> Interested in bidding as a lump sum EPC for the EPC of Biorefinery Pilot Plant at EECi. Our responses to preliminary questions are attached;</p> <p><input type="checkbox"/> Not interested in bidding as a lump sum EPC for the EPC of Biorefinery Pilot Plant at EECi.</p>
h) In case Not Interested, please provide the reason.	

Contact Details:

Name of contact person: _____

Position title: _____

Address: _____

Email: _____

Website: _____

Telephone number: _____

Mobile: _____

Signed for and on behalf of the invitee

I warrant that in submitting this response, I have read and accept the conditions of the EOI.

Signature of invitee's authorised officer: _____

Name: _____

Position: _____

For and on behalf of: _____

Date: _____

2. EXPERIENCES IN EPC PROCESS PLANT IN LAST 5 YEARS

Project Name	Employer name and location (& other information – if any)	Contract Amount (USD)	Award date and Period of performance(month)	Brief Description of Work Scope

3. ORGANIZATION, MANPOWER AND WORKLOAD

Please submit the following items:

- Please specify Bidder or Bidder's branch or subsidiary to be assigned for services in case that the job is not performed by Bidder's headquarters.
- Please provide the corporate organization chart with clearly identified Role & Responsibility as an attachment.
- Please provide the Organization chart of the team to be assigned for services if awarded the Contract.
- A manhour histogram reflecting the existing secured work, future expected works (Q3-2020 to Q4-2021) and this scope of work. The manhour histogram demonstrates that Bidder has adequate resources, either in-house or external, to complete the work
- Please submit a Preliminary Schedule.

4. PERSONNEL AVAILABILITY

- Please confirm the availability of the proposed personnel at the start of the services
- Please confirm that the proposed personnel are either currently employed by the Bidder or will be employed by the Bidder prior to the start of services.

5. ENGINEERING PARTNERSHIP / JOINT VENTURE / SUBCONTRACTING

- Please confirm that bidder will execute the scope of work in his own right without recourse to subcontracts, alliances or other joint ventures. or;
- Please confirm that bidder will execute this scope of work under Joint Venture Agreement or Consortium Agreement.
- The EPC Contractor shall not sub-contract all or part of the Services without written consent from the Client. The EPC's consent for such sub-contracting does not relieve the Consultant from liabilities or obligations under this Agreement. The EPC shall be liable for all defaults and negligence of the sub-contractor or sub-contractor's agents or employees.
- The sub-contracting in violation of the provision of the first paragraph shall be subject to a penalty at the rate of 10% (Ten Percent) of the sub-contracted amount. However, this shall not abridge the right of the Client in terminating this Agreement.

6. Quality

- Please confirm that bidder will execute the project with work quality system. If yes, please selection option below and provide as attachment of this part.
 - a. Quality manual
 - b. QA/QC procedure
 - c. Inspection and Test Plan
- Please provide the Quality achievement certificates. If yes, please select option below and provide as attachment of this part.
 - a. ISO 9001
 - b. Other Quality achievement certificates

7. Security, Safety, Occupational Health and Environment

- Please provide the SSHE policy, program objective & management system as an attachment.
- Please provide the SHE organization as an attachment
- Please provide the SHE achievement certificate e.g. ISO 14001, OSHAS18001, other SHE performance awards

8. In case of JV or Consortium, please list all the names of the companies who are in the same JV or Consortium below:

- a. ...
- b. ...
- c. ...

NOTE: JV Agreement Form or Consortium Agreement Form will be required as an attachment upon the submission of the bidding proposal. We do not require such form at this moment.

--End of Attachment 2--

Attachment 3- Non-Disclosure Agreement (NDA)

NDA in Thai version, attached within this email, shall be applied as mandatory. However, the NDA in English version can be used only in the case where the company authorized signee is a foreigner.