



# CSIR-Indian Institute of Petroleum

(Council of Scientific & Industrial Research)

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## **Subject: Invitation of Expression of Interest (EOI) 2018-19**

Indian Institute of Petroleum (IIP), Dehradun, and ISO 9001 Institute, is one of the leading constituent laboratories under Council of Scientific & Industrial Research (CSIR) engaged in R&D work in petroleum refining, natural gas and petro-chemicals and contributing towards creation of state of the art technology & products. CSIR-IIP has been working on several projects of natural importance independency and also in collaboration with well-known Indian foreign organizations.

E-BIDS for EOI are hereby invited through Central Public Procurement (CPP) Portal (<https://www.etenders.gov.in>) and only online quotations will be entertained from the registered bidders of CCP Portal.

**Reference No.: PUR/1/18-19/EOI/504/IKG/CSD/PO:**

**“A Fully Automated Customized Twin Reactor Set-up for Syngas Conversion with Online Gas Analyzer”**

**Last date of submission : 24th October, 2018 by 3:00 PM**

**Date of opening : 25th October, 2018 at 3:00 PM**

Interested bidders may download the details from our Website: [www.iip.res.in](http://www.iip.res.in) or on CPP Portal (<https://www.etenders.gov.in>).

(S.O., Store & Purchase)



## **Subject: Invitation for Expression of Interest (EOI) for – A Fully Automated Customized Twin Reactor Set-up for Syngas Conversion with Online Gas Analyzer**

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EOI are hereby invited from reputed engineering/fabricating companies/firms for putting up “ A Fully Automated Customized *Twin Reactor Set-up for Syngas Conversion* with an Online Gas Analyzer.”

Firms having done similar nature of work can apply along with the documentary evidence for the work done in the past. The firms should also meet the other parameters as given below and are required to submit following information along with their applications.

- 1) Name of the firm with their constitution/proprietorship/partnership detail, etc with the date of establishment/registration.
- 2) List of similar works successfully completed in the last ten years as above with testimonials from department concerned and the details of contact persons.
- 3) The firm should not have incurred any loss in more than two years during the last five years ending 31<sup>st</sup> March, 2018.
- 4) List of works in hand giving nature of work, department, cost, date of start and completion with present progress and the contact details of clients.
- 5) Balance sheet of the firm for previous two years (2016-17 and 2017-18) must be enclosed with the offer certified by chartered accountant evidencing turnover.
- 6) Please submit the article of association with offer to know the standing of the firm.

Offers against this EOI should be submitted in form of E-BIDS through Central Public Procurement (CPP) Portal (<https://www.etenders.gov.in>) and only online quotations will be entertained from the registered bidders of CCP Portal. The last date of submission of EOI is 24<sup>th</sup> October, 2018 by 3:00 PM. and shall be opened on 25<sup>th</sup> October, 2018 at 3:00 PM. Shortlisted firms shall be called for making a presentation at a later date.

If any information furnished by the applicant is found incorrect at a later stage, he shall be liable to be debarred from tendering/taking up of work in CSIR. CSIR-IIP reserves the right to verify the particulars furnished by the applicant; independently. CSIR-IIP reserves the right to reject any prospective application without assigning any reason.

### **Details of the fully automated customized Twin reactor set-up for syngas conversion with online analyzers:**

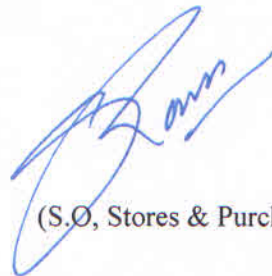
- a) **Reactor system for syngas/CO<sub>2</sub> to light olefins**
  - Dual reactor system with options to be operated individually or in series or in parallel mode
  - Six Gases—CO, CO<sub>2</sub>, H<sub>2</sub>, N<sub>2</sub>, Air and hydrocarbon(C<sub>2</sub>/C<sub>3</sub>), one liquid feed 0.01-10 ml/min (kerosene/naphtha), with operating pressure up to 80 bar, temperature up to 900°C (max. temperature variation ±5°C or better), catalyst loading capacity: 5-20g and 10-50g.
  - High pressure gas-liquid separation system, control cabinet, computer control data acquisition system, online/offline reaction monitoring system, automated operation and control modules, analyzer for complete mass and flow balancing, automation and safety modules for pressure, flow and temperature monitoring & control.
- b) **Online product stream analyzers**

A Four channel standard/customized GC/RGA and a single channel GC-FID for precise and accurate data generation from the online/real time analysis of gaseous and liquid product streams respectively from the

reactors will enable to establish the optimum process condition requirement and to carry out complete mass& component (C & H<sub>2</sub>) balances. The gas samples will mainly consist of H<sub>2</sub>, He, H<sub>2</sub>S; Permanent gases: N<sub>2</sub>, O<sub>2</sub>, CO<sub>2</sub>, CO; Hydrocarbons: C<sub>1</sub>-C<sub>6</sub>, isoprene; DME and oxygenates etc., while liquid samples will have hydrocarbons comprising of olefin, paraffins & aromatics (C<sub>5</sub>-C<sub>15</sub>) etc.

#### **Terms and conditions for instruments**

- The supplier must provide installation, commission, and training for a group user from operating the instrument to complete structure determination/solution, general maintenance at site without any additional cost with supply of all the relevant manuals and documents in printed format.
- The supplier must demonstrate that they have appropriate set-up and capability to provide after-sales service effectively in India for prompt service (down time should not be more than 48hours)support along with number of service engineers specially trained on the offered system.
- Vendor should provide the user list for the same instrument with contact details.
- Necessary safety procedures



(S.O, Stores & Purchase)