**MARKET STUDY FOR ACRYLIC ACID (BOTH ESTER GRADE AND GLACIAL GRADE) FOR BPCL**

**INTRODUCTION**

BPCL Kochi Refinery (KR) has crude processing capacity of 15.5 Million Metric Tones per Annum (MMTPA). The refining capacity has been augmented to the present level through progressive revamps, addition of various process units and incorporation of advanced refining technologies.

BPCL Kochi Refinery has been continuously striving to implement some path breaking value enriching schemes and has always been at the forefront to implement such initiatives to add value in terms of profitability and diversification.

Kochi Refinery (KR) is currently producing Propylene Derivative Petrochemical Products (PDPP) such as Ester Grade Acrylic Acid (EAA), 2 Butyl Acrylate, 2 Ethyl Hexyl Acrylate and Oxo-Alcohols from Polymer Grade Propylene Generated in Petro FCCU Unit of existing Refinery.

Acrylic Acid unit is designed to produce 160 KTPA Ester Grade Acrylic Acid (EAA), out of which 113 KTPA is utilized in Acrylates unit to produce 180 KTPA Butyl Acrylate (BA) & 10 KTPA 2 Ethyl Hexyl Acrylate (2EHA) and balance 47 KTPA EAA is presently available for merchant sales. However, the current production is limited based on demand of EAA.

BPCL is planning to carry out a feasibility study for converting this EAA to GAA (Glacial Acrylic Acid) which would improve the sales volume.

1. **OBJECTIVES**

In order to facilitate the setting up of a Glacial Acrylic Acid Unit (GAA) unit, a market study to establish the following objectives is proposed:

1. Supply-Demand balance & Prices of Ester Grade Acrylic Acid and Glacial Grade Acrylic Acid (in India and logical export market)
2. List of customers (product wise / grade wise - with volumes) capable of evacuation of products. This should include potential customers who can do bulk evacuation of products for reducing storage requirements
3. Details of evacuation of Products. This may include information about what is the mode of product evacuation bulk containers, drum etc.

The market survey would help KR to arrive at the best economical option for GAA unit configuration.

1. **BIDDER’S SCOPE OF SERVICES**

Bidder shall consider the following specifically (but not limited to) in the scope of services.

Report should cover all of the below scope for both Ester Grade Acrylic Acid and glacial Garde Acrylic Acid separately. (Hereinafter Acrylic Acid (AA) means EAA and GAA)

* General Economic Overview (India)
* Assessment of targeted markets in India and logical export countries in terms of
  + Historical and present market size (grade wise, end-product application wise and total)
  + Potential for growth based on firm, announced and speculative projects
  + Supply, Demand and Gap scenario for each grade shall be indicated for the historical 10 years, current period (updated till the final report submission) as well as that projected over next 20 years with description of basic drivers behind demand as well as supply growth projections.
  + Target Customers in India segment wise & region wise
  + Analysis to include logical export destinations to be targeted
  + The domestic market is to be divided into four key territories for the purpose of the analysis: Northern, Southern, Eastern and Western territories.
* Understanding of historical, current and future trends of domestic import-export.
* Overview of the major petrochemical players in India including understanding of their capacities / capacity utilization, major expansion plans, key geographies of operation and foreign participation, if any.
* Commercial factors including trade philosophy, economic policies, cost competiveness etc., driving import / export / consumption.
* Current supply sources, term of contracts (short/spot/long), off-take arrangements (ex-works/delivered basis) to be provided for leading and major domestic consumers, along-with different types of domestic pricing mechanisms prevailing in Indian market.
* Estimates of inland freight costs for all modes of product movement (including coastal movement) to each of the domestic regional markets. Similarly for logical export markets details of transportation, shipping aspect, etc to be provided.
* Special requirement for storage and handling, if any
* Current and likely developments of legal and fiscal issue affecting trade:
  + Possible incentives or restrictions to international trade.
  + Import and export duties.
  + Taxes and duties on inter-state movements (possible drawbacks)
  + Any other statutory regulation / fiscal issues impacting petrochemical business in the country.
  + GST Regime related Issues.
  + Proposed location (Kochi) to be evaluated to determine logistic costs, expected netbacks to each of the listed regions.
  + To logical export markets.
  + Detailed break-up of all taxes and duties (with calculation for price buildup) taken must be included in the report and model delivered to the client.
* Any bulk or special discounts for products in Indian Market. Please Refer to Page No. 43
* The following should be considered for pricing:
  + Historical 10 years (2013-2023)
  + Current as well as forecasted prices up to 2048 with description of current, past and expected futuristic trends in petrochemicals price cycles.
  + Prices should be given region wise & grade wise
  + Price projections with collaborating methodology in both “dollars of the day” and “constant 2023 dollars”.
  + Correlation with Crude oil & Propylene.
* Scenario analysis of the price forecast – high, medium, low, based on assumptions relating to various factors affecting pricing. The scenarios may include crude pricing scenario, forecasted margins in the value chain of Acrylic Acid (AA which include both the Grades), etc.
* Indian Market Price Future Projections should be based on international reference price quotes, with estimates of domestic price build-up formula for AA based on import parity prices. The import parity prices should have a clear break-up in terms of base quote price, details on ocean freight, ocean insurance, port handling charges, import duties etc. The price build-up for AA to incorporate inland freight associated with selling in Northern, Southern, Eastern and Western territories. Detailed excel working with all links in place for the same to be provided.

The price forecast to include the following for each forecast:

* + Details of the price forecast methodology,
  + Factors driving the price forecast,
  + Trends in pricing
  + Price-setting mechanisms / influencing factors.
* Netback AA prices for BPCL KR considering various domestic regions & logical export markets to be provided. Detailed build up calculations with individual components to be provided. This should includes all components including sale discounts if any.
* The report to cover average production Cash Cost and Margin analysis for AA. The basic philosophy followed for arriving at Cash Cost of Production, Cash Cost Margin and Net-backs etc. to be stated in the report for clarity. The cost of production and margins over the feed stock (Propylene) to be provided with detailed calculations.
* Report shall identify benchmark used by major Suppliers before quoting to buyer.
* Competitiveness
  + Details of being competitive with imported products in India, including information on import duties, FTA etc. Cost competitiveness would include regional comparison of typical cost of production and typical logistics for placing the product with standard market specifications in India for an Indian producer, a Middle East producer, a Chinese producer, a producer in NEA and a producer in SEA. Threats and impact of import from Free trade agreement (FTA) countries (e.g., South Korea, Singapore, ASEAN nations).
  + Details of being competitive in targeted export markets.
* Report shall provide detailed product specification of Ester Grade Acrylic Acid and Glacial Garde acrylic acid acceptable in domestic and export market. Bidder shall also provide spec of GAA required for SAP manufacturing.
* Report shall provide high level information regarding technologies available for the products along with a list of commercially proven technologies for the same
* Identify Market entry barriers for individual regions.
* Carrying out a detailed SWOT analysis for marketing of AA in individual regions. Bidder shall also provide marketing plans for domestic and international sale of all products.
* Individual product prices as well as Demand and supply forecasts to be classified into optimistic, realistic, and pessimistic scenarios for different regions in India as well as on country basis for logical export markets
* Report shall identify various trading routes in India, major distributors and DCAs etc.
* Report shall identify major challenge in selling AA in domestic market. This may include any logistic, technical constraints or any other market factors.
* Report shall identify whether substitutes are available for the Acrylic acid or the finished product .
* Report shall identify percentage of AA used in major application
* Additionally, Bidder to submit a Report of all India level Demand, Supply, Gap details of Superabsorbent Polymer for last 5 years and next 10 years along with CAGR and major drivers.

1. **METHODOLOGY**

## Bidder shall be responsible for all aspects of the study and shall nominate a competent and experienced Project Manager who will be the primary point of contact for dealings with BPCL. The Project Manager shall ensure that the work is carried out in accordance with the Contract and the schedule targets are met and that BPCL is kept continuously informed on the progress of the work.

## The Project Manager shall be supported by a core team of specialists equipped to deliver the assignment completely to the satisfaction of BPCL.

1. **DELIVERABLES**

Broad deliverables shall be a Draft Report and a Final Report in MS Word, MS Excel, PDF Format. The Reports shall contain all information required under Scope of Work defined in this document as well as the following recommendations:

* Grade wise supply demand balance of AA (in India and logical export market)
* Suggested grades of products (with volumes) region wise including exports
* Prices of AA grades to be considered for financial analysis (to be carried out by BPCL at a later date). This shall be the actual price realization at BPCL KR Gate.
* List of all potential customers to be targeted in South India.
* List of customers (product wise / grade wise - with volumes) capable of bulk evacuation of products for reducing storage requirements.

The Final Report is to be prepared in English. Report to be submitted in softy and 1 hard copy. In addition, Pen drive containing the entire final report including drawings, documents and data collected/collated shall be made available to BPCL. The entire study report along with all the details shall be the property of BPCL to use them as necessary.

Deliverables of the job shall include report and all associated files (word, excel & power point files) including all models developed during the study. All deliverables related to pricing, demand etc should be in editable properly linked stand-alone Excel format

* Appropriate back up/explanation/basis for inputs used for demand supply forecast/ analysis, price forecast/product competitive analysis such as feedstock pricing basis, trend-line prediction etc. should be included in the market report.
* All data/reports/presentations/deliverables generated as part of the study shall be the property of BPCL and will not be shared by the Consultant, with any other party, in any form or manner.

Soft copies (editable & PDF) version of the above also shall form a part of the deliverables.

1. **COMPLETION SCHEDULE**

Time of completion is the essence of this Contract. The schedule of completion of various activities under this Contract is given below:

The following schedule shall be followed by the Consultant for completing the study from the date of Kick-off Meeting (to be held at BPCL - Mumbai Refinery within 3 days of Letter of Award):

Price Inputs : 2 Weeks

Submission of draft Report : 3 Weeks

Presentation of draft Report : 3.5 Weeks

Submission of Final report / final presentation to BPCL-MR : 4 Weeks

The total time of completion is 4 weeks from the date of awarding the Contract.

1. **PAYMENT TERMS**

Payment shall be linked primarily to specified deliverables after satisfactory completion of works. Payment terms shall be as follows:

* 10% after KOM
* 30% after submission of Interim report and presentation by consultant
* 50% after submission of final report
* 10% after final presentation

1. **OTHER TERMS AND CONDITIONS**

The quotation shall be valid for 06 (Six) months from your quotation submission date.

* The bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall in no case be responsible or liable for these costs regardless of the conduct or outcome of the bidding process.
* Secrecy of information furnished with this RFQ document and subsequently has to be maintained. The technical details/ information contained in the document shall not be used by the recipient for any purpose other than preparation of the bid.

1. **EVALUATION CRITERIA**

* Evaluation of the bid will be based on lowest quote basis.

1. **GENERAL**

* If any additional work relating to the study in hand is identified during the job or after completion of the job, in addition to the Scope of Work detailed herein, the same shall be carried out by Consultant on mutual consent.
* Per-diem rates shall be paid for any additional work found necessary by BPCL after completion of the job, as specified in the Commercial Terms & Conditions.
* Consultant shall follow the agreed Methodology of Execution for the job including the key personnel involved.
* Payment shall be made as per schedule given in the Commercial Terms & Conditions.
* Consultant shall make a presentation at Mumbai on the results of the market survey.
* Consultant has to quote a single lump sum amount for the job. The lump-sum amount quoted by the Consultant for the job shall be inclusive of travel expenses to make presentation and remuneration for any third party agency appointed by Consultant for carrying out any part of the job covered under this Scope of Work.
* The Consultant shall abide by the terms and conditions of the contract.

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