



मंगलूर रिफाइनरी एण्ड पेट्रोकेमिकल्स लिमिटेड

MANGALORE REFINERY & PETROCHEMICALS LTD.

(ऑयल एण्ड नेचुरल गैस कॉर्पोरेशन लिमिटेड की सहायक कंपनी)

(A Subsidiary of Oil and Natural Gas Corporation Ltd.)



**EXPRESSION OF INTEREST (EOI)**

**FOR**

**REDUCTION IN HRSG STEAM GENERATION LEVELS**



**EOI NO.: MRPL/PE/147/2021**

Mangalore Refinery and Petrochemicals Limited (MRPL) is a subsidiary of M/s. Oil and Natural Gas Corporation Limited (ONGC). MRPL proposes to invite Expression of Interest.

EOI Details as follows:

EOI No.	MRPL/PE/147/2021
EOI on Website	From 09.11.2021 to 30.11.2021
Closing date for submission of	Upto 17:00 hrs (IST) on 30.11.2021
EOI documents available at	<a href="http://www.mrpl.co.in/eoi">www.mrpl.co.in/eoi</a>

Please contact below mentioned personnel for further details:

<b>Designation</b>	<b>Contact No.</b>	<b>Email id</b>
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All Credentials/ Documents shall be addressed to

General Manager  
Materials Department  
Mangalore Refinery & Petrochemicals Ltd  
Kuthethoor PO, Via Katipalla, Mangalore – 575 030  
Karnataka- India

The envelope containing the documents shall be superscribed **“Documents for Reduction in HRSG Steam Generation Levels”**



**EXPRESSION OF INTEREST (EOI) REDUCTION IN HSRG  
STEAM GENERATION LEVELS**

0	25-10-2021	Issued to EOI			
Rev	Date	Description	Prepared	Checked	Approved
Page 1 of 5		<b>REDUCTION IN HSRG STEAM GENERATION LEVELS</b>	Specification Number		

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## 1. INTRODUCTION:

- 1.1. Mangalore Refinery & Petrochemicals Limited (MRPL), a subsidiary of Oil and Natural Gas Corporation Limited and a Schedule "A" Company is a grass root crude oil refinery located at Mangalore, a coastal city of Karnataka. MRPL is involved in the business of Refining and Marketing of Petroleum and Petrochemical products and has a nameplate capacity of 15 MMTPA.
- 1.2. MRPL has 2 No's of BHEL make Heat Recovery Steam Generators (HRSG) for Gas turbines (GT) 1&2, designed for generation of 85 TPH each, at 103 Kscg and 510°C. Both the HRSGs are provided with supplementary firing for loading the HRSGs and maintaining outlet steam temperature. Normal fuel for supplementary firing is refinery fuel gas.

## 2. OBJECTIVE

Conversion of HRSG from VHP level steam generation to HP level steam generation with minimum modifications within given period of time, without any reduction in steam generation capacity.

## 3. BRIEF PROCESS DESCRIPTION:

### 3.1. Details of Gas turbine

Parameters	GT 1	GT 2
Make	BHEL make , FRAME V	BHEL make , FRAME VI
Firing Fuel	LGO/LCO/NG	LGO/LCO/FG/NG
Maximum Power generation	22.1 MW	37 MW

### 3.2. HRSG details.

Parameter	HRSG 1	HRSG 2
Make	BHEL	BHEL
Design	Fired, Single drum, natural circulation, water tube waste heat recovery boiler.	
Steam generation Capacity (TPH)	85	85
Steam Generation Levels	103 kscg / 510 deg.C	103 kscg / 510 deg.C
Fuel	RFG /NG	RFG /NG
HRSG Heat Source	GT 1 exhaust + Supplementary firing	GT 2 exhaust + Supplementary firing
Heat input using Supplementary firing ( MKcal/hr)	41.5	18.3
Number of Supplementary burners	5	3

**4. ANTICIPATED SCOPE OF WORK:**

- 4.1. It is anticipated that the steam generation levels in both the HRSGs is reduced by modification in water-steam path, air-flue gas path of HRSGs. No changes in GT system is considered.
- 4.2. Reduction in steam levels in both HRSGs as given below:

Details	Generation Pressure kscg.	Generation Temperature deg.C	Capacity in tph
Present – SHP	103	510	85
Modified –HP	43	420	85

- 4.3. No reduction in steam generation capacity expected during modification.
- 4.4. Scope starts from BFW pump suction and ends at HP header isolation valve. Necessary modification in the pumps, control valves, water wall, super heater, circulation system of HRSG is expected to be in Vendor’s scope.
- 4.5. The job is expected to include Basic design, detailed design, engineering, execution and test run post conversion of both HRSG to HP level, including all pressure parts of HRSG.
- 4.6. Necessary air-flue gas system modeling study, checking of hydraulics, Vaporization curves of steam parts are included in the scope. Further vendor may check adequacy of available air registers/dampers for meeting the guaranteed specification.
- 4.7. Scope is expected to include all the modifications required to maintain the stack inlet temperature as low as possible and above Sulfur dew point.
- 4.8. Total anticipated shutdown days for modifications is 25 days (From handing over of HRSG to work till vendor handing back).

**5. DATA TO BE FURNISHED BY THE BIDDER**

- 5.1. Other information as tabulated below:

<b>1. General Information</b>	
1.1	Name of the BIDDER / Firm
1.2	Nature or legal status of the Firm
1.3	Name and address of associated companies to be involved in the project with relationship and role, if any.
1.5	Registered Address of Firm
1.6	Contact Person
1.7	Designation and address of Contact person
1.8	Email

1.9	Turnover & Net worth of the Firm during last three financial years (Please enclose copy of audited annual reports)	Year	Turn Over (INR)	Net Worth (INR)
		2020-21		
		2019-20		
		2018-19		
2. Past experience of the bidder.				
2.1	Design, engineering & retrofit of at least one HRSG/boiler steam & water system of pressure >60Kscg in last five years.			
2.2	Bidder should provide necessary documents sustaining the above clauses. The bidder shall give copies of signed Agreement / Work order / Purchase order/ acknowledged final report or any other document to prove the scope of completed works against the order to the satisfaction of MRPL.			
2.3	The bidding organization shall possess safety accreditation from reputed certifying agencies / shall possess an audited and certified safety work processes.			

## 6. **DISCLAIMER**

MRPL has prepared this document to give interested parties background information on the project. While MRPL has taken due care in the preparation of the information contained herein and believes it to be accurate, neither MRPL nor any office authorities, officers, employees, agents/and advisors gives any warranty or make any representations, express or implied as to the completeness or accuracy of the information contained in this document or any information contained in this document or any information which may be provided in connection therewith.

Interested parties are required to make their own inquiries and respondents will be required to confirm in writing that they have done so and they do not rely on the information provided in the Expression of Interest (EOI) document in submitting their response. The information is provided on the basis that it is non –binding on MRPL or any of its authorities or agencies or any of their respective officers, employees, agents or advisors.

MRPL reserves the right not to proceed with the project, to alter the timetable reflected in this document or to change the process or procedure to be applied for listing of enquiry partners. It also reserves the right to decline to discuss the project further with any party expressing interest. No reimbursement of cost of any type whatsoever will be paid to persons, or entities, expressing interest in the project.