

Expression of Interest

Date: 24 August 2015

EoI No: PDP/CEGE/ORC/2015-16/08/01

Centre of Excellence for Geothermal Energy (CEGE), Pandit Deendayal Petroleum University (PDP) is carrying out R&D activities in the area of exploration and exploitation of geothermal energy state of Gujarat. In this regard, CEGE would like to install an Organic Rankine Cycle (ORC) on a laboratory scale level to generate electricity (1-30 kW) at Dholera, one the potential geothermal location in Gujarat.

CEGE, PDPU invites **Expression of Interests** from various vendors/service providers/agencies that can provide suitable solutions to implement an ORC at Dholera, Gujarat.

At Dholera, an artisan well is present, where water is produced at 47 deg C with a flow rate of 3-4 liter/second.

The proposed specifications of components for an ORC are as follows:

1. Selection of Working Fluid for ORC

2. Air Squared Expander:

Parameters	Value
Expansion Ratio	3 -4
Maximum Rotational Speed	3000-4000 RPM
Maximum Pressure	12 -14 bar
Displacement	12 cm ³ /rev
Generator	240 V, 50 Hz

3. Plate Type Heat Exchangers

	Evaporator	Condenser
Number of Plates	60-70	40-50
Heat Transfer	15-25 kW	15-25 kW
Operating Pressure	6-8 bar	1-3 Bar

4. Feed Pump Specification (Plunger Pump)

Parameter	Specification
Displacement	4.5 to 5.0 cc/rev
Duty flow rate	5.0 to 5.2 LPM
Max Flow Rate	7.5 to 8.0 LPM
Duty Pressure	460 – 480 kpa
Maximum Pressure	18 – 20 MPa

5. Auxiliary Sub – Coolers

6. Buffer Tank – 1.5 to 2.0 L.

7. Piping Material – Stainless Steel, PTFE flexible tube

8. Instrumentation – PID controller

9. 1 Bypass Line

Interested agencies/organizations may submit an **Expression of Interest** indicating their experience in the field of power generation by using **Organic Rankine Cycle (ORC)**, within 30 days from date of publication of this advertisement.

For more details on the requirements of the project, please visit our website:

<http://www.pdpu.ac.in/cege.html>

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