



Request for Expression of Interest (REOI)

No.: GERMI/RE4/SERVICES/2021-22/03

**Gujarat Energy Research
and Management Institute
(GERMI)**

**Design, Development and Implementation
of Rain Water Harvesting Plant/Recharge
Well at Khavda, Kutch**

Issued On:

25.05.2021

Last date for Submission of REOI:

29.05.2021

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**1st Floor, Energy Building, PDPU Campus,
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Request for Expression of Interest (REOI)

Gujarat Energy Research and Management Institute (GERMI), is providing Consultancy Services to establish Ultramega Solar Park at Khavda, Kutch. Due to availability of saline ground water, GERMI intends to establish Rain Water Harvesting Plant/Recharge Well at the Khavda Project site by adopting advance Rain Water Harvesting Technology to get 3.0 MLD water.

Online Technical bids are invited through this Request for Expression of Interest No.: GERMI/RE4/SERVICES/2020-21/03 dated 25.05.2021.

The REOI Document can be downloaded from GERMI website <http://germi.org>. Complete EOI Documents shall be uploaded on below mentioned Email Id and marked **“Design, Development & Implementation of Rain Water Harvesting Plant/Recharge Well at Khavda, Kutch”** on or **before 29 May 2021 by 1600 Hrs**

Head Project (Solar)
Gujarat Energy Research and Management Institute (GERMI)
1st Floor, Energy Building, PDPU Campus,
Gandhinagar, Gujarat
Email: Kaushik.p@germi.res.in

Note:

GERMI reserves the right to reject any or all REOI without assigning any reasons thereof.

Table of Contents

Table of Contents.....	2
1 Important Dates.....	3
1.1 Important Dates.....	3
2 Introduction	4
2.1 Gujarat Energy Research and Management Institute	4
3 General Conditions	5
3.1 Scope of Work.....	5
3.2 Eligibility of Applicant	7
3.3 Documents to be Submission along with REOI.....	7
Annexure 1: Details of Applicant	8
Annexure 2: Format for Self-Declaration on Blacklisting.....	9

1 Important Dates

1.1 Important Dates

Sr.	Event		Date and Time
a.	Date of floating of REOI	:	25 May 2021
b.	Last date of submission of Technical EOI Documents	:	29 May 2021, 1600 Hrs IST
c.	Submission of Online EOI Document	:	Email ID: Kaushik.p@germi.res.in

2 Introduction

2.1 Gujarat Energy Research and Management Institute

Gujarat Energy Research and Management Institute (GERMI), an ISO 9001: 2008 certified institute, is a Centre for Excellence in industry learning, research & development and education. It is set up to develop human resource assets to cater to both renewable and non-renewable energy sectors, improve knowledge base of policy makers and technologists, and provide a competitive edge to leaders to compete in the global arena. GERMI was brought into existence and is promoted by Gujarat State Petroleum Corporation Limited (GSPC), a Government of Gujarat Undertaking.

GERMI has already established specialized research, education, management and training institutes, and is continually expanding its horizons to cater to the allied energy sectors. GERMI is a registered Society and a Trust under the Societies Registration Act, 1860 and the Bombay Public Trust Act, 1950. GERMI is a recognized Scientific and Industrial Research Organization (SIRO) by the Department of Scientific and Industrial Research (DSIR), Government of India.

GERMI solar and renewable energy mandates include:

- Techno-commercial/ regulatory advisory and support at various levels to governments to undertake renewable energy programmes and projects;
- Techno-commercial support to both private and government undertakings for establishing solar and allied renewable power and manufacturing projects;
- Fundamental and applied research in the field of energy ranging from functional materials and devices to commercial-scale project performance including auditing;
- Both vocational and professional training along with allied activities to proliferate the trainings by providing institutional support.

3 General Conditions

3.1 Scope of Work

GERMI intends to invite Expression of Interest (REOI) from eligible Applicant(s) for the "Design, Development & Implementation of Rain Water Harvesting Plant/Recharge Well at Khavda, Kutch" by adopting advance Rain Water Harvesting Technology to get 3.0 MLD water.

3.1.1 To carry out an Exploratory Well and Recharge shaft for the proposed site of GERMI's Client at Khavda. Aquifer recharge and recovery is to be identified at coastal line and regions having saline ground water underneath.

3.1.2 Exploratory well will be required to investigate ground water potential to design recharge shaft. Based on the investigation result, recharge shaft will be designed.

3.1.3 Explanatory well will be made of UPVC pipe and minimum depth will be 150 m or more to ensure appropriate water quality and required quantity. The water chemistry will be determined by the agency and furnished to GSECL, for the purpose of establishment of desalination plant at site. Parameters required are as per enclosed sheet.

3.1.4 Please find below listed investigations, which are required to be carried out by Bidder:

Sr. No.	List of investigations
1	Water Quality of Each Aquifer through Bore Logging
2	Pre monsoon water testing for aquifer to be used to design desalination plant
3	Post monsoon water testing to understand water properties of recharged water
4	Potential recharge rate/ permeability of aquifer through sieve analysis
5	Soil porosity testing to check potential water holding capacity in the aquifer
6	Soil permeability testing to check water recharge rate in the aquifer
7	Sieve Analysis for each aquifer soil sample to check grain sizes of strata
8	Resistivity testing for the land to identify geological formation below ground
9	Electro logging to check water quality of each aquifer
10	Lithology of the various aquifer up to 150 meter or upto required depth
11	Water qualities for Pre – Post monsoon
12	Pump test of all aquifers and post monsoon to calculate water recovery rate
13	Electro Resistivity Test in entire project area to analyze quality/ quantity of water

3.1.5 All activities like recharge structure, boring, pipes, packing material, accessories, loading, boarding (site accommodation for required period for all personnel), logistics, transportation, material loading – unloading – shifting – lifting, other necessary machineries and equipment like dewatering pump, compressor, generators, electric panel etc supply, installation and commissioning will be in the scope/ at the cost of the agency. All infrastructures for pumping out of harvest water will be installed on permanent basis for utility to GERMI's Client.

3.1.6 Carryout Field testing like pump test, electro logging test and off-site laboratory test like pre-monsoon water testing, post-monsoon water testing, soil permeability test and technical report compilation with recommendations. All required tools/ tackles for the operation of the system at site will be in scope of the agency.

3.1.7 To measure the Raw Water Quality as per below Parameters

Sr. No.	Parameters	Unit	Value
1	pH		
2	Conductivity	µmhos/cm	
3	Temperature	deg C	
4	Dissolved Oxygen	ppm	
5	Turbidity	NTU	
6	Dissolved solids	ppm	
7	Suspended solids	ppm	
8	Total Hardness as CaCO ₃	ppm	
9	BOD	ppm	
10	COD	ppm	
11	Chlorides as Cl	ppm	
12	Sulphates as SO ₄	ppm	
13	Calcium as Ca	ppm	
14	Magnesium as Mg	ppm	
15	Flourides as F	ppm	
16	Iron as Fe	ppm	
17	Lead as Pb	ppm	
18	Copper as Cu	ppm	
19	Mercury as Hg	ppm	
20	Nickel as Ni	ppm	
21	Zinc as Zn	ppm	
22	Chromium (Total as Cr)	ppm	
23	Arsenic as As	ppm	
24	Manganese as Mn	ppm	
25	Cadmium as Cd	ppm	
26	Oil and grease	ppm	
27	Total Coliform	MPN/100ml	

3.1.8 Analysis of availability of ground water in terms of years during draught period will be carried out.

3.1.9 Supplying, Installing and commissioning of an automatic rain gauge station (IOT based, with two years O & M)

3.1.10 Water and electricity will be arranged by the agency at their own cost.

3.1.11 All required Government clearances will be arranged by the Agency/Applicant.

3.1.12 Detailed Project report for entire project area will be submitted on completion of the work.

3.1.13 To measure the Raw Water Quality as per below Parameters

3.2 Eligibility of Applicant

Specialized agencies that fulfill the following requirement shall be eligible to apply online.

- 3.2.1 The Applicants could be Companies registered under the Indian Companies Act or Indian LLP Act 2008 / Partnership firms/Proprietor Firm as the case may be.
- 3.2.2 Applicants can be Single or Consortium of Firms or JVs. In case of Applicant being Consortium, then the members of the Consortium is restricted to 2 (Two).
- 3.2.3 The Applicant shall have at least 3 (Three) years' of experience in design, development and implementation of Rain water Harvesting System.
- 3.2.4 Cumulative Turnover of the Applicant for last three (3) financial years [i.e. FY 2018-19, FY2019-20 & FY 2020-21 (Provision Certificate will be considered for FY 2020-21)] shall be of Rs. 45 Lacs. The Bidder shall submit Chartered Account Certified Turnover Certificate for last three Financial Years.

3.3 Documents to be Submission along with REOI

The Applicant shall furnish the following documents along with the REOI:

- 3.3.1 Organisation Profile to demonstrate the applicant capability & relevant experience in Rain Water Harvesting System.
- 3.3.2 The Applicant's legal status whether it is Company/ LLP /, Partnership Firms registered in India (Registration Certificate copy to be enclosed).
- 3.3.3 Similar Assignments (i.e. **"Construction of Rain Water Harvesting System/Recharge Well"**) undertaken in the field for the last 3 years (Work Order). Similar Assignments shall include the list of works provided in the Technical Capacity.
- 3.3.4 Self-Declaration that the Applicant is not blacklisted /debarred by any Government or PSU in India for the sole applicant.

Annexure 1: Details of Applicant

[Covering Letter shall be on the official letterhead of the Applicant.]

[Reference No.]

From:

[Address of the Consultant]

[Telephone No., Fax No., Email]

[Date]

To:

Head Projects (Solar)

Gujarat Energy Research and Management Institute

1st, Floor Energy Building

Pandit Deendayal Petroleum University Campus

Gandhinagar, Gujarat 382 007

INDIA

Sub: Details of Applicant

Ref. No.: GERMI REOI Document No. GERMI/RE4/SERVICES/2021-22/03

Dear Sir,

I,..... [Name of Authorized Representative], the authorized representative of..... [Name of Company], having read, examined and understood in detail the REOI.

Details of the Applicant as follows:

Description	Details to be filled by Applicant
Name of the Organization	
Year of Establishment	
Incorporation Number and Date (Enclose Certificate of Incorporation (ROC)	
Regd. Office Postal Address with Phone Number	
Contact person with Phone, Mobile Number & e-mail address	
GST Registration Number	

Thanking you,

Sincerely yours,

Signature:

Nam :

Designation:

Date:

Stamp

Annexure 2: Format for Self-Declaration on Blacklisting

[Covering Letter shall be on the official letterhead of the Applicant.]

[Reference No.]

From:

[Address of the Lead Consortium Member]

[Telephone No., Fax No., Email]

[Date]

To:

Head Projects (Solar)

Gujarat Energy Research and Management Institute

1st Floor, Energy Building,

Pandit Deendayal Petroleum University Campus,

Gandhinagar, Gujarat 382 007

INDIA

Sub: Self-Declaration on Blacklisting.

Ref: GERMI REOI Document No. GERMI/RE4/SERVICES/2021-22/03

Dear Sir,

In response to the REOI No. _____ dated _____ ,
We hereby declare that our Company / Firm _____ is having unblemished past record and was not declared blacklisted or ineligible to participate for bidding as on date of submission of the bid by any State/Central Govt. or PSU due to, breach of general or specific instructions, corrupt /fraudulent , Non Performance or any other unethical business practices.

Thanking you,

Sincerely yours,

Signature:

Nam :

Designation:

Date:

Stamp