



## RAJASTHAN STATE MINES & MINERALS LTD

(A Government of Rajasthan Enterprise)

### PROJECTS DIVISION

4, Meera Marg, Udaipur – 313 004, Rajasthan, India

Phone : 0294 2428738, 2428744, Fax : 0294 2428790 / 2428768

E-mail : [project@rsmm.com](mailto:project@rsmm.com), website <http://www.rsmm.com>

No. /RSMML/CO/PROJ/KIP/2011-12/362/4

Dated 9.05.2014

### Detailed Notice Inviting Expression of Interest (DEOI)

Notice Inviting Expression of Interest (EOI) for “Formation of a Joint Venture Company (JVC) with RSMML with an equity participation ratio (RSMML (cash less): JV Partner) of 51%: 49% for integrated development of the Kasnau sub block in district Nagaur by operating the project for mining of Lignite, installation and operation of Lignite based captive Thermal power plant with or without Solar power plant. Installation of a brackish water treatment plant, of suitable capacity, for carrying out desalination of the saline ground water coming out of the mine during lignite mining operations for effective depressurization of the aquifer, for safe mining of lignite.

**Keenness Money for Participating in this Expression of Interest : Rs. 25,00,000 (Rupees Twenty five Lacs Only) in the form of Demand Draft drawn in favour of Rajasthan State Mines and Minerals Limited payable at Udaipur.**

#### **1. Preamble:**

Rajasthan State Mines and Minerals Limited (RSMML) is a premier mining company, a public enterprise of the Government of Rajasthan. It occupies a place of pride in production and marketing of non-metallic minerals in India. RSMML is multi mineral and multi location enterprise engaged in mining of Rock Phosphate, Lignite, SMS & Chemical grade Limestone and Gypsum. RSMML is operating largest open cast Mines of Rock Phosphate in the Country and have commissioned two million tonnes mining capacity of Lignite & 2.5 million tonne capacity of SMS Grade Lime stone. Further RSMML has also entered into Energy Sector and has setup 106.3 MW installed capacity Wind Power Project at Jaisalmer and 250 MW Lignite based power plant in joint association with state power utility in district Barmer of Rajasthan.

#### **2. Brief Details of the Project**

Mining operations at Kasnau – Matasukh Lignite Mines were commenced in January, 2003 in both Matasukh & Kasnau pits and production of lignite was started in November, 2003. As the mining operations reached deeper levels (nearly 50 m deep from surface), the water started gradually inflowing into the mining pits from the pit floor, resulting into temporary suspension of mining operation. On the advice of DGMS, Ajmer region the scientific study of the area, were carried out during the period April 2004 to August 2004 by Nevyli Lignite Corporation and CMPDI, Ranchi, both Govt of India PSUs under Ministry of Coal (for depressurization and rehabilitation) and retired

professors Dr D M Surana & Prof Talwar of MBM Engg College, University of Jodhpur (geo-technical study). On the basis of these studies, DGMS allowed resumption of mining operations initially for Matasukh pit.

Four cycles of Lignite mining and depressurization operations were carried out from November 2005 to September 2009 by operating 15-19 tube wells each of 100 HP, pumping saline water to surface ponds over an area of 506 hectares in the acquired land of the project. Nearly 6500-9500 Million Liters of saline water was pumped out in each cycle of 100-120 days.

Further during the cycling mining in the Matasukh Pit it has observed that draw-down achieved from 1st cycle to current 4th cycle is 5.73 meters. This indicates that static water level in three cycles has been reduced by 6 meters approximately.

### 3. Details of Kasnau Block:

This area was explored extensively by Directorate of Mines & Geology (DMG), Government of Rajasthan (GOR) during the year 1987-92. However RSMML after obtaining Mining Lease carried out confirmatory drilling through DMG & Mineral Exploration Corporation Ltd (MECL) in years 2002-03. The exploration details are as below:

Kasnau-Igyar Block	
Agency	Quantum of Exploratory Drilling
1. By DMG in the Year 1987-92	15920.88 m in 124 Bore holes at 400 m X 400 m grid interval
2. Confirmatory drilling by MECL on behalf of RSMML during the period July 2003 – Aug. 2003.	965 m in 8 Bore holes

#### 3.1 Geological Reserves of Kasnau Block

Based on the exploration carried out in the area, geological reserves as per details given below have been computed as below:

Geological Reserves	23.22 million tones
Mine-able Reserves, within economic mining limits, as on date.	12.59 million tones
Calorific Value Average	2800-3200 Kcal/Kg

#### 3.2 Quality

Based on analysis of core samples obtained during the exploratory drilling, channel samples from lignite faces and R.O.M. samples, the range of different constituents in the proximate analysis of these samples has been worked out and is given below. The quality parameters given below indicate the general average quality of Lignite available in this deposit. However, some slight variation in the range of constituents indicated below may occur during actual mining of lignite.

Moisture (%)	Ash (%)	Volatile Matter (%)	Sulphur (%)	Fixed Carbon (%)	Gross Calorific Value (Kcal/Kg)
48-52	05-10	25-30	01 - 02	18-22	2800-3200

#### 3.3 Hydrogeology

The most important hydrogeological formation in the region influencing lignite deposits is the Palana sandstone of the Tertiary period. It is underlain by Nagaur sandstone of the Marwar Super Group and overlain by the younger alluvium of the Quaternary age. The argillaceous fine grained sandstone occurring between 24 to 30 metres forms the upper pheratic aquifer having TDS in the range of 2000-2500 ppm. The water discharge from such unconfined aquifer has little impact on lignite mining. The upper arenaceous horizon of 30 m thickness is followed by a clay lignite horizon.

The lower confined aquifer occurring below the clay lignite horizon is in the form of fine, medium to coarse sand which is loosely cemented and is having clay bands at places. It exist in a confined condition due to occurrence of impervious clay lignite horizon just above it. The lower aquifer is of highly saline nature having TDS in the range of 8000-11000 ppm.

### 3.4 Status of Statutory Approvals/ Clearances

The date of sanction of mining lease for both Kasnau & Matasukh Blocks	25.8.2001
Period of Mining Lease (20 Years)	Up to 24.08.2021
Total Area of Mining for both Kasnau & Matasukh Blocks	1063.35 Hactares
<b>Mining Plan</b>	
Approval of Mining Plan from Ministry of Coal	Under Preparation
Mine Capacity Approved	10 lacs Tonnes
<b>MOEF CLEARANCE</b>	
Date of Environment Clearance from MOEF	19.07.2000
<b>Clearance from central ground water authority</b>	The JV Partner will be required to obtain clearance from C.G.W.A. for extraction of ground water and even have to undertake further detailed hydrogeological investigations as required.

## 4. Issues related with Lignite mining:

- 4.1 The occurrence of confined aquifer below the lignite seams and depth continuity of the seams up to 90 to 100 meters in this block makes the mining operations in this block a very challenging task. This will require induction of advanced and sophisticated mining technology to extract lignite under the prevailing hydro-geological conditions. A certain extent of risk is involved in these operations.
- 4.2 The mining of lignite (under saturated conditions) has to be carried out on regular basis because of its linkage with the setting up of a lignite based power plant. In view of the above, the project developer (JV Partner) has to ensure selection of a suitable open cast mining system and de-pressurising technology for successful implementation of the project.
- 4.3 The quantity of water and its highly saline nature will necessitate its processing/desalination to make it suitable for use in drinking water, agriculture or for industrial purposes.
- 4.4 The setting up of a desalination plant for processing of this highly saline ground water by suitable technology will require infusion of large capital in plant, building and development of other infrastructural facilities. The minimum capacity required for the desalination plant is 50 MLD.
- 4.5 The difficult mining operations on account of prevailing hydro geological conditions, makes it imperative that ingenious and advanced technologies of mining, depressurization, processing of saline water and setting up of a thermal power plant are adopted.
- 4.6 Besides the large capital investment required for undertaking this kind of a multi disciplinary project a flexible working environment having considerable freedom of adopting suitable and advanced technology is of prime importance.

## 5. Land Status

The present land status is as per the Table 1 below:

**Table 1** (Area in Bighas & Biswas)

Name of Village	Khatadari Land	Government Land		Total
		Charagah	Siwaichak	
Matasukh	5196 – 03	556 – 18	7 – 03	5760 – 04
Kasnau Custodian	1635 – 00	-	0 - 11	1635 – 11
Igiar	469 – 13	-	-	469 – 13
<b>Total</b>	<b>7294 - 16</b>	<b>556 - 18</b>	<b>07 - 14</b>	<b>7865 - 08</b>

The land details given above are as per the Jamabandi (check List) received from Sub Registrar Jayal.

The following land will be made available for working of the Kasnau block in a phased manner by RSMML:

5. 1 **Land Required for Mining:**

As per the mine plan, total land required for reaching the ultimate pit limit for Kasnau block is 280 Hactares. RSMML shall make available this land, as per the progress of mine plan, in a phased manner. Presently, some part of the land falling in ultimate pit limit of Kasnau block is being used as Bund No. 6 for storing pumped out water from the Matasukh mines and as Bund No. 5 (Solar Pond) for storing the reject water from the 20 MLD desalination plant being operated for treating saline water of Matasukh mine. RSMML shall continue to use this land for this purpose but will provide the land required mining as per progress of Kasnau mine.

5. 2 **Land Required As Dump Area & Top Soil Dump:**

The Overburden area planned as per the mine plan of 70 Hectares and present top soil dump of 7 Hectares shall be made available to JV Partner.

5. 3 **Land Required For Processing of Saline Water or Establishing Treatment Plant:**

Around 10 Hectares land at suitable place shall be made available to JV Partner for establishing the the saline water treatment plant.

5. 4 **Other Land:**

Land required for establishment of offices, canteen, rest shelters, camps, etc shall be provided to JV Partner.

RSMML shall continue to use the land needed for Matasukh mine operations. The JV partner shall have to arrange on its own the land required for processing, storage and disposal of saline water, laying out pipeline and processing of reject water.

RSMML may or may not allow the JVC to work on the land year marked for Matasukh block also. However, at any point of time, if RSMML finds that operating both the blocks has become more remunerative in totality, it may allow JVC to work the project as a single scheme.

**6. Existing Infrastructure**

To develop mining and pumping activities, following infrastructure has been developed at the mine which includes acquisition of land.

6. 1 **Roads**

7 meters wide & 3.5 Kms long approach road to the Project for connection with State Highway No.60.

Seven meter wide, 8.30 Km long and 3.75 m wide, 1.8 Km long peripheral roads have been constructed. Hence the peripheral road is 10.10 Km.

6. 2 **Buildings**

One Office building having an area of 101.32 Sq meters (plinth area) has been constructed for the Mines Manager.

Two Weighbridges of 60 MT capacity each and having a room of plinth area 63.49 square meter on each Weighbridge.

6. 3 **Power**

33 KV dedicated Overhead Power Line from 132 KV GSS of Rajasthan Vidyut Prsaran Nigam Ltd at Kuchera to 33/11 KV, sub-station vide 3150 KVA transformer.

Two Km long 11 KV overhead line from 33/11 KV substation for electric supply of 11 KV/440 V for the operation of 20 numbers tube wells at Matasukh pit.

6.4 **Other Mining Related Infrastructure**

Five numbers Earthen Bunds, comprising 506 Hectare area for storage of saline pumped out water from the mines. Out of which 220 hectare has been earmarked for storage of reject water of R.O. Plant, being set up by the Nagaur Water Supply Ltd. Internal haulage roads for the movement of HEMM to surface OB dumps and also WBM motor able roads for internal movement. A 20 MLD capacity RO plant is in operation which is producing 13 MLD potable water to PHED for onward distribution of the same to 120 villages in Nagaur district.

The above mentioned Existing Infrastructure facilities are presently being used for lignite mining from Matasukh Block the same shall be continued to be used for Matasukh Block. The JV Partner shall be allowed to use these existing infrastructure facilities in such a way that they do not hamper the work of Matasukh Block and also require to share the responsibility of maintaining common facilities, liabilities etc. The first priority of using these infrastructure facilities shall lie with RSMML.

**7. Proposed Scope of work:**

- 7.1 Mining of lignite through advanced and sophisticated mining technology to extract lignite under the prevailing adverse hydro-geological conditions.
- 7.2 Installation and operation of Lignite based captive Thermal power plant of suitable capacity with or without solar power plant.
- 7.3 Pumping of saline water to the tune of 82 Million Liters per Day (as per CMPDI Report) is necessary in Kasnau Pit for ensuring safe mining of lignite. Sufficient storage / disposal space/or suitable technology looking to the space constraints are necessary for accommodating this saline water. More detailed evaluation can increase the quantity of water. The saline water is having TDS in the range of 11000-12000 mg per litre
- 7.4 Processing of saline water by desalination or by other suitable indicative technology to make it suitable for domestic/ industrial or agriculture use.
- 7.5 All the Expenditure occurred in this project shall be borne by JV partner. RSMML shall not be liable for any expenditure in this project.
- 7.6 The JVC will pay the Reserve Price + Facilitation Fee per tonne of minimum contracted quantity to RSMML irrespective of the performance of the thermal power plant or any other constraint.

**8. Prequalification criterion and JVC structure:**

***The Project Developer should possess the following qualifications:***

It is very unlikely that a single company will be possessing qualifying experience of mining, installation and operation of Thermal/ Solar power generation as well as water treatment plant of suitable capacity/desalination plant/sewage plant/waste water treatment plant. Hence, RSMML shall allow a consortium of not more than 3 members including the lead member and technological partner/(s) to participate in this joint venture Expression of Interest. For evaluating financial capacity, the parameters of only lead member shall be considered.

**A. Financial capacity of the bidder:**

- a. The bidder shall have a minimum Net worth of Rs 100 Crores (one hundred crores) as on March 31, 2014.
- b. The bidder shall have a minimum Annual Turnover of Rs 200 Crores (Rs two hundred crores) on an average for the last 4 (four) years 2010-11, 2011-12, 2012-13 and 2013-14 (Provisional).
- c. The bidder company should be a company, making profits in each of the preceding 3 financial years.

**B. Technical Competency requirements:**

The bidder along with its consortium partner/(s) should have experience of successfully executing mining operations, Thermal/ Solar power generation project and water/effluent/sewage treatment works as per the following qualifying criterion:

- a. Open cast mining for excavation and handling of composite volume of ore and over burden of a cumulative average quantity of 1.00 Million cubic meters per annum during last three years.
- b. Successful installation and operation of coal/lignite based Thermal Power plant/(s) with or without Solar power plant, of suitable capacity.
- c. Successful installation and operation of water treatment plant of suitable capacity/ desalination plant/sewage plant/waste water treatment plant.

**C. The Joint Venture Partner (JVP) Selection and Structure of Joint Venture Company (JVC)**

The Joint Venture Partner shall be selected by a bidding process. The bidder can either be a single party or Joint Venture of maximum three parties, and/or consortium of up to 3 parties (including one JV and one technical support).

Joint Venture Structure: It is proposed to form a Joint Venture Company (JVC) between RSMML and the selected Joint Venture Partner (JVP). In this JVC RSMML will have a 51% (Sweat Equity) shareholding in the JVC and therefore have a majority of Directors on the Board of the JVC including the position of Chairman. The equity of RSMML shall be cashless. The JVP shall have the position of MD in the JVC and shall be responsible for all day to day operations of the Company.”

The JVP shall be selected through a bidding process. The JVP shall be selected amongst all the bidders who besides satisfying the above pre qualification criterion also accept the following conditions:

- i. Payment of a Facilitation Fee, to RSMML, on per tonne basis of Lignite excavated over and above the Reserve Price to be fixed by RSMML.
- ii. The Reserve Price fixed by RSMML shall be made public to the eligible bidders at the time of issuance of the RFP document.
- iii. The bidder quoting the highest facilitation fees shall be selected for implementation of the project.
- iv. Annual Escalation in the Facilitation Fees @ 5% on cumulative basis will become applicable after completion of every year.
- v. The bidder has to quote the facilitation fee above the reserve price fixed by RSMML. Any bidder quoting a price (Reserve Price + Facilitation Fee) lower than the reserve price shall be summarily rejected.

The Reserve Price & Facilitation Fee which will be charged by RSMM will be on account of the expenditure already incurred by RSMML for developing infrastructural facilities and conducting confirmatory core drilling and purchase of reports on the exploration conducted by DMG earlier, other scientific studies in the Kasnau block required for scientific development of the project, land acquisition, initial mining operation along with dewatering, Present and future liabilities etc.

**Pre Offer Submission Meeting:**

A meeting shall be held on **03.06. 2014 at 11 AM at corporate office**, Udaipur or at Jaipur to brief the potential bidders and to answer the queries of the bidders. Bidders are requested to submit their queries in writing or by Fax to reach GGM (Project), CO, Udaipur at least ten days before the meeting. A copy of such communication will also be sent to the Office of GGM (SBU-PC-Lignite), Khanij Bhawan, Tilak Marg C-Scheme, Jaipur. It may not be possible to answer questions during the meeting, if not received earlier.

Attendance at the pre-bid meeting is not mandatory and non-attendance will not be a cause for disqualification of the bidder. It is however, in the interest of the bidder to attend the Pre-Bid Meeting.

The experienced and reputed companies in mining having relevant experience are required to send their proposals, as per the enclosed Pro forma (Annexure-I), to reach us latest by **24.06.2014 up to 3.00 PM**. The proposal so invited and submitted shall be evaluated on technical and financial competency of the companies. After evaluation as suggested above, the Pre-qualified companies shall be requested for detailed Request for Proposal (RFP) for which a detailed RFP document shall be given to Pre-qualified companies.

**Advisor (Projects)**

**Note: Interested companies are advised to keep visiting our website until due date/extended due date of EOI for corrigendum/addendum, if any, to the EOI.**

**Annexure-I**

**PRO FORMA FOR PROPOSAL AGAINST EOI**

**1. Company Details**

- Name of the Company
- Type & Nature of Company
- Address
- Contact Person
- Contact Telephone Number/ Mobile Number
- E-Mail Address

**2. Turnover**

- Total annual Turnover in Rupees for the last four financial years (i.e. 2010-11, 2011-12, 2012-13 and 2013-14 (if not available then Provisional).
- Annual Report including balance sheet for the last four financial years i.e. 2010-11, 2011-12, 2012-13 and 2013-14 (if not available then Provisional).

**3. Criteria for Assessing Expression of Interest (EOI)**

- Financial strength
- Documents supporting the technical competency of the bidder.
- Expertise in similar jobs : Qualification and experience in carrying out assignments of similar nature
- Strength of the key team

**4. Organisational Structure**

**5. Any other relevant information which the bidder feels will be useful with reference to the project.**

**Closing Date for Submission of Proposal:**

This proposal together with the requisite supporting documents must be submitted, on or before **24.06.2014 by 3.00PM** (IST) to the address specified in the EOI.