Bank Note Paper Mill India Private Limited
Corporate Office, Gate 1 Administrative Building, Paper Mill Compound
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NOTICE

EXPRESSION OF INTEREST (EOI) FOR DESIGN, MANUFATURING, SUPPLY, ERECTION, COMMISSIONING, PERFORMANCE TRIAL OF ETP SLUDGE DRYING SYSTEM (COMMON DRYING SYSTEM FOR BOTH PRIMARY & BIOLOGICAL SLUDGE)

BNPM/EOI/SLUDGE DRYING SYSTEM/440/2018-19 DATED 04.09.2018

Bank Note Paper Mill India Private Limited (BNPM) is a joint venture company of Security Printing and Minting Corporation of India Ltd (SPMCIL) a Government of India Enterprise, and Bharatiya Reserve Bank Note Mudran Private Limited (BRBNMPL), a subsidiary of Reserve Bank of India engaged in design, manufacturing & supply of bank note paper **invites Expression of Interest** from, competent and resourceful firm (proprietor/Society/partnership firm/LLP/Company) for design, manufacturing , supply, erection , commissioning , performance trial of ETP sludge drying system (Common drying system for both of primary & biological sludge.
Interested vendors fulfilling the eligibility criteria as given in Annexure 3 are requested to submit Expression of Interest as per format given in Annexure 4 to this expression of interest. The Expression of Interest must be submitted with the brief profile of the firm, their past performance in design , manufacturing , supply , erection , commissioning of similar sludge drying system, financial background etc. in support of the eligibility criteria. The Expression of Interest must be sent to the following address:

The Managing Director
Bank Note Paper Mill India Private Limited
Corporate Office,
Gate 1, Administrative Building, Paper Mill Compound
Note Mudra Nagar, Mysuru -570 003
Karnataka, India

Response to EOI shall be sent on or before 1500 hours on October 03, 2018

Steps in the process:

1. Receipt and Evaluation of EOI

2. Presentation by bidders on past performance & brief description /functionality on the proposed system to be supplied. Technically viable solution shall only be considered for Pre-qualification.
3. Issue of tender document to the said short listed firms.
4. Pre-bid meeting with intending bidders.(if so required)
5. Receipt and evaluation of bids
6. Discussion/negotiations of terms and conditions, if so required
7. Finalisation and award of work

Details of Annexures:

1. Brief background of the company and promoters - Annexure 1
2. Brief scope of work – Annexure 2
3. Eligibility Criteria – Annexure 3
4. Specimen Response letter to EOI as Annexure 4

For and behalf of Bank Note Paper Mill India Private Limited

Alok Kumar
(Deputy General Manger)

Note: The Company reserves the right to accept/reject any application at its sole discretion and/or cancel the entire exercise. Mere fulfilling the minimum eligibility criteria will not confer any right on the applicant to be called for discussion/ selection.

All Addendum/Corrigendum to this EOI shall be uploaded only on website.

Annexure 1

BNPM/EOI/SLUDGE DRYING SYSTEM/440/2018-19 DATED 4.09.2018

PROCESS DESCRIPTION FOR EXISTING PAPER MILL EFFLUENT TREATMENT PLANT

DISSOLVED AIR FLOATATION (DAF):

From the equalization tank, the wastewater is pumped at the average flow rate of 130 m^3/h. For this 2 No. (1 W + 1 S) submersible pumps are provided in the equalization tank for feeding wastewater to the DAF (Dissolved Air Floatation) unit for solid - liquid separation and recovery of fibre. These pumps are semi-open impeller type pumps and are capable of handling solids in the wastewater. The pumps have a pumping rate of 130 m^3/h with adequate head provision.

Chemicals required for coagulation/flocculation are added on line at pre-defined concentrations. The coagulated wastewater is fed to the DAF system for solid - liquid separation. Oil and grease (remaining, if any) also gets removed at the DAF system. The BOD reduction at the DAF is expected to be at least 30%. The floated sludge (recoverable fibre) is collected in a separate fines collection tank. The settled sludge from the DAF (collected from the bottom - by sedimentation) are collected in a sludge collection tank.

AERATION TANK (EXTENDED AERATION PROCESS):

Clarified water from the DAF is subjected to aerobic treatment for removal/ reduction of BOD. For biochemical oxidation a single stage extended aeration system is provided. Nutrients (N & P) in the form of urea and DAP are added to maintain the BOD: N: P ratio of 100 : 5 : 1. Air for aeration in the aeration tank are provided by positive displacement type roots blowers. In the aeration tank retrievable type fine bubble diffusers are used. Following biochemical oxidation the wastewater is taken to a secondary clarifier for solid liquid separation. The sludge from the secondary clarifier is recycled back to the required extent to maintain the MLSS concentration in the aeration tank. Excess sludge generated in the aeration tank is taken to the sludge collection tank from where it is fed into the centrifuge for dewatering.

Over flow from the secondary clarifier is taken to chlorine contact tank. In the chlorine contact tank chlorine as sodium hypo chlorite is added to the wastewater for further reducing the BOD/COD and also for deactivation of the microbes. The chlorine contact tank has a retention time of 20 minutes.

PROCESS DESCRIPTION FOR EXISTING PULP MILL EFFLUENT TREATEMENT PLANT

DISSOLVED AIR FLOATATION (DAF):

From the equalization tank, the neutralized wastewater is pumped at the average flow rate of 21 m_3/h. For this 2 No. (1 W + 1 S) submersible pumps is provided in the equalization tank for feeding wastewater to the DAF (Dissolved Air Floatation) Clarifier unit for solid - liquid separation and recovery of fibre. These pumps are semi-open impeller type pumps and are capable of handling solids in the wastewater. The pumps have a pumping rate of 21 m_3/h with adequate head provision.

Chemicals required for coagulation/flocculation are added on line at pre-defined concentrations. The coagulated wastewater is fed to the DAF system for solid
- liquid separation. Oil and grease (remaining, if any) also gets removed at the DAF system. The BOD & COD reduction at the DAF is expected to be at least 30%. The floated sludge (recoverable fibre) is collected in a separate fines tank. The settled sludge from the DAF (collected from the bottom - by sedimentation) is collected in a sludge collection tank along with the settled sludge from the paper stream DAF.

MOVING BED BIOLOGICAL REACTOR (MBBR) FOLLOWED BY AERATION TANK:

Clarified water from the DAF is subjected to aerobic treatment for removal/reduction of BOD/COD. Due to higher BOD load, a 2 stage MBBR (Moving Bed Biological Reactor) is provided followed by conventional EA-ASP (Extended Aeration -Activated Sludge Process). Nutrients (N & P) in the form of urea and DAP is added to maintain the BOD: N: P ratio of 100 : 5 : 1. Air for aeration in the MBBR tanks and the aeration tank is provided by positive displacement type roots blowers. In the MBBR tank coarse bubble diffusers is deployed and in the aeration tank (BAS) retrievable type fine bubble diffusers are used. Following b i o c h e m i c a l oxidation, the wastewater is taken to a secondary clarifier for solid liquid separation. The sludge from the secondary clarifier is recycled back to the required extent to maintain the MLSS concentration in the MBBR and BAS tanks.

Over flow from the secondary clarifier is taken to chlorine contact tank. In the chlorine contact tank chlorine as sodium hypochlorite is added to the wastewater for further reducing the BOD/COD and also for deactivation of the microbes. The chlorine contact tank has a retention time of 60 minutes. Excess sludge generated in the BAS tank is taken to the collection tank from where it is fed into the centrifuge for dewatering.

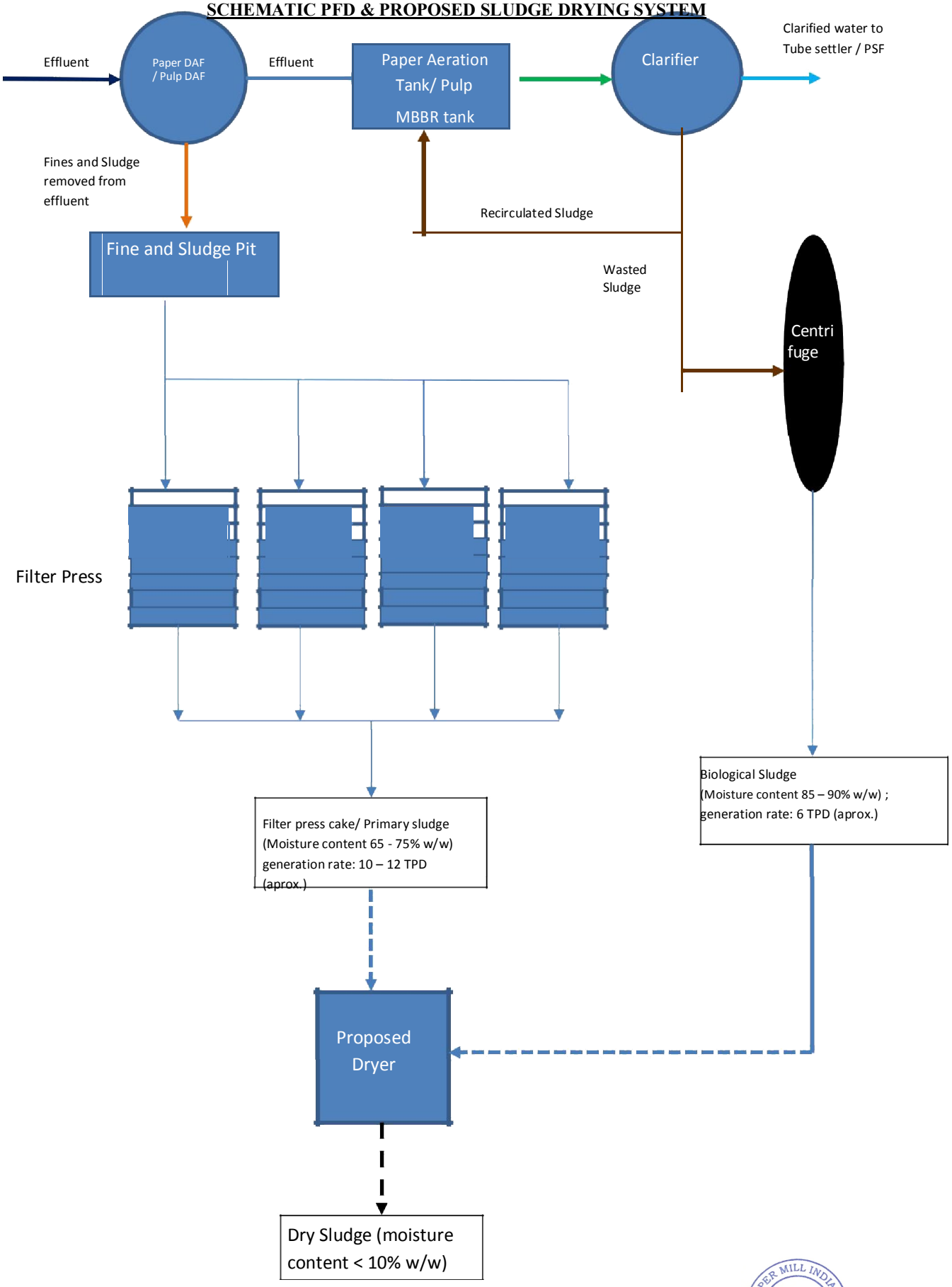
SLUDGE HANDLING AND MANAGEMENT:

The floated sludge (recoverable fibre) from both the Paper and Pulp DAF is collected in a separate fines collection tank. The settled sludge from both the Paper and Pulp DAF (collected from the bottom - by sedimentation) is collected in a sludge collection tank. Excess biological sludge (secondary sludge) from MBBR-BAS tank, and excess sludge from paper aeration tank is collected in a collection tank. The primary sludge (combination of floated sludge and settled sludge) is dewatered in a plate and frame type filter press to produce filter press cake having moisture content of 65 – 75 % (w/w). The filtrate from the filter press is taken to the aeration tank of the paper mill stream. Sludge cake from the filter press is suitably disposed of to paper board manufacturers.

The biological sludge (secondary sludge) collected in the collection tank is then dewatered using a centrifuge of 5 m^3/h capacity, generating dewatered sludge with moisture content in the range of 85 – 90% (w/w). The filtrate from the filter press is taken to the aeration tank of the paper mill stream. The dewatered biological sludge is being taken out by vendors for vermin composting.

The proposed sludge dryer is required to further dry the filter press cake made from primary sludge and the dewatered biological sludge to powder form with less than 10 % (w/w) moisture content so as to reduce odour and for increasing the easiness of handing the sludge.

SCHEMATIC PFD & PROPOSED SLUDGE DRYING SYSTEM



EQUIPMENT WISE CAPACITIES:

Sl No	Item	Capacity	Unit
1	Paper Stream	130	m^3/h
2	Pulp Stream	21	m^3/h
3	Paper DAF	6.1	m^3
4	Pulp DAF	48.98	m^3
5	MBBR 1	151.25	m^3
6	MBBR 2	151.25	m^3
7	BAS	625.6	m^3
8	Aeration Tank	3819.45	m^3
9	Sludge Tank	41.07	m^3
10	Fine Tank	27.6	m^3
11	Paper clarifier	920.57	m^3
12	Pulp Clarifier	134.69	m^3
13	Centrifuge Capacity	5	m^3/h

Annexure 2

BNPM/EOI/SLUDGE DRYING SYSTEM/440/2018-19 DATED 04.09.2018

1. **Objective:**

   BNPM intends to install the sludge drying system to reduce the moisture content of biological sludge generated in ETP from 90 % to less than 10% and for primary sludge from 70 % to less than 10%.

2. **Brief Scope of Work**
   Design, manufacturing, supply, erection, commissioning & performance trial of ETP Sludge Drying System (common drying system for both primary & biological Sludge)

3. The typical requirement of the system is as follows :

Sl No	Description	Value
I.	Input characteristics of primary sludge / filter press cake	
1	Moisture content (Filter Press cake)	65 – 70 %
2	Form of filter press cake	Pressed cake
3	Average per day generation of primary sludge (filter press cake) at above moisture content (to be dried)	10 -12 MT per day (24 Hrs)
II.	Input characteristics of biological sludge	
4	Moisture content (Biological sludge)	85 – 90 %
5	Form of biological sludge	Semi- solid
6	Average per day generation of biological sludge at above moisture content (to be dried)	6 MT per day
Required Output results of I & II		
7	Moisture content of filter press cake & biological sludge	Less than 10%
8	Form of filter press cake & biological sludge output	Granules/ cakes/ flakes/ powder

Other requirements		
9	Drying type	Any suitable methodology involving easy operation & economical. Technology should be proven & comply with Environmental Norms (PCB norms if any)
10	Available area of installation of drying system	About 30 Sq mtrs.
11	Sludge feed to drying system	To be part of the system

4. The firm, may submit one or more option for consideration and evaluation. BNPMIPL reserves the right to select the design found to be most viable option meeting the requirement In case of necessity, the bidder shall make a presentation of the solution offered before BNPMIPL personnel.

Annexure 3

BNPM/EOI/SLUDGE DRYING SYSTEM/440/2018-19 DATED 04.09.2018

Eligibility Criteria

1. **Status:**

   The applicant should be either proprietary firm/LLP/company/Partnership/ (legal entity) registered under relevant regulation of the respective Country. The applicant should be in business of design, manufacturing, supply, erection & commissioning of sludge drying system.

2. **Experience:**

   The applicant should have designed, manufactured, supplied, erected and commissioned a sludge drying system with capacity of minimum 10 MT per day (24 Hrs) sludge drying with output of 10% moisture content, during the period of last five years ending on 31.08.2018. (Documentary proof is to be submitted).

   Others:

3. **Financial Standing**

   a. Bidder Firms should be financially sound and should have not suffered any financial loss for more than one year during the last three years period ending 31.03.2018.
   b. The net worth of the firm should not have eroded by more than 30% in the last three years period ending 31.03.2018 and the net worth of the bidder firm should not be negative.
   c. The average annual turnover of the bidder firm shall be above Rs. 45 lakh.

4. The bidder firm should have not been blacklisted/debarred by BNPMIPL/BRBNMPL/SPMCIL/Government of India for participation in tender as on the last date of submission of EOI.
5. The copy of audited balance sheet and Profit and loss accounts for last three financial years ending on 31.03.2018 are to be submitted along with the proposal.
6. All documents are to be submitted in English language only. If the documents are in other language English translation copy shall be furnished along with the documents.

Annexure 4

Specimen Response letter for EOI

Date:

The Managing Director
Bank Note Paper Mill India Private Limited
Corporate Office,
Gate 1 Administrative Building, Paper Mill Compound
Note Mudra Nagar, Mysuru -570 003
Karnataka

Sub: BNPM/EOI/SLUDGE DRYING SYSTEM/440/2018-19 DATED 04.09.2018

Dear Sir,

We have gone through the above referred EOI and understood your requirements with respect to design, manufacturing, supply, erection, commissioning & performance trial of sludge drying system.

We fulfil the eligibility criteria and undertake that;

1. We have noted, understood and agreed to all the terms and conditions of the EOI. In token of our acceptance, we have enclosed the EOI documents duly signed by the authorized representative.

2. I/we am/are Proprietary firm/LLP/Company/Partnership and I/We have enclosed the registration certificate issued by the registration authorities as applicable in the country of origin as documentary evidence. (Please indicate as applicable)

3. I/We have supplied _____ no. of sludge drying system of same and above capacity during the year _____. I/we have enclosed the work order/completion certificate issued by _____as documentary evidence.

4. We have the total experience of _____ years in the related field as on August 31, 2018.

5. The average annual turnover for last three financial years i.e. 2017-18, 2016-17, 2015-16 is INR ……. I /We have enclosed the annual report/statements of accounts (preferably audited) and a statement of average annual turnover of last 3 years duly authenticated by an authorised official of the Company/firm.

6. We confirm that we have not suffered any financial loss more than one year during last three years.

BANK NOTE PAPER MILL INDIA (P) LIMITED MYSORE 570 003

7. We confirm that our net worth has not eroded / eroded by ……. % during last three financial years. Our net worth as on 31.03.2018 is not negative.

8. We declare that have not been black listed/debarred by BNPMIPL/BRBNMPL/SPMCIL/ Government of India for participation in tender.

9. We also enclose our brief profile and list of our major clients for your consideration.

10. We will be interested to present our proposal and demonstrate our past performance / details of the system being offered to you at a meeting at your convenience.

11. We are enclosing copy of English translation of the documents which are not in English.

12. We are enclosing duly signed/executed integrity pact as per format provided with EOI.

For_____

(Name and designation of officer)

Encl:

1. Duly signed EOI
2. Registration certificates
3. Work order or completion certificate
4. Annual report/income tax return and a statement of average annual turnover of last 3 financial years.
5. PAN Card copy and copy of Service Tax/GST registration certificate
6. Brief profile and list of major clients
7. Details of proposed system and equipment