

**Notice No.:WBDCL/EOI-Adv/CC/14-15/09/KTPS Date: 24.04.2014**

**WEST BENGAL POWER DEVELOPMENT CORPORATION LIMITED**

**KOLAGHAT THERMAL POWER STATION**

**(6x210 MW)**

**(An ISO 9001-2000 Power Plant)**

**REQUEST FOR EXPRESSION OF INTEREST  
FOR  
UNDERTAKING EVACUATION CAPACITY AUGMENTATION WORK IN  
RESPECT OF EXISTING DRY FLY ASH HANDLING SYSTEM OF KOLAGHAT  
THERMAL POWER STATION**



**KOLAGHAT THERMAL POWER PLANT  
P.O.- Mechada, District-Purba Medinipur. WB. Pin-721137**

**APRIL, 22<sup>nd</sup>. 2014**

# WEST BENGAL POWER DEVELOPMENT CORPORATION LIMITED

KOLAGHAT THERMAL POWER STATION  
(6 x 210 MW)

## EOI DOCUMENT FOR PRE-QUALIFICATION OF APPLICANT

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# **EOI NOTICE**

**The West Bengal Power Development Corporation Limited  
(A Government of West Bengal Enterprise)**

To  
The Sr. Mgr(Corporate communication),  
Bidyut Unnayan Bhawan,  
Plot No. - 3/C, Block - LA,  
Sector – III, Salt Lake City,  
Kolkata – 700 098



**REQUEST FOR EXPRESSION OF INTEREST FOR UNDERTAKING  
EVACUATION CAPACITY AUGMENTATION WORK IN RESPECT OF EXISTING  
DRY FLY ASH HANDLING SYSTEM OF KOLAGHAT THERMAL POWER  
STATION**

**EOI Notice No. WBPDC/EOI-Adv/14-15/200/Corp      Date: APRIL, 22nd, 2014**

1.0 The West Bengal Power Development Corporation Limited (WBPDC), an enterprise of Government of West Bengal, intends to enhance the evacuation capacity of its existing Dry Fly Ash Handling System by undertaking intensive study of the existing evacuation system towards identifying the inherent deficiencies, appropriate re-designing the system/subsystem followed by modification/replacement of the existing equipments as necessary to achieve the target evacuation capacity.

2.0 Objective

Dry Fly Ash Evacuation System of the Plant for 6x210MW Units was designed, installed and commissioned by M/s Tecpro System Limited erstwhile M/s Mahindra Ashtech Private Limited during the year 2005-06 with rated evacuation capacity 135TPH for each Unit.

System comprises of two (for stage-I)/three parallel streams (each designed for rated capacity of 45TPH) for taking away ash by vacuum conveying from the ESP Hoppers to the Intermediate-Silo of the respective Units followed by Dense Phase pressure conveying from Intermediate-Silo to Final Ash Disposal Silo through single conveying line. However, since inception ash collection into Intermediate-Silo through simultaneous operation of all three streams as well as ash conveying from Intermediate-Silo to Final Ash Disposal Silo at rated capacity cannot be achieved due to inherent system deficiencies. On an average only 45TPH of fly ash evacuation is possible through the system as against rated designed capacity of 135TPH.

Main objective is restoration of evacuation capacity to 135TPH by undertaking intensive study of the present system to identify major technical snags, providing appropriate solution/redesigning the system/subsystem by utilizing the existing load bearing equipments as far as practicable including addition / alteration work as needed to suit the requirements.

3.0 WBPDCCL now invites Expression of Interest (EOI) to prequalify the Applicants as per Clause No. 4.0.

#### 4.0 Qualification Requirement and Eligibility Criteria

Pre-qualification is open to Firm (Applicant) or Joint Ventures/Consortium (Prime applicant) having sound financial and technical capabilities in similar nature of activities. The Applicant shall fulfill satisfactorily the eligibility criteria requirements as stipulated under and submit documentary evidences, where applicable.

4.1 (a) Applicant should be a Domestic Company or a Lead Partner of Joint Venture (JV)/Consortium with the OEM as described in Clause No.4.2 and having functional manufacturing facility in India.

(b) Applicant should have a minimum annual average turnover of Rupees **150 Million** or more during the last three financial years ending March 2013 and shall submit the audited balance sheet for each of the last three (3) financial years

(c) Minimum Net Worth of the applicant as on the last day of each of last three (3) financial years ending March 2013 shall be Rupees **20 Million**.

4.2 In addition to the requirements stipulated at Para 4.1 above, the Applicant and/or, where applicable, his JV/Consortium Partner should also meet the requisite qualifying requirements stipulated herein under.

(i) Is an Original Equipment manufacturer (OEM), who designs, manufactures and supplies Complete Ash Handling System and undertakes the type of work specified here under and has adequate technical knowledge and has relevant past experience.

(ii) Should have designed, engineered, manufactured/supplied, constructed, erected, commissioned at least two (2) nos. of Ash Handling Plant comprising of Dry Fly Ash System in two (2) different Coal based Thermal Power Projects in India having Unit capacity of 210MW or more in last 7 years and at least one of which is in successful operation for a period not less than two years as on the date of bid submission.

(iii) Should have undertaken during last 5-years at least one modification / augmentation job relating to Dry Fly Ash Handling System in any Power Plant having Unit capacity of 210 MW or more, in India, which is in successful operation with rated/designed evacuation capacity for a period not less than two years as on the date of bid submission.

- 5.0 Please refer 'General Description & Schematic Block Diagram' of the Existing Dry Fly Ash Evacuation System.
- 6.0 The EOI should be supported with the following information/documents :
- a. Company Name contact details,
  - b. ROC details demonstrating the company entity and share holding pattern,
  - c. Manufacturing unit details establishing that it is a fully functional unit with references,
  - d. Credentials demonstrating of:-
    - (i) Execution of Complete Ash Handling System with Dry Fly Ash System with reference lists.
    - (ii) Execution of modification / augmentation job relating to Dry Fly Ash Handling System with reference lists.
  - e. Audited financial statement of last three years
  - f. Litigation History:  
The Applicant should provide accurate information on any litigation or arbitration resulting from contracts completed or under its execution over the last ten (10) years. A consistent history of awards against the Applicant or any partner of a JV/Consortium may result in rejection of the application.
- 7.0 The Expressions of Interest (EOI) must be submitted in 2 (Two) Copies including one Original in a sealed envelope clearly marked as below.

**“EXPRESSION OF INTEREST FOR DRY FLY ASH EVACUATION CAPACITY AUGMENTATION WORK OF KOLAGHAT THERMAL POWER STATION”**

And **delivered not later than 15.00 Hours on 15th. MAY, 2014** to the address below: to and fro

The General Manager

Kolaghat Thermal Power Station

P.O.- Mechada, District-Purba Medinipur. WB. Pin-721137

**Tel No. +913228231110 , Fax No. 91-3228231280**

**e-mail: proy@wbpdcl.co.in**

PULOK ROY  
General Manager (KTPS)

## **Details of Letter of Application & Proforma**

## Details of Letter of Application & Proforma

<b><u>Sl. No.</u></b>	<b><u>Form No.</u></b>		<b><u>Description of the Form</u></b>
1.	Form-1	:	Letter of Application
2.	Form-2	:	General Experience Record
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6.			
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	Form-3A(ii)	:	-do-
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9.	Form-5	:	Financial Capability
10.		:	Litigation History



**FORM NO. : 1**

**LETTER OF APPLICATION**

[Letter head paper of the applicant or partner responsible for a joint venture/Consortium, including full postal address, telephone number, fax number, telex number and cable address]

Date .....

To .....

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(Name and address of the Applicant)

Ladies and/or Gentlemen,

1. Being duly authorised to represent and act on behalf of .....(hereinafter referred to as “the Applicant”), and having reviewed and fully understood all of the pre-qualification information provided, the undersigned hereby apply to be pre-qualified by yourselves for the proposed Evacuation Capacity Augmentation work of existing Dry Fly Ash System of Kolaghat TPS .
2. Attached to this letter are copies of original documents defining
  - a) The applicant’s legal status
  - b) The principal place of business
  - c) The place of incorporation (for applicants who are Corporations), or the place of registration of the owners (for applicants who are partnership or individually – owned firms).
3. You and yours authorised representatives are hereby authorised to conduct any enquiries of investigations to verify the statements, documents, the information submitted in connection with this application and to seek clarification from our bankers and clients regarding any financial and technical aspects. This letter of application is also served as authorization to any individual or authorised representative of any institution referred to in the supporting information, to provide such information deemed necessary and as requested by you to verify

statements and information provided in this application, such as the resources, experience, and competence of the Applicant.

4. You and your authorised representatives may contact the following persons for further information:-

General and managerial inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

Personnel inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

Technical inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

Financial inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

- a. For applicants for joint ventures/Consortium, all the information requested in the pre-qualification documents is to be provided for the joint venture/Consortium, if it already exists and for each party to the joint venture/Consortium separately. The lead partner should be clearly identified. Each partner in the joint venture/Consortium shall sign the letter.
  - b. Applications by joint ventures/Consortium should provide on separate sheet equivalent information for each party to the application.
5. This application is made with the full understanding that:
- a) Prequalifying applicants will be subject to verification of all information submitted for prequalification;
  - b) You reserve the right to reject or accept any application, cancel the prequalification process, and reject all applications.
  - c) You shall not be liable for any such actions and shall be under no obligation to inform the Applicants of the ground for the above.

6. The undersigned declared that the statement made and the information provided in the duly completed applications are complete, through, and correct in every detail.

Signed	Signed
Name	Name
For and on behalf of (name of the applicant or lead partner of a joint venture/Consortium)	For and on behalf of (name of partner)

Signed	Signed
Name	Name
For and on behalf of (name of partner)	For and on behalf of (name of partner)

Signed	Signed
Name	Name
For and on behalf of (name of partner)	For and on behalf of (name of partner)

**FORM NO. : 2**

**GENERAL EXPERIENCE RECORD**

**Name of Applicant or Partner of Joint Venture/Consortium**

All individual firms and all partners of a joint venture/**Consortium** are requested to complete the information in this form. The information supplied should be the annual turnover of the Applicant (or each member of a joint venture/**Consortium**) for each year.

Use a separate sheet for each partner of a joint venture.

Year	Turnover

FORM NO. : 2A

**JOINT VENTURE/CONSORTIUM SUMMARY**

Names of all partners of a joint venture/Consortium
1. Lead Partner
2. Partner
3. Partner

Total value of annual turnover, in terms of sales billed to clients.

Partner	Form 2 page no.	Year 1	Year 2	Year 3
1. Lead Partner				
2. Partner				
3. Partner				
TOTAL				

**FORM NO. : 3**

**PARTICULAR EXPERIENCE RECORD**

Name of applicant or partner of a joint venture/Consortium
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To prequalify the applicant shall be required to pass the specified requirements applicable to this form, as set out in the 'Prequalification Requirements to Applicants' for the proposed Evacuation Capacity Augmentation work of existing Dry Fly Ash System of Kolaghat TPS.

On a separate page, using the format of form-3A, the applicant is requested to list all contracts and their valuation in INR of a similar nature and complexity. The partners of a joint venture/Consortium should provide details of similar contracts proportionate to their share in the joint venture /Consortium. The value should be based on the INR of the contract. The information is to be summarized, using form-3A for each contract completed by the applicant or by each partner of a joint venture/Consortium.

Applicants have to enclose evidence documents for the work completed. Users' certificates are to be submitted.

**FORM NO. : 3A**

**DETAILS OF CONTRACTS OF COMPLETE ASH HANDLING PLANT AND  
SIMILAR NATURE AND COMPLEXITY OF AUGMENTATION WORK**

Name of applicant of a partner of a joint venture/Consortium
--

Use a separate sheet for each contract.

1	Number of contract
	Name of Contract
	Country
2	Name of employer
3	Employer Address
4	Contract role (check one) Sole contractor      Partner in a joint venture/consortium
5	Value as on date of award of contracts,
	Total contract Amount .....(INR)
	Sub contract amount (if the role was sub-contractor) .....(INR)
	Responsible contract amount (if the role was partner in a joint venture Consortium) : .....(INR)      .....(percentage of share)
7	Date of Award
8	Date of completion
9	Contract / sub-contract duration (years and months)
10	Specified the Guaranteed requirements for Complete Ash Handling/after augmentation Work a) Guaranteed Data : b) End user certificate :

**FORM NO. : 3B (i)**

**PAST EXPERIENCE AND PERFORMANCE COMPLETE ASH HANDLING PLANT**

No.	Country	Name of the Project	Achieved /Guaranteed Parameter	Name of Owner	Date of Actual Commissioning	Name of Manufacture and/or subcontractor
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Note : Enclose completion certificates & Performance certificates of the actual Owners.

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(Place and Date)

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(Representative)



**FORM NO.: 3B (ii)**

**PAST EXPERIENCE AND PERFORMANCE OF DRY FLY ASH EVACUATION SYSTEM AFTER AUGMENTATION**

No.	Country	Name of the Augmentation Project	Original Installed Capacity (TPH)	Guaranteed Capacity Achieved after Augmentation	Name of Owner	Date of Actual Commissioning after Augmentation	Name of Manufacture and/or subcontractor
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Note : Enclose completion certificates & Performance certificates of the actual Owners.

\_\_\_\_\_  
(Place and Date)

\_\_\_\_\_  
(Representative)

**FORM NO. : 4**

**SUMMARY SHEET: CURRENT AUGMENTATION CONTRACT COMMITMENTS /  
WORK IN PROGRESS**

Name of Applicant or partner of a joint venture

Applicants and each partner to an application should provide information on their current Ash Handling Plant Project/Augmentation work commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received or for contracts approaching completion but for which an unqualified, full completion certificate has yet to be issued

Name of Contract	Value of the work	Estimated completion date
1.		
2.		
3.		
4.		
5.		
6.		

**FORM NO.: 5**

**FINANCIAL CAPABILITY**

Name of Applicant or Partners of Joint Venture

[Applicants/each partners of Joint Venture /Consortium should provide the following information to demonstrate that they meet the requirements stated in the EOI Notice for prequalification for Applicants in clause 4.1.(b).]

1. Name of the Firm:

.....

2. Individual and Cumulative Turnover in the last three audited financial years (in Rs.):

	<Amount in Rs>	<Amount in Rs>	<Amount in Rs>	<Amount in Rs>

(Please provide Published/audited Annual Account for Balance Sheet and Profit and Loss statements as proof)

**Signature:** .....

**Seal**

**FORM NO. : 6**

LITIGATION HISTORY

Name of Applicant or Partner of a joint venture/consortium

[Applicants/ each of the partners of a joint venture/consortium should provide information on any history of litigation or arbitration resulting from contracts executed in the last ten (10) years or currently under execution as stated in the EOI Notice for Prequalification for Applicants in clause 6.(f). A separate sheet should be used for each partner of a joint venture].

Year	Award FOR or AGAINST Applicant	Name of client, cause of litigation, and matter in dispute	Disputed amount in INR

# **General Description of the Dry Fly Ash Evacuation System of the Plant**

## 1.00.00 INTRODUCTION

Kolaghat Thermal Power Plant is one of the largest power plants in eastern zone of total 1260 MW capacity comprising six units each having capacity of 210 MW. The Steam Generator of Unit No. 1, 2, 3 & 4, was supplied by M/s. ABL BABCOCK LTD and Turbo Generator was supplied by M/s BHEL. Both steam generator & turbo generator of Unit No. 5 & 6 were supplied & commissioned by M/s. BHEL on turnkey basis. Out of the six units, Unit No. 3 was first commissioned in the year of 1984. Subsequently other two units of Stage-I were put into the grid in phases ending in 1990. Subsequently, three Units of Stage-II were put into the grid during early nineties.

Initially Plant does not have any Dry fly ash evacuation system. Entire ash produced was disposed of by wet method and transported to nearby ash ponds. Subsequently, during the year 2005-06 Dry fly ash evacuation system was introduced in the Plant. The system was supplied & commissioned by M/s Tecpro System Limited erstwhile M/s Mahindra Ashtech Private Limited under the Consultancy of M/s MECON Limited.

## 2.00.00 SITE

Kolaghat Thermal Power Station site is located at Mecheda in the district of Purba Medinipure of West Bengal, which is on National Highway 41 and 62 Km from Kolkata. The nearest railway station is Mecheda, adjacent to the site, on Howrah-Khargapur Section of South Eastern Railway.

## 3.00.00 SALIENT CLIMATOLOGICAL AND DESIGN DATA

- |    |                              |   |                         |
|----|------------------------------|---|-------------------------|
| a. | Average Grade                | : | < 1000 M above MSL      |
| b. | Ambient Air Temperature      |   |                         |
|    | Maximum                      | : | 50 <sup>0</sup> C       |
|    | Minimum                      | : | 04 <sup>0</sup> C       |
| c. | Relative Humidity            | : | 90 % Maximum            |
| d. | Seismic zone latest revision | : | Zone-III as per IS-1893 |

## 4.00.00 DESCRIPTION OF DRY FLY ASH EVACUATION SYSEM

Dry Fly Ash Handling System of the Plant conceived and implemented for complete dry disposal of total Fly ash generated out of 6x210MW Unit. It comprises of three (3) main subsystems as mentioned below. Please also refer Schematic Diagram enclosed.

- Fly ash collection from ESP Hoppers of respective Unit and conveying it to dedicated Intermediate Silo (IMS) for the respective Unit through vacuum conveying system.
- Conveying of dry fly ash from IMS to Main Ash Disposal Silo through pressure conveying system.

c) Storage & unloading at Main Ash Disposal Silo.

#### **4.01.00 Fly ash Removal & conveying to Intermediate Silo (IMS)**

Dry Fly Ash from individual Unit conveyed to respective Intermediate Silo (one for each Unit) by vacuum conveying system. In respect of Unit No.1,2 & 3 of Stage-I, two(2) nos. of independent vacuum conveying stream per unit have been provided with four(4) nos. of Vacuum Pumps (2W+2S) and are connected to both the stream. These vacuum pumps are situated below the Intermediate Silo (IMS) and are used to draw fly ash from eight (8) nos. of ESP Hoppers & six (6) nos. of APH Hoppers connected to each stream.

In regard to Unit No. 4,5 & 6 of Stage-II, three (3) nos. of independent vacuum conveying stream per unit have been provided with four(4) nos. of Vacuum Pumps (3W+1S) and are connected to all the three streams. These vacuum pumps are situated near the Intermediate Silo (IMS) and are used to draw fly ash from ESP Hoppers & APH Hoppers. In case of Unit No.4, Stream-A draws fly ash from ten (10) nos. of ESP Hoppers, Stream-B draws fly ash from four (4) nos. of ESP Hoppers & twelve (12) nos. of APH Hoppers and Stream-C draws fly ash from ten (10) nos. of ESP Hoppers only.

Whereas, in case of Unit No.5 & 6; ten (10) nos. of ESP Hoppers, four (4) nos. of Economizer Hoppers & four (4) nos. of APH Hoppers are connected to Stream-A. Stream-B draws fly ash from fifteen (15) nos. of ESP Hoppers & one (1) no. of Stack Hopper and Stream-C draws fly ash from fifteen (15) nos. of ESP Hoppers only.

Dry ash from different fly ash hoppers conveyed to IMS dust collector and Transfer Vessel through vacuum conveying. Ash removal from various hopper is carried out sequentially and one hopper from each stream at a time. The inlet & outlet valves of Transfer vessel are operated in either / or mode so that vacuum system of Dust Collector never gets short-circuited with the pressurized system of IMS.

#### **4.02.00 Conveying of dry fly ash from IMS to Main Silo (MS) system**

Each IMS is connected to two (2) nos. Airlock Vessels. Both Airlock Vessels are connected to one pressurized ash conveying stream dedicated for each unit. The Ash conveying stream made of MS Pipe line conveys ash from Airlock Vessels to main Ash disposal Silos.

One Transport Air Line is connected to each IMS through one receiver at the IMS end. Air from this receiver enters one vessel at the outlet of IMS namely Airlock vessel. This air carries ash from the Airlock vessel and another part of the air assists the flow at the outlet of ALV. The

cumulative effect of both these air carries the ash to the Main Silo through piping.

Both ALV valves are operated in either / or mode so that one ALV is been evacuated when the other is been filled.

#### **4.03.00 Storage & unloading at Main Silo**

There are 5 nos. of Main Silos named as Silo-1, 2, 3, 4 & 5. Main Silo-4 & 5 is dedicated for Units No.1, 2 & 3. Main Silo-1 & 2 are dedicated for Unit No. 4, 5 & 6. Main Silo-3 is common for all units.

Ash stored in Main Silos is being unloaded as per the following manner.

- a. Closed tankers through Rotary Feeder & Telescopic spout.
- b. Open trucks through Rotary unloader with water conditioning.
- c. 3rd point has been kept blanked for future use.

#### **4.04.00 Transport Air System:**

There are nine (9) nos. of Centrifugal type Transport Air Compressor installed in the system. Out of that six (6) nos. is dedicated one each for six (6) units and three (3) nos. are common standby.

#### **4.05.00 Instrument Air Compressor:**

There are four (4) nos. of IAC installed of reciprocating type. Three (3) nos. are running & other is standby.

#### **4.06.00 Cooling water system:**

There are two (2) nos. (1W+1S) of CW pumps installed in the system. DM water is being for cooling system. One DM water tank is placed near the CW pumps. This supplies the cooling water requirement for the compressors & the dryers. Automatic make-up to DM water tank is provided from Plant DM water.

#### **4.07.00 Fluidizing Air System:**

Two (2) nos. (1W+1S) of Fluidizing Air Blower and two (2) nos. (1W+1S) of heater are provided to each IMS and MS.

#### **4.08.00 Silo Area water system:**

There are two nos. of water pumps provided to MS area for supplying water to rotary unloader as per requirement.



## 5.00.00

## RATING OF MAJOR LOAD BEARING EQUIPMENTS

Sl. No.	Name of the Equipment	Quantity	Deliver Capacity	Rated Output Pressure	KW Rating	Name of the Supplier/Model
1.	Pneumatic Conveying Compressor	9	60 M <sup>3</sup> / Min	4.5 kg / cm <sup>2</sup>	325 KW	Cooper USA.Model-TA300
2.	Instrument Air Compressor	4	8.5 M <sup>3</sup> / min	6 kg / cm <sup>2</sup>	55 KW	Kirloskar. Model-Khosla 2HA2T
3.	Cooling Water Pump	2	500 M <sup>3</sup> /hr	4 kg / cm <sup>2</sup>	72 KW	Beacon Weir. Model-SDB200/200
4.	FA blower (IMS)	12	715 M <sup>3</sup> /hr	4000 mm WG	15	Key International. Model-610AC
5.	FA blower (MS)	10	342 M <sup>3</sup> /hr	5000 mm WG	9.3	Key International. Model-65AC
6.	FA Heater (IMS)	12	NA	NA	11 KW	ESCORT
7.	FA Heater (MS)	5	NA	NA	5.5 KW	ESCORT
8.	Rotary ash conditioner water pump	2	150 M <sup>3</sup> /hr	1.5 kg / cm <sup>2</sup>	9.3 KW	Beacon Weir. Model-SDBH 100/125
9.	Air Drier for TAC	9	60 M <sup>3</sup> /min	4.5 kg / cm <sup>2</sup>	10 TR inbuilt	Delair. Model-FDI-850W(S)
10.	Air Drier for IAC	4	8.5 M <sup>3</sup> /min	6 kg / cm <sup>2</sup>	1.5 TR inbuilt	Delair. Model-FDI-4310W(S)
11.	Air Receiver for TAC	6	2 M <sup>3</sup>	NA	NA	MATL
12.	Air Receiver for IAC	2	2 M <sup>3</sup>	NA	NA	MATL
13.	Vent fan for IMS	6	210 M <sup>3</sup> /hr	184 mm WG	1.1 KW	S.H.Engg. Model-SHBH-20
14.	Vent fan for MS	5	4200 M <sup>3</sup> /hr	213 mm WG	5.5 KW	S.H.Engg. Model-SCHP-31
15.	Scavenger Fan	5	510 M <sup>3</sup> /hr	105 mm WG	1.1 KW	S.H.Engg. Model-SHBH-15
16.	Rotary Vane Feeder	10	150 TPH	NA	3.7 KW	MATL
17.	Rotary Unloader	5	150 TPH	NA	7.5 KW	MATL

## 6.00.00

## VARIOUS SYSTEM PARAMETER/SET POINTS OF DRY ASH SYSTEM

Sl. No.	Description	Set point
1.	Mechanical Exhauster Cooling Water Pressure	1.0 kg / cm <sup>2</sup>

<b>Sl. No.</b>	<b>Description</b>	<b>Set point</b>
2.	Mechanical Exhauster Cooling Water Flow	7 M <sup>3</sup> /hr
3.	Cooling Water Pump Discharge Pressure	3.0 kg / cm <sup>2</sup>
4.	Instrument Air Receiver Pressure	5.5 kg / cm <sup>2</sup>
5.	Instrument Air Compressor 100% load / unload	5.5 – 6.5 kg / cm <sup>2</sup>
6.	Instrument Air Compressor 50% load / unload	5.7 – 6.2 kg / cm <sup>2</sup>
7.	Instrument Air Compressor inlet water pressure	3.0 kg / cm <sup>2</sup>
8.	Dust Collector Bag filter DP	400 mm WC
9.	IMS vent filter DP	120 mm WC
10.	MS bag filter DP	120 mm WC
11.	Cooling water pressure at inlet of heat exchanger	3.0 kg / cm <sup>2</sup>
12.	Suction header pressure at rotary ash conditioner pump	2.75 kg / cm <sup>2</sup>
13.	Discharge header pressure at rotary ash conditioner pump	3.5 kg / cm <sup>2</sup>
14.	IMS FA blower discharge pressure	0.3 kg / cm <sup>2</sup>
15.	MS FA blower discharge pressure	0.4 kg / cm <sup>2</sup>
16.	IMS FA blower Heater temperature	150 deg C
17.	Hopper valve open	≥200 mm Hg
18.	Hopper valve close	<250 mm Hg
19.	Hopper Plug	100 – 150 mm Hg
20.	Hopper Empty	≥ 100 mm Hg

#### **7.00.00 MAJOR CONSTRAIN OF DRY ASH EVACUATION SYSTEM**

Major limitation faced within the present system is twofold in nature i.e. both in ash pulling and conveying system have got limitations as

detailed below.

**a) Pulling System**

- Average pulling capacity of each Stream is only to the tune of 15-20TPH against requirement of 45TPH.
- VS3 setting is maintained at 200 to 210mmHg, else DP across Bag Filter (Size:1650mmX150mmX65mm) becomes high causing chock-age.

**b) Conveying System**

- Average conveying capacity achieved is to the tune of 40-45TPH with conveying pressure of 1.5kg/cm<sup>2</sup> against requirement of 135TPH.
- Conveying Pressure cannot be increased beyond 1.5kg/cm<sup>2</sup> due to line pressurization/ chock-age.
- Frequent Chock-age of Airlock Vessel Pad.
- As ash evacuation rate from Intermediate Silo (IMS) is very low which causing overflow of IMS.

