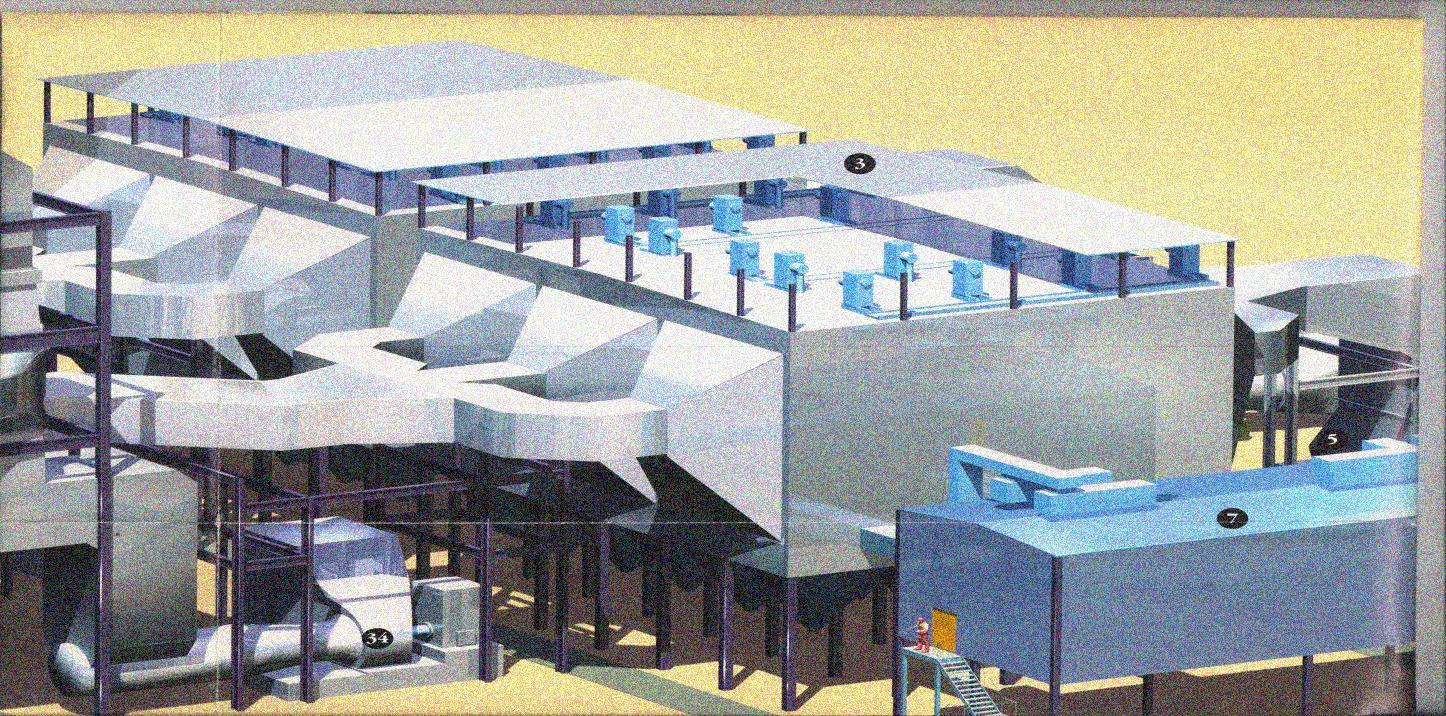
**ELECTROSTATIC PRECIPITATORS**



|  |  |
| --- | --- |
| **CLIENT ORDER NO. AND DATE** |  |
| **CLIENT REPRESENTATIVE** |  |
| **ESP INEPCTED BY** |  |
| **DATE OF INSPECTION** |  |
| **SIGNATURE OF INSPECTOR** |  |

## *CUSTOMER DETAILS*

|  |  |  |  |
| --- | --- | --- | --- |
| Name of Company | Vedanta Ltd | | |
| Address | Vedanta Ltd  ,Pig Iron Expansion Plant, Navelim, Bicholim,Goa- 403505 | | |
| City |  | State / Province | Goa |
| Pin Code | 403505 | Country | India |
| Code |  | Phone |  |
| Fax |  | Industry |  |
| E-Mail | Yogesh.pancheshwar@Vedanta.co.in | | |
| Web Site |  | | |

***DESIGN PARAMETERS***

|  |  |
| --- | --- |
| Gas Volume (m³/Hr.) | 450000 |
| Gas Temperature (°C) | 160-200 |
| Gas Pressure (mm wg) | -17 kpa |
| Moisture Content  (% or Kg/Kg) |  |
| Gas Composition (%) |  |
| Dust Loading (gm/Nm³) | 4 |
| Required Emission Level (mg/Nm³) | 80 |

***EXISTING ESP DETAILS***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| ***ESP DETAILS*** | | | | | | | | | | | | | | | | | | | | |
| Make of ESP Installed | Xuwhau changtown environmental protection equipment | | | | | | | | | | | | | | | | | | | |
| Model of ESP Installed | CTD130 | | | | | | | | | | | | | | | | | | | |
| Year of Installation | 2012 | | | | | | | | | | | | | | | | | | | |
| Application | Process Esp | | | | | | | | | | | | | | | | | | | |
| No. of ESP’s | 1 | | | | | | | | | | | | | | | | | | | |
| No. of Fields per ESP | 3 | | | | | | | | | | | | | | | | | | | |
| No. of Passes per ESP | 1 | | | | | | | | | | | | | | | | | | | |
| Length, Width and Height of each Field | 12x9.9x13.3 | | | | | | | | | | | | | | | | | | | |
| Effective Coll. Elec. Area | 7022 m2 | | | | | | | | | | | | | | | | | | | |
| ESP Efficiency Level |  | | | | | | | | | | | | | | | | | | | |
| ***COLLECTING ELECTRODES*** | | | | | | | | | | | | | | | | | | | | |
| Size of Coll. Electrode(mm) | Length | | 1380 | | | Width | | 480 | | Thick | | | 2.8 | | | | Profile | | |  |
| Gap between two CE | 450 | | | | | | | | | | | | | | | | | | | |
| No. of Gas Passages | 22 | | | | | | | | | | | | | | | | | | | |
| No. of rows of CE / Field | 23 | | | | | | | | | | | | | | | | | | | |
| No. of CE per Row | 8 | | | | | | | | | | | | | | | | | | | |
| Qty. Installed / Field | 3 | | | | | | | | | | | | | | | | | | | |
| ***EMITTING ELECTRODES*** | | | | | | | | | | | | | | | | | | | | |
| Emitting Electrode | Type | | | POINTED ELECTRODE | | | | | | | Size | | | L-3052 | | | | | | |
| Raw Material of EE | Ms , barbe- ss | | | | | | | | | | | | | | | | | | | |
| Qty. Installed per Field |  | | | | | | | | | | | | | | | | | | | |
| ***RAPPING MECHANISM*** | | | | | | | | | | | | | | | | | | | | |
| Rapping Mechanism Type | Tumbling Hammer | | | | | |  | | Elecro-Magnetic Drop Rod | | | | | | | | | |  | |
| Rapping Mechanism Application | CERM |  | | | EERM | |  | | GDRM | | |  | | | | Hopper | | |  | |
| Number of Rappers | CERM | 3 | | | EERM | | 3 | | GDRM | | | NA | | | | Hopper | | | NA | |
| ***GAS DISTRIBUTION SCREEN*** | | | | | | | | | | | | | | | | | | | | |
| No. of Screens | 1 | | | | | | | | | | | | | | | | | | | |
| Type of Screens | Hole type | | | | | | | | | | | | | | | | | | | |
| Dimensions |  | | | | | | | | | | | | | | | | | | | |
| ***CASING (Rood and Side Wall)*** | | | | | | | | | | | | | | | | | | | | |
| Thickness | 6 mm | | | | | | | | | | | | | | | | | | | |
| ***INLET AND OUTLET FUNNEL*** | | | | | | | | | | | | | | | | | | | | |
| Thickness | 6mm | | | | | | | | | | | | | | | | | | | |
| ***THERMAL INSULATION*** | | | | | | | | | | | | | | | | | | | | |
| Material of Insulation | LRB100 | | | | | | | | | | | | | | | | | | | |
| Thickness of Insulation (mm) | 100 MM | | | | | | | | | | | | | | | | | | | |
| Material of cladding | Aluminium | | | | | | | | | | | | | | | | | | | |
| Thickness of Cladding (SWG) | 1 mm | | | | | | | | | | | | | | | | | | | |
| ***TRANSFORMER RECTIFIER AND CONTROLLERS*** | | | | | | | | | | | | | | | | | | | | |
| Transformer-Rectifier | Make | Dalian Bihai electronic equipment ltd | | | | | Rating : KV/MA | | | | 72/1200 | | | | Qty Installed | | | 3 | | |
| HHV of Fuel (Kcal/Kg) |  | | | | | | | | | | | | | | | | | | | |
| Make and Model of Controllers | Precision R- Ador | | | | | | | | | | | | | | | | | | | |

***RECORDED DATA***

|  |  |
| --- | --- |
| Actual Gas Flow (Outlet) | 170 deg c |
| Actual Temp. (Outlet) |  |
| Moisture Content  (% or Kg/Kg) |  |
| Inlet Dust Load |  |
| Emission Level (Outlet) | 100 mg/ nm3 |
| Transformer Rectifier |  |
| Readings  (KV, mA, Primary Voltage, Primary Current, Spark Rate | 1 ) 35,33.122 14, 10  2) 36 ,254,175,36, 25  3)) 37,104,124,27,10 |

***COMMON PROBLEMS & PRESENT ESP STATUS***

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| It Is Giving Reqd. Efficiency | Yes/No | | No | | | | | |
| Mechanical Problems | Yes/No | | yes | | | | | |
| If Yes, Nature of Problems | Emitting electrode got bent | | | | | | | |
| Middle guide plate at shock bar missing | | | | | | | |
|  | | | | | | | |
| Electrical Problems | Yes/No | | Yes | | | | | |
| If Yes, Nature of Problems |  | | | | | | | |
|  | | | | | | | |
|  | | | | | | | |
| Spares Availability | Satisfactory/Unsatisfactory | | | |  | | | |
| If Unsatisfactory,  Problemetic Items |  | | | | | | | |
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|  | | | | | | | |
| Present Source of Supply |  | | | | | | | |
| Service Setup | AMC |  | | Departmental | |  | Contractor |  |
| Service Support Required | Yes/No | |  | | | | | |
| If Yes, Type of Service Reqd. |  | | | | | | | |
|  | | | | | | | |

***CONTACT PERSON FOR FURTHER INFORMATION***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1. Name** |  | | | Designation |  |
| Phone (O) |  | Phone ( R ) |  | Fax No. |  |
| Mobile |  | Email |  | | |
| **2. Name** |  | | | Designation |  |
| Phone (O) |  | Phone ( R ) |  | Fax No. |  |
| Mobile |  | Email |  | | |
| **3. Name** |  | | | Designation |  |
| Phone (O) |  | Phone ( R ) |  | Fax No. |  |
| Mobile |  | Email |  | | |
| **4. Name** |  | | | Designation |  |
| Phone (O) |  | Phone ( R ) |  | Fax No. |  |
| Mobile |  | Email |  | | |

**Observations and Suggestions Item wise (Mechanical and Electrical):**

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| --- | --- | --- | --- |
| **Sl.** | **Item Description** | **Nature of Problem** | **Suggestion** |
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**Note:** Use extra sheet if required.

***LIST OF ITEMS REQUIRED BEFORE NEXT SHUT-DOWN***

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| **Sl.** | **Item Description** | **UOM** | **Qty.** | **Drawing** |
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| **INTERNAL CHECKLIST OF ESP FIELDS** | | | | | | | | | | | | | |
| **COLLECTING ELECTRODES AND EMITTING ELECTRODES** | | | | | | | | | | | | | |
| **Sl No**  **Row No** | **Alignment** | **U Clamp Position** | **Straightening** | **Gap between C to E** | **Huck Bolting** | **Hanging Position** | **Tie Rod Nut/Tack Welding** | **Gap Tr. Bottom & Emitting Tube Bottom** | **Gap between vertical beam to CE** | **Sping back value of CE** | **Position of EE** | **Gap between Shock Bar Guide & Angle** | **Gap between Shock Bar Guide & attachment** |
|  | ok |  | ok | 225 | ok |  | ok |  | 290 |  | bent | Ok | Clearance |
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| **INTERNAL CHECKLIST OF ESP FIELDS RAPPING** | | | | | | | | | | | |
| **GAS DISTRIBUTION RAPPING** | | | | | | | | | | | |
| **Sl No**  **Row No** | **Total number of GD Hammer** | **Tack Welding of GD Hammer Bolt / Nut** | **Tack Welding of Deflection Plate** | **Hitting Point of GD Hammer** | **Bearing Locking of GD** | **Welding of Rapping Shaft Joint Sleeve** | **Seal of thruption Coller of GDRM** | **Oil Level of G.B.** | **Condition of Oil** | **Hammer Position (Free / Jam)** | **Remarks** |
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| **INTERNAL CHECKLIST OF ESP FIELDS RAPPING** | | | | | | | | | | | | | |
| **COLLECTING ELECTRODE RAPPING AND EMITTING ELECTRODE RAPPING** | | | | | | | | | | | | | |
| **Sl No**  **Row No** | **Total number of CE Hammer**  **23** | **Total number of EE Hammer**  **44** | **Tack Welding of CE Hammer Bolt / Nut** | **Tack Welding of EE Hammer Bolt / Nut** | **Hitting Point of CE Hammer** | **Bearing Locking of CE** | **Welding of Rapping Shaft Joint Sleeve** | **Seal of thruption Coller of GDRM** | **Position of Thrust Bearing & Coupling EERM** | **Oil Level of G.B.** | **Condition of Oil** | **Hammer Position (Free / Jam)** | **Remarks** |
|  | ok | ok | yes | yes | Not ok | ok |  | ok |  | ok | ok | ok |  |
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***PROTOCOL***

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| --- | --- |
| ***PLANT NAME*** |  |
| ***JOB DESCRIPTION*** |  |
| ***AREA*** |  |
| ***EQUIPMENT*** |  |
| ***DATE*** |  |
| ***UNIT*** |  |

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| **Sl.** | **Description** | **Status** | **Remarks** |
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