WELCOME TO MACAWBER BEEKAY, INDIA

28.02.2019

PRESENTED BY
LALIT GUJRAL,
GENERAL MANAGER (MKTG.)
ABOUT US

Macawber Beekay is an expert in providing turnkey solutions to power industry with the sole aim of reducing environmental pollution while conserving energy through their unique dense phase pneumatic conveying technology

• Established in 1986, Macawber Beekay is a part of the well-known BSBK Group, which started its activities way back in 1918 in the field of civil engineering & construction and later gradually diversified into other areas

• Macawber Beekay was the first company to bring technology of Dense Phase Pneumatic Conveying for transfer of bulk materials, especially Dry Flyash, to India

• A dedicated and efficient group Macawber Beekay specializes in providing Ash handling solutions throughout the power industry for solid fuel-fired boilers of size upto 1000 MW
THE HEADQUARTERS OF MACAWBER BEEKAY IS IN NOIDA (UP), NEAR DELHI. MANUFACTURING UNIT IS IN KESHWANA (RAJASTHAN) AND IS FULLY EQUIPPED WITH THE STATE OF ART MANUFACTURING & TESTING FACILITIES

THE COMPANY OFFERS TURNKEY SOLUTIONS FOR:

- Ash Handling Systems - Bottom / Fly Ash Handling Systems for various types of boilers
- High Concentration Slurry Disposal System
- Lean Slurry Disposal & Ash Water Recovery System
- Pneumatic Coal Mill Rejects Handling System
- Coal Handling System
- Red Mud Handling System
MANUFACTURING UNIT & PLANT
We have imbibed the following CORE VALUES:

- **Clean Earth & Green Earth**: Pledged to adopt environment friendly practices & engineering solutions and are committed to optimum utilization & conservation of natural resources.
- **Customer is the King**: Committed to work for on-time deliveries and complete customer satisfaction.
- **Quality is a Prerequisite**: Excellence through quality is inherent in every component of our corporate process.
- **Employees are our Vital Organs**: We invest in IQ & EQ of our human capital to create a strong, intellectual, happy and contented environment at work place.
WHAT WE DO

SYSTEMS

Coal Handling System
Bottom Ash Handling System
Fly Ash Handling System
Ash Slurry Disposal System
Coal Mill Rejects Handling System
Material Handling System
Pneumatic Conveying System
Red Mud Handling System
Operations & Maintenance
Customer Support Services

PRODUCTS

Denseveyor
Dome Valve
Ash Vessels
M D Pump
D Pump
Ash Conditioner
Unloading Spout
Tanker Loading/Unloading System
Coal Handling System

Macawber Beekay’s diversified area includes execution of coal / lime plants on turnkey basis. Our profile comprises of designing of the system and major equipment like the following:

- Wagon Tipplers
- Track Hoppers
- Paddle/Plough Feeders
- Crushers
- Screens
- Belt Conveyors
- Apron Feeders and Stacker-cum-Reclaimers

Our human expertise spearheads & marks our presence as a respected player in CHP. The core team possesses more than 20 years of rich experience in design & execution of CHP.

Our manufacturing unit is fully equipped for manufacturing critical equipment thereby reducing our dependency on the vendors.
Bottom Ash Handling System (Wet Mode)

**JET PUMPING SYSTEM**

- For intermittent removal of bottom ash collected at furnace bottom of PF type boilers. It comprises of water impounded refractory lined Bottom Ash Hopper with water seal trough and dip plates.

**SUBMERGED SCRAPER CHAIN CONVEYOR SYSTEM**

- For continuous removal of bottom ash collected at furnace bottom. It comprises of dry type Bottom Ash Hopper with water seal trough and dip plates.

**DE-WATERING BIN SYSTEM**

- De-watering Bin System takes precedence in certain applications which call for bottom ash available in slurry form to be disposed-off either through trucks or through high concentration slurry disposal system along with fly ash.
Fly Ash Handling System (Dry Mode)

VACUUM SYSTEM

- For extraction of dry fly ash collected at ECO / Air Pre-Heater / Duct / ESP Hoppers. This system is adopted when the extraction distance is less, numbers of ESP hoppers are more and plant layout demands two-stage conveying.

- Vacuum System includes conveying of fly ash from various fly ash hoppers up to the intermediate / buffer / surge hopper (ISH) located near ESP. A second stage system - positive pressure system is employed to convey fly ash from ISH to main FA Silo(s).

PRESSURE CONVEYING SYSTEM

- MBPL specializes in Dense Phase Pneumatic Conveying System for collecting and conveying of dry coarse/fine fly ash collected at Eco / Air Pre-Heater / Duct / ESP Hoppers

- Dense Phase Pneumatic Conveying System is generally adopted on account of many of its advantages like positive pressure system, LOW CONVEYING VELOCITY, LESSER EROSION rates, conveying of fine and coarse ash separately as collected (thus increasing utility of fly ash), capability to convey LONGER DISTANCES in a single stretch etc.

MECHANICAL SYSTEM

Certain applications which specially require Mechanical System, in case of CFBC / AFBC type boilers for handling of bed ash collected at furnace bed, MBPL offers drag chain conveyor system, followed by pressure pneumatic conveying system as per the project specific requirement.
Ash Slurry Disposal System

LEAN SLURRY DISPOSAL AND ASH WATER RECOVERY SYSTEM

• This system have been conventionally used for disposal of ash slurry in dilute form and consists of:
  o Stream of horizontal ash slurry disposal pumps with variable speed hydraulic coupling for first stage pumps and fixed belt drive arrangement for subsequent stages.
  o Ash slurry transportation pipes upto ash dyke including garlanding of the dyke.
  o Valves at suction and discharge of ash slurry disposal pumps.
  o Ash slurry sump with intake valves, ACI liners, jetting nozzles, etc.
  o Drainage pumps with piping, valves & fittings.

HIGH CONCENTRATION SLURRY DISPOSAL (HCSD) SYSTEM

• This system comprises of controlled and monitored feeding of fly ash and bottom ash followed by a homogenous mixing in an Agitator Retention Tank (ART). Proper monitoring of the slurry properties is the key to success of the system.
• HCSD pumps transport highly concentrated slurry to the ash disposal area through carbon steel pipelines. These pumps have mechanism for capacity variation depending on the characteristics of the slurry.
Macawber Beekay is pioneer in deploying Dense Phase Pneumatic Conveying technology for handling difficult materials like mill rejects (sizes upto 40 mm) from Pulverizing Mills to bunkers in power plants.

Our Pneumatic Mill Rejects Handling System has distinct merits such as:

- Negligible maintenance
- Low recurring costs
- Requirement of very less floor area as conveying pipes travel overhead thus leaving plant movement unhindered.
- Enclosed system ensures no spillage of mill rejects

**SALIENT FEATURES:**

- Pneumatically operated knife gate valve at outlet of Mill Spout
- Pyrite hopper complete with sizing grid, flexible/expansion joint at its inlet, rupture disc, by pass chute, oversize material chute, inspection window, water spray nozzles & supporting structures.
- Pneumatically operated knife gate valves at pyrite hopper outlet and at oversize discharge chute.
- Denseveyor vessel & field instruments like Level switch, Temperature Switch in pyrite hopper.
Macawber Beekay’s Mechanical Systems are installed for a wide range of capacities for cement and allied industries.

For transportation / feeding / blending / classification of fly ash in cement industry, we also offer various systems like:

- Bagging/bag unloading system
- Truck/tanker loading/unloading system
- Wagon loading/unloading system
- Bucket elevator system
- Air slide system
- Weigh bin system
- Classifier system
- Blending system,
Macawber Beekay offers Dense Phase Pneumatic Conveying System for conveying various powdery materials like Aluminium / Zinc Calcine / Cement / Raw Meal / Clinker Dust / Limestone / Sand / Bentonite / Sinter Dust / Iron Ore Dust / Soda Ash / Chemical Process Plant Dust, etc. for Cement / Steel (Ferrous / Non-ferrous) / Paper / Foundry / Chemical / other Process industries.

Macawber Beekay with its patented Dome Valve design and the technology of Dense Phase Pneumatic Conveying, has always kept a brand name with these industries by giving practical solutions to the various requirements.

SALIENT FEATURES OF DENSE PHASE PNEUMATIC CONVEYING SYSTEM

• Long distance conveying. Destination silos can be placed at convenient location within the plant / outside plant boundary wall.
• No limitation on layout or number of bends.
• Systems are versatile to handle varied nature of materials from fine to coarse particles.
• Higher handing capacity over specified conveying distance.
• Low velocity conveying, hence wear to the material conveying pipes is less.
• Energy efficient systems. Compressed air is consumed during material conveying only.
• Unique design of Dome Valve offers 100% sealing when closed and full bore unobstructed flow of material when open.
Macawber Beekay offers execution of Red Mud Disposal System on turnkey basis. The system consists of disposal of red mud collected from Drum Filters or Mud Washers / Thickeners.

In case of Drum Filters, system comprises of screw feeder, belt conveyors and Agitator Retention Tank (ART). The softened slurry from ART is then pumped to red mud pond through piston diaphragm pumps or centrifugal pumps.

In case of Mud Washers / Thickeners, system comprises of direct pumping of the mud washer discharge to the red mud pond through piston diaphragm pumps. The decant water from the red mud pond is pumped back to the Plant through submersible pumps or horizontal centrifugal pumps installed on floating pontoons / ground as required.
Operation and Maintenance

Managing all day-to-day operation and maintenance activities, O&M incorporates highest levels of involvement and commitment to a Customer’s plant. All core services, OEM design and engineering, monitoring and diagnostics, enhanced maintenance, spare parts inventory management and new technologies are seamlessly integrated into the routine operations on 24 x 7 basis.

Key Features & Benefits of O&M include, but not limited to the following:
- Complete plant operation and maintenance management
- Single-source accountability
- Higher availability and reliability of the system
- Longer maintenance intervals
- On-site warehouse management, routine maintenance, operations and logistics staff

Operation and Maintenance emphasizes on close and technically competent supervision of works by engaging sufficient and skilled manpower with relevant experience and with complete safety provisions and maintaining good housekeeping practices (including complete list of consumables, tools & tackles etc.).

In order to get the optimal performance of the system, it is highly advisable to let our trained manpower do the O&M. By letting us handle the O&M you are also ensuring that you get the expected life of the installation. We undertake O&M activity on short / long term basis and have a team of highly qualified and experienced service engineers for the same.
After commissioning and handing over the projects, there is an overwhelming need to help the end users with their technology and operational issues for seamless running of the Systems.

Our Customer Support Service (CSS) becomes a single point window to provide solutions to the client’s technology need; meet requirements & expectations of trouble shooting and recommend keeping proper inventory of the essential spare parts.

Our CSS takes pride in partnering with the Clients to ensure that all systems for technical information and communications blend seamlessly and work to augment the Client’s personal or business activities. We are proud of our long-term relationships with our customers and the mutually beneficial goals achieved.

We serve our Customers by timely delivering the spare parts and giving technical as well as commercial support for their spares’ requirements by way of maintaining the data base of each individual project. We also have archived the data for our very old projects which were installed in early 1990s.
PRODUCTS
- Denseveyor systems – variety of materials and numerous application.

- One piece cast construction vessel with single Dome Valve.

- A batch transfer vessel (with additional capabilities).
**D-PUMP**

- Conveys material to 2.0 KMs with maximal line density & minimum power consumption.

**ASH CONDITIONER**

- Totally enclosed.
- Paddle type unit operation ensures uniform operation.
- Rotary Feeder ensures minimum water usage.
- Homogeneous conditioning.
- Capacities – 5 TPH to 250 TPH.

**UNLOADING SPOUT**

- Telescopic Chute with built-in Vent Filter.
- Dust free area.
- Suitable for Open Truck / Tanker Loading.
- Dust laden air can be vented in storage silo or directly into atmosphere through a Vent Filter.
National Award for Fly Ash Utilisation

Jointly Awarded By

Ministry of Power, Ministry of Environment & Forests and
Department of Science & Technology, Government of India

Facilitator
For Dry Fly Ash Handling & Transportation
Awarded to: Macawber Beekay Pvt. Ltd.
On this day 4th December, 2005 at New Delhi

Prof. V.S. Ramamurthy
Secretary
Department of Science & Technology

Shri R.V. Shahi
Secretary
Ministry of Power

Dr. Pradeep Bhosle
Secretary
Ministry of Environment & Forests

MACAWBER BEEKAY PVT. LTD.

OEHS POLICY

We are committed to work for sustainable development and continual improvement through:
- Meeting specific requirements of the customers to achieve customer satisfaction.
- Making concerted efforts to obtain technical expertise and human excellence.
- Optimum Utilization and Conservation of Natural Resources.
- Prompt implementation of emergency control procedures.
- Improving Environmental and Occupational Health & Safety performance by providing adequate resources, proper maintenance of the equipment & machinery and usage of materials.
- Prevention of Pollution.
- Compliance with Legal requirements of Environmental, Health & Safety related to QEHS management i.e., at all our offices, works and site located at different places.
- Provision of adequate training related to quality, environment, health & safety of all employees.
- Minimizing costs to be shared amongst stakeholders by adopting total quality management in all spheres of the organization's activities.
- Promotion of adequate control methods for improving environmental performance, prevention of ill health & occupational health related issues and achieving excellent performance by effective implementation of Quality, Environmental, Health & Safety Management System (QEHS) as per ISO 9001, ISO 14001 & BS OHSAS 18001.

Effective Date: 01.01.2015

AJAY KUMAR GUPTA
CHAIRMAN & MANAGING DIRECTOR
CLIENT TESTIMONIALS
CLIENT TESTIMONIALS

Bharat Heavy Electricals Limited

To Whom It May Concern

MS Wackerbottom Ltd., has executed the job of design, fabrication, erection, testing & commissioning of 1 No. 320 MVA Sub-Station at Vindhyachal Super Thermal Power Station, which was installed & commissioned in the year 1991.

The work carried out is of high standard and the entire system is in operation without any hiccups since the date of commissioning.

We hereby congratulate the entire team of Bharat Heavy Electricals Ltd., for successfully completing this assignment with excellent dedication and team work.

Thanking you,

Yours faithfully,

[Signature]

For Bharat Heavy Electricals Ltd.

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BRICK MANUFACTURING
One of the best qualities of fly ash is that it has excellent insulation capability. Since it also absorbs much less heat than clay bricks, fly ash bricks are considered more energy-efficient as well as eco-friendly option.

CEMENT
Fly ash has pozzolanic properties. Partial replacement of cement with fly ash is not only a viable prospect commercially but also saves natural resources, reduces CO2 emissions & ensures durability.

ROADS AND EMBANKMENTS
Fly ash cement allows for much reduced permeation of concrete and keeps the aggressive expansive minerals from damaging the concrete.

MINE BACKFILLING
It is important to fill the mines with a material that has the ability to fill tight spaces, has a high resistance to water permeation or compression, and is eco-friendly which is provided by Fly Ash.
THANK YOU