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NEWS

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Franz Bartels | President & CEO

Our Cover Story:

Cementing Lower Costs and Emissions: Present Status and Global Trends for the Cement Industry

Cement is a vital commodity to fast-growing economies. There is nearly no other material as versatile as cement for the building industry, be it for residential, commercial or infrastructural projects. And it's a huge business: globally, cement manufacturers generate revenues of approximately USD 300 billion a year – and rising.

In the last several years, cement demand in emerging economies has increased sharply, due to major construction projects in the development of urban and industrial areas. Housing demand is steadily growing, driven by population growth and rising per capita income. Investment in infrastructure is pushed, as governments recognize the productivity of an economy depends largely on the quality of its infrastructure networks.

Emerging countries count for 90 % of the global cement consumption. With nearly 2,500 million tonnes per annum (MTPA), China contributes to half of global production and consumption, followed by India (app. 250 MTPA) and – gradually recovering – North America (app. 80 MTPA). As it is quite expensive to transport cement, its markets tend to be local. Only 3 % of global production is traded across borders.*

A Market in Motion

Although demand and revenues are still rising, there is an upward pressure on costs, due to an overcapacity in the market. The market was led by CNBM (China National Building Material Company), a state-owned Chinese company with an annual capacity of app. 340 million tons until Holcim and Lafarge, number 2 and 3 so far, decided to merge end of last year. The merger is expected to be completed by mid-2015, resulting in a global market leader "LafargeHolcim" with a capacity of over 400 MTPA and leading comprehensive change within the cement industry.

Challenges Ahead

Cement remains an energy- and emission-intensive business, although improvements in air quality and environmental protection have been achieved, especially in the Western World. The industry has started to optimize existing equipment and establish new technologies to reduce emissions such as dust, nitrogen oxide (NO_x), ammonia (NH_3), carbon monoxide (CO), sulfur dioxide (SO_2), mercury (Hg) and carbon dioxide (CO_2). Stricter laws, like the Mercury and Air Toxics Standards (MATS) regulations in the US or the upcoming Industrial Emissions Directive (IED) for the EU member states, will force the cement producers to further upgrade or replace their equipment. To quote a Lafarge official, "It will be an ongoing process to technically and economically cope with the present and future environmental challenges."

Clyde Bergemann Offers Solutions

Clyde Bergemann is a beneficial global partner when it comes to air pollution control, material handling and air-gas handling solutions for cement plants.

For more than 60 years, we have designed and supplied proprietary, custom-engineered air pollution control systems enabling our customers to operate their facilities in compliance with regulatory standards. Our proven technologies include – amongst others – modern electrostatic precipitators and fabric filter systems for particulate control, spray dryer absorbers for acid gas removal and activated carbon injection for mercury and trace metal removal.

CBPG's material handling and injection systems are also used successfully within the cement industry. A good example is SMART Blend, our innovative system for the production of blended cements. SMART Blend typically replaces more complex multi-process batch mixing plants, or other semi-integrated storage, weigh/dosing, conveying systems.

Our range is completed by isolation and flow control dampers and expansion joints offered by our Air-Gas Handling business unit. Just recently, CBPG equipment has been installed in multiple cement production facilities across Africa, including one of the industry's largest plants in the world.

Franz Bartels | President & CEO

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*Sources: 10th Global Cement Report/Int. Cement Review, The Economist, worldcement.com, globalcement.com

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Clyde Bergemann Sootblowers Trusted to Meet Today's Recovery Boiler Technology Challenges

There has been enormous change in technology since the first Tomlinson recovery boiler was built in 1934. The black liquor firing capacity of the recovery boiler has increased substantially from under 200 tds/d (tons of black liquor dry solids per day) in the 1930s, to slightly over 2,000 tds/d in the 1980s, to over 3,000 tds/d in the 1990s, then to 5,000 tds/d in the early 2000s.

As discussed in the 2014 International Chemical Recovery Conference in Tampere, Finland, this advancement in recovery boiler technology would not be possible without the parallel advancement in sootblower technology. Sootblowers for recovery boilers are expected to operate reliably in hostile/corrosive recovery boiler environments, control tenacious deposit accumulation with low steam consumption taken from a less expensive steam source, and run at longer than ever sootblower travel.

In the last two years, recovery boiler technology has been pushed to a new level of efficiency and capacity. On top of providing self-sufficient energy for the entire mill – now standard – the new recovery boiler technology is expected to produce additional energy that can be sold to the grid, thereby generating additional revenue for the pulp mill.

In 2012, the recovery boiler at Eldorado Brasil was commissioned and considered the largest in the world with a capacity of 6,800 tds/d. One year later, it was overtaken by Suzano Maranhao's recovery boiler (7,000 tds/d) also located in Brazil. Presently, the world's largest recovery boiler is being built at a new greenfield facility by Asia Pulp & Paper mill (OKI, Indonesia) with a staggering designed capacity of 11,600 tds/d.

Clyde Bergemann's latest technology in recovery boiler sootblowers is implemented in all of these newly built, mega-size, high efficiency recovery boilers. This latest technology includes heavy duty modular canopy sootblower, RSM-H retractable sootblower to control the deposit accumulation in the recovery boiler and RSM-AR rake sootblower to clean the flue gas cooler. Heavy duty modular canopy sootblower provides easy access to the key sootblower components for ease of maintenance and repair, flexible canopy material selection (Stainless steel, galvanized, or painted), and faster & simpler assembly process which results in reduced delivery time to the customers. In addition, the latest high efficiency steam saver nozzle technology (CFE-LP) was used in Eldorado (116 RSM-H) and Suzano Maranhao's (120 RSM-H) recovery boilers, allowing the boiler to be cleaned with lower pressure steam (9 – 14 bar) while still delivering a powerful cleaning force.

This winter, Clyde Bergemann will supply 15 RSM-AR rake sootblowers and 164 RSM-H retractable sootblowers for the OKI mill in Indonesia. Each RSM-H retractable sootblower will have a travel of 45 ft (14 m) and be equipped with 5 inch diameter (127 mm) lance tube, making them the largest sootblowers ever made for a recovery boiler.

These latest technologies have become Clyde Bergemann's standard sootblower offering and have continued to strengthen Clyde Bergemann Power Group's presence in the Pulp & Paper Market.

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Paper Manufacturer Turns to the Experts for Environmental Compliance

A leading North American specialty paper manufacturer with multiple plants in the U.S. has selected Clyde Bergemann Power Group Americas for support in meeting requirements of the Environmental Protection Agency's rules for Industrial Boiler Maximum Achievable Control Technology (IB MACT).

At CBPG's first technical sales presentation to the company, the customer's President & CEO explained that his company wanted more than just a vendor, they were seeking a strategic partnership with a trusted supplier who could help them with IB MACT compliance, but also achieve goals beyond the immediate capital project.

Focusing on developing a solution-based strategy to optimize the paper manufacturer's value chain, Clyde Bergemann demonstrated expert knowledge of the IB MACT regulation and technical experience across a range of product divisions that won the new customer's trust and confidence.

Among the eight bidders for the account, no other supplier could provide the breadth of technology, equipment and expertise as offered by CBPG. The customer had found the right match to forge a long-term relationship.

Over the course of more than a year of discussions, CBPG proved to the customer the commitment to providing solutions that optimize the efficiency of his value chain.

The team focused on a Vendor Managed Inventory (VMI) program and aftermarket development for the paper company's fleet and a boiler efficiency engineering study to demonstrate the tremendous tools a partnership with CBPG brings to the table beyond the short term regulatory need for IB MACT compliance.

CBPG's compliance solutions cohesively tie together technology from several of the group's strategic business fields in North America, providing a streamlined, efficient result.

EQUIPMENT BEING SUPPLIED	CBPG AMERICAS PARTICIPANT
• Boiler Efficiency Engineering Study	Boiler Efficiency Product Division, Atlanta, GA
• Dry Sorbent Injection (DSI) • Fly Ash System	Material Handling Product Division, Malvern, PA
• Poppet Dampers • Louver Dampers	Air-Gas Handling Product Division, Auburn, ME
• Pulse Jet Fabric Filter System (PJFF)	Air Pollution Control Product Division, Hanover, MD
• Fabrication of the modules, hoppers, tube sheets, inlet and outlet plenums, weather enclosure framing, access steel, stair tower and support steal for the PJFF	Jesup Fabrication Plant, Jesup, GA

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Clyde Bergemann do Brazil Delivers Stacked Air System and Sootblowers for Boilers at Klabin Ortigueira, Brazil

Clyde Bergemann do Brasil (CBdB) was awarded three orders from CBC Indústrias Pesadas for the Klabin Ortigueira project to supply 175 sootblowers to both the recovery and power boilers and a complete Stacked Air System (SAS) for the recovery boiler.

Klabin, one of the largest pulp and paper plants in South America, is building a greenfield kraft pulp mill in Ortigueira (Paraná State), southern Brazil, known as the Puma Project at a cost of USD 2.5 billion. The new plant's production is expected to start in the first quarter of 2016, doubling Klabin's production capacity. The mill will have an annual production capacity of 1.5 million tons, of which 1.1 million tons will be in short fiber and 400 thousand tons in long fiber, part of which is to be converted into fluff pulp.

The recovery boiler, designed for 7,000 tds/day, will have one of the largest capacities of black liquor firing and the highest steam pressure and temperature in the world. The proven performance of Clyde Bergemann's Combustion Air System offering the optimum technology for this project was the determining factor to win the SAS order. With the recent sootblower references for the Pulp and Paper industry in South America, Clyde Bergemann dominates the boiler cleaning market in this sector which led CBdB to win the contract for 144 sootblowers for the recovery boiler and 31 sootblowers for the power boiler.

Clyde Bergemann was selected because the offered equipment and solution were the best to meet the bids requirements. Furthermore, CBdB's high capability for aftermarket was decisive and showed the advantage of the supply.

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On-load Boiler Cleaning Equipment for New-Build 2,640 MW Shuqaiq Power Plant in Saudi Arabia

In order to add generating capacity to the grid and keep pace with rapidly rising demand for power in Saudi Arabia, Riyadh-based Saudi Electricity Company (SEC) decided to construct a new 4 x 660 MW power plant.

Hyundai Heavy Industries (HHI) was chosen as the sole EPC contractor and will carry out the construction of the oil-fired steam power project on a turnkey basis. The USD 3.3 billion project, located on the Red Sea coast between the cities of Jeddah and Jazan, shall be completed by 2017.

In April this year, Clyde Bergemann Europe (CBEU) was awarded the contract to deliver the on-load boiler cleaning equipment, including controls and pyrometer. Thus, CBEU has prevailed in the competition against the previous supplier and established itself on SEC's vendor list.

The total scope of supply includes:

- 88 retractable sootblowers, PS-H type with a travel range of 36.5 ft (9.6 m) for the cleaning of the superheater and reheater;
- 48 "PS-HB" part retractable sootblowers used in the Economizer with a 10.5 ft (3.2 m) travel;
- 32 "PS-AR" rake sootblowers for SCR cleaning;
- SMART InfraScan pyrometer system for each boiler, measuring the furnace exit gas temperature.

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New 1,075 MW Coal-Fired Power Plant "Kozienice 11" to be Equipped with Boiler Cleaning Technology from Clyde Bergemann

Poland's Kozienice Power Station is one of the country's largest power producers, with its 10 installed coal-fired power plants – two 500 MW and eight 215 MW blocks. To meet the rising requirement for energy, as early as 2012 the operator Enea decided to extend capacity at the site by 1,075 MW to a total of 3,895 MW.

The contract for the construction of "Kozienice 11" was awarded in September 2012 to a consortium comprised of Mitsubishi Hitachi Power Systems Europe (MHPSE, Duisburg, Germany) and the Polish Polimex-Mostostal company. Work on the completion of the EUR 1.54 billion (almost USD 2 million) project commenced only two months after the contract was signed.

In May 2014 Clyde Bergemann was awarded the contract for the boiler cleaning and associated control technology.

Installed in the furnace are a total of eight "SMART Cannons," extremely effective systems for furnace cleaning. Their construction with two linear drives and a spherical cannon guide provides a horizontal and vertical blowing arc of 90°. Based on in-house developed control technology, the water jet creates a meander-shaped pattern cleaning the sides and opposite wall from a distance of up to 25 metres.

The SMART Cannon's cleaning radius and flexibility lend it unbeatable efficiency in areas like these, in which water is the preferred medium for cleaning.

For cleaning the convective part, use is made of a total of 50 retractable "PS-H" lance sootblowers and 6 retractable "PS-HB" sootblowers. PS-H lance sootblowers are used on the superheater surfaces. Cleaning is undertaken by having the lance tube moved helically with two opposite high-performance nozzles over a 10 metre travel.

The PS-HB retractable sootblowers are used in areas with lower flue gas temperatures. The blowing tube is fitted with high-performance nozzles along its entire length, and remains partially in the flue gas path where it is held on bearings permitting it to move. During the cleaning process the blowing tube is moved helically over its travel of 4.1 ft (1.25 m) or 8.2 ft (2.5 m) in the flue gas path.

The best solution for cleaning the $DeNO_x$ system is provided with the PS-AR rake sootblowers. The 24 blowers in use at Kozienice feature a blowing rake equipped with cross-arms with nozzles, termed the blowing rake. For cleaning, these are aimed optimally at the reactor heating surface. The blowing rake continues to move axially in the flue gas path.

Clyde Bergemann's scope of supplies and services also includes the cleaning device control system individually adapted to the boiler.

October 2014 saw the first part deliveries to Kozienice, with the last deliveries being scheduled for the summer of 2015.

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SMART Explosion on Tour

The European success story continues for SMART Explosion, the innovative boiler-cleaning system principally intended for use with waste incinerators and biomass, thermal oil and fire-tube boiler systems. While in the past prospective users were able to learn about the advantages of the system only from brochures and website content, they are now being offered the opportunity to visit reference plants to see for themselves.

With demonstrations held at the Asdonkshof, Hamburg and Grossraeschen waste incineration plants, the initial seminars covered the western, northern and eastern parts of Germany.

Following an introductory presentation of the subject and the situations in the individual plants, participants then witnessed a demonstration of the entire SMART Explosion system and all of its peripheral components in online operation. The events were rounded off with a report presented by the corresponding operators describing their experiences with the system before a concluding exchange of ideas.

Christian Voss, SMART Explosion Product Manager with Clyde Bergemann, has observed an enormous level of interest generated among customers. "The detailed questions being asked clearly show the strength of the demand for optimised boiler-cleaning solutions," he noted.

To date, the user seminars have been attended by more than 80 participants. Due to the good feedback and the consistently high demand, further dates are being arranged both in the south of Germany and internationally.

Christian Voss,
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First SMART Explosion installed in the U.S.

The U.S. waste-to-energy industry comprises 84 combustion facilities operating in 23 states. The plants have the capacity to process more than 96,000 tons of waste per day and a base load electricity production capacity of 2,800 megawatt hours.

Costly unscheduled shutdowns due to slagging, fouling, and ash-related corrosion currently present among the most challenging problems the industry has to deal with.

To effectively address these issues, Clyde Bergemann Power Group Americas Inc. introduced the SMART Explosion boiler cleaning system. This advanced technology prevents ash-related problems in the boiler, thereby improving system efficiency and reliability through better cleaning.

SMART Explosion generates a controlled explosion by mixing two gases. The resulting pressure wave is introduced into the boiler via the discharge nozzle inducing short vibrations around the boiler walls and tube bundles, causing slag and fly ash deposits to break apart.

The Technology

1. Upon the enabling signal by PLC the dosing tanks are filled with the necessary small amounts of natural gas and oxygen to the preset pressure level. At this point the two gases are still fully separated from each other, i.e., they are not explosive.

2. The free-moving piston shuts off the discharge opening, creating a gas-tight seal. The solenoid transfer valves for natural gas and oxygen are opened and allow both gases to flow into the explosion tank where they now form an explosive mixture.

3. The glow plug is activated and triggers the explosion. Under the sudden pressure rise to approx. 350 bar in the explosion chamber, the piston shoots back and clears the discharge opening.

4. The pressure wave is directed through the discharge nozzle into the boiler where it spreads in a linear and then spherical pattern. Once the pressure wave has left the explosion generator the piston is pressed against the discharge opening by nitrogen pressure to close it again. The generator is now ready for the next explosion.

Customer Impressed with Improved Boiler Performance

Clyde Bergemann installed its new technology on one of two units at a leading waste-to-energy plant in the U.S.. All trial performance indicators for the unit equipped with SMART Explosion showed improved boiler cleanliness when compared to the other unit. The customer's observation verified this during a scheduled water wash on both units. Impressed with how the initial results exceeded their expectations, the customer plans to continue supporting this new technology to maintain boiler operation.

The SMART Explosion technology has a wide application range and growing potential to improve performance not only of waste-to-energy and biomass plants, but also for industrial boilers, coal-fired power plants, recovery boilers, cement kilns, and zinc factories.

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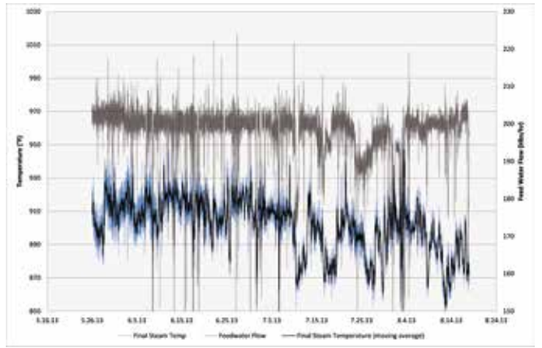
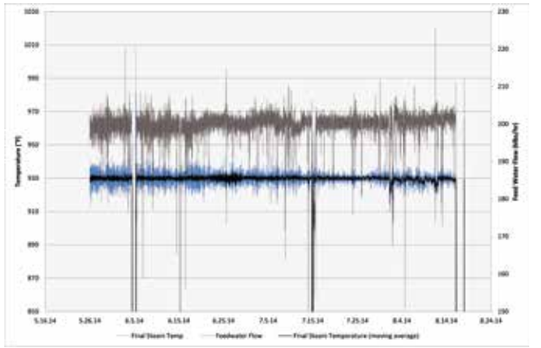
Final Steam Temperature



Without SMART Explosion



With SMART Explosion

Clyde Bergemann Supplies MATS Compliance Equipment to Western U.S. Plants

Clyde Bergemann Power Group Americas, Materials Handling Division in Malvern, PA secured equipment orders for two Basin Electric Power Co-op projects. The scope of the projects included a total of five activated carbon injection (ACI) systems, three for the Laramie River Station and two for the Antelope Valley Station.

ACI technology is used to remove mercury (Hg) from flue gas emissions. The Basin orders are part of an environmental retrofit project to meet the U.S. Mercury and Air Toxics Standards (MATS) regulations.

Antelope Valley Station, located near Beulah, ND, burns lignite coal. Both Units 1 and 2 are 450-MW Combustion Engineering tangentially fired boilers employing a Joy/Niro sulfur dioxide (SO_2) absorption system with five Spray Dryer Absorber (SDA) chambers in parallel and a Joy Particulate Removal System consisting of two Fabric Filters in parallel.

Laramie River Station, located near Wheatland, WY, burns Powder River Basin coal. Units 1, 2 and 3 are 570 MW boilers, with Units 1 and 2 equipped with Electrostatic Precipitators (ESP) and Wet Flue Gas Desulfurization (WFGD), and Unit 3 equipped with an SDA and an ESP.

The five new ACI systems shall each include a 14 foot (4.3 m) diameter x 68 foot (20.7 m) tall silo with 6,400 cubic feet (182 m^3) of storage. Each of the five silos will be constructed in Clyde Bergemann's state-of-the-art fabrication facility in Jesup, GA. Once fabricated, the silo will have all of the ACI feed equipment shop installed. This includes mechanical and electrical installation, as well as compressed air distribution inside the skirted section of the silo. Shop assembly of the ACI equipment greatly reduces the field installation costs and time.

After assembly, each silo will be transported in one piece, with equipment pre-installed, using special transport rigs that clamp onto each end of the silo. This allows the silo to be built to the maximum diameter for transport. Delivery of the five silos will be in January 2015.

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Silo Going Up! Mercury Going Down! A FirstEnergy Report to Their Clients and Employees

What is 55 feet (16.7 m) tall, 14 feet (4.3 m) in diameter, and helps reduce mercury emissions? It's the new silo at Bay Shore Plant in Oregon, Ohio. While sleek and simple on the outside, it is part of a sophisticated system expected to remove up to 90 percent of mercury flue gas as the plant.

Installed Sept. 15, the silo and the equipment in its base are key components in a new activated carbon injection (ACI) system that will help us meet the U.S. Environmental Protection Agency's Mercury and Air Toxics Standards (MATS*) across our fleet.

MATS are new federal regulations for emissions of mercury, particulate matter, sulphur dioxide, acid gases and certain individual metals from power plants.

"The ACI system will allow us to inject carbon, which will be stored in the silo, into the flue gas and capture mercury", according to the project manager, DAVE SEEH, Project Engineering, at Bay Shore. "The mercury will adsorb to the carbon and then be carried into the baghouse where it will be removed with the other particulates." Adsorption occurs when a liquid or gas accumulates on the surface of a solid, forming a molecular or atomic film.

The Bay Shore silo project is part of 370 million investment to meet MATS requirements at our facilities. Also part of that effort is the GORE mercury control technology installed last year at the Fort Martin Power Station in Maidsville, W.Va.

Employees from Construction, Project Engineering and Bay Shore worked with vendors to ensure this silo was lifted and placed safely and accurately. A large and a smaller crane worked in tandem to lift the 76,000-pound silo to a vertical position. Then, the large crane lowered it onto a concrete pad, where it was anchored.

Working on the MATS compliance project at Bay Shore: **DAVE SEEH** and **SARA WISE**, Project Engineering. Behind them you see the silo in place.

* We remain on track to exceed benchmarks established by the U.S. Environmental Protection Agency's (EPA) Mercury and Air Toxics Standards and other environmental regulations.

FirstEnergy, Generation Online, September 18, 2014

Special Designs Required for Smelting & Refining Process Equipment

A lot is at stake in demanding operating conditions

Refining and smelting – the processes of extracting purified metal from ore through heat and chemical reaction – are used to make a variety of end products, such as steel, copper, aluminum, gold, magnesium, and many others.

The processes typically involve very tough operating conditions that demand specially designed flue gas handling equipment that can withstand the harsh environment. Because of the challenges commonly present, such as high temperatures, corrosive gases, and fouling deposits, process control equipment must be well-engineered in order to provide a long, reliable service life.

Clyde Bergemann Power Group Americas Air-Gas Handling Product Division based in Auburn, Maine, USA, has long been a trusted supplier of high-performance equipment to refineries and smelters.

Among the products supplied are custom-engineered isolation dampers (including guillotine, louver, and diverter types) and metal expansion joints, all of which have been recently ordered from CBPG by our repeat customers in the steel, copper and magnesium industries throughout the Americas. Our international reputation for quality is recognized as well, as proven in 2013 by a multi-million dollar order from an overseas aluminum smelting operation.

The Right Stuff

Several factors must be taken into consideration when designing heavy-duty flue gas equipment for these applications.

What is the appropriate material to use? Because of the corrosive nature of process offgases, selecting the right type of steel for equipment construction is a key decision. A poor choice can result in a short service life and costly equipment repairs or replacement, while the right material will provide superior performance and long-term value.

When designing flue gas handling equipment, it is critical to also consider other factors such as acid dew points, deposits and flue gas composition, all of which can contribute to the corrosive environment.

What about thermal expansion? The high temperature of flue gases generated in refining and smelting is also a major consideration in design. Expert understanding of the technical aspects of thermal expansion's effect on equipment is critical in terms of plant safety, reliable service and equipment longevity.

Equipment integrity is critical in these applications. Failure could have catastrophic implications, so high quality is absolutely necessary in such intense processes.

Clyde Bergemann has decades of experience in refining and smelting applications around the world. Our understanding of the system processes and system environments allow us to deliver the appropriate designs that are built to last and not only meet, but exceed performance expectations.

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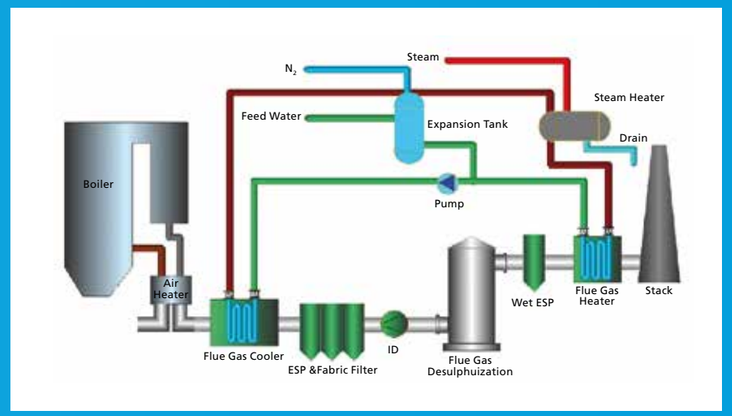
Clyde Bergemann Delivers Heat Displacement System for Jia Hua 2 x 600 MW Power Plant

Shanghai Clyde Bergemann has recently signed a contract for the delivery of a combined heat displacement system for the Jia Hua 2 x 600 MW Power Plant in China. The coal-fired plant is located in Zhejiang Province, an area with a high need for air pollution control.



The heat displacement systems consist of a raw gas cooler, a clean gas reheater, a water-media circulation system and auxiliary steam-heating systems. Water media is applied to transfer heat from raw gas to clean gas after Wet Flue Gas Desulfurization (WFGD). The clean gas temperature is increased from saturation temperature to about 176° F (80° C). This greatly improves the chimney operation condition, eliminates the "white smoke" phenomenon and increases the efficiency of the whole process.

Heat displacement systems – also called tube-type gas-gas heaters – are replacement products for rotary gas-gas heaters in power plants. The tube-type system provides a number of advantages compared to the rotary gas-gas heater. There is no gas leakage, as there is no rotation of the heating surfaces and no shift between raw and clean gas. Tube-type systems are easier to maintain and more flexible. All this leads to more and more power plants replacing their rotary by tube-type systems.

Generally, the challenge for these heat exchangers is that a large section of the heat transfer surfaces operates below the acid dew point temperature and therefore needs to be built from corrosion-resistant materials. Some customary products in the market use corrosion-resistant alloy steels, a sumptuous alternative, both in terms of material weight as well as cost. Clyde Bergemann has developed a new heat displacement system, using specialized plastic-lined steel tubes, thereby meeting the specific conditions of these environments. This novel alternative is not only a key part of a low emission solution to fight the current environmental pollution issue in China but also offers cost advantages for the plant operators.

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Clyde Bergemann Africa Keeps Plants Running Smoothly

Clyde Bergemann Africa (CBZ) has seen tremendous growth in demand for its aftermarket services, especially in maintenance contracts.

One of the top customers is South Africa's state-owned power utility Eskom, the largest power producer in Africa and among the top seven in the world in terms of generation capacity.

Currently, Eskom has a fleet of 13 operating coal fired power stations, mostly "six packs" (six boilers on one plant) ranging from the smallest, with 1,000 MW generation capacity to the largest, with 4,116 MW. Medupi and Kusile Power Stations, currently under construction, will be the largest in the Southern Hemisphere when completed, with 4,800 MW each.

In the competitive marketplace and weak economy, CBZ is a valuable supply chain partner. Its customers benefit from a comprehensive aftermarket portfolio – from spare parts, maintenance and service contracts to plant modernization and optimization – and an experienced, reliable team. The result is increased equipment availability, reduced breakdowns through planned, preventative maintenance, controlled spares inventory, and comprehensive reports for the customer to know fully the condition of the plant.

Three examples of CBZ's long term maintenance contracts (during outages) are:

- Kendal Power Station: maintenance of the Mechanical Dust Handling Plant for three years;
- Matimba Power Station: another three year partnership for the maintenance of the Submerged Scraper Conveyor and
- Kriel Power Station: one year maintenance of the Pneumatic Conveying System.

CBZ's latest success in the Boiler Efficiency Division has been the award of the Majuba Power Station Boiler Cleaning and Fuel Oil Plant maintenance for a three year period.

Different Industries in Focus

Outside the power generation market, CBZ has been successfully carrying out the soot-blower maintenance at Mondi Pulp & Paper Mill already for two years. Mondi has two huge recovery boilers and three small power boilers. In the platinum mines, CBZ has installed various pneumatic conveying systems moving about 70% of the world's platinum concentrate, and provides regular workshop services on the growing number of its dome valves in the field. CBZ's proven know-how and experience make it the supplier of choice in a wide range of energy-related industries.

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Clyde Bergemann do Brasil Hosts Ribbon Cutting Ceremony for New Manufacturing Facility in Brazil

Ribbon cutting at Brazil facility

Clyde Bergemann do Brasil Ltda. (CBdB) recently inaugurated its new manufacturing facility located in Mogi Guaçu City, near São Paulo, Brazil.

Clyde Bergemann Power Group CEO, Franz Bartels and Vice President & COO of Clyde Bergemann Power Group Americas, Greg Golub joined the ribbon-cutting ceremony to celebrate the grand opening together with 80 attendees, including municipal officials along with other guests and employees.

The new Clyde Bergemann plant not only expands the group's capacities, but also its range of products in the Brazilian market. The modern facility almost doubles the production and office space of the business unit which provides products and complete systems to increase efficiency and reduce emissions for power plants, the paper industry and other energy-intensive production processes, such as petrochemical plants.

In his address to the attendees, Mr. Bartels said, "In the last 10 years we have seen tremendous development of CBdB. Due to the enormous growth prospects in the Brazilian market we made the decision to expand our production and office facilities. In our modern workshop we can manufacture all boiler efficiency products such as sootblowers and now complete Waste Heat Recovery Units (WHRU's). With this investment, CBdB has the capability to bring the complete product range of Clyde Bergemann to the Brazilian customers and is ready to take the next the next steps for further growth in Brazil".

Mr. Golub echoed the sentiment and thanked all those involved in the expansion by saying, "I wish to give my thanks to the team here at CBdB for the planning and building of this beautiful new facility. It is the result of all of your hard work during the last 10 years and will enable CBdB to continue to grow and to provide a broader range of products and services to customers throughout South America. Your efforts have contributed to this success and you should be proud of this achievement."

Clyde Bergemann engineers and supplies systems and solutions for energy related industries to improve the efficiency and reduce emissions, e. g., of fossil fueled boilers. CBdB has recently been awarded significant orders to supply boiler cleaning equipment for a large Pulp & Paper plant and is pursuing other opportunities in the power industry.

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Young Talents Present Capstone Projects to Global Management Team

The Young Talents Program was set up several years ago to globally identify, support and develop talented young professionals within the Clyde Bergemann Power Group. The latest group of Young Talents gathered in Shanghai for a four-day conference that included team building and educational sessions centered around the theme "Going for Excellence."

A follow-up program was initiated, tasking the Young Talents to team-up in small international groups, name a project related to "Increasing Productivity", conduct research, write a paper, and present it to the Clyde Bergemann Power Group Senior Management. The final presentations were held in June 2014 at the Clyde Bergemann Conference Centre in Wesel, Germany.

This year's final meeting was a perfect mix of engaging presentations, intercultural exchange and team work activities. On the first day, the Young Talents teams presented several thought provoking projects igniting interesting discussions between the Young Talents and the management. The second day challenged them with different team work activities including a team course in an adventure park, before closing with a relaxing barbeque.

Franz Bartels, President & CEO of the Clyde Bergemann Power Group summarized: "The Young Talents program is a meaningful way to recognize individual potential and cultivate professional development across the company."

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Open House for Wesel Employees and Families

Around 250 local employees and their families used our recent Open House as an opportunity to explore the Clyde Bergemann production site in Wesel-Emmelsum, Germany, on a sunny Saturday.

Franz Bartels, CBPG President & CEO, and Ralph Ludwig, VP & COO Europe, welcomed everybody and accompanied the many activities for the rest of the day.

While the adults attended live demonstrations to learn about the extensive product range and different production steps, the kids had fun on a playing field. A bouncy castle, face painting and a hot dog stand made the production site look like the colorful location of a family celebration.

The Open House has become a regular, most welcome event for the Clyde Bergemann team in Germany. On this day, not only do family members gather information about the work environment within the Clyde Bergemann Power Group. Employees themselves have the opportunity to see and experience workplaces other than their own.

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The Global Website – Now Also Available in Chinese and Russian!

Since September 2013 the Clyde Bergemann Power Group has been presenting itself over a global website covering all of its business fields. Customers, interested parties and partners can call up detailed information about the company and its product range on more than 300 pages, in both English and German.

Right from the launch of the project it was clear that with a view to maintaining active and close relations with customers, the inclusion of additional languages was essential. We are pleased to announce that the entire CBPG website is now available in Chinese and Russian.

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Personnel

Mr. Ge Hongmin

... took over the Deputy General Manager position of Clyde Bergemann Energy & Environmental Technology (Beijing) Co., Ltd., and is responsible for Technology and Operations.

Ken Brown

... is appointed as General Manager Fabrication Services for Clyde Bergemann Jesup (CBJES). In this new position, Ken is responsible for overall operation of the Jesup Fabrication facility located in Jesup, GA/USA.

Atul Joshi

... became APC Technology & Operations Manager at CB Doncaster, UK. Atul is a Mechanical Engineer with over 29 years of technical and managerial experience, specializing in industrial Air Pollution Control (APC) equipment and systems.