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PULSE of PENTA

QUARTERLY NEWSLETTER

Over PENTA's 36-year history, our projects have always considered environmental controls to limit air pollution allowing our clients to operate safely and responsibly for their employees and the communities in which they work. To support major decarbonization goals across all industries, PENTA is supporting projects with supplementary cementitious materials including coal combustion residuals (ash beneficiation), pozzolans, ground blast furnace slag (GBFS), and the increased utilization of alternative fuels to replace fossil fuel usage. Frank Benavides, PENTA's Principal Consultant shared:

Frank Benavides
Principal Consultant

"Over the years, we have done many projects to replace fossil fuels with byproducts from other industries with high heating values.This is a more common practice in Europe and needs to become a standard in the US cement industry. Concerning CO2 reduction by the cement and lime industries, there are existing technologies which could be utilized, such as waste-heat recovery from the pyro process off-gases, before thinking of carbon capture and carbon sequestration, which are technologies under development."

"Cement clinker is a large generator of CO2 and some alternative minerals can be used to replace clinker as a cementitious component in concrete. Natural pozzolans would be of preference; however, byproducts of other processes also serve the purpose, coal ash being one with ample supply. Ground bottom ash from coal fired power plants should be considered as a potential pozzolanic mineral."

Recently Attended Decarbonization Focused Events

ACAA Fall Meeting

PENTA attended the American Coal Ash Association Fall Meeting held in Birmingham, Alabama in September. At the meeting, there was discussion about the need for beneficiation of waste ash to meet demand levels. PENTA has executed projects providing ash beneficiation solutions.

IEEE East Coast

PENTA attended the IEEE East Coast Meeting held in Birmingham, Alabama in October. At the meeting, there was a focus on carbon capture and alternative fuel solutions. To meet decarbonization targets outlined by the Portland Cement Association, there will be an increasing need for these solutions, which PENTA has current and ongoing experience supporting these projects.

Projects

PENTA has extensive project experience integrating alternative fuels systems, which support client decarbonization goals by reducing fossil fuel usage. This experience was used on the installation of a tire derived fuel (TDF) system at a plant in Texas.

The TDF system included a shredder with canopy, weigh belt, vertical conveyance via high angle conveyor and horizontal conveyor that introduced the TDF into the calciner. PENTA provided mechanical engineering and EPC electrical services for the project. Read more.

Visit Our Website

PEC Consulting

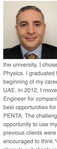
PEC Consulting, the high-level consulting arm of PENTA, has done many reviews for financial organizations needing assurances of the feasibility of projects. Some of these were for refinancing of existing operations, but many others dealt with reviewing feasibility studies and requiring in-depth technical and financial analysis of the project.

A current case is reviewing of a major cement project investment in Africa on behalf of the African Development Bank. PEC Consulting has done investment reviews in Africa before, in the DRC, Zambia and Nigeria.

PEC Consulting presented an article in the September issue of International Cement Review detailing Options for Grinding Slag and Pozzolan for Use as Construction Materials. To read or download the article, click here.

Employee Spotlight

Ashraf Sharaf
Senior Electrical Engineer



Growing up in Alexandria, Egypt, I was a kid who loved swimming in the Mediterranean Sea and playing soccer on the beach. I also loved school and learning, especially Math and Physics. I thought I could become a good engineer. My father, a mechanical engineer, supported me in my vocation and his advice was for me to become an electrical engineer. After my first year at the university, I chose electrical engineering due to my high scores in Math and Physics. I graduated from the Faculty of Engineering in June 2002. At the beginning of my career, I worked as an electrical engineer in Egypt and the UAE. In 2012, I moved to Alberta, Canada, and held jobs as Lead Electrical Engineer for companies in Calgary, Alberta, and Rock Springs, WY. One of the best opportunities for growth came in 2022 when I was offered a position at PENTA. The challenges that I have been faced with have offered me the opportunity to use my skills and offer solutions to our clients. Most of my previous clients were in the oil and gas business. At PENTA, we are encouraged to think "outside the box" and come up with practical and viable ideas to suit clients in the cement and mining industries. My outlook on the future is one of continuous success, and I know that right now I am in the right place to succeed. Family life is very important to me, and I enjoy spending time with my wife and four sons.

New Employees

James Breland
Senior Project Manager

Mr. Breland brings over 20 years of cement industry experience to PENTA. He has held various positions with cement producers including Process Engineer, Reliability Engineer, Production Supervisor, Maintenance Manager and most recently Engineering Manager. On why he joined PENTA, he said: "PENTA is a one of the leading consulting, design, engineering and industrial construction firms in the United States and globally. I joined PENTA to add my experience to this great team". James holds a Bachelor of Science, Mechanical Engineering Technology from South Carolina State University, and a Master of Business Administration from Lindenwood University.

Samuel Keefhaver
Accounting

Mr. Keefhaver joined PENTA as member of the Accounting Group, supporting the Controller. He comes to PENTA with a background in business, holding a Bachelor's degree in Business Management from Northwest Missouri State University. To further his education, he is currently pursuing a Bachelor's degree in Accounting.

News Bulletin

Technical Training

PENTA presented a training on belt conveyor fundamentals to a Western United States Mining Client's technical and project teams. The training was presented by Ryan Haas, PENTA's Chief Mechanical Engineer, and Payam Pourvash, PENTA's Senior Mechanical Engineer, and was attended by Steve Phagan, Western US GM, and Manoj Mohan, VP Business Development.

If your team could benefit from a training course like this, please contact us here.

TRADE CONFERENCES

PENTA will be attending the following upcoming conferences.

2022 IEEE/PCA CEMENT CONFERENCE
FOCUS ON THE SOUTHWEST – December 4 - 5

The SME Arizona Conference is the leading regional conference that provides technical updates from projects in the Southwest U.S. and Mexico.

PENTA's Tucson, AZ office is very active in the local mining industry, and we look forward to meeting with fellow SME members at the event.

INTERCEM

INTERCEM's annual INTERCEM Americas conference will take place this year in Houston, Texas at the Royal Sonesta Houston Galleria from 5th – 7th December. The Lone Star state will welcome cement industry executives from across the globe – as the conference convenes to discuss the latest news, developments and market trends in cement production, logistics and trading.

PENTA is engaged in distribution terminals including both import and inland facilities and this event provides the opportunity to learn about decarbonization efforts, as well as solutions to address current logistics challenges that PENTA can bring to its projects benefiting our clients and all project stakeholders.

Something you'd like to see in the next issue? Email us at buddey@penta.net

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