

**PUBLIC ABSTRACT**

Applicant (primary) name: Universal Aggregates, LLC

Applicant-s address: 300 Bursa Drive, Suite 303, Bridgeville, PA 15017  
Street City State Zipcode

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Team Members (if any): **CONSOL Energy, PJ Dick, and SynAggs, LLC**  
(listing represents only participants at time of application, not necessarily final team membership)

(Use continuation sheet if needed.)

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Proposal Title: **Commercial Demonstration of the Manufactured Aggregates Technology Utilizing Wet FGD Coal Combustion Byproducts**

Commercial Application:  New Facilities  Existing Facilities

Other, Specify: \_\_\_\_\_

Technology Type: **Manufactured Aggregate Technology**

Estimated total cost of project:  
(May not represent final negotiated costs.)

Total Estimated Cost: \$ 25,700,000

Estimated DOE Share: \$ 10,300,000

Estimated Private Share: \$ 15,400,000



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City

State

Zipcode

## **PUBLIC ABSTRACT (cont=d)**

### **Brief description of project:**

Universal Aggregates, LLC proposes to design, construct and operate a lightweight aggregate manufacturing plant at the City of Lakeland, Lakeland Electric (L.E.) McIntosh Unit #3 Power Station in Lakeland, Polk County, Florida. The installation and start-up expenses for the Lakeland manufactured aggregate facility are \$25.7 million. The DOE share is \$10.3 million (40%) and the Universal Aggregates share is \$15.4 million (60%). The project team consists of CONSOL Energy Inc, P.J. Dick, Inc., SynAggs, LLC, and Universal Aggregates, LLC. The Lakeland facility will transform 239,500 tons per year of coal combustion byproducts that are currently being disposed of in an on-site landfill into 388,000 tons of a useful product, lightweight aggregates that can be used to manufacture lightweight masonry blocks or lightweight concrete.

The 239,500 tons per year of coal combustion byproducts is divided into 157,000 tons per year wet FGD filter cake, 75,000 tons per year fly ash and 7,500 tons per year of bottom ash. In addition approximately 100,000 tons per year of dry FGD materials will be imported into the Universal Aggregates, LLC plant and processed with the Lakeland coal combustion byproducts.

In addition to the environmental benefits, the Lakeland facility will create 15 manufacturing jobs plus additional employment in the local trucking industry to deliver the aggregates to customers or reagents to the facility. A successful demonstration would lead to additional lightweight aggregate manufacturing facilities in the United States. There are currently about 180 wet lime/limestone systems operating in the United States that produce an adequate amount of wet coal combustion byproduct to economically justify the installation of a lightweight aggregate manufacturing facility.

Industry sources believe that as additional scrubbing is required, wet FGD technologies will be the technology of choice. Letters from potential lightweight aggregate customers indicate that there is a market for the product once the commercialization barriers are eliminated by this demonstration project.