



# PROJECT FACTS

UNIVERSITY OF KENTUCKY CENTER FOR APPLIED ENERGY RESEARCH

## PARTICIPANTS

Electric Power Research  
Institute (EPRI),

Lonjing Environmental  
Technology Co. Ltd.,

Environmental Coal  
Technologies Group,  
Center for Applied Energy  
Research

## ENVIRONMENTAL & COAL TECHNOLOGIES

### Dry FGD Material Research

Spray dryer and circulating dry scrubber (CDS) systems have gained momentum in recent years due to their flexibility and multi-pollutant mitigation capabilities. Improvements in sorbent utilization efficiency have also increased their acceptance, through improved humidification and recycling.

Depending on the collection and process flow, different types of solids are collected. These different types of solids range from flue gas desulfurization (FGD) material that is essentially devoid of fly ash, to a material that is a mix of predominantly fly ash and dry FGD material.

In addition, the dry FGD material differs from more traditional wet FGD materials, consisting primarily of calcium sulfite instead of calcium sulfate, with calcium hydroxide and minor calcium carbonate also present. The morphology and chemistry of the FGD materials, along with the relative amount of fly ash in the final product, will affect its character and compatibility with Portland concrete in unknown ways.

The scope of this research project includes both fundamental studies of the parent material (dry FGD material), and its interaction with Portland cement and applied research on mortar and concrete using standard ASTM procedures.

Research involving dry FGD scrubber material is very exciting because it is a relatively new process, and the technology is expected to grow exponentially over the next few years.

## CONTACT

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