

Demonstration of CFB Ash as a Cement Substitute in Concrete Pier Foundations for a Photo-Voltaic Power System at SIUC

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ABSTRACT

A large volume application for fly ashes in cement concrete applications has been demonstrated at Southern Illinois University. Using 23% F-fly ash and CFB fly ash in conventional concrete, 48 foundation piers for supporting a photo-voltaic array have been implemented. The fly ash cement concrete mix implemented has demonstrated strength properties that are comparable to that of conventional concrete. Synergy between F-fly ash and CFB fly ash is indicated for the achieved results that compare favorably to conventional concrete. Very low swelling has been measured for samples made from the implemented mix. The installation is performing up to expectations for the past 2.5 years. This successful demonstration holds a significant promise for several other similar applications.

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