

Integrated System to Control Primary PM 2.5 from Electric Power Plants

Quarterly Report No. 5
For the Period

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Prepared For:

National Energy Technology Laboratory
U.S. Department of Energy
3610 Collins Ferry Road
Morgantown, WV 26507-0880

DOE Program Manager

Mr. Peter Botros

Prepared By:

LSR Technologies, Inc.
898 Main Street
Acton, MA 01720

Project Summary

This is the 5th Quarterly Report under this contract. During this period the fabrication of the Advanced ElectroCore field prototype was completed and the unit was prepared to be transported to Alabama Power Company's E.C. Gaston Steam Plant in Wilsonville, Alabama. A last minute check of the installation drawings indicated that the supports would interfere with an existing pipe trench at the plant so a cross-trench support frame was designed and built to span the pipe trench. Figure 1 shows the revised position and the new cross-trench support frame that supports the precharger.

Advanced ElectroCore Construction

The Advanced ElectroCore module and support frame was completed and made ready for shipment waiting only for the completion of the cross-trench support frame. Figure 3 and Figure 4 show the unit on a flat bend at Advanced Fabrication Services (AFS, Inc.) in Lemoyne, PA where it was built. Figure 5 shows the logos of the participating organizations in detail. Written approval from all organization for display of their logos have been received except for the National Energy Technology Laboratory, whose approval was given verbally.

The Southern Company has been coordinating the ElectroCore installation on behalf of Alabama Power. Site drawings used for the placement of the ElectroCore were approved by Southern Company, and the final support steel was constructed by AFS. This required several iterations because of the proximity of the ElectroCore prototype to the plant's coal handling equipment. One of the requirements of this demonstration imposed on LSR was to avoid any disruption to the overall plant operation.

Site Access Agreement

Alabama Power Company hosted several technology demonstrations over the past 10 years. From this experience, they have certain expectations and requirements of technology developers. Thus, a Site Access Agreement between Alabama Power and LSR was prepared outlining the rules of conduct and compliance for working on the property of the Gaston Steam Plant. A copy of the fully-executed Site Access Agreement is attached to this report for DOE information purposes.

Work Scheduled For Next Period

The ElectroCore pilot unit is scheduled to be shipped and installed by an approved Alabama Power contractor. The installation should be completed in July and a vigorous shakedown will take place. A test plan is being prepared to specify all of the test conditions to be evaluated.

EPA has agreed to furnish some sorbents for removing SO₂ and Hg. Mr. Charles Sedman of EPA is also arranging to make available to our project a CEM for Hg and particulates. We are planning to hold a meeting in Birmingham in August to coordinate all PM and sorbent injection testing.

EPRI has identified four (4) member utilities that will provide additional funds for testing. We are planning to have a new contract in place with EPRI for supplemental testing of the ElectroCore. The utility industry is very interested in Hg testing at this time. We anticipate subcontracting some the testing (analytical work) to Southern Research Institute.

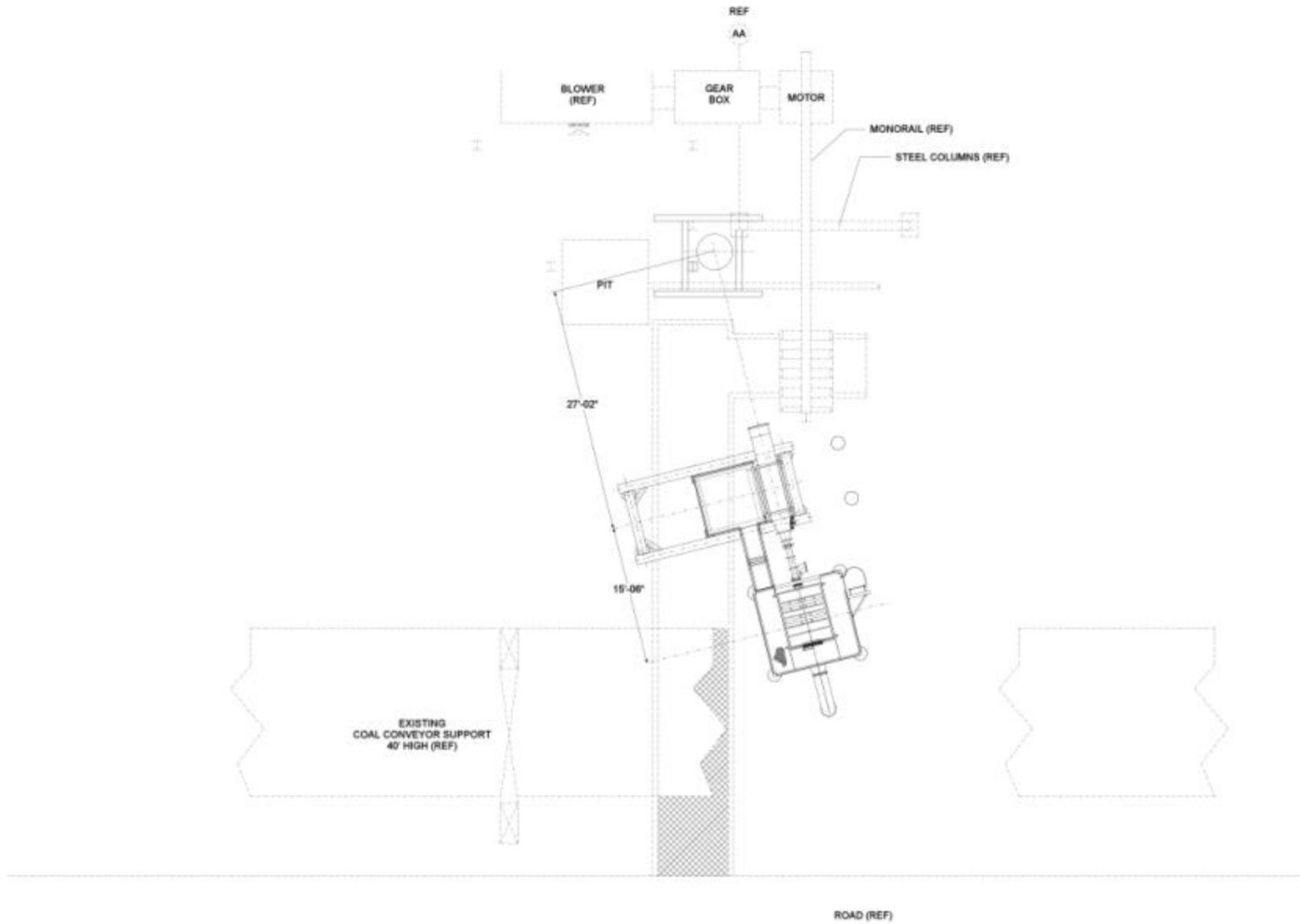


Figure 1: Revised Advanced ElectroCore Prototype Plan View at E.C. Gaston Steam Plant



Figure 3: Advanced ElectroCore Module Ready for Shipment



Figure 4: Advanved ElectroCore Module



Figure 5: Advanced ElectroCore Module Showing Logo Details