Managing the Changing Face of CCPs at Coal-Fired Power Plants

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ABSTRACT

Proactive planning for the beneficial utilization and cost-efficient disposal of coal combustion products (CCPs) is crucial to the operation of a coal-fired power plant as managers respond to changing environmental requirements, evolving CCP markets, and advances in CCP containment technology. At a time when the Clean Air Interstate Rule and the Clean Air Mercury Rule are driving many large coal-fired plants to install advanced particulate capture systems that will significantly increase the volume of CCPs generated, proactive planning is more relevant than ever.

Boiler-plate disposal designs and deterministic approaches to developing a system-wide CCP management plan are inadequate to address the complexities of today's CCP markets and regulatory initiatives. Rather, a dynamic modeling tool is necessary to appropriately evaluate multiple interdependent CCP management strategies and quantify uncertainty with respect to changing CCP markets and regulatory requirements. Objectives of a system-wide CCP management plan can be to reduce disposal costs, limit environmental risks, minimize marketability disruptions, and evaluate likely effects of change.

Findings from previous system-wide CCP management evaluations have indicated that CCP disposal is an operational reality despite advances in beneficial utilization, and that CCP containment practices are changing. The trends are for better management of existing disposal facility footprints, more sophisticated containment designs, improved management of process water, material segregation for potential mining, and increased focus on designs than can stand the test of time.

This paper describes the importance of proactive planning, development of a comprehensive and cost-effective CCP management plan, and the changing practice for CCP disposal.

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