

Coal Combustion Residual (CCR) Remediation Road Map: How to Get There from Here

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Overview. Abraham Lincoln is quoted as saying, “If I had eight hours to chop down a tree, I’d spend six hours sharpening my axe.” With the implementation of the CCR Rule and the looming potential for future remediation activities at CCR sites, a streamlined road map for working through the remedial alternative selection process is presented to highlight critical milestones and key steps required to optimize the overall process. Accurate site characterization, the development of a robust site conceptual model (SCM), effective data visualization tools, and the identification of potentially viable remedial technologies are paramount with regard to the completion of feasibility evaluations, remedial alternative designs and the implementation of efficient and cost-effective remedial solutions for the clean-up of impacted CCR sites.

Background/Objectives. As work progresses implementing the CCR Rule, related to the gathering of groundwater data from coal ash facilities, the time frame is quickly approaching when remedial efforts will be mandated based on criteria outlined in the CCR Rule. This presents a number of challenges with respect to remediation. First, the sheer size of many of the impoundments presents significant challenges with respect to the scale and costs associated with any required remediation. Second, the constituents of interest at CCR sites are primarily metals, some of which are difficult to treat and are recalcitrant to conventional remedial technologies. Finally, because the CCR Rule is a rule, and not a regulation, the technical merits of implemented remedial efforts is likely to be subject to increased challenges from environmental groups and the general public; thus thorough documentation and evaluation is warranted to support these future corrective actions.

Approach/Activities. In essence, a “CCR Remediation Road Map” designed to identify and elucidate the steps required to provide a strategy to focus on areas that significantly impact the SCM, provide specific data useful in targeting remedial efforts, and collect data essential in the evaluation of potential remedial alternatives is akin to “sharpening the axe”. The various components of the outline process provide details on approaches, along with the use of relatively new and innovative methods, to work through the development of technically defensible corrective action despite the complicating factors associated with CCR facilities.

Results/Lessons Learned. Through the development of the “CCR Remediation Road Map”, this process will provide for the evaluation and development of cost effective and technically defensible corrective action approaches at CCR sites. The various components of the “Road Map”, while not atypical to approaches implemented for more conventional contaminants, when combined with innovative methodologies and properly implemented evaluation will prove beneficial to complex CCR sites. The “Road Map” and associated specialized evaluation techniques have been used in the completion of a corrective measures/feasibility evaluation, and the preliminary results will be available for presentation.