



We help clients select site-specific solutions to challenging CCR management issues by using our extensive experience and applying innovative approaches based on industry-leading research.

THE RIGHT STRATEGIC PARTNER

Geosyntec's team of professionals work collaboratively to ensure the success of our projects and provide services related to the knowledge and experience expectations for power generation clients. Geosyntec has provided CCR-related services at hundreds of sites.

We have successfully designed, permitted, executed, and certified closure of CCR units through clean closure, closure-in-place, and excavation and removal in accordance with the requirements of both the federal CCR Rule and applicable state regulations. Geosyntec's engineers and scientists have extensive experience providing support related to groundwater assessment and remediation, ranging from regular monitoring under the federal CCR rule and state regulations to corrective action design and implementation. Our subject matter experts have provided litigation support on issues directly related to CCR engineering and groundwater management issues.

TOTAL CAPABILITIES

Geosyntec began assisting clients at CCR sites about 30 years ago. We have built top tier practices to meet our clients' needs.

We Provide a Complete Suite of CCR Support Services

Regulatory Strategy and
Feasibility Studies

Design, Evaluation, and Construction Quality
Assurance (CQA) Civil Infrastructure

CCR Rule Compliance Evaluations
and Certifications

Geotechnical, Geological and Hydrology/Hydraulic Analysis,
Modeling, and Engineering

Groundwater Evaluations and
Alternate Source Demonstrations

Alternate Liner Demonstrations

Water and Natural Resources

Contaminated Site Assessment
and Cleanup

Sustainability and Environmental,
Social, and Governance (ESG)

Expert Witness and
Litigation Services

Coal Combustion Residual (CCR) Services

PROJECT HIGHLIGHTS

CONFIDENTIAL MIDWEST CLIENT

Geosyntec provided engineering and groundwater services at over 15 power plants in Illinois and Ohio to address CCR regulatory compliance for surface impoundments and landfills. Services included feasibility studies, concept designs, surface impoundment closure by removal and closure in place, landfill siting study and concept design, groundwater collection trench concept design and monitored natural attenuation (MNA) to address groundwater impacts, CCR compliance evaluations, stability assessments, operational and construction applications, and Emergency Action Plans. We have conducted site geotechnical and groundwater investigations including bench testing for MNA effectiveness. Further, Geosyntec provided re-certification of 23 CCR units to demonstrate continued compliance with 40 CFR 257, the Federal CCR Rule. Our client views us as a trusted provider of services for their most challenging projects.

SOUTHERN US POWER GENERATION CLIENT

Geosyntec provided a wide range of civil, geotechnical, and environmental engineering services to support closure of CCR impoundments, including feasibility studies, permitting, civil and geotechnical design, procurement support, closure construction oversight, construction quality assurance (CQA), and geotechnical instrumentation. Closure approaches considered and designed (some of which are currently being constructed) cover a large range of options, from consolidated in place closure (capping) to closure by removal and disposal at permitted landfills. Technologies and processes considered include special geostructures (deep soil mixing walls, cutoff walls), conventional excavation, in-situ/ex-situ dewatering, dredging combined with dewatering technologies such as geotextile tubes or thickening/pasting before final disposal at new on-site landfills, and cover systems (conventional soil, soil/geosynthetic and propriety cover systems such as ClosureTurf®). Each of these CCR pond closure projects are estimated to be approximately \$1 Billion in construction costs and construction durations are estimated to be 10 to 15 years for each impoundment.

CONFIDENTIAL APPALACHIA CLIENT

Geosyntec is providing engineering services for a legacy former CCR impoundment at a confidential site in central US to address regulatory compliance and long-term closure. The site is in an active karst area with unique regulatory concerns. Services includes an initial assessment, data gap analysis, field investigations, an alternatives assessment with conceptual designs, conceptual site remediation.

AMERICAN ELECTRIC POWER

Geosyntec is providing engineering and groundwater services at many CCR surface impoundments and landfills. The services include design and permitting of a 47,000,000 cubic yard landfill expansion, closure of a 300-acre surface impoundment, lowering of a 140-ft high dam to accommodate a surface impoundment closure, and were the first to design and permit a CCR landfill over an inactive CCR surface impoundment. We have also been assessing groundwater compliance at over 20 CCR units and have prepared many alternate source demonstrations (ASDs).



RESEARCH DRIVES INNOVATIVE SOLUTIONS

Geosyntec has developed multiple research and guidance documents related to CCR services for the Electric Power Research Institute.

Samples include:

- Monitored Natural Attenuation (MNA) Evaluation Framework
- Surface Impoundment Closure Guidance (including dewatering and capping)
- Geotechnical Properties of CCR
- Evaluation of Static Liquefaction

These documents often provide seminal information to assist the CCR technical practice.

FOR MORE INFORMATION



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