HIGH PERFORMANCE
COAL COMBUSTION RESIDUAL (CCR) SOLUTIONS
Committed to reliably generating and transmitting energy in an environmentally responsible manner, electric utilities face the ongoing need to adapt and evolve operations and procedures in order to embrace new technologies, comply with increasingly complicated regulations, and return value to shareholders and ratepayers. In 2015, the EPA Final Coal Combustion Residual (CCR) Rule, which requires utilities ranging from the full closure of certain inactive ponds to the monitoring of groundwater at active ponds, added yet another layer of complexity to the industry’s operational environment.

The complexity of CCR management is multi-faceted. CCR is an inherently nuanced non-hazardous solid waste, with differing properties and characteristics among CCR types. Additionally, each utility has a unique historical approach to CCR management, transportation, and storage, including significantly different designs, sizes, and locations for CCR surface impoundments and landfills. However, the Final CCR Rule seeks to bring greater uniformity to CCR management with a series of congruous requirements.

In today’s reality of Final CCR Rule effectiveness, electric utilities must identify and implement CCR management solutions that align with corporate strategy, achieve desired performance standards, and are cost-effective.
GEOSYNTHETICS | NOT ALL ARE CREATED EQUAL

Although geosynthetics hold outstanding potential for effective CCR management and storage, not all are of equal quality. In fact, there are key proprietary distinctions between geosynthetic products – including levels of flexibility and durability – that must be recognized and considered when integrating a solution.

As a leading provider of geosynthetic stabilization solutions and geotextile fabrics, Propex® has invested over 20 years in developing products to answer some of the globe’s most complex civil and geotechnical engineering needs. Specifically for the CCR environment, Propex® has developed a proprietary geotextile fabric with superior filtration properties, used exclusively in the geocomposite solution. Many other Propex geotextiles comprise key elements of containment solutions, including other geocomposites and Geosynthetic Clay Liner (GCL) bottom liner products.

Propex has a family of leading geosynthetic erosion control and slope stabilization solutions, including the ARMORMAX® Engineered Earth Armoring Solution, PYRAMAT® High Performance Turf Reinforcement Mat (HPTRM), LANDLOK® Turf Reinforcement Mats (TRMs). These solutions are cost-effective, easy-to-install alternatives for grading and slope protection/reinforcement challenges throughout the plant site.

Propex also manufactures the highest quality soil and pavement rehabilitation and reinforcement solutions, including GEOTEX® Woven and Nonwoven Geotextiles, PETROMAT® and PETROTAC® Paving Fabric, REFLECTEX® unbonded concrete interlayer fabric, and GRIDPRO® uni- and biaxial geogrids.

THE ROLE OF GEOSYNTHETICS IN CCR MANAGEMENT & STORAGE

Over the last two decades, geosynthetics, which includes geotextiles, geogrids, geonets, geomembranes, geosynthetic clay liners, geofoam, geocells and geocomposites, have achieved increased use in complex geotechnical applications. Driving this forward-thinking trend are the cost savings and improved performance gained as a result of geosynthetic use.

Instead of routinely specifying traditional soil stabilization and erosion control methods alone, innovative engineers and contractors in a multitude of civil and geotechnical engineering settings are embracing the cost-benefits and performance outcomes from geosynthetic use when designing or remediating complex projects. By refuting convention and integrating customized solutions, these professionals lead projects that net significant immediate and ongoing benefit to project sponsors.

CCR management is yet another opportunity for geosynthetics to return outstanding performance results and value to electric utility owners and operators and the civil and geotechnical engineering community that serves them. Look inside to see a visual depiction of how geosynthetics facilitate safe and effective CCR management and storage.
Propex GeoSolutions is one of the largest geosynthetic and erosion control manufacturers in the world, offering full service engineering support for multiple applications, all while creating an Engineered Earth Solution. Our solutions are guaranteed to outperform conventional methods, capitalizing in various markets such as Transportation, Slope Stabilization, Shoreline Restoration, and Flood Control.

Applications include:

- Roadway Stabilization
- Pavement Rehabilitation
- Canal, Stream, and Channel Protection
- Slope Protection and Stabilization
- Drainage and Filtration
- Earthen Levee Protection

We provide industry leadership, setting standards for quality innovation, and pride ourselves in offering the most comprehensive and advanced technical services and support in the market. Our number one goal is to provide 100 percent customer support.

The many features and benefits of our Engineering Services Team includes:

- Product Selection
- Erosion Control Analysis
- Construction Details
- Industry Organization Participation
- Design Support
- Installation Support
- Market Advancement
- Product & Application Research
- Surficial Slope Stability Analysis
- Paved and Unpaved Roadway Design
- Inspection and Validation Testing

Contact our Engineering Services Team Hotline at 423.553.2465 or email GeoEngineering@propexglobal.com to let us help with your next project.
ELEVATE PERFORMANCE & SAVE COSTS: GEOSYNTHETIC SOLUTIONS FOR CCR FACILITIES

The EPA Final Rule commenced in 2015, with rigorous compliance requirements for existing and proposed CCR surface impoundments and landfills. Learn how Propex GeoSolutions can provide innovative performance throughout the CCR facility with high quality, proven geotextile products.

Solutions

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<td>Slope stabilization featuring the ARMORMAX® Engineered Earth Armoring System</td>
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<td>Final cover system, capped with HDPE geomembrane and geocomposite featuring Propex nonwoven geotextile. Soil cover stabilized using LANDLOK® turf reinforcement mat</td>
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<td>Bottom liner system, utilizing HDPE geomembrane and geocomposite featuring Propex nonwoven geotextile, atop a Geosynthetic Clay Liner (GCL) featuring Propex woven and nonwoven geotextiles</td>
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<td>Gravel access road stabilized using GEOTEX® woven reinforcement geotextile above subgrade</td>
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A ROBUST OFFERING OF SUPERIOR GEOSYNTHETIC & EROSION CONTROL SOLUTIONS

Propex® GeoSolutions is a global leader in geosynthetic and erosion control solutions for earth stabilization. As one of the largest geotextile manufacturers in the world, our portfolio of solutions helps build and rebuild key infrastructure across the globe. Backed by a legacy of innovation, Propex® GeoSolutions transcends traditional methods with engineered solutions that stabilize earth and set the benchmark for long term performance. Our commitment to quality, technical expertise, and constant pursuit of game changing innovations put Propex® Geosolutions at the forefront of supporting a stable tomorrow with Engineered Earth Solutions.