



The Pioneer Of Geosynthetics  
S I N C E 1 9 7 2

## Coal

### BACKGROUND

As the population grows, so does the demand for more electrical power capacity. This increase in demand has spurred the need for the new generating stations and innovative methods for improving efficiency at existing power plants. Geosynthetic materials provide solutions to various concerns associated with coal power generations such as groundwater protection, process water containment and ash impoundment.



Cooling water pond storage.

Today's coal-fired power plants require optimal performance from containment lining systems. GSE manufactures and installs the highest quality, most durable, longest lasting geosynthetics for use in Coal Combustions Product (CCP), cooling water and evaporation ponds.

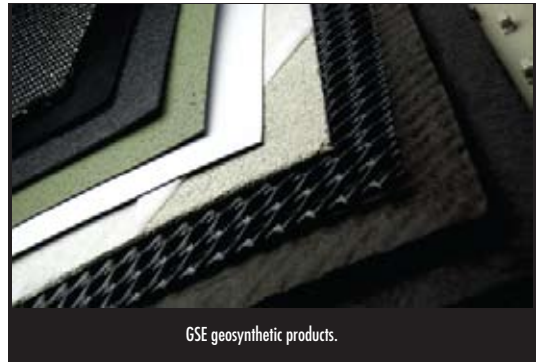


Coal ash impoundment.

With millions of square feet of geosynthetic products supplied and installed at coal power plants across the U.S.; GSE has the right geosynthetic products to meet your project requirements.

### GEOSYNTHETIC PRODUCTS

GSE is the world leader in manufacturing geosynthetic materials for a variety of applications including landfills, leach pads, storage ponds and wastewater treatment. We offer the largest capacity and widest selection of HDPE & LLDPE geomembranes, geotextiles, geocomposites and geosynthetic clay liners.



GSE geosynthetic products.

### A SPARK-TESTABLE GEOMEMBRANE

Impoundments at coal power plants are typically exposed to the elements and are in constant use. If a post-installation leak test is required or deemed beneficial, consider GSE's patented, spark-testable Conductive liner system. A large impoundment installation can be tested for pinholes and other construction related damage to insure 100% containment without the added expense of the flooding the floor or the inability to test slopes and all the uncertainties



Spark testing can be performed with hand-held equipment.

present with other post-installation testing methods. GSE Conductive liner can be regularly tested year after year to insure continued containment.



Installation of leak detection system.

Many impoundments require a leak detection system to ensure the integrity of the primary liner system on a continuous basis. This system consist of a secondary HDPE geomembrane below the primary liner which is overlaid with either a geonet or a geocomposite net. If the leak detection system is placed directly below the primary liner, a geonet is used. If an intermediate soil layer or primary clay layer is used, then a geocomposite liner is utilized.



Evaporation Pond.

**CASE HISTORIES**

GSE installed the liner system at the Springerville Power Plant in Northeast Arizona and operated by Tri-State Generation and Transmission Association. The Bechtel Group designed the 1,500 MW plant, as well as the evaporation ponds comprised of over 2.5 million SF of geosynthetics. The lining system installation was performed by GSE Installation Services. The installation was completed ahead of schedule and under budget.

The Power Generating Station located in the Mojave Desert consists of two 790 MW generating units that supply power to 1.5 million homes. The power plant is fueled by a low-sulfur coal. The plant operates under a zero discharge permit. The total project size was over 1.8 million SF of geosynthetic materials. To

insure complete containment of all contaminants which enter the pond, GSE Conductive White liner was selected for the quickest and most cost-effective leak detection inspection method available. The project was completed on schedule with a quick installation and economical leak detection of the installed geomembrane

**ENGINEERING SUPPORT**

The GSE Engineering Support Staff is comprised of multidisciplinary product professionals to support you across a range of project requirements. This includes knowledge in geomembrane, geosynthetic clay liners, geonet, geocomposite, nonwoven geotextile and concrete protection products and application solutions. Rely on our technical staff to help you solve your project issues.



GSE Engineering Support Staff.

**CUSTOM FABRICATION**

The GSE Custom Fabrication Group builds products to your exact specifications. We have extensive experience in prefabricated polyethylene products and components. A few examples of our custom fabricated products are Aqua Tanks, Quick Containment, concrete protection liners, boots, sumps, pads, pipes, daily covers, temporary containment, containment boom and other products to fulfill your fabrication needs.

**INSTALLER NETWORK**

The GSE Installer Network leads the industry with the most experienced, large, and flexible crews available around the world to meet your installation requirements. Each installer is equipped with state-of-the-art welding and testing equipment to ensure a successful installation. Selecting a qualified installer with the right product knowledge is critical to your success. Let GSE connect you to the right installer to handle your installation project of any size from start to finish.