



Efficiency and operating costs decrease from an innovative opening in the top that utilizes natural ventilation.



Maximize limited land by storing more product in a single structure.



Large equipment such as a stacker reclaimer can easily be housed in the large dome.

Scope of Work:

- FEED Study
- Value Engineering
- Geotechnical Analysis
- Material-Handling Systems Engineering
- Structural Engineering
- Mechanical Engineering
- Electrical Engineering
- Procurement & Subcontract Management
- Dome Construction
- Tunnels Construction
- Material-Handling Systems Installation
- Explosion Relief Installation
- Additional Steel & Concrete Construction
- None Some All

Storage & Reclaim:

- 1 Dome: 96m (315ft) Wide x 53m (174ft) Tall
- 100,000 Metric Tons, Coal
- Circular Stacker Reclaim

Overview:

Dome Technology's team was contracted to build a coal-storage dome in Kemper County, Mississippi, USA, for a customer requesting natural ventilation.

To accommodate this ventilation, engineers designed a unique top for the structure. The dome was built with a large opening at the apex, and a second "roof" was built atop multiple columns covering the opening, allowing airflow in and out while protecting coal from moisture. This roofing was built with translucent panels so the dome is lit naturally as well—another customer request since employees are often inside to manage product.

By installing the open-air structure, ventilation happens naturally, reducing operation costs. "With natural ventilation, you don't have to have electrical or mechanical components to move the air—it happens naturally, so it's free," said Dome Technology CEO Bradley Bateman, who acted as the engineering project manager.

Having heard from colleagues about Dome Technology's expertise with foundations, stacker reclaimers, and construction, the customer sought Dome Technology's team for the project. Today, reclaim is made possible via a stacker reclaimer, and the dome can contain 100,000 metric tons of lignite coal. "A project of this magnitude always has its challenges, but we were able to work through them and complete the project for this customer," Bateman said.

With unique features and systems that meet customer requests, the Kemper dome is a significant Dome Technology achievement. "To deliver such an ambitious project has required a truly collaborative approach, working closely with our engineers and construction team to offer an innovative and extensive bulk-storage solution," said Brent Hardy, who acted as project manager.

Bradley Bateman, CEO at Dome Technology remarked, "For nearly four decades we've relied on a collaborative approach with companies—they're in the driver seat, and we help navigate. In every project Dome Technology incorporates innovative technology to maximize storage capacity and system performance with an economical solution."



Read more about this project at: link.dometechnology.com/6504

