DOME TECHNOLOGY®

Wood-Pellet Storage

Drax | Selby, United Kingdom

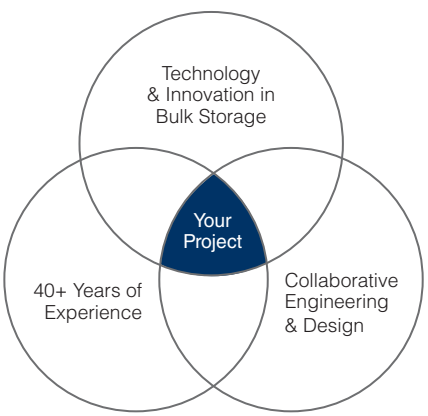
Scope of Work:

- ○ 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

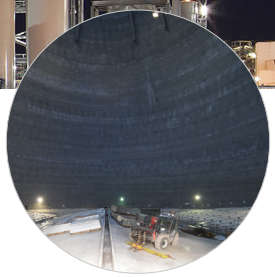
Storage & Reclaim:

- 4 Domes: 63m (207ft) Wide x 50.3m (165ft) Tall
- 320,000 Metric Tons (Total), Wood Pellets
- Vibrating Floors, 2 Tunnels, 70% Live Reclaim



The specialized design of the domes' apex incorporates a 90-foot opening for deflagration relief.

The exterior of the watertight DomeSilos is ideal for the preservation of wood pellets.



Vibrating floors on the interior of the dome allow 100% of the product to be reclaimed.

Overview:

There's big, and then there's staggering. Drax chose the latter in a project that was a first of its kind for the United Kingdom, Europe's single largest decarbonization project, and one of Dome Technology's largest project to date.

The size and scale of the project requires unprecedented biomass storage, essentially four domes each holding 80,000 metric tons of wood pellets. Dome Technology's team was responsible for the overall design of the dome system, including reclaim tunnels, floor slabs, ring-beam foundation, dome shells, apex ring curb, and waterproofing.

One important feature was the unique "tops" for the domes. The specialized design incorporates a 90-foot opening at the apex of each dome for deflagration relief. Using mathematical models, the team calculated the needed surface area of relief, optimal placement, and the ideal size of the opening in the dome apex. A steel structure was used to spread the load of the head house to the apex ring curb and is covered in relief panels.

With the four domes now in operation, Drax is providing enough power to meet around seven to eight percent of the United Kingdom's electricity needs, half of which is being generated via biomass. "Dome Technology were keen and interested from day one, had experience with biomass and other similar products from previous projects, and had over 75 reference projects worldwide," said Drax's strategic project engineering manager Jason Shipstone. "One or two little details were a little close to the wire in terms of timing, and like all large projects, we had our surprises, but overall the whole team worked well together and delivered a very effective project."

"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," Bradley Bateman, CEO, Dome Technology.

Read more about this project at: link.dometechnology.com/984