

safeBERM[®] Bunker Storage System

Cost Effective and Environmentally Friendly Option for Coal Ash Storage

BENEFICIAL REUSE FRAMEWORK - 5 C's

Commitment to process

Creation of proper, adequate storage

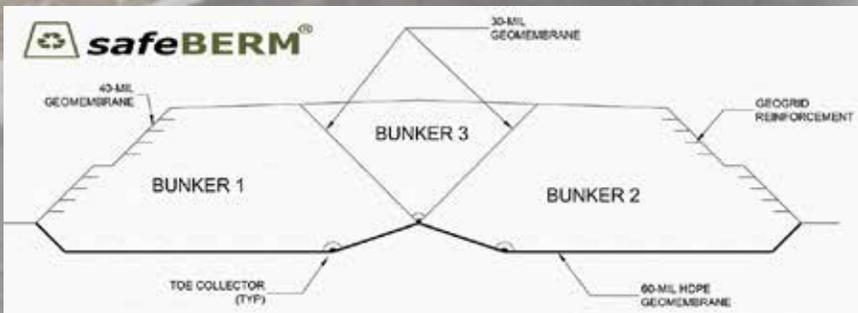
Consolidation into smallest footprint

Compliance with environmental regulations

Clean closure - clean up once!

Utility companies are facing enormous costs to manage coal ash basins. Solutions vary from cap in place to off-site disposal at lined landfills. Using a Beneficial Reuse approach would provide a Better, Faster and Cheaper solution to the storage problem that coal ash producers are faced with today.

EnCAP-IT[®] has developed a method using its safeBERM[®] technology to beneficially reuse all the coal ash excavated from old wet basins internally on-site, while satisfying environmental concerns. It is the ideal compromise between the controversial option of capping in place, and the costly option of removal and offsite disposal.



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All coal ash is contained within a Subtitle D equivalent or other approved liner system and cap system.

Coal ash mass stability is improved as EnCAP-IT's fully encapsulated berms eliminate moisture from entering the system thereby reducing or eliminating seismic liquefaction.

Coal ash would be beneficially used to construct an entombed (not just capped) storage facility at lower cost compared to traditional dry-storage construction or off-site disposal.

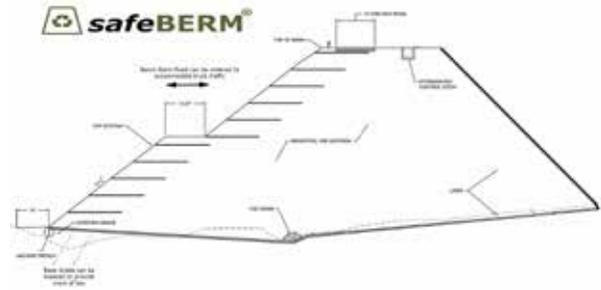


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ADVANTAGES:

- Beneficially uses facility’s own coal ash to construct long-term on-site storage;
- Fully encapsulates (entombs) the ash instead of single cap;
- Meets coal ash management regulations;
- Flexibility of *safeBERM*[®] design accomodates site-specific configurations;
- Consolidates coal ash into the smallest footprint, in the best on-site location;
- Uses the same long-term proven protections the waste industry has been using for decades;
- Reduces the cost of construction and the cost of importing construction materials;
- Allows use of existing containment dike material to increase groundwater separation and/or for final capping;
- Accelerated construction timeframe means faster environmental protection;
- Eliminates hauling to off-site facilities thus improves road safety and decreases greenhouse gas emissions;
- Eliminates potential safety, social and environmental impacts at off-site receiving facilities;
- Supports the systematic mining of stored coal ash for future beneficial reuse;
- Creates developable acreage (plateaus) for applications such as solar farms, recreational aeas, or other civic needs.



EnCAP-IT’s *safeBERM*[®] Bunker approach is a viable alternative solution where CCR’s can be stored safely at half the cost and time-frame.

Specifications:

- **Macroencapsulated berm bunker(s) fully lined with internal drain systems;**
- **Reuse of onsite beneficial reuse materials (coal ash) to construct *safeBERM*[®];**
- **Geomembrane liner above the water table;**
- **Meets EPA Coal Ash Regulations.**

The following is a table representing a conceptual comparison.

OPTION	Amount of Coal Ash (cy)	Dewater Costs	Excavation Costs	On-Site Beneficial Reuse	Transportation & Disposal Costs	Final Land Reuse (Bring site to final conditions)	Total Cost	Environmental Protection Index* (Min 1 to 10 Max)
Cap-In-Place Cheapest option, provides the least amount of environmental protection	3,000,000	N/A - - doesn't meet EnCAP-IT's environmental protection standards					1	
Excavate, <i>safeBERM</i>[®] Bunker System Reasonable cost option; provides highest degree of public safety; close to maximum on-site environmental protection; Ideal Option	3,000,000	n/a - same for every option	\$70.7M	\$50.9M	-	\$6.1M	\$127.8M	8
Excavate, Off-Site Disposal Most expensive option; provides maximum on-site reclamation via removal	3,000,000	n/a - same for every option	\$70.7M	-	\$213.8M	\$5.3M	\$289.7M	9

* Related to on-site impacts only. Does not include potential safety, social and environmental impacts of off-site options. ^Some information (above) derived from various media outlets