



Shotcrete Benefits

- Eliminated need for formwork
- Enabled access to restricted space and difficult-to-reach areas
- Provided ideal method for stabilizing a slope



Shotcrete was an ideal choice for stabilizing the hillside, which has a 2:1 slope.



Rebar placed on the hillside adds strength to the finished concrete.



With the slope stabilized, water is directed in such a way that the nuclear station is better protected.

Dimensions & Features

- 2:1 hillside slope
- 170ft (51.8m) side wall
- 90 vertical feet (27.4m)
- Installed using the shotcrete process



Overview

Having successfully completed a previous project on site, Dome Technology was selected to provide slope stabilization for a nuclear plant near the Jocassee Dam in Seneca, South Carolina.

With a river nearby, surveyors determined that heavy precipitation or a dam break would result in water funneling to an area that could damage the nearby Oconee Nuclear Station, operated by Duke Energy. The objective was to protect the hillside with reinforced concrete, channeling water in a direction that would keep the hillside intact and the nuclear station protected.

The three-month project was a preventative and proactive measure in light of the Fukushima disaster, said Duke Energy implementation manager/construction manager Eddie Combee. "The way we structured the slope is that (water) will slope away and not damage the nuclear station itself," he said.

Concrete placed using the shotcrete method was necessary for this project because of the scale and steep slope. With a 2:1 hillside slope, poured concrete would have been an unwieldy choice; the sheer size of the project, plus the tendency for the concrete to run down the hill, would have rendered the project nearly impossible with conventional cast-in-place concrete. The Dome Technology team "used the experience we had from other nuclear projects" to meet stringent safety requirements for working near a nuclear site and to overcome obstacles associated with working on a steep slope, said Dome Technology project manager Jason Craig.

"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 system performance with an economical solution,"
Bradley Bateman, CEO, Dome Technology.

Read more about this project at link.dometechnology.com/13974

