



PRESS RELEASE

12/04/2006 GAAS:862:06 FOR IMMEDIATE RELEASE

Statement by Gov. Schwarzenegger on U.S. EPA Award for California's Leadership in the Construction Use of Waste Products

Gov. Schwarzenegger issued the following statement following the U.S. Environmental Protection Agency's award to Caltrans for the use of recycled ash from burned coal in concrete for the construction of the new Bay Bridge:

"California has always been a leader in protecting the environment, and we are leading the nation in our commitment to reduce greenhouse gas emissions. Caltrans and the rest of state government have taken tangible steps to reach this goal, and the reformulated cement concrete will help make the bridge stronger, last longer and reduce greenhouse gas emissions. Caltrans and the rest of state government will continue their role in leading the state and nation in the fight against climate change."

Caltrans won First Place for Innovation in the Coal Combustion Products Partnership Awards issued by the U.S. EPA. The awards recognize outstanding achievements in increasing the amount of coal combustion products beneficially used. Fly ash used in concrete reduces the amount of the coal burning-byproduct in landfills and the amount of regular concrete needed. Manufacturing cement emits large amounts of carbon dioxide into the atmosphere. The skyway portion Bay Bridge will use 450,000 cubic yards of concrete – enough to fill a football field-sized space 210 feet high.

Caltrans manages more than 45,000 miles of the state's highway and freeway system, serving the transportation needs of more than 30 million residents. For a number of years, Caltrans has been considered a leader among state transportation agencies by requiring the use of fly ash in concrete paving projects. Typically, a Caltrans project uses at least 25 percent fly ash replacement for Portland cement in mix designs.

The Department has also been exploring new benefits of using fly ash in concrete mixes to help reduce the emission of greenhouse gasses in California. To this end, and in part based on the success of its Bay Bridge project, Caltrans is creating the first-ever Structural Concrete Greenhouse Gas Reduction Standard. This standard will encourage contractors and designers to build more bridges and highways with very high amounts of fly ash.

The new Bay Bridge, designed to carry 350,000 vehicles per day and have a lifespan of 150 years, is the largest bridge project in Caltrans' history. The Department faced several obstacles in designing the bridge due its location in salt water and a salt fog environment and the seismic requirements of an active earthquake zone. Caltrans incorporated fly ash into its concrete to address these problems as it helps to improve the workability, hardening and permeability properties. The Bay Bridge is designed to withstand a major earthquake with only cosmetic damage and without any interruption of traffic flow.

The Bay Bridge project utilized more than 30 different mix designs, including mixes with high amounts of fly ash to achieve important benefits. A concrete mix with 50 percent fly ash was used in the footings and high salt zones. The use of fly ash prevented the cracking of the cement when it hardened, a common problem in a salt-water

environment. It also helped in the concrete's placement, since fly ash particles are round and act like ball bearings, to improve flow and workability in the mix. Moreover, concrete containing fly ash is denser and stronger, making it better able to carry loads as well as to prevent salt from entering the hardened product.