Fly Ash Supply - Condensed

Fly ash, a by-product of coal-fired power plants, is the most commonly used supplementary cementitious material in the world.

Over the last 10 years, TxDOT has relied heavily on fly ash to improve the long-term durability of concrete. Given the current EPA regulations for pollution control and the 2008 impoundment failure in Kingston, Tennessee, the future supply of fly ash is less predictable.

**CURRENT STATUS OF FLY ASH SUPPLY**

There are 35 approved fly ash sources on TxDOT’s Material Producer List, 16 are in Texas and supply the vast majority of ash to TxDOT projects. Of the 16 Texas fly ash sources, six are Class F and 10 are Class C.

Most fly ash sources and the majority of the Texas lignite coal deposits are located in central to northeast Texas. A few Class C sources are in and around the Texas panhandle. See Figure 1 Map of Texas Fly Ash Sources for more details about the locations of Texas fly ash sources.

Scheduled and unscheduled maintenance (outages) to power plant equipment tends to affect the supply of fly ash. At any given time, there is a sufficient supply of fly ash in the state, just not necessarily in locations where the demand is high. Customers (concrete suppliers) typically do not want to pay more in shipping cost for fly ash from farther distances.

**UNCERTAIN SHORT-TERM FUTURE OF FLY ASH**

The EPA is in the process of deciding whether to classify fly ash as a “special waste” material with allowance for “beneficial use.” Even though “beneficial use” would be allowed, the “special waste” classification would have a negative stigma and likely eliminate “beneficial use” of fly ash due to the potential liability to the utility companies and fly ash marketers. A final ruling is expected in the fall of 2010.

The future availability of Class F fly ash is difficult for the industry to predict because it is currently dependent on several factors. These factors include, but are not limited to:

- using Powder River Basin (PRB) coal or blends of Texas lignite coal and PRB
- using Activated Carbon Injection for the removal of mercury and
- using selective catalytic reduction controls for the removal of NOx and SOx.

These pollution control measures may change the quality or composition of the fly ash, thus reducing the amount of Class F fly ash available in the state.

The upcoming EPA ruling and any additional pollution control measures installed at the utility plants create uncertainty in the future of fly ash supply in Texas. However, any shortages will likely be regional in nature and could be resolved by transporting fly ash over farther distances from other approved sources.
Fly ash, especially Class F fly ash, is an important component of durable concrete. With the potential for shortages in fly ash supply in parts of Texas, contractors and concrete suppliers should prepare to transport fly ash from farther distances and TxDOT should expect a resulting increase in the price of concrete.

**CONTACT INFORMATION**

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Want to know more? A full length version of this advisory is also available.
Figure 1. Map of Texas Fly Ash Sources