



Trucking Headlines March 19, 2009

Chemistry key to SCR concept

By Jack Roberts

Anyone expecting an explosion was disappointed when Dave McKenna, Mack Trucks director of powertrain sales and marketing, held up a lit candle and doused it with diesel exhaust fluid (DEF) at the company's press conference yesterday, March 18, at the Mid-America Trucking Show. The DEF snuffed the flame completely, proving, in McKenna's words, "That DEF is not flammable."

The dramatic gesture was part of McKenna's – and Mack's – way of combating what he called "misinformation" in the trucking industry concerning the safety and viability of 2010 diesel engines equipped with Selective Catalytic Reduction systems, which reduce particulates and NOx emissions to meet U.S. Environmental Protection Agency guidelines.

McKenna said Mack is ready to meet 2010 emissions levels and demonstrated that fact by showcasing a production-ready Mack Granite model truck with SCR at the World of Concrete trade show in Las Vegas in February. "SCR is simply the most viable and cost effective way to meet EPA 2010," McKenna said. "Other technologies, such as diesel NOx reduction systems, are unproven in engines with displacements larger than 6 liters, and diesel NOx absorbers have proven to be unviable. You can use massive EGR with EPA credits – but once those credits are gone, they are gone."

SCR, McKenna said, "Isn't voodoo. It's been around since 1957 in commercial and industrial applications. It's a simple means of converting NOx into water and nitrogen."

"DEF is not ammonia. It is not flammable. It does not give off noxious gases at high temperatures and it does not break down at temperatures above 85 degrees Fahrenheit," McKenna said. "Furthermore, engines need air for good fuel economy. And SCR systems allow us to reduce the amount of exhaust gas recirculated in an engine, giving fuel economy increases up to 5 percent compared to our pre-2010 engines."

McKenna said that based on a diesel fuel price of \$2.42 a gallon, fleets can expect to save \$1,655 a month on fuel by running Mack SCR diesel engines, compared to pre-2010 engines. "And that figure includes the additional cost of purchasing DEF," McKenna said.