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From: Motor Vehicle Operator Supervisor, Operation Branch, Base Motor Transport
To: Director, Base Motor Transport Division

Subj: TEST RESULTS ON OMSTAR FUEL ENHANCER

Encl: (1) Data on Tractor 5FRC26 dtd 12-2-99 to 1-15-00
(2) Data on Tractor 5FRC29 dtd 12-15-99 to 1-15-00
(3) Data on Tractor 291589 dtd 12-14-99 to 1-15-00
(4) Data on Tractor 291590 dtd 12-14-99 to 1-15-00
(5) Data on Tractor 288056 dtd 12-9-99 to 1-15-00
(6) Data on Tractor 277744 dtd 12-14-99 to 1-15-00
(7) Data on Tractor 279850 dtd 12-14-99 to 1-15-00

1. During December 2, 1999 to January 15, 2000, a test was performed on the diesel engines of six of our tractors in our fleet using Omstar fuel additive. One ounce of additive for every ten gallons of fuel was added to each tractor. During this time period the Omstar team did the smoke opacity test. They have the data results and there was a noted improvement in the reduction of smoke from the older tractor.

2. I selected a variety of tractors out of our fleet from the oldest (heavy smokers) to the newer ones with different engines and transmissions.

   a. 277744, 1983 International Harvester 10 ton, Detroit engine, 9 speed transmission "smoker."
   b. 279850, 1986 International Harvestor 10 ton, Cummins engine 10 speed transmission "heavy smoker."
   c. 288056, 1992 Ford, 10 ton, Caterpillar engine, 13 speed transmission.
   d. 291589 and 291590, 1996 Ford, 15 tons 3406 Caterpillar engine, 18 speed transmission.
   e. 2FRC26, 1997 Mack, caterpillar engine, 18 speed transmission.
   f. 5FRC29, Mack, 15 ton, 18 speed transmission was not treated with Omstar fuel additive, I have used it in this report as a tractor to compare to.

3. Per enclosure I1 through 7, all tractors transported a variety of different cargo from general cargo to heavy equipment, in different cargo to heavy equipment, in different weather conditions, heavy traffic, high desert, and mountain roads. I have to include that information to help evaluate the Omstar product.

4. I tested the two International Harvester tractors #277744 and # 279850. After two days of using the Omstar fuel additive and there was a significant change.

   a. It was early in the morning the weather was cold out and both tractors started up very easily and ran very smoothly. The engines were responding more like gasoline engines than diesel engines. I could feel a difference in the performance ot the engines, they seemed to have more power and ran very smoothly. Tractor #279850 was still smoking but tractor #277744 was much cleaner.

b. After the first week, driver (Mr. Straw) came to me and reported his tractor 5FRC26, a Mack 15 ton, had more power and was using less fuel. We both noted that ot was smoking less in the early morning than it used to.

5. Fuel consumption did in fact improve on all the tractors that were treated with the Omstar additive but due to heavy transportation request, the holiday, "men on leave," different drivers were sometime assigned to these tractors making the test difficult.

   a. On December 14, 1999, Omstar came to the Motor pool and reworked tractor #279850, "heavy smoker." The decision was made that it ran much smoother than before however, we turned this tractor into the shop to have the air cleaner replaced and to turn back the adjustment on the fuel pump. It went into the shop for the above mentioned repairs and was returned to use for road operations on January 16, 2000.
   b. Tractor #277744 on or about January 6, 2000 was inducted into the shop and did not come out until January 14, 2000, it was reassigned to SOL.
   c. One of the biggest problems was making sure the drivers added one ounce per ten gallons every time they re-fueled. If we are to realize the benefit of this product, it will have to be in bulk. Drivers coming in off the road are beat and just want to go home.

6. Here are some examples from the data on improved fuel consumption, which would have to be the payback in using the product.
   a. Tractor #5FRC29 without Omstar, cargo AAV, weight 54,000 lbs., weather very windy, 29 palms to Camp Pendleton, fuel used 140 gallons, 2.2 miles per gallon, Date December 27, 1999, Driver Mr. Rich.

      Tractor # 5FRC26 using Omstar, Cargo AAV, weight 54,000 lbs., weather very windy, 29 Palms to Camp Pendleton, fuel used 80 gallons, 4.4 miles per gallon, date December 27, 1999, Driver Mr. Snow.
   b. TAD trip to Bridgeport, CA, date January 4, 2000 to January 5, 2000, tractor 5FRC29, without Omstar, cargo weight 26,000 lbs., weather windy/ cold, high altitude, fuel 333 gallons, total 860 miles, 2.4 miles per gallon.

      TAD trip to Bridgeport, CA, date December 7, 1999, tractor 5FRC26, using Omstar, cargo weight 49,000 lbs., weather windy/ cold, high altitude, fuel 110 gallons, total 699 miles, 6.1 miles per gallon.

      Tractor 291589 has gone from 4.9 mpg to 5.3 mpg
      Tractor 291590 has gone from 3.9 mpg to 5.7 mpg
      Tractor 288056 has gone from 5.0 mpg to 5.9 mpg
      Tractor 277744 has gone from 4.8 mpg to 5.7 mpg*
      Tractor 279850 has certain, lack of data

**Does not smoke anymore

7. I have attempted to give Omstar an honest evaluation during this test period under adverse conditions. I fund that the diesel powered engines do benefit with increased power, improvement in fuel combustion, and the engines run smoother. I cannot say that by6 using the Omstar additive the cost will be zero due to saving in fuel consumption and decreased maintenance cost, only time will give us that answer. I cannot say there is a dramatic reduction in the emissions coming out of the smoke stacks of the tractors. I can state that the claims of reducing friction, better performance, saving fuel consumption, and improvement of fuel combustion are all true. I personally like the product and feel it has merit.

Respectfully Submitted
Bill Oxford