

Status on Alternative Fuel Use in NCDOT

**Presentation by:
Drew Harbinson, Director
Equipment & Inventory Control Unit
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Status on Alternative Fuels

- **The Use of Biodiesel**
- **The Use of Ethanol Fuels**
- **The Future Use of Bio-diesel**
- **The Future Use of Ethanol**
- **The Future of Other Alternative Fuels**

Status On The Use of Biodiesel

- **March, 2008 the Department converted all divisions to B-20 (20% bio feedstock, 80% ULSD). One site in each division will remain standard ULSD for use in backup emergency generators.**
- **Have continued to improve the State contract for B-20. Require bio fuel source producer to be BQ-9000 certified.**

Status On The Use of Biodiesel

- **The contract fuel provider is held responsible for all additives necessary to insure fuel quality in colder climates.**
- **Started a fuel tank maintenance program. All 240 fuel tanks have been professionally cleaned for the first time since installation in the late 80's.**

Status On The Use of Biodiesel

- **Continue to work with National Bio Diesel Board to improve the fuel standards. In June of this year they voted to decrease the % of glycerin content allowed. This should improve the quality of fuel and should help prevent filter “clogging” and injector problems experienced in the past.**

Status On The Use of Ethanol Fuels

- In December, 2007 we converted Statewide to the use of E-10 (10% Ethanol, 90% Regular Gasoline).
- Over the last five years the Unit has added 685 “Flex Fuel” pickup trucks and sports utility vehicles to the fleet. These units are designed to burn E-85.

Status On The Use of Ethanol Fuels

- In order to comply with legislative mandates to reduce the use of petroleum based products by 20% by 2010, we will install five E-85 (85% ethanol, 15% gasoline) fuel sites.
- First site will be in Greenville, NC., and is in bid preparation, now. An additional four sites will be contracted for installation as a package in order to reduce cost.

Status On The Use of Ethanol Fuels

- In February, 2007 a request was made by the Office of State Energy to install a total of 30 E-85 sites. The estimated cost is between \$2.5 and \$3 million.
- Without a funding source, the Secretary limited NCDOT's involvement to the five E-85 sites that keeps us in compliance.

Future Use of Bio-Diesel

- **Bio-diesel will continue to be used. With current diesel pricing the differential in costs have declined.**
- **As the refining and quality control technology continues to improve and pricing comes down, B-30 and B-50 blends may become attractive.**

Future Use of Ethanol

- **NCDOT will continue to purchase flex fuel trucks designed to use E-85.**
- **There will be continued pressure from other State agencies to increase the number of E-85 fuel sites, both for their convenience and compliance. If new funding can be found, then NCDOT may install additional sites.**

The Future Use of Other Alternative Fuels

- **The use of CNG will likely once again become a viable alternative fuel for NCDOT due to the stronger emission standards, availability and cost.**
- **As truck and equipment manufacturers begin to offer factory installed options for CNG, NCDOT will again purchase units for testing.**

The Future Use of Other Alternative Fuels

- Once engine manufacturers offer this option, concerns over warranty issues go away. In addition the cost should be less than “after market” kits.
- As attempts are made to move the country towards energy independence the cost of “fast fill” CNG fueling sites should decrease as well.

The Future Use of Other Alternative Fuels

- As the technology is expanded, hybrid-electric trucks will become an additional alternative. GM and Ford are now producing hybrid-electric pickups and will soon fleet support those units.
- Medium and Heavy duty diesel hybrid-electric trucks are now available on the market as well. We will be purchasing units for evaluation.

QUESTIONS ?