

Triangle Alternative Transportation Fuels First Responder Training Workshop

September 17-18, 2013

Jane S. McKimmon Center at NC State University
1101 Gorman Street Raleigh, NC 27606

Background & Event Announcement

The Carolina Blue Skies & Green Jobs Initiative is a bi-state effort to create and retain green collar jobs and reduce dependence on foreign oil by increasing availability and use of alternative fuels in North and South Carolina. The project commenced in March of 2010 and is slated to finish in April 2014. To date, the project has completed its implementation phase and has had a positive impact through the deployment of more than 500 alternative fuel vehicles and the commissioning of more than 140 alternative fueling sites. Vehicles deployed include compressed natural gas (CNG), propane (LPG), hybrid electric, hydraulic hybrid, and neighborhood electric vehicles across the Carolinas. Fueling station infrastructure includes biodiesel, E85, CNG, LPG, and electric charging.

As part of this project, the North Carolina Solar Center at NC State University is hosting a two day workshop that will give emergency response personnel the opportunity to become familiarized with the growing number of alternative fuel vehicles and stations that they may encounter throughout North and South Carolina. The objective is to assure that personnel involved in emergency response understand the potential hazards, can recognize potential issues, and respond appropriately to a failure or an emergency situation involving of the various types of alternative fuels and alternative fuel vehicles.

The **Triangle Alternative Transportation Fuels First Responder Training Workshop** will be on September 17-18, 2013 at the Jane S. McKimmon Center on the NC State Campus. The program is supported by the US Department of Energy through the Carolina Blue Skies & Green Jobs initiative. **Registration is free to the NC first responder community.** The event program was developed with input and guidance from the US Department of Energy, the NC Department of Insurance Office of the State Fire Marshal, the International Association of Fire Chiefs, Wilson Community College, Nash Community College, Triangle Clean Cities, Land of Skies Clean Vehicle Coalition, Centralina Clean Fuels Coalition, and the North Carolina Solar Center.

Please note that space for the event is limited to 50 participants.

To register please [click here](#) or contact Rick Sapienza via phone at 919-332-4510 or email at resapienza@ncsu.edu.



Triangle Alternative Transportation Fuels First Responder Training Workshop

Day 1—September 17, 2013 7:30a--4:30p

Gaseous Fuels: Natural Gas and Propane--[Rich Cregar, Automotive Technology Expert](#)

What is a Gaseous Fuel?

Propane (LPG) Vehicle Technology

Compressed Natural Gas (CNG) Vehicle Technology

Liquefied Natural Gas (LNG) Vehicle Technology

Gaseous Fuel Pressures-Where They Are, How to Deal with Them Safely

Basic 1st Responder Procedures for Gaseous Fueled Vehicles

Renewable Biofuels: Ethanol and Biodiesel—[Capt. Richard Miller, International Assoc. of Fire Chiefs](#)

Introduction to Biodiesel and Biodiesel Vehicles

Biodiesel Infrastructure, Transport, Stations, and Handling

Introduction to Ethanol and Flexible Fuel Vehicles

Ethanol Infrastructure, Transport, Stations, and Handling

First Responder Procedures

Static Vehicle Review

Targeted vehicles to include:

- ✓ LPG Ford F250—Alliance Autogas
- ✓ CNG Ford Transit Connect—PSNC
- ✓ CNG Light Duty Truck—Piedmont Natural Gas
- ✓ CNG Ford Escape—Build Sense
- ✓ CNG Honda Civic GX—Duke Energy
- ✓ LPG Crown Victoria—Raleigh Police Department
- ✓ CNG Refuse Truck—TBD
- ✓ LPG Bluebird School Bus(es)—Gregory Poole
- ✓ LPG Dodge Charger—Ferrell Gas
- ✓ B100 Mercedes—Sundance Power System

Day 2—September 18, 2013 7:30a--4:30p

Electric & Electric Hybrid Vehicles-- [Rich Cregar, Automotive Technology Expert](#)

What is a Hybrid Vehicle?

What is an Electric Vehicle?

What is a Battery?

Review of DC and AC Electrical Systems

Identifying a Hybrid/Electric Vehicle

Immobilizing a Hybrid/Electric Vehicle

Disabling a High Voltage Electrical System

HEV Safety and Personal Protective Equipment for First Responders

Static Vehicle Review

Targeted vehicles to include:

- ✓ Chevrolet Volt—Bobby Murray Chevrolet
- ✓ Mitsubishi IMEV—CBS Quality Cars
- ✓ Nissan Leaf—Cross Roads Nissan
- ✓ Hybrid Bucket Truck—TBD
- ✓ Prius Plug-In—TBD
- ✓ Ford Escape HEV/PEV—TBD
- ✓ Ford C-Max PEV—Capital Ford
- ✓ Segway or Electric Scooter—TBD
- ✓ NEV—TBD



NORTH CAROLINA
Solar Center

Bio for Instructor Rich Cregar

Rich Cregar is an Instructor and department head for Advanced Transportation Technologies at Wilson Community College and a GlaxoSmithKline Faculty Fellow at the Institute for Emerging Issues at N.C. State University. He served as Co-Director (transportation sector) of the NC Community College System's Code Green CIP project and is a White House "Champion Of Change".

In addition to teaching, Mr. Cregar develops and presents Continuing Education workshops dealing with the production of BioDiesel, Clean Diesel Technology, Vehicle Emissions Systems, Hybrid Electric Drive Systems and Electric Vehicles every year. He recently completed the Clean Transportation Education Project (DOE) in collaboration with NCSU and developed a Workforce Investment Act pilot course dealing with hybrid/electric technologies.

Mr. Cregar has also written dozens of articles about renewable fuels, advanced drive systems and workforce development for Green Transportation. He is an active member of the Society of Automotive Engineers (SAE), the North American Council of Automotive Teachers (NACAT) and the Environmental Educators of North Carolina (EENC). He sits on the President's Advisory Committee on Renewable Fuels at Shaw University and is a Consultant and Technical Trainer for Miles Electric Vehicles, LLC. of Santa Monica, CA.

He served for eight years as a City Council Member in the cities of Lisbon and Mt. Vernon, Iowa and has many years of experience in planning, zoning and economic development issues. Prior to joining the Faculty at Wake Tech in 2006 Mr. Cregar served as the National Instructor and Research Associate at the National Alternative Fuels Training Consortium at West Virginia University. He also serves on the Johnston County Board of Adjustment and the Johnston County Transportation Commission (NCDOT).

Bio for Instructor Captain Richard Miller

Captain Richard Miller retired from the City of Fairfax Fire Department in February of 2012 and started working for the International Association of Fire Chiefs (IAFC) in the HAZMAT Fusion Center on the new online learning system for hazardous materials on alternative fuels for Hydrogen Response Considerations.

Captain Miller has served as a firefighter, Driver Operator, Sergeant, Assistant Fire Marshal, Lieutenant, Station Captain and Captain of the Training Division Currently he is the Volunteer Captain of Training for the Fairfax Volunteer Fire Department. Past Chairperson of the Northern Virginia Fire Marshals, past Chairperson for both the Metropolitan Washington Council of Government COG Fire Training Committee and the Northern Virginia Regional Fire Departments Training Committee.

Captain Miller worked with the Ethanol Response Collation as part of the IAFC program to provide responder training for Ethanol Incidents. He presents the Ethanol Response Considerations program for the IAFC. While Captain Miller was assigned to the Fire Marshal's Office in the early 1990's he developed an integrated fire prevention and environmental safety inspection program for a large bulk petroleum facilities facility located within the City. This facility provides over one half of the motor



fuels for the Washington D.C. Metropolitan region. This program was born out of a major underground fuel spill that migrated under a residential neighborhood. This program has become a recognized industrial standard for inspections of fuel tanks farms. Captain Miller developed an exceptional working knowledge of bulk petroleum facilities, his code enforcement experience helped to develop sensible cost effective requirements based on fire codes and industry safety practices for bulk petroleum storage facilities. Prepared with this knowledge of flammable/combustible liquid firefighting tactics and resource management he helped to develop a regional fire department operational manual for response to flammable combustible liquids incidents.

Captain Miller as Training Captain managed the construction of the first fire training center for City of Fairfax. The training center was started in 2005 with community donations with over \$500,000 dollars and now has a modern four story fire burn building, a three story single family house constructed to train firefighter for Rapid intervention operation and lifesaving survival techniques. The department also constructed a high bay interior training area and a two story multi classroom building. Ongoing projects include the construction of HAZMAT props and vehicle extrication training areas.

Captain Miller has presented as a speaker at Firehouse Expo, IAFC HAZMAT Conference, Virginia HAZMAT Conference on Flammable liquids and Foam Operations and the Ethanol Program and will be speaking this year at the 2012 Fire Rescue International conference on New Challenges for First Responders: Alternative Fuels and Foam Operations for Company Officers.

