NGT for First Responders
Info Sheet

NATURAL GAS SAFETY

NATURAL GAS FOR TRANSPORTATION (NGT)

- FortisBC is already helping businesses to switch to Natural Gas powered vehicles. For example with Fortis's help Progressive Waste Solutions has acquired and excess of 80 waste haulers that operate on Natural Gas in the Lower Mainland. Another high profile project was the partnering of FortisBC and Vedder Transport to add 50 heavy-duty LNG fueled trucks to their fleet.
- FortisBC has designed an incentive program to assist qualified medium and heavy-duty fleet owners to purchase natural gas fueled vehicles

Natural Gas

- Natural Gas is:
  - Odourless
  - Colourless
  - Non-corrosive
  - Non-toxic
- Natural Gas is lighter than air so it dissipates quickly
- Mercaptan is added to give it a rotten egg smell
- Natural gas ignites only when the gas to air ratio is between 5% and 15%

Compressed Natural Gas

- Compressed Natural Gas:
  - Has the same properties as uncompressed Natural Gas
- Is stored on the vehicle at 3600 psig

FortisBC LNG Tanker being pulled by Arrow Transportation. FortisBC contracts for the movement of tankers. FortisBC does not own any tractors

Liquefied Natural Gas

- Liquefied Natural Gas is:
  - Clear
  - Odourless
  - Colourless
- LNG is produced by cooling Natural Gas to –162° Celsius
- LNG is a cryogenic liquid, and is not pressurized like CNG
- Spilled LNG will quickly evaporate into odourless Natural Gas

CAUTION – liquefied natural gas (UN# - 1972) IS NOT ODORIZED. It is cryogenic, stored at approximately -160°C and will rapidly vaporize upon exposure to ambient temperatures

What First Responders need to know

1. Propane is more dangerous than Natural Gas!
2. Natural Gas is lighter than air and if spilled will rise quickly and dissipate outward
3. CNG cylinders and LNG tanks are manufactured and rated to a higher standard than diesel and gasoline fuel tanks. Compliance with standards and regulations is a basic requirement to ensure vehicle safety
4. CNG and LNG Systems do not contain oxygen
5. LNG does not burn
6. CNG cylinders and LNG tanks have pressure relief devices
7. Fuel shut off is automatic when the motor is shut off
8. Fuel shut off valves are located near the tanks, cylinders, and fueling ports
9. Roadway tankers have two safety relief valves and ESD buttons on the front and rear
10. Roadway tankers have a vacuum plate to indicate if the vacuum between the tanks has failed
11. Refueling stations have ESD buttons and break-away hoses
12. Isolate spills or leaks for at least 100 meters (330 feet)
13. Evacuate 800 meters (1/2 mile) for large spills
14. Evacuate 1600 meters (1 mile) for fire
15. Do not extinguish fires fueled by leaking gas
16. Do not direct water at spilled LNG
17. Purple K is the best method of extinguishing LNG fires

Continued….

BCSA placard indicating vehicle has aftermarket conversion

LNG diamond

CNG diamond

LNG TDG placard

Vehicles and fueling facilities examples

FortisBC ISO LNG Tanker

Wheeler Transport LNG powered class 8 highway tractor

CNG Waste Hauler

FortisBC LNG Tanker

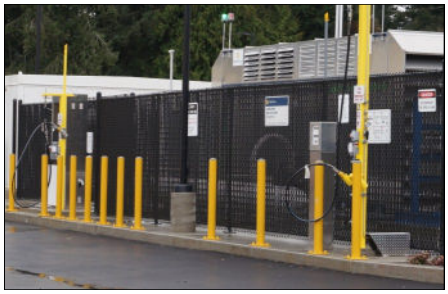
Bridgeway LNG powered class 8 highway tractor

CNG Transit Bus

Ventures West LNG Tanker

Coldstar CNG powered class 8 highway tractor

FortisBC CNG Powered Fleet Vehicle



CNG Refueling Station

LNG Mobile Refueling Unit

LNG Refueling Station