

Ethanol Transloading

**City of Alexandria
Presentation to City Council
May 27, 2008**

Ethanol Transloading Presentation—May 27, 2008



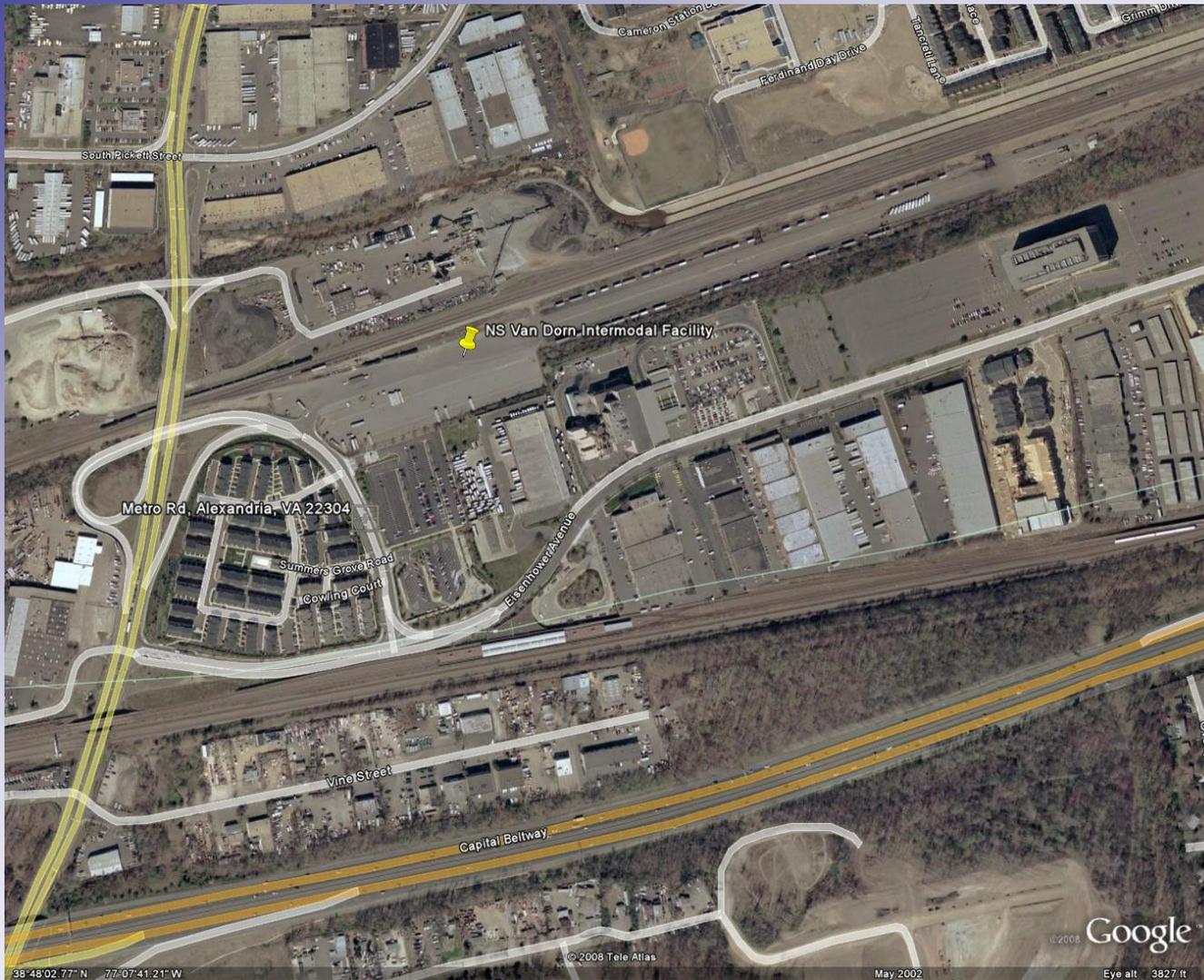
Site Overview



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Site Map



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Facility Characteristics

- **Transloading track capacity**
 - 20 tankcars (additional cars on storage track)
 - ~29,000 gallons ethanol per tankcar
- **Spill containment area**
 - ~515,282 gallon capacity
- **Four fire hydrants**
- **Security fencing**
- **Knox Box rapid entry key system for emergency vehicle access**



Facility Characteristics

- **Installed grounding/bonding equipment**
- **Climate-controlled storage shed on-site with 1,600 gallons of Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)**
- **Facility meets all requirements of Statewide Fire Prevention Code**



Transloading



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Ethanol Characteristics

- **Most commonly produced from corn in the United States**
- **Polar solvent**
- **Water soluble**
- **Flashpoint is -50 deg. F for E95**
- **Heavier than air (1.59 vapor density)**
- **Lighter than water (0.79 specific gravity)**

Sources: Ethanol Emergency Response Coalition, 2008
Marathon Petroleum Institute, 2008

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Ethanol Characteristics

- **Wide flammable range**
 - 3.3% to 19% in air (NIOSH, 2008)
- **Denatured with ~5% gasoline for transport (E95)**
- **Blended with gasoline and used as motor fuel (E85)**
- **Greatest hazard is flammability**
 - Little or no smoke/flame produced in a fire



Emergency Scenarios

Leak
Spill
Fire

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Response Capability

- **Foam firefighting trailer**
 - 660 gallons AR-AFFF concentrate onboard
 - 1,000 gallon per minute (gpm) nozzle
- **Tow vehicle**
- **Leak/spill equipment**
 - Absorbents
 - Collection pools
 - Recovery drums
 - Atmospheric monitors
 - Recovery pump



Response Capability

- **Additional AR-AFFF delivery equipment:**
 - Four in-line foam eductors (150 gpm flow)
 - Four air-aspirating foam nozzles



Response Capability

- **Hazardous Materials Response Team**
 - AFD, in partnership with Arlington County Fire Department (ACFD) and the Virginia Department of Emergency Management (VDEM), hosts the Northern Virginia Regional Hazmat Team
 - Minimum of three AFD hazmat technicians on-duty 24/7/365



Response Capability

- **Hazardous Materials Response Team**
 - Hazmat 202
 - Personal Protective Equipment
 - Computers and research
 - Leak control/containment
 - Spill recovery
 - Atmospheric monitoring
 - Support 202



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Emergency Planning

- **Emergency management planning will be completed as part of the City's Comprehensive Emergency Management Plan (CEMP) development**
- **Homeland Security Threat Assessment is being conducted by AFD and APD**

