



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

VAPOR RECOVERY UNITS AT GASOLINE DISTRIBUTION FACILITIES

By

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OZONE

NOX + VOC + SUNLIGHT = Ozone

Tropospheric Ozone affects ecosystem

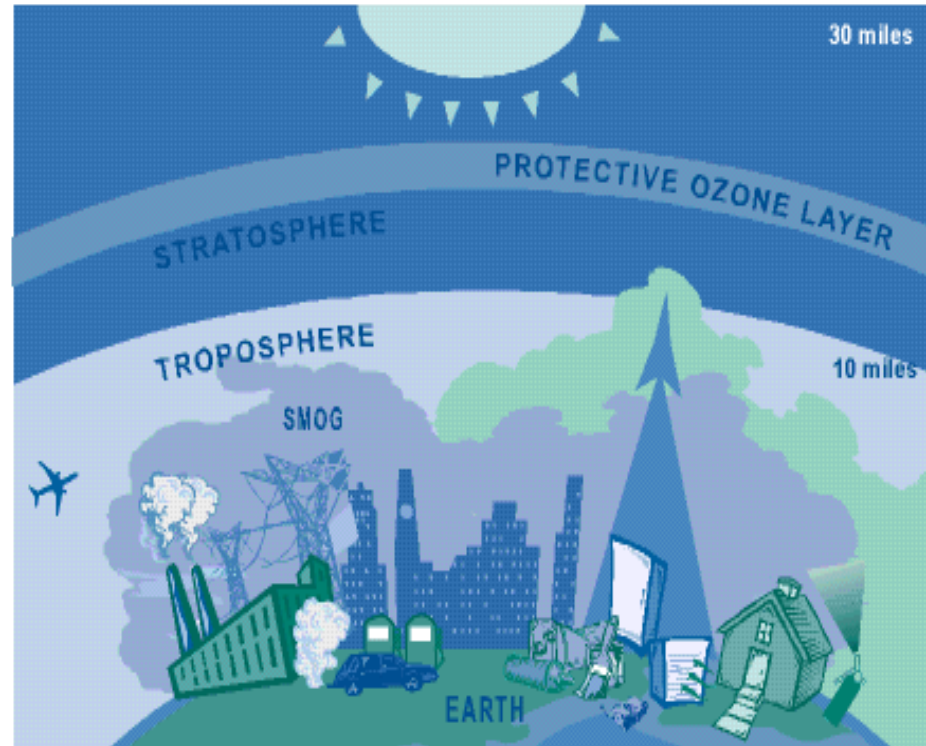
- **Attacks cells and tissue**
- **Interferes with vegetation**
- **Triggers human health problems**

Gasoline Vapors – over 150 chemicals

**Benzene - causes lungs irritation ,
depress the central nervous system**

Total VOC Emissions without any control

16,028,105 lbs / yr

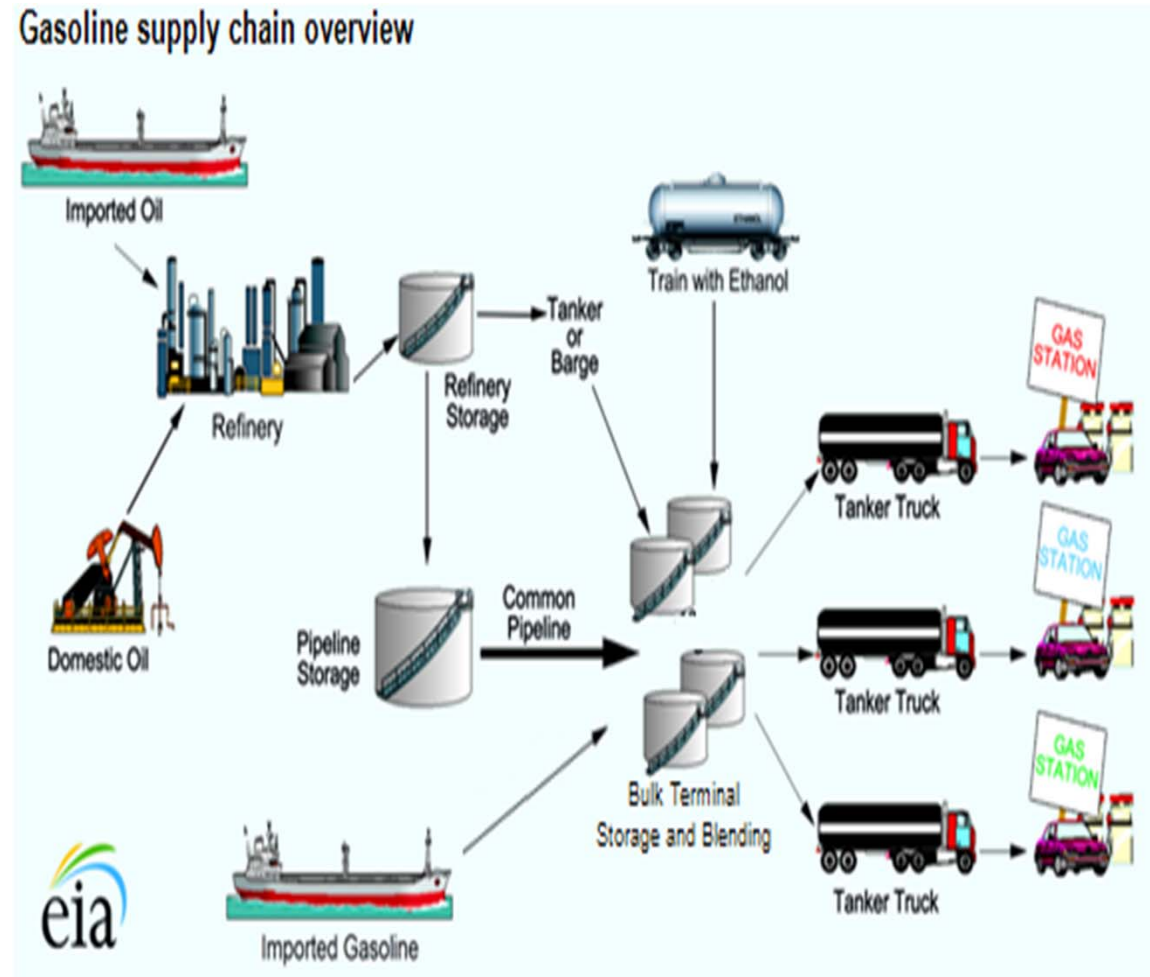


PROTECTING THE AIR WE BREATH

- **The Federal Clean Air Act Amendment of 1990**
- **Control of VOC emissions top priority**
- **Largest contributor- distribution & marketing of gasoline**
- **Gasoline – 100's of chemicals, some are dangerous to human health**
- **VOC – raw material for smog (Ozone)**

GASOLINE SUPPLY CHAIN

- Producing at refinery
- Importing via barge, rail or pipeline
- Bulk terminal storage and blending
- Transporting via truck to retail locations
- Fueling vehicles at retail locations
- Annual throughput of gasoline
131 Billions Gallons in 2011



GASOLINE CONSUMPTION

- **254 million vehicles**
- **131 billion gallons in 2011**
- **360 million gallons/day**
- **162,000 retail gasoline outlets**
- **2/3 of transportation fuel**
- **18% of total energy consumption**

CONTROLLING GASOLINE EMISSIONS

VAPOR RECOVERY SYSTEMS:

Stage 1 : Capture vapors during transfer at marine terminals, truck loading racks, bulk terminals and at retail gas stations

Stage 2: Capture vapors during fueling vehicles at retail gas stations

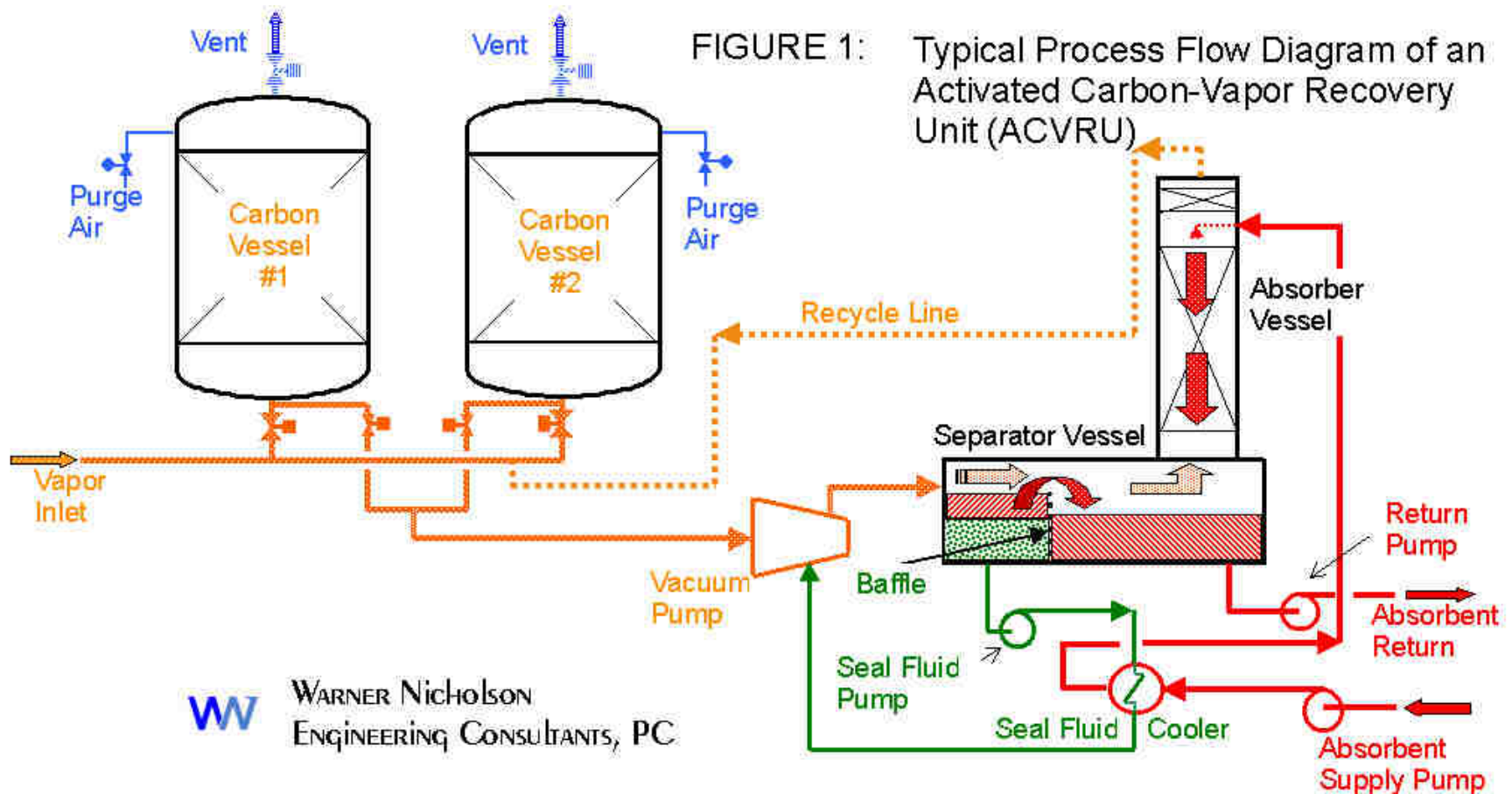
Total Emissions Without any control in US = 16,028,105 lbs/yr

Total Emissions with Stage I Vapor Recovery = 8,655,177 lbs/yr

Total Emissions with Stage II Vapor Recovery = 9,616,863 lbs/yr

Total Emissions with Stage I & II Vapor Recovery = 2,243,943 lbs/yr

VAPOR RECOVERY SYSTEM



As Compared to Other Vapor Recovery Technologies

- **Worldwide acceptance as standard for evaporative hydrocarbon vapor control**
- **Operates at near ambient pressure and temperature**
- **No vapor holder, no refrigeration**
- **Easy to operate and maintain**
- **Electricity is the only required utility**
- **Proven reliability for highest emission control efficiency**
- **Low capital and operating costs**

SUPERSTORM SANDY

Causes disruption to gasoline Infrastructure and supply:

- **Refinery shutdown operation**
- **Marine terminal shutdown**
- **Massive outage of electric supply**
- **Retail stations without power and/or gasoline**

SUPERSTORM SANDY AFTERMATH.....



2000 Gas Stations affected



Gasoline for Emergency Generators



No Public Transportation



Out of Service



WIRES ARE DOWN



Rationing Gasoline



LIMITED TRANSPORTATION



FLOODED ATLANTIC CITY



HOBOKEN STATION



SHOPPING WITH A FLASHLIGHT



DEP ACTS PROACTIVELY

- **Sends inspectors to affected facilities to access the damage**
- **Allowed facilities to bring portable generators without air permits**
- **Allowed gasoline terminals to operate without VRU online**

COMPLIANCE ADVISORY

http://www.nj.gov/dep/enforcement/advisories/2012-19.pdf - Windows Internet Explorer

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 New Jersey Department of Environmental Protection

COMPLIANCE ADVISORY
Enforcement Alert
Making You Aware of Anticipated Enforcement Activities

Compliance and Enforcement Issued: November 9, 2012 # 2012-19

Emergency Generators and Packaged Boilers Use Provisions Necessitated by Hurricane Sandy

Who is affected by this Advisory?

All facilities adversely impacted by Hurricane Sandy that are using unpermitted emergency generators and packaged boilers.

Done Unknown Zone

- **Air Compliance & Enforcement**
<http://www.nj.gov/dep/enforcement/air.html>

For More Information

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