

## SIERRA CLUB OPPOSES INTERMODAL TRANSFER STATION IN ROANOKE REGION

Salem, VA (August 10, 2007) The Executive Committee of the Sierra Club's Roanoke Group voted unanimously on August 8, 2007 to oppose an intermodal transfer station (rail-truck) in the Roanoke region because of the threat to public health within several miles of any such station.

Norfolk Southern and the Virginia Department of Rail and Public Transportation have identified ten potential locations for a regional intermodal facility, and they are currently reviewing sites in Salem, Roanoke County and Elliston. The Roanoke Sierra Club resolution included all nine sites in their territory; the New River Group of the Sierra Club has already voted to oppose the Elliston location in Montgomery County.

"At first this sounds like a good idea," said the group's Air Quality Coordinator, Diana Christopulos, "but then you realize it creates a deadly sacrifice area within a radius of several miles." Christopulos went on to explain that diesel highway trucks, off-road equipment and locomotives would all emit tiny particles of soot (particle pollution) that cause death and illness, especially for children, people who are active outdoors, and people with heart or respiratory problems.

A 15-year study led by the Harvard School of Public Health, published in 2006, showed that exposure to slightly higher levels of soot for one year or more boosted the risk of death by 27 percent to 32 percent for patients with diabetes, chronic obstructive pulmonary disease and congestive heart failure. When pollution levels fell, the death rates returned to expected levels within two years. Many other studies support similar conclusions.

The Roanoke region already has a problem with air quality, especially soot, which is responsible for most of the local poor air quality days. In 2005, for example, the DEQ's soot monitor in Salem had the highest annual average readings in the entire state, and the monitor in Raleigh Court ranked third. Both exceeded the annual EPA limit.

Truck traffic appears to be the major source of current soot emissions in the region. In November 2003, the PM 2.5 Workgroup of the State Advisory Board concluded that, "It seems that the Interstate 81 corridor and other transportation emission sources must constitute the majority of [soot] emissions in the Roanoke area, because [local industries] comprise 20% or less of total emissions in these counties." The Roanoke Group voted to oppose any local intermodal facility until vehicles and equipment using the facility – including highway trucks, off-road vehicles and locomotives - are required to use ultra low sulfur diesel and are equipped with devices to filter pollutants. Improved fuel and emissions equipment are available for diesel trucks, but only new trucks are required to use the filtering equipment. The EPA is still developing new requirements for diesel locomotives.

A copy of the full resolution is attached.

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**A Resolution Regarding the Proposed  
Roanoke Regional Intermodal Facility  
Executive Committee, Roanoke Group, Sierra Club  
August 8, 2007**

***Background***

*Norfolk Southern and the Virginia Department of Rail and Public Transportation (VDRPT) have proposed an intermodal truck-rail facility in the Roanoke Valley. Its primary purpose would be to increase use of trains rather than trucks in the Heartland Corridor from Norfolk to Ohio. Use of rail rather than trucks would reduce the greenhouse gas emissions that are a major cause of global warming.*

*The facility would involve several important sources of diesel emissions: highway trucks, off-road diesel engines, diesel switching engines and diesel locomotives could emit significant amounts of nitrous oxide (an ozone precursor) and diesel soot (PM 2.5 particulate matter 2.5 microns or less in diameter), tiny particles that cause death and serious health problems, especially near sources of emissions. The Roanoke Valley is already near or above the limit for unhealthy year-round soot emissions. While the Environmental Protection Agency (EPA) has written new regulations to drastically reduce soot emissions, the full health benefits will not be achieved until about 2030. Ten sites have been studied as possible locations for this facility, and nine of them are in the territory of the Roanoke Group of the Sierra Club. The tenth site (Elliston, in Montgomery County) is in the territory of the New River Group of the Sierra Club, and the Executive Committee of that organization voted to oppose the construction of the facility at the Elliston site, citing numerous environmental concerns.*

**Sources of pollution**

**HIGHWAY DIESEL TRUCKS.** The intermodal would reduce overall truck traffic in Virginia, including parts of I-81 and US 460, but would increase truck traffic near the facility, especially when trucks are idling:

... anticipated rail car containers shipped will average 60 per day [15,600 per year] from 2010-2020, and beyond 2020, the average will be 150 per day [39,000 a year]. The anticipated short haul truck traffic generated will be approximately 87 trucks per day from 2010-2020 and 235 trucks per day in 2020 and beyond. Short haul truck traffic is defined as trucks that are traveling less than 50 miles from the facility to their destinations. This schedule assumes a five-day work week and 260 working days per year. Through the Rail Enhancement Fund grant to Norfolk Southern for tunnel clearances and the construction of an intermodal facility, approximately 150,000 trucks will be removed from Virginia's roads each year

*Source: "Roanoke Regional Intermodal Facility Site Search, Public Comment Report, February 2, 2007," Virginia Department of Rail and Public Transportation*

In addition to diesel trucks using the facility, VDRPT touts the project as similar to the Inland Port in Front Royal which has brought warehouses for 24 major companies into the area. Presumably these warehouses would have additional diesel trucks using them. By EPA mandate, ultra-low sulfur diesel fuel (ULSD) is becoming available at all highway diesel fueling stations. Trucks equipped with advanced pollution control technology (model year 2007 and later) should be able to reduce their sulfur emissions by 90 percent or more, particulate emissions by 20 to 80 percent and nitrogen oxide emissions by 15 to 20 percent. However, not all trucks are expected to have advanced pollution control technology until 2030. (*Source: EPA*)

**OFF-ROAD DIESEL EQUIPMENT.** Off-road diesel engines would be used to move goods between trucks and trains at the intermodal. They would emit more pollutants while idling. The EPA will eventually have the same standards for this equipment as for highway diesel – with full compliance expected by 2030. The Port of Virginia has voluntarily shifted to ULSD for its off-road diesel engines. (*Sources, EPA, Port of Virginia*)

**DIESEL LOCOMOTIVES AND SWITCHING ENGINES.** Locomotive and switching engines would probably be the largest source of localized air pollution, especially when they are idling or shuttling within the rail yard. The EPA is developing regulations that would significantly decrease soot and nitrogen oxide emissions, but these will not take effect until some time in the future, and all engines would not be in compliance until well into the 21<sup>st</sup> century. (*Source: EPA*)

### **Nitrous Oxide and Soot (PM 2.5) in the Roanoke Valley**

**NITROUS OXIDE** is a precursor to ozone, which has well-established health impacts. The EPA is currently considering stricter ozone requirements because this gas is such a health threat. The Roanoke region has been close to the limit of ozone pollution for many years. Local governments created an Early Action Plan to help reduce ozone levels. Ozone levels have, in fact, declined in recent years. However, if the EPA acts to tighten ozone standards, the region might again face the threat of nonattainment.

**SOOT** (PM 2.5, particles measuring 2.5 microns or less in diameter) is monitored as a health danger by the EPA. Beginning in November 2007, areas with high soot concentrations will be subject to nonattainment regulations similar to those for areas that have high ozone readings.

In response to this public health threat, the EPA recently has issued regulatory rules for nonattainment areas. The EPA measures soot as milligrams per cubic meter. To be within the regulations, a metropolitan area must meet the following two standards:

Annual average: the three-year average of the annual average PM2.5 concentration is less than or equal to 15 µg/m<sup>3</sup>, and

24-hour standard: 98th percentile of 24-hour PM2.5 concentrations in a year, averaged over three years, is less than or equal to the level of the standard of 35 µg/m<sup>3</sup>.

The Roanoke region has exceeded or barely met the annual average standard since the installation of monitors 1999. In 2005, for example, the PM 2.5 monitor in Salem had the highest annual average readings in the entire state (16.0 µg/m<sup>3</sup>), and the monitor in Raleigh Court (15.1) ranked third, behind Salem and Arlington. Both exceeded the EPA limit of 15.0 µg/m<sup>3</sup>.

Truck traffic appears to be a major source of current soot emissions in the region. In November 2003, the PM 2.5 Workgroup of the State Advisory Board concluded that, “It seems that the Interstate 81 corridor and other transportation emission sources must constitute the majority of PM2.5 emissions in the Roanoke area, because the point source emissions comprise 20% or less of total emissions in these counties.”

While soot can travel, it is most dangerous to those who live, work and play within a few miles of its sources. For example, the Colorado Street site in Salem would be located near Andrew Lewis Middle School and nearby neighborhoods and work areas. Related trains would also be close to the softball fields at the Moyer complex.

Details of this health threat are provided in the body of the motion. In addition, a 15-year study (published in 2006) led by the Harvard School of Public Health found that

exposure to slightly higher levels of soot for one year or more boosted the risk of death by 27 percent to 32 percent among some patients with diabetes, chronic obstructive pulmonary disease and congestive heart failure. In cases when pollution levels fell, the death rates returned to expected levels within two years.  
Many other studies support similar conclusions.

Beginning in November 2007, areas in nonattainment will be subject to constraints similar to nonattainment for ozone, a potentially serious brake on economic development and a very significant image problem. In response to this situation, the Roanoke-Allegheny Regional Commission has begun forming a PM 2.5 Task Force to examine voluntarily measures for assuring the regional localities do not fall into nonattainment.

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WHEREAS, the Sierra Club generally supports the movement of freight by rail instead of trucks because this means an overall reduction in air pollution, including greenhouse gases that contribute to global warming.

WHEREAS, according to the Virginia Department of Rail and Public Transportation (VDRPT) the proposed intermodal facility would reduce overall traffic in Virginia but would increase truck traffic near the facility.

WHEREAS, in addition to diesel trucks, an intermodal facility would also require

- Off-road diesel equipment to move goods between trucks and trains
- Diesel switcher engines in the train yard
- Diesel locomotives

WHEREAS, diesel engines of all types are a major source of nitrous oxide (ozone precursor) and PM 2.5 particulate pollution (soot), especially in the Roanoke Valley. WHEREAS, the Environmental Protection Agency (EPA) notes that 1/3 of the American population is vulnerable to death and disease from soot pollution, including

- Children (especially children who are active outdoors)
- Older adults
- People with heart or lung disease
- People of all ages who are active outdoors

WHEREAS, the EPA lists the following health risks from exposure to soot:

- Premature death
- Aggravation of respiratory and cardiovascular disease
- Lung disease, including cancer
- Decreased lung function
- Asthma attacks
- Heart attacks
- Irregular heart beat

WHEREAS, in 2005 the soot monitor in Salem had the highest average readings in the entire state, and the monitor in Raleigh Court ranked third. Both exceeded the EPA annual average limit. Most of the poor air quality days in the Roanoke Valley are due to soot.

WHEREAS, "primary" soot pollution has an effect on area within a few miles' radius of the emission source. At the Salem site, this would include Andrew Lewis Middle School and neighborhoods and businesses on both sides of the Roanoke River.

WHEREAS, "secondary" soot pollution would affect the entire Roanoke Valley.

WHEREAS, much of the technology exists to drastically reduce soot pollution from diesel trucks and locomotives or to replace diesel with other power sources.

THEREFORE BE IT RESOLVED that the Roanoke Group of the Sierra Club:

1. Opposes the placement of an intermodal rail facility at the nine sites in the territory of the Roanoke Group: (Colorado Street), Roanoke City (East End Shops, Roadway Material Yard) Blue Ridge, Roanoke County (Garman Road sites, Singer & Horn sites), and Botetourt County (Webster Brick) at the present time because diesel emissions from locomotives, highway trucks and off-road vehicles pose an unacceptable health risk, particularly to areas within a few miles of any proposed facility. The tenth site (Elliston, in Montgomery County) is in the territory of the New River Group of the Sierra Club, and the Executive Committee of that organization voted to oppose the construction of the facility at the Elliston site, citing numerous environmental concerns.

2. Would not support placement of an intermodal facility in the Roanoke region until the responsible parties adopt the following measures or equally effective measures to ensure that diesel engine nitrous oxide and soot emissions near the site do not exceed acceptable levels as determined by the EPA.

a. Placement of a PM 2.5 monitor within one mile of the intermodal facility, with placement, readings, analysis, maintenance and replacement (if necessary) of the monitor paid for by the intermodal parties.

b. Use of ultra-low diesel fuel by all diesel vehicles using the intermodal facility, both highway and off-road.

c. Use of advanced pollution control technology by all diesel vehicles using the intermodal facility, both highway and off-road. Where new trucks and locomotives are not in use, retrofitting with diesel particulate filters (DPFs) or diesel oxygen catalysts (DOCs) from the EPA's Verified Retrofit Technology List.

d. Electric switcher cars

e. Promulgation and enforcement of state, local or regional idling restrictions for trucks and locomotives

f. Solar-powered Truck Electrified Parking (TEP) if long haul trucks are idling in the area for long periods

g. On-board auxiliary devices to reduce the need for idling of trucks and locomotives

h. Use of biodiesel or diesel-electric fueling systems for trucks and locomotives

i. Once the EPA has established new rules for locomotives, accelerated adoption of low sulfur fuel and purchase or retrofitting of engines to optimize clean engine technologies.