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Air Pollution, Inc. Northwest Portland gets a daily reminder that ESCO, their local polluter, is fouling their air with carcinogens

TOPICS: Air Pollution Air Toxics Chevron Chromium VI Climate Change DEQ Environmental Justice EPA Esco Freeway Global Warming Greenwashing I-5 Interstate 5 Lead Manganese Pollution Portland The Oregonian Traffic

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The smokestacks at ESCO. Photo by David Hogan

Click here to download a map of Portland neighborhoods and how their air pollution ranks nationally.

This is part 6 of Cascadia Times' continuing series on the Columbia River Crossing and air pollution. Read the series **introduction**, and articles on **induced traffic**, **lagging traffic counts**, **the cancer in Portland's air**, **an environmental injustice**, **ESCO and industrial air pollution, global warming and the CRC, a look to the future, and the media's role.**

You can download **maps of Portland's toxic air**.

Portland has worked hard at building a reputation as a sustainable community, and people around the world have taken notice. In 2008, the online eco-magazine Grist ranked Portland as the second most sustainable city on the planet, behind Reykjavik, Iceland.

This lofty ranking is not just about Portland's long-standing aversion to building freeways, though that's a part of it. A typical Portlander wouldn't use poison to kill a garden slug out of concern that it might seep into some faraway creek and kill the fish.

It's the anti-freeway sentiment, however, that separates the Rose City from the rest.

"The City of Roses' approach to urban planning and outdoor spaces has often earned it a spot on lists of the greenest places to live," wrote Grist in 2008, which calls itself "a beacon in the smog."

Grist failed to notice Portland's difficulties with air toxics, a group of 177 emitted mainly by cars, heavy industry, wood-burning stoves, dry cleaners, and consumer products like hair spray. Air toxics can cause cancer, brain damage, and lung disease among a variety of ailments that can affect every function of the body. Elevated levels

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of air toxics are a problem throughout the country, especially within a quarter-mile of freeways or near industrial facilities.

A national assessment of air toxics ranked Multnomah County as having the sixth greatest cancer risk from breathing air toxics in the United States (see chart on the opposite page). That ranking may be an apples vs. oranges comparison because, as the EPA is careful to note, not each state uses the same methodology when it counts air toxic emission data. Comparisons may not be appropriate, yet the results are nonetheless troubling, says Mary Peveto of Neighbors for Clean Air in Northwest Portland."

"If you were born in 1999, the Oregon Department of Environmental Quality has done nothing to protect you from these dangerous emissions," she said.

How ESCO ranks among Portland's top industrial emitters of 10 air toxics

Compound	Projected 2017 Emissions (lbs)	Rank
Acrolein	53	8
Arsenic	17	1
Benzene	5,269	1
Cadmium	27	1
Ethylbenzene	210	5
Formaldehyde	591	6
Lead	167	1
Manganese	816	1
Napthalene	1,001	2
Nickel	85	1

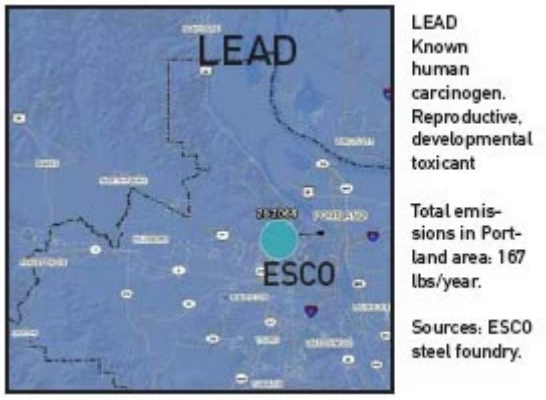
Source: DEQ

Has the bloom come off Portland's rose? The DEQ's list of air toxics in Portland air is dominated by compounds that come from motor vehicles, including the carcinogenic benzene and formaldehyde. Everyone who drives a car is part of the problem — but, as we will see, not the only part.

Carter Webb, manager of safety and environment for ESCO Inc., the corporation that owns two steel foundries at the northern edge of a Northwest Portland neighborhood, acknowledges that his company's air emissions have created some misery among its neighbors.

"We're the focus of concern and frustration for some of our neighbors," he said at a legislative workgroup hearing in 2009. "We will not ignore that.'

Most Portlanders lament the fact that on days when the sky is cloud free, the customary view of Mount Hood and the other Cascade peaks is becoming increasingly hazy. We chalk this up to smog, which is comprised of extremely toxic contaminants from automobile exhaust that react with ground-level ozone in sunlight. Smog can be dense on hot days. An EPA database has identified Portland as a hot spot for the toxics in its air.



Lead pollution from the ESCO steel foundry in Northwest Portland has been modeled to exceed the health-safety benchmark for the nearby neighborhood at NW 25th Ave. and Vaughn Street (light blue circle). Air emissions from ESCO are the only source of lead pollution in Portland.

In cities across the country, EPA has identified 187 toxic compounds in air pollution that threaten public health, including several heavy metals, such as lead and manganese. In Portland, both of these metals are among 16 compounds that are present at elevated, potentially unhealthy levels, according to the DEQ.

For years, ESCO's neighbors have displayed lawn signs asking, "What's in the air?" For an answer, they could turn to a confusing array of state, federal and private reports that when combined list 60 different compounds that are or have been released into the air by ESCO, most of which are considered toxic, including seven toxic heavy metals on an EPA's list of the eight most dangerous

metals that commonly pollute urban environments in the US.

ESCO's air pollution permit, which expired in 2009 and still hasn't been renewed, has been extended while its renewal application is considered. It is not uncommon for air pollution permits to lapse in Oregon while the company still goes on operating and polluting. Columbia Steel, a foundry in North Portland, is operating under an air pollution permit that expired in 2005. The DEQ automatically extended it without a hearing.

In 2010, under pressure from the local neighborhood, the DEQ took the unusual step of hiring an outside consultant to audit ESCO's operations, Neighbors expect the DEQ to issue a new air pollution permit that more tightly controls air pollution from ESCO, as provided by a "good neighbor agreement" being negotiated between the neighborhood and the company.

Under ESCO's air pollution permit, the company must limit all forms of hazardous air pollution to a total of no more than 24 tons per year. That number is slightly under the limit set by the Federal Clean Air Act and has nothing to do with the potential danger of breathing in the local airshed.

ESCO must report its most dangerous emissions annually to an EPA program known as the Toxic Releases Inventory (TRI), an online information database established by Congress in 1986 when it approved the Emergency Planning and Community Right-To-Know Act. This law was passed in response to a deadly explosion at a Union Carbide plant that killed thousands of people in Bhopal, India in 1984.

TRI is based on the premise that people have a right to know what kinds of toxic chemicals are being dumped by polluters into the air and water and landfills—and how much. But industry lobbyists have succeeded in gaining numerous limitations or exemptions, particularly during the Bush administration. Some of these rules are beginning to be reversed under Obama.

Some of ESCO's emissions are quite large are carcinogenic, meaning the can cause cancer. Emissions include carcinogens like benzene (5,990 pounds per year,) and formaldehyde (5,745 pounds), neurotoxins like manganese (891 pounds), toluene (3,853 pounds) and phenol (8.769 pounds). EPA rules require a polluter to report emissions to TRI after if releases of any single toxic compound exceeds 10,000 pounds. ESCO reported no emissions of benzene, formaldehyde or toluene to EPA, buy did report phenol emissions of 12,124 pounds.

Other ESCO emissions, though much smaller, are extremely toxic, accumulate over time in the human body and do not break down in the environment.
Consider its arsenic emissions, for example. After 20 years, ESCO will expose the neighborhood to 420 pounds arsenic, a carcinogen, as well as 160 pounds of mercury and 640 pounds of antimony, both of which are neurotoxins.

"Hazardous metals are unique in that they will not biodegrade," Cooper Environmental Services, a Portland-based consulting company, noted in a report on ESCO's pollution in 2010. "Once released into the environment, they will always be potentially available for reintroduction into the air, water and food chain."

Toxic metals can easily enter a child's body when she unknowingly inserts them into her mouth along with a finger, toe or toy. ESCO emissions allegedly land on nearby porches and window sills, where many children play. ESCO's neighbors often complain of being forced to remain in their homes during hot summer days and nights because odors from the company's air pollution are so foul and unhealthy.

Besides the carcinogens in ESCO's air pollution, it poses other serious potential health risks to neighbors.

For example, ESCO emits manganese, which is capable of doing serious damage to a child's nervous system once it enters the body. Dr. Matthew Brodsky, a neurologist at Oregon Health Sciences University, said ESCO's

manganese emissions have given him "grave concern about the air quality in my neighborhood."

Dr. Brodsky lives within 10 blocks of an ESCO steel foundry.

"As a clinical researcher with expertise in movement disorders, I have investigated the effects of manganese on the nervous system and am very familiar with the literature that exists on this topic," Dr. Brodsky says. "It is well-documented that aerosolized manganese fumes have irreversible toxic effects on brain tissue and in particular to a part of the brain called the Globus Pallidus.

"Damage to this part of the brain causes Parkinsonism, with disabling muscle rigidity, tremors and slowed movements. People exposed to manganese fumes also develop a condition called Dystonia, where there are painful overcontractions of muscles. The most severe types of exposures have been well-documented in outbreaks of these neurologic disorders at metal foundries where there is not adequate ventilation. However, damage also occurs to the nervous system in less severe conditions where there is direct exposure to aerosolized manganese."

Brodsky has collected the videos of patients who have suffered from exposure to aerosolized manganese.

ESCO has been spewing out manganese for a long time. Since 1988, the earliest year in EPA's toxic release inventory database, ESCO has released a total of 43,000 pounds of manganese compounds into the surrounding neighborhood, or more than 21 tons.

Dr. Brodsky said ESCO's toxic pollution is interfering with his daily life.

"As it is to many others in my neighborhood, the almost-daily acrid odor that emanates from ESCO as I ride my bicycle to work is disturbing to me," he writes. "One wants to hold their breath as they walk, ride or even drive

through the neighborhood in the hopes that they will not be inhaling what is being put in the air, but of course this is not possible.

"It is astounding to me how this can be allowed to continue in such a densely populated neighborhood, and in such proximity to an elementary school full of children with rapidly developing little brains that are at the greatest risk of long-term neurologic damage."

ESCO's Webb said in 2009 that DEQ tested the air in 2005 for air toxics near the factory, and found no problems. Computer modeling later performed by the DEQ demonstrates that Carter's claim is not true.

Its emissions of cadmium, manganese, lead and chromium 6 are known to be lurking at dangerous levels in the neighborhood's air.

Those computer models show that manganese emissions from ESCO exceed manganese benchmarks by three to five times in the residential neighborhood near the plant at Northwest 25th and Vaughn Street.

Dr. Brodsky, however, believes the manganese benchmarks need to be strengthened.

Then there are ESCO's lead emissions, which amounted to about 128 pounds in 2008. These emissions may pose a danger to students at three schools are situated within a few blocks of ESCO, and to the children and other vulnerable populations living nearby.

Consider a young girl living at Northwest 24th Place, across the street from an ESCO plant. In the eight years since 2001 when ESCO started disclosing its lead emissions to the EPA, the company has emitted 613 pounds of lead.

Lead emissions have been rising since 2001, and were 32 times greater in 2008 than in 2001.

If ESCO continues emitting lead at the 2008 rate, our young girl, before reaching her 18th birthday, could be exposed to another half-ton of emissions.

One concerned doctor is Dr. Bruce Lanphear, director of the Children's Environmental Health Center in Cincinnati, Ohio, the principal investigator of epidemiologic research on lead. He has been recognized by the EPA for his work on the effects of low lead levels on cognition and behavior.

There is "no safe level of lead," he says. It is not a position that the EPA or the DEQ share.

Lanphear has said that "exceedingly low-levels of exposure to environmental lead" have been associated with an increased risk for reading problems, ADHD, school failure, delinquency and criminal behavior in children and adolescents.

"Because there is no known safe level of lead exposure, to lead below existing standards should not be considered 'safe,' " he testified at an EPA hearing in 2007.

Complaints to the DEQ have averaged about 100 per year for the last three years.

A typical complaint asks DEQ, "Why is nothing being done? I have been commenting on this for over seven years. I called KOIN (TV) this morning and asked them why they are not covering this." The complainant noted she had smelled a "metallic" odor and had suffered from nausea, burning eyes and sleeplessness.

Another resident said he had been forced by the odor to close his windows. "ESCO cranks up the noise and smell just about every night at 10:30 pm.
I put earplugs in for the noise but the nasty smell permeates our neighborhood throughout the night. Early mornings are quite noticeable."

"It starts out as more a burning smell and gets more metallic," another woman said. "It's the smell of hot

metal. It's worse at night after dark and worse this year than I can ever remember. I have lived at this address for more than 25 years."

One woman said she had detected a "very strong odor coming from ESCO. It made me nauseous. Driving by ESCO, I had seen the plant in operation with the doors open. The smell most definitely was coming from the plant."

She asked DEQ to "please do something about this poisonous air situation!"

Several times, DEQ has asked ESCO for an explanation of the odors. After hearing such complaints, records show that ESCO often suggests some other nearby company may be at fault. "There were no upset conditions at ESCO that might have contributed to the very strong odors you describe," said a letter in September 2008 from ESCO environmental engineer Brian Krytenberg to the DEQ. "It is frustrating to us that because we're at the southern edge of a huge industrial area, any odor coming from the north even when it's from other sources seems to be coming from out direction. Please understand that there are many other sources of odor in our area."

Asked if DEQ had followed up with her complaints about the possible health impacts of breathing the pollution, one woman said, "Oh heavens no. They don't do that, as far as I know. Their line is ESCO is operating legally with a permit in a zone for heavy industry so that's the end of it."

ESCO, however, is right when it insists that other dangerous polluters lurk nearby.

All of Oregon's gasoline is stored in 586 storage tanks in Northwest Portland along the Willamette River, across from the Rose Garden Arena from the Fremont Bridge to Linnton, just north of ESCO's two steel foundries.

The tanks contain about 300 million gallons of gasoline at any one time, and they are notorious air polluters. Every

year they leak 1,394 tons of gasoline vapors to the Portland airshed and are a health threat, both for Northwest Portland residents to the west and south and for North Portland residents across the river to the east. Pollution from only some aspects of their operations are controlled.

Some of the storage tanks are more than 100 years old. They emit fumes through leaky valves, pumps and flanges, according to their air pollution permits.

They are owned by BP, Chevron, Equilon (Shell), Conoco-Phillips, Shore Terminals (Valero) and Kinder-Morgan. Paramount Petroleum, an asphalt manufacturer, also owns some of the storage tanks.

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