

Neptune Terminals supports a strong, vibrant, sustainable North Shore community. Just like you, our neighbours, we continue to make improvements to manage and reduce our impact on the environment. We'd like to share just a few changes we've made to do our part.



## PROTECTING LOCAL AIR QUALITY

At Neptune Terminals, we understand the vital importance of ensuring air quality for the local community and our employees. That's why Neptune Terminals has a comprehensive management system in place to carefully monitor air quality.

BC's port industry operates under strict environmental regulations that are among the highest in the world. Neptune is regulated by at least 10 different regulatory agencies from the federal, provincial, regional and municipal governments.

In the Lower Mainland, air quality is regulated by Metro Vancouver. The monitoring program is paid for by fees collected from industrial and commercial operators, including Neptune and the other terminals that operate within Port Metro Vancouver.

Air quality monitoring and mitigation is a continuous process at Neptune Terminals. To learn more about our commitment to environmental protection, listening to you, and actively supporting our community, please enjoy the rest of our July 2013 Community Update.

## BY-THE-NUMBERS

- 0 Amount of emissions from our electric indexer, used to move steelmaking coal railcars along our rail tracks
- 1 Neptune was the first west coast terminal to be certified by Canada's Green Marine environmental program
- 3 Micro weather stations to identify changes in wind and other atmospheric effects
- Tier 3 The level of California-quality emissions standards Neptune Terminals has reached for all of our mobile equipment
- 10 Spray poles at Neptune Terminals
- 25% less fuel used and emissions by our three ultra low-emission locomotives
- 100 tonnes – Amount of steelmaking coal needed to build a standard wind turbine

## KEEPING THE PRODUCTS WHERE THEY BELONG – ON NEPTUNE TERMINALS

We know that keeping the products we handle on our terminal is a big part of being a good and responsible neighbour. That's why we work hard to keep the coal, potash and phosphate rock being transported through Neptune Terminals safely contained on our terminal.

Every product we handle is a little different. For example, phosphate rock is a similar consistency to coarse sand. As a result it is much easier to handle when it is kept dry, so it is covered during storage on site. Potash is water soluble, and must be kept in a dry storage area.

### ***There are 10 spray poles strategically located around Neptune Terminals.***

From time to time we are asked by a member of the community why we don't cover the coal piles. Simply put, keeping the coal wet creates a crust on the outside of the coal, without the need for a cover.

The use of our spray poles combined with the North Shore's rainy weather are the most effective tools to do this at Neptune. Our site has a series of high water spray poles, which create a water curtain around the coal storage area.



High water spray poles create a water curtain around the coal storage area.

There are 10 spray poles strategically located around Neptune Terminals. We also use a water spray truck around the perimeter of the facility.

Our new stacker reclaimer is the latest addition to our dust suppression equipment. It has been designed with a built in spray system to dampen the coal as it is being placed into the storage area.

While we have this technology in place, we sometimes receive community questions about the potential for dust outside of our terminal. When we do receive questions, we always offer the

services of an independent, third-party environmental lab to take a sample and conduct a thorough analysis.

Testing has found that in all cases the samples can be determined to 95 per cent certainty are not coal, and that the remaining five per cent contained carbon but could come from unconfirmed sources such as vehicle fuel, dirt, wheat, other forms of pollution, or coal particles.



Rail cars carrying coal are covered with a coating to keep the coal in the rail cars while in transit.

## TRANSPORTING THE COAL TO NEPTUNE

Before the steelmaking coal we handle leaves the mine site for delivery to Neptune, it is covered with a soluble glue-like coating that forms a crust on top of the coal in railcars. The coal is also sprayed a second time half way through its journey. The use of this binding coating is an industry best

practice and has virtually eliminated the potential for coal dust from railcars. When needed, Neptune uses a similar product at the terminal to reduce the potential for coal dust while the product is handled and transferred to vessels.

## GREENING OUR EQUIPMENT

Over the past few years, we have been modernizing and upgrading our equipment to make it more environmentally efficient. Here's an overview of how a few key pieces of equipment at Neptune Terminals are helping us improve our environmental performance.



### Stacker Reclaimer

Built on Vancouver Island and recently installed, our stacker reclaimer is an impressive piece of equipment that improves our steelmaking coal handling system and improves our efficiency. The stacker reclaimer, which can now be seen on-site, comes equipped with a built-in spray system which

will complement our terminal spray poles to keep the coal damp and where it belongs.

One additional benefit of the updated equipment is that we expect to reduce the average size of the storage piles by 10 percent thanks to its ability to move steelmaking coal more quickly from trains to vessels.

### Electric Indexer and Power Supply Upgrades

Neptune Terminals uses automated electric railcar positioning equipment, known as an electric indexer to move our coal railcars. The equipment provides important support to our railcar dumper, which is used to unload cargo from trains. The use of an electric piece of equipment helps to reduce our greenhouse gas emissions and protect local air quality.

We also recently completed construction on a new on-site power sub-station which has resulted in enhanced energy efficiency and less reliance on community resources.



### Ultra Efficient Locomotive

We are using the latest technology on our mobile equipment to reduce emissions related to moving rail cars around Neptune's internal loop tracks. Neptune Terminals is home to three ultra-low emission, low noise locomotives which have also nearly eliminated the need for rail car shunting, which has had the

added benefit of significant noise reductions. These locomotives are used to move our potash railcars around our terminal.

These new, modern, engines use 25 per cent less fuel, resulting in greater efficiency and significantly less emissions.

## AIR EMISSIONS: HOW ARE WE DOING?

Neptune has a permit with Metro Vancouver, which regulates emissions of potential air contaminants from our mobile equipment, conveyors and transfer points, product loading and unloading equipment.

One of the permit conditions requires that no “particulate matter” is allowed to leave our terminal boundary to cause air pollution. Particulate matter is defined as tiny solid or liquid particles that are suspended in air, and is both naturally occurring and human-caused.

Monitoring stations on our terminal ensure we continue to operate well

within permitted levels and are in place to alert us to any potential concerns. In the more than 10 years that we have had these stations in place, air quality tests have confirmed that we are operating well within permitted limits. Metro Vancouver has also installed an air monitoring station in the community, adjacent to the terminal, to carefully monitor air quality outside of our terminal. Neptune Terminals has always been in compliance with particulate requirements in its permit.

We also use a device called a “High Volume Sampler,” which is essentially an air vacuum, that regularly collects

and measures dust at the edge of our property. While not part of our formal permit reporting, we share these results with Metro Vancouver on a quarterly basis.

Another important factor that our Metro Vancouver emissions permit requires us to measure is opacity. You can think of opacity in terms of a window being tinted. For example, a very high percentage of opacity such as 80 per cent would be a very dark window like you’d see in a limousine. In the case of air quality, you want a very low opacity because it shows that there is very little or no particles in the air. Neptune is proud to operate well within opacity guidelines.

In our coal handling system Neptune Terminals employs a “wet scrubber” (which is an air cleaning unit) at our dumper to help keep the steelmaking coal we handle on our site. Our regular testing on this equipment has not detected any measurable discharge while in operation.

Our permit is available on our website.

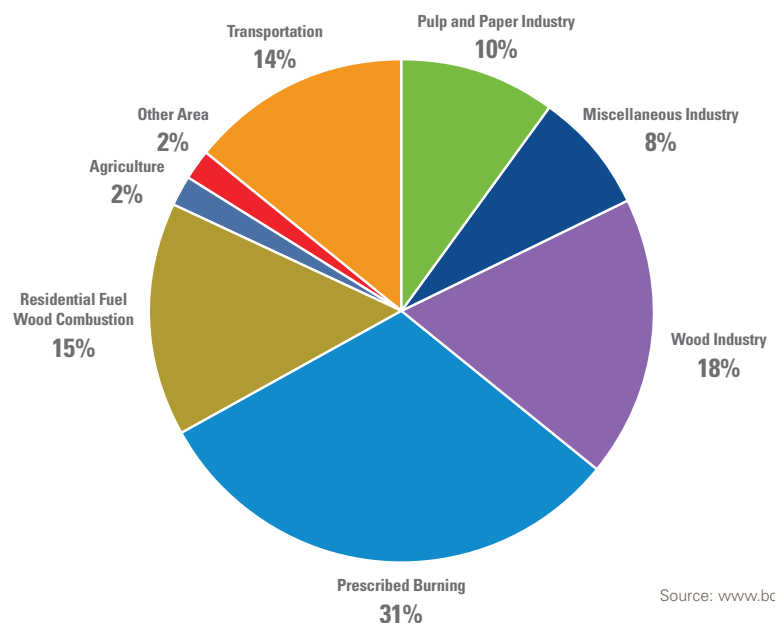


Our scrubber helps keep the steelmaking coal we handle on site.

## WHAT ARE BC'S MAJOR SOURCES OF EMISSIONS?

Activity that can impact air quality can be natural (such as forest fires or dust), or caused by humans. The provincial government closely monitors and regulates air quality in British Columbia. One of the key measures used by scientists is referred to as PM2.5, which refers to the level of fine particulate matter in the air. As you can see in the chart, sources of PM2.5 vary across the province.

British Columbia Emission of PM2.5 from Human Activities



Source: [www.bcairsmart.ca](http://www.bcairsmart.ca)

## IN THE COMMUNITY

### Salmon Stewardship

The Neptune team was on hand to show our support for salmon stewardship at Family Fishing Day on June 16th at Rice Lake, in partnership with the Seymour Salmonid Society. It was a great day for families to get out and enjoy fishing or get a tour of the Seymour River Hatchery. We're pleased to support the Seymour Salmonid Society, including a donation earlier this year to help fund their Gently Down the Seymour education program.



### Play Ball!

Tami Cooke, Registrar for North Van Central Baseball Association, visited our office to accept a cheque from Tony Nardi, Neptune Terminals Vice President of Logistics and Community. We are a proud sponsor of the Association's "Play Ball" program this year, supporting children's baseball programs in North Vancouver. The Association has been an important part of our community since 1951, teaching baseball to youth and providing another way to keep our children active.

### Come Visit Us!

Have you ever wanted to see Neptune Terminals up close? We're inviting our neighbours and members of the community to stop by to say hello. Our team will be there to give tours and answer your questions.

**When:** September 14, 2013

**Time:** 10:00 am – 3:00 pm

**Where:** Neptune Terminals  
(1001 Low Level Road)



## LEADING THE WAY WITH GREEN MARINE



At Neptune, we are proud of our role as a leader in environmental management, which is why Neptune Terminals was

the first west coast terminal to join Green Marine.

The Green Marine Environmental program is an action plan that addresses eight major environmental issues associated with marine industries. The program targets issues such as greenhouse gases, community impacts including noise, dust, odors and light, land pollution prevention and

environmental leadership – all of which are important to Neptune Terminals and our North Shore neighbours.

***Neptune Terminals was the first west coast terminal to join Green Marine.***

Participants in the Green Marine program undergo a rigorous external audit every other year, and the results are published to ensure transparency for the public. The 2012 Report Card is posted on their website. Neptune did extremely well in the independent audit, which included a rigorous review of our operations. Neptune was awarded the top rating of five for

excellence and leadership in three of the four categories measured – spill prevention, dry bulk handling and storage and community issues. We were one of only two terminals in the Green Marine program to receive this top ranking, demonstrating our continued environmental leadership.

We believe that leadership requires an ongoing commitment to improvement, which is why we've undertaken upgrades at our terminal and will continue to reach out to the public to understand your interests and answer your questions.

To view the Report Card results, or for more information about Green Marine, please visit [www.green-marine.org](http://www.green-marine.org).

## BUILDING A BETTER TOMORROW WITH NEPTUNE'S PRODUCTS

We're proud of the fact that the products handled at Neptune Terminals such as steelmaking coal, potash and phosphate rock help contribute to green infrastructure and healthy communities. Here's how:



Steel is also an integral component of wind turbines.

### Steelmaking Coal

Did you know that all of the coal handled at Neptune Terminals is BC and Alberta-mined steelmaking coal? Coal is an essential ingredient in the steelmaking process; steel is a crucial global commodity needed for today's infrastructure, from buildings to rapid transit to many products we use in our everyday lives.



Our products help support agriculture.

### Potash and Phosphate Rock

Both of these products are critically important for agriculture. Potash is a major ingredient in commercial fertilizers and phosphate rock as an essential plant nutrient. These are important products which are helping grow food and feeding the world's population, particularly in large and growing countries such as China, India, Brazil and Indonesia.

Looking for more information on Neptune?  
Have a question?

E: [community\\_questions@neptuneterminals.com](mailto:community_questions@neptuneterminals.com)

T: 604.983.7935

**Neptune**  
TERMINALS