# AGENDA ADDENDUM

Committee of the Whole

Monday, November 25, 2013 7:00 p.m. Committee Room, Municipal Hall 355 West Queens Road, North Vancouver, BC

## **Council Members:**

Mayor Richard Walton Councillor Roger Bassam Councillor Robin Hicks Councillor Mike Little Councillor Doug MacKay-Dunn Councillor Lisa Muri Councillor Alan Nixon



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## COMMITTEE OF THE WHOLE

### 7:00 p.m. Monday, November 25, 2013 Committee Room, Municipal Hall 355 West Queens Road, North Vancouver

## AGENDA ADDENDUM

## THE FOLLOWING LATE ITEMS ARE ADDED TO THE PUBLISHED AGENDA

## 3. REPORTS FROM COUNCIL OR STAFF

**3.2 Kinder Morgan Westridge Terminal Expansion** File No.

Memo: David Stuart, Chief Administrative Officer

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Memo

November 19, 2013 File:

SUBJECT:	Kinder Morgan Westridge Terminal Expansion
FROM:	David Stuart, Chief Administrative Officer
TO:	Mayor Richard Walton and Council

## BACKGROUND

## Trans Mountain Pipeline Expansion and Westridge Marine Terminal

The KMC Westridge Marine Terminal is part of the larger Trans Mountain Pipeline expansion project, which proposes to expand the existing 1,150-kilometre Trans Mountain pipeline system between Edmonton, Alberta and Burnaby, BC. The project would twin the existing pipeline, with approximately 981 km of new pipeline, as well as new and modified facilities including pump stations and tanks along the route. It would increase the nominal capacity of the pipeline system from 300,000 to 890,000 barrels per day. On the West Coast, and within Metro Vancouver, the terminus of the pipeline system is the existing Westridge Marine Terminal, which would be expanded, including new marine tanker loading facilities.

According to Kinder Morgan, the loading capacity will increase from one Aframax-sized (450,000 barrels) vessel to three Aframax-sized tankers. There will be two additional new 30inch delivery lines built from the Burnaby Terminal to the Westridge Marine Terminal and there will be an extension of the marine loading infrastructure further into the water. An odour abatement system, two new vapour recovery units, and one new vapour combustion unit will be installed as will a new storm water run-off collection and treatment system, and a new fire protection system. A copy of Kinder Morgan's most recent update to staff, which includes illustrations of the new terminal, is attached. Notwithstanding the changes to the terminal, the most significant of the changes proposed is the increase in oil tanker traffic from the present average of five vessels a month to 34 vessels per month.

## Norwegian Spill Response

In June 2013, representatives from the District participated in a fact finding mission to Norway, organized by the Port, to examine liquid bulk handling practises in Norway and in particular how oil spill risk is managed in Norway compared to practises in the Burrard Inlet. A copy of the final report is attached. The primary differences appear to be that responsibility and accountability for spill response seems to be much more clearly organized and articulated in

Norway. Norway has formal structures in place to ensure all spill responses are adequately funded and efficiently carried out. These differences may explain the greater Norwegian acceptance of the risks associated with the oil industry than in British Columbia. Also, Norwegians derive significant financial, and the consequent societal benefits, from the oil industry revenue. One of the observations made by the Province of BC and others with respect to the two oil pipeline expansion proposals is that British Columbia will experience all of the environmental risk but enjoy very little of the societal and financial benefits.

## September 2013 Public Meeting

At its September 12, 2013 meeting, the presenters provided Council and the community with their organizations' perspective on the proposed expansion. Copies of the presentations are attached except for the Tsleil Waututh, which was web based, and therefore other materials which outline their position have been substituted. By way of summary, Kinder Morgan outlined the project and the process, Port Metro outlined their role and proposed the creation of a "Centre of Excellence" to promote best practises. The Tsleil Waututh opposed not only the project citing environmental risk to the Burrard Inlet but also the development of the oil sands itself due to its impact on health and the environment. The Georgia Straight Alliance also drew attention to the potential environmental impact to the Gulf Islands as the shipping routes are adjacent to the islands. The Port has stated that oil has been transported in the Burrard Inlet for over 50 years without an incident and that spills worldwide have reduced significantly due to industry changes.

Community members present raised issues including whether or not diluted bitumen floats or sinks and what Western Canada Marine Response Corporation's (WCMRC) capacity is to respond to a spill. Current standards call for a maximum six hour response time for up to 70,000 barrels, although WCMRC maintains that it has the capacity to respond within one hour within the Port and can handle a maximum 25,000 tonnes (175,000 barrels) oil spill. The capacity of an Aframax tanker is approximately 450,000 barrels stored in a number of chambers in the ship. According to WCMRC the 70,000 barrels represents the volume in one chamber. WCMRC is funded by the bulk oil handlers and would normally be called out by the Coast Guard in the event of a spill. All costs for spill cleanup are the responsibility of the polluter. Canada requires additional insurance coverage than that required internationally, yet it is not clear whether this coverage would be adequate to fund the full cost of an ongoing clean up.

## Correspondence Between the Village of Belcarra and Kinder Morgan Canada

Since June of 2013, there has been a series of correspondence between the Village of Belcarra and KMC, on this issue. On September 16, Mayor Drew wrote regarding the Burrard Inlet Marine Environment and communicated that the public now expects a higher standard of environmental care, beyond the practice to "minimize harm" or "compensate for loss", to a new ethic of "preserve, protect and enhance". Kinder Morgan's response is attached. With the release of information on the conceptual design of the expanded marine terminal on September 25, Mayor Drew submitted another letter dated September 30, 2013 (also attached) outlining key considerations related to disturbances caused by tankers, oil containment, the expanded footprint of the terminal, and legacy enhancements. Local governments adjacent to the Burrard Inlet (Vancouver, West Vancouver, Port Moody, Burnaby and North Vancouver City) have all expressed concern about the proposed project for varying reasons.

## **Regulatory Process**

At this point the proponent is in the pre-application phase with the National Energy Board (NEB) having filed a Project Description in May 2013. While this filing initiates certain preapplication activities, it does not yet constitute a formal application under the National Energy Board Act. It provides preliminary information to the NEB, and initiates preparatory processes in anticipation of an application at a later date. It is expected that Trans Mountain will file its Facilities Application with the NEB in late 2013.

On July 29, 2013, the NEB released its "list of issues", which identifies the topics that will be considered during the review process for the Trans Mountain Expansion Project. These include:

The potential environmental and socio-economic effects of the proposed project, including any cumulative environmental effects that are likely to result from the project.
The potential environmental and socio-economic effects of marine shipping activities that would result from the proposed Project, including the potential effects of accidents or malfunctions that may occur.

- The suitability of the design of the proposed project.
- Potential impacts of the project on landowners and land use.
- Contingency planning for spills, accidents or malfunctions, during construction and operation of the project.

• Safety and security during construction of the proposed project and operation of the project, including emergency response planning and third-party damage prevention.

## DISCUSSION

The District's practise as an organization has generally been to focus our attention on those matters and issues which are of specific interest to or have a direct impact on our community. Applying this approach to the proposed project our focus would be on direct benefits to and impact on the District rather than issues that have been raised with respect to the pipeline, the Alberta tar sands and the Georgia Strait.

## Benefits

At this time there are no identifiable direct benefits to the District if the project were to proceed. <u>Possible</u> benefits might be improvements in WCMRC's oil spill response capacity and enhancements to the environment to offset the likely and possible impacts arising from the terminal expansion although no enhancements have been proposed at this time and it could be argued the increased risk to the environment offsets this.

## Impacts

The impacts can be divided into two categories likely and possible.

## Likely

The terminal expansion and increase in tanker traffic will have light pollution and sound impacts on the District both during construction and during subsequent operations as well as impact on the environment associated with construction of additional terminal capacity and any additional air pollution associated with an increase in tanker traffic. The latter will likely have to be mitigated or compensated for in some way. At this point it is difficult to state these impacts in a measurable way and Kinder Morgan is undertaking studies in preparation for submitting their application.

## Possible

Notwithstanding the practises in place to reduce risk of an oil spill the increase in activity increases the risk, sufficient independent studies as to how the bitumen reacts in a marine environment have not been carried out. If the oil sinks before it can be contained and recovered, even small spills would have what would be considered to be an unacceptable impact to the marine environment. If the oil "floats" as has been suggested even small to moderate spills given the current response capacity could have a significant impact on the marine environment and the District's foreshore. The environmentally sensitive Maplewood mudflats, which are a significant Pacific Coast flyover, would be especially susceptible due to its adjacency to the terminal.

Given the current response capacity and depending on the location and conditions (weather, tides and currents etc.), a significant spill (even up to the 10,000 barrel capacity that WCMRC suggests they can handle) would likely have a significant environmental impact and require major cleanup efforts. A large oil spill involving more than the contents of one chamber would likely have catastrophic environmental, social and economic impact. It should be noted that, according to the BC Chamber of Shipping, given current industry practises the risk of a moderate or large spill emanating from a vessel involved in a collision or run aground is likely very small.

As has been suggested in the material prepared by the Port following the trip to Norway where there appears to be some recognition and acceptance of the risk of an oil spill due to the historical exposure to the oil industry, the oil spill response infrastructure in place, and the economic benefits. The question is what is our risk tolerance, taking into consideration the absence of any definable direct benefit. Based on the response at the public meeting, it appears to be very low.

In the end, the decision as to whether or not the project proceeds will likely be a decision made by the federal government rather than the National Energy Board.

The District could take a number of positions.

### **POSSIBLE POSITIONS:**

- That the District considers the increased risk of a spill and damage to the environment to be unacceptable irrespective of any enhancements that could be made to reduce or manage the risk or benefits that may be identified and therefore opposes the proposed expansion project.
- 2. That the District cannot support the project unless specific enhancements are made that would significantly reduce the risk of environmental impact arising from an oil spill in the Burrard Inlet and enhance the benefits to the District as a result of the project going ahead. of the project. Specific actions should include independent studies to determine the characteristics of bitumen in our marine environment, a restructuring and enhancement of the oil spill response and cleanup capacity so as to reduce the risk of impact to our marine environment and foreshore, enhancements to the current vessel movement and loading practises to reduce the possibility and size of possible spills and the introduction of specific project that will enhance the marine and foreshore environment in and adjacent to the Burrard Inlet.
- 3. That the District supports the project and encourages the NEB to require specific enhancements as identified above in alternative 2.
- 4. That the District takes no position at this time as there is insufficient information available and continues to monitor the application process.

David Stuart Chief Administrative Officer

## Attachments:

- 1. Final Port Metro Vancouver Report on Liquid Bulk Handling Information Tour
- 2. September 12, 2013 presentation by Port Metro Vancouver
- 3. September 12, 2013 presentation by Kinder Morgan
- 4. September 12, 2013 presentation by Georgia Straight Alliance
- 5. Material copies from the Tsleil Waututh Sacred Trust Web site
- 6. November 6, 2013 Kinder Morgan presentation TO District staff
- 7. Correspondence between Mayor Drew, Village of Belcarra and Kinder Morgan that was provided to the Metro Parks and Environment Committee

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Statoil Terminal Harbour Master Erling Dag Kvalvik, (middle) talks with (from left) Christian Hansen, Commercial Counsellor, Embassy of Canada; Mike Henderson, Regional Director General, Transport Canada; Art Sterritt, Executive Director, Coastal First Nations Great Bear Initiative Society; Michael Davies, Senior Director, Marine Development, Kinder Morgan Canada; and Duncan Wilson, Vice President, Corporate Social Responsibility, Port Metro Vancouver



Gary Paulson, Vice President, Operations and Harbour Master, Prince Rupert Port Authority engages in dialogue with Bonnie Antcliffe, Regional Director, Ecosystems Management, Department of Fisheries and Oceans



Johan Marius Ly, Director of the National Coastal Administration's Department for Emergency Response addresses delegates in one of the tour's numerous information sessions.

### Dear delegates,

Thank you for joining us on the Liquid Bulk Handling Information Tour to Norway, June 18 - 21, 2013. We hope that your participation provided a valuable opportunity to learn about liquid bulk handling and a better understanding of the structure and methods employed in Norway.

I would especially like to thank the planning efforts and day-to-day help of both Christian Hansen, Commercial Counsellor for the Canadian embassy in Norway; and Astri Platou, Chief Operating Officer of the Oslo Chamber of Commerce. Their patience, humour, friendliness and logistics expertise were extremely appreciated by everyone involved.

We are pleased to enclose a summary report on the trip and access to all the presentations, as well as a selection of photographs taken during the tour. The summary report is focused on these five key themes.\*

- 1. Norway tour draws diverse delegate mix
- 2. Oil wealth fuels Norway social license
- 3. Oil-on-water exercise has Norway walking the talk on spill response
- 4. Norway's risk tolerance unaffected by grounding and spill incidence
- Concluding comments: A selection of quotes from delegates on impressions of Norway and lessons for BC

The summary report is in draft format. We look forward to your feedback before we finalize it.

If you have any questions about this report, please contact Helia Haghighat, Communications & Government Affairs, Port Metro Vancouver by email at helia.haghighat@portmetrovancouver.com, or by phone at 604-665-9066.

Yours truly,

-Rich.

Duncan Wilson Vice President, Corporate Social Responsibility

\*Port Metro Vancouver commissioned a writer to attend the tour as an impartial observer and record the discussion themes and outcomes





#### Delegates

- 1 Bonnie Antcliffe, Regional Director, Ecosystems Management,
- Department of Fisheries and Oceans
- 2 Kim Baird, Consultant
- 3 Lisa Baratta, Director, Strategy, Western Transportation Advisory Council
- 4 David Boerner, Director General, Environment Canada
- 5 Stephen Brown, President, Chamber of Shipping of British Columbia
- 6 Jim Crandles, Director, Planning & Development, Port Metro Vancouver
- 7 Ross Danyluk, Executive Director, Strategic Policy, Government of Alberta
- 8 Michael Davies, Senior Director, Marine Development, Kinder Morgan Canada
- 9 Darrell Desjardin, Director, Environmental Programs, Port Metro Vancouver
- 10 George Harvie, Chief Administrative Officer, Corporation of Delta
- 11 Mike Henderson, Regional Director General, Transport Canada
- 12 Janet Holder, Executive Vice President, Enbridge Inc.
- 13 Lois Jackson, Mayor, Corporation of Delta
- 14 Joy Jennissen, General Manager and Senior Vice President, Hill + Knowlton
- 15 Edward John, Grand Chief, First Nations Summit Political Executive Member
- 16 Mark Johncox, Manager of Finance, Western Canada Marine Response Corp.
- 17 Mike Little, Councillor, District of North Vancouver

- 18 Lea MacKenzie, Chief Operating Officer, Tewanee Consulting Group
- 19 Sheila Malcolmson, Islands Trust Council Chair, Islands Trust
- 20 Gary Paulson, Vice President, Operations and Harbour Master, Prince Rupert Port Authority
- 21 Dr. Rob Powell, Senior Officer, Priority Conservation Programs, WWF-Canada
- 22 Greg Stringham, Vice President, Markets and Oil Sands, Canadian Association of Petroleum Producers
- 23 Ruth Sol, President, Western Transportation Advisory Council
- 24 Art Sterritt, Executive Director, Coastal First Nations Great Bear Initiative Society
- 25 David Stuart, Chief Administrative Officer, District of North Vancouver
- 26 Duncan Wilson, Vice President, Corporate Social Responsibility, Port Metro Vancouver
- 27 Brian Young, Director, Marine Operations, Pacific Pilotage Authority

#### Organizers/Hosts

28 Astri Platou, Chief Operating Officer, Oslo Chamber of Commerce 29 Christian Hansen, Commercial Counsellor, Embassy of Canada (Norway)

#### Presenter

30 Erling Dag Kvalvik, Statoil Terminal Port Captain



## Itinerary





Dr. Rob Powell, Senior Officer, Priority Conservation Programs, WWF-Canada, talks with Mark Johncox, CFO, Western Canada Marine Response Corp. at the ambassador's residence.

Edward John, Grand Chief, First Nations Summit Political Executive Member, presents a gift to David Sproule, Canada's Ambassador to Norway at the ambassador's residence.

Brian Young, Director, Marine Operations, Pacific Pilotage Authority delivers one of the tour's opening presentations.

#### Tuesday, June 18

8:00 a.m. Welcome and Introductions Breakfast – Duncan Wilson, PMV 8:10 a.m. Presentations on Vessel Process Procedures

- · Pre-Arrival Stephen Brown, COS
- Arrival, Brian Young, Director, Marine Operations, Pacific Pilotage Authority
- Terminal Michael Davies, Senior Director, Marine Development, Kinder Morgan
- Spill Response Mark Johncox, CFO, Western Canada Marine Response Corp.
- 9:30 a.m. Briefing with Embassy of Canada
- 11:00 a.m. Presentation at Norwegian Shipowners' Association offices
- 2:00 p.m. Norwegian Capabilities
  - Innovation Norway
  - DNV
  - Infragas
- 4:15 p.m. Reception, Canadian Ambassador's Residence

#### Wednesday, June 19

8:00 a.m. Travel from Oslo to Horten
10:00 a.m. Esso Refinery (located 20 minutes south of Horten)
12:00 p.m. Lunch at Norwegian Coastal Administration premises
1:00 p.m. Presentation and tour by Norwegian Coastal Administration

Presentation by Norwegian Oil Spill Control

Thursday, June 20
7:00 a.m. Flight to Bergen
2:00 p.m. Prevented to State il State il State Taminal

- 9:00 a.m. Bus travel to Statoil Sture Terminal
- 10:30 a.m. Tour, lunch and presentation at Sture Terminal Tour
- 2:30 a.m. Meeting with the Port of Bergen at hotel

#### Friday, June 21

6:00 a.m.	Bus to Bergen airport
7:30 a.m.	Flight to Oslo
9:30 a.m.	Bus to hotel
10:30 a.m.	Communities Dialogue with Saami representatives
12:00 p.m.	End of program



## Norway tour draws diverse delegate mix



First Nations delegates included (left to right): Art Sterritt, Executive Director, Coastal First Nations Great Bear Initiative Society; Lea MacKenzie, Chief Operating Officer, Tewanee Consulting Group; Kim Baird, Consultant; and, Edward John, Grand Chief, First Nations Summit Political Executive Member.

The delegate group that made up Port Metro Vancouver's Liquid Bulk Information Tour to Norway proved to be as big a draw as the destination itself.

The port actively solicited representatives from a wide spectrum of viewpoints for the June 18-21 information tour of Norway's oil and gas transport industry.

Mike Henderson, Regional Director General of Transport Canada, called the delegate group one of the most impressive mixes he's been a part of.

"This is a group of regulators, industry people, environmental groups and First Nations talking about the common challenge of moving oil and natural gas around. Rarely do they all sit at the same table and never in my experience have they sat (together) for several days," says Henderson. Initially, the four-day tour was planned as small-sized both in terms of numbers and context. However, the port then grew the idea as a chance for everyone to be given equal opportunity to information and spur open dialogue, explains Duncan Wilson, Port Metro Vancouver's VP, Corporate Social Responsibility.

"We want to be fully transparent and engage with communities, First Nations and other stakeholders. So this tour was a great chance to bring everyone together as part of the process and see how they responded when exposed to the same information," says Wilson.

The tour drew a tremendous amount of interest. Christian Hansen, Senior Trade Commissioner with the Canadian embassy in Norway and tour co-organizer, suggested a delegation of a dozen would suffice. However, the tour's final tally topped 28.









Sheila Malcolmson, Islands Trust Council Chair, Islands Trust, is provided insight on refined oil products by Michael Davies, Senior Director, Marine Development, Kinder Morgan Canada, at the Esso Refinery, near Horten.

Brian Young, Director, Marine Operations, Pacific Pilotage Authority; Lois Jackson, Mayor, Corporation of Delta; and Stephen Brown, President, Chamber of Shipping of British Columbia engage in some Q&A with Erling Dag Kvalvik, Harbour Master, Statoil Sture Terminal, outside of Bergen.

The tour's theme is front-page news in B.C. Oil pipelines and tanker traffic have come under the spotlight both for its current operations and potential expansion. Natural gas is also a key economic driver planned for the province's north coast.

Norway was the perfect learning destination for the tour, say organizers. The country has a longstanding commercial maritime industry, as well as a large oil and natural gas industry. Norway also has a reputation for being at the forefront in terms of governance and regulation around tanker safety, spill prevention and response, says Wilson.

Mark Johncox, CFO of Western Canada Marine Response Corp, says his organization is currently undertaking a benchmark study comparing their operations to others around the world to see where gaps, if any, exist. Norway is one of the key comparables, he said.

"I believe the Norwegians are renowned for their spill response capabilities in terms of equipment and personnel," says Johncox. "We're here to figure out why people believe that, what is the reality behind it, and see if it's something we can learn from."

Kim Baird, Consultant and former Chief of the Tsawwassen First Nation, says the tour is a conversation starter.

"This is a good opportunity to figure out what the best practices are in other parts of the world. Through an initiative like this we can start some positive dialogue with everyone impacted by existing projects," says Baird.

Delta Mayor Lois Jackson, who days before departure faced heated and emotional debate during a Metro Vancouver Board meeting on Fraser Surrey Docks' planned coal terminal expansion along the Fraser River, welcomed the first-hand look at Norway's maritime safety framework.

"I truly believe that we, in British Columbia, need to spend much more time to inform ourselves on these important issues. We must look at best practices being carried out around the world, based on good science, sound analysis and solid fact," says Jackson.



## Oil wealth fuels Norwegian social licence



Commercial and social sit side-by-side: patrons enjoy the patio near a vessel in Bergen.

Norway is small enough to easily fold into a prairie province, but its world-beating wealth is large enough to give the International Monetary Fund an inferiority complex.

Norway is a small country that packs a wallop of a petroleum punch. Its largely state owned oil industry contributes to a rainy day sovereign wealth fund of \$770 billion – an amount that dwarfs the country's nearly \$500 billion economy. The fund now accounts for 1 per cent of all the world's listed equities. And with this great wealth comes willing acceptance, says tour delegate Art Sterritt, Executive Director of the Coastal First Nations Great Bear Initiative Society.

"These people have a national energy plan that puts them first and that's why they're all so warm and fuzzy (about oil)," says Sterritt, whose comments drew wide agreement from delegates during a debriefing. "This non-renewal industry is also helping prop up their aquaculture, forestry and mining industries. They're balancing their economy with a great resource that they have. And we're not. They have the greatest social safety net in the world and they're not going to complain about where it came from."

Norway's success story is authored by state capitalism. Large oil and gas reserves were discovered in Norway's North Sea territory in the 1960s. Rather than let risk-reward driven publicly traded companies run rampant with exploration and development permits, Norway reined in foreign ownership of its resources. In 1972, Norway created Statoil and passed a law stipulating the entity would be issued 50 per cent of all of the country's offshore oil and gas licenses. The country's licensing scheme ensures the only way a foreign corporate entity can develop Norwegian oil reserves is in full partnership with Statoil, of which the government remains majority owner (67 per cent interest). The government also takes a 78 per cent tax from oil and gas profits.

However, the size of the petroleum pie remains large enough, and the postal address secure enough, for oil giants like ExxonMobil, Conoco Phillips and Chevron to still do business in Norway.

Contrary to the foreign flags that fly on vessels plying Vancouver's port waters, Norway also has a strong ownership of the commercial maritime industry. Charlotte Demeer Strom, of the Norwegian Shipowners' Association (NSA), touts Norway as the world's fifth largest shipping nation. She bases that ranking on market value of goods carried, because half of NSA's membership





Oil wealth has afforded Norwegians a high per capita income to support a bustling consumer economy.

is involved in the oil and gas sector. Norway not only extracts and refines the oil, it has significant ownership of moving it to market. (Teekay, whose operational headquarters are based in Vancouver, purchased the 53 short-distance shuttle vessel fleet of Navion ASA, Statoil's in house shipping arm, for \$800 million in 2003).

Shipping is part of Norway's DNA, says Stephen Brown, who for 23 years worked for a major Norwegian ship owner.

"The Norwegian shipping industry is part of the fabric of Norwegian society. Most Norwegians know somebody, or knows somebody who knows somebody, who works in the shipping industry here in Norway," says Brown, President of the Chamber of Shipping of British Columbia. "In Canada you'll probably struggle to find anybody that knows anything about shipping. Unfortunately, because we rely so heavily on international shipping to conduct our foreign trade, there's no Canadian identity with international shipping so therefore it's viewed with suspicion."

Today, Norway is the seventh largest exporter of oil and third largest for gas. As the country is entirely powered by hydro to meet its domestic needs, 100 per cent of its underground resource (natural gas) is for sale. The oil and gas industry generates incredible wealth for Norwegians. Citizens enjoy the fourth highest per capita income and the country's 3.5 per cent unemployment rate would turn Greece and the E.U. green with envy. Citizen benefits include free university tuition, universal daycare and 25 days

of paid holidays per year. Per capita spending on health care is 30 per cent higher in Norway; funding for arts and culture is more than three times higher than Canada.

For a country dependent on fossil fuel extraction, it may come as some surprise to some that Norway is ranked third by the Environmental Performance Index (Canada sits far back at No. 37). In fact, the environmental conversation in Norway is not so much focused on the extraction of fossil fuels, but on the ability to process and refine it in a "carbon-neutral" way.

Strom told delegates the NSA is dedicated to lowering emissions with a vision toward carbon-neutral shipping. On the



final day of the tour, the front page of the Bergens Tidende reported on the bloated \$1 billion price tag to build and operate a testing centre to evaluate carbon-capture and storage technologies for oil refineries. Norwegian media highlighted Canada's SaskPower has been able to build a full-scale operating plant for the same amount. (SaskPower's \$1.24 billion Boundary Dam Project will see the integration of a rebuilt coalfired generation unit with carbon-capture technology, reducing greenhouse gas emissions by one million tonnes of carbon dioxide each year. The facility, to be fully commercial in the first quarter of 2014, will transport captured C02 by pipeline to nearby oil fields in southern Saskatchewan where it will be used for enhanced oil recovery.)

Most tour presenters seem taken aback when asked if there is significant local opposition to the oil and gas industry. The only debate is whether to extend oil extraction to Norway's north, says Morten Meibom, Emergency Director for the municipality of Bergen.

"We're having discussions as to whether we should extend (oil extraction) to the north part of Norway as it relates to (sensitivities of) the fishery industry and Arctic environment. That's the discussion were having these days. But there is no one in Norway today that is against oil activities," says Meibom.

Johan Marius Ly, Director of the National Coastal Administration's Department says the oil industry has staved off the country from the global financial collapse of 2008 and E.U.'s ongoing economic troubles.

"We had the recession in Europe for a number of years but it really didn't hit Norway," says Ly. "Nothing is without controversy and that goes for the oil industry as well. But there is only debate about moving into new, more vulnerable areas up north."

The off-shore location of the oil resource, the wealth it generates directly for the country, and the industry's spill-free record is the perfect recipe for social licence, say some.

"It is a sight unseen industry for many Norwegians. Aside from the oil hub of Stavanger, there are no rigs or real visibility to the industry," says one Canadian official who resides in Norway and wished to remain anonymous.

Norway's high-priced wealth also spells some high-priced living. Many of Norway's wealthier citizens live in London to



Shipping is part of Norway's DNA, says Stephen Brown, President of the Chamber of Shipping of British Columbia. As shown with children at play in Oslo, it's ingrained at an early age.

The organization for Economic Co-operation and Development (OECD) says Norway, Belgium and Canada are "the most overvalued property markets" in the world. Norway property prices are rising by nearly 7 per cent a year and are currently in the same stratosphere as the Lower Mainland. A real estate section from Bergen's newspaper advertises a new 550-square-foot apartment in the centre of the city listed for \$535,000; and older 600 sq. ft. apartment for \$350,000 in west Bergen; and homes in various areas starting from \$880,000 and reaching skyward. If it's fast food you want, McDonalds charges \$7.69 for a Big Mac. And if you're looking for a quick beer and a bite, a pint costs \$15 and a cheeseburger with fries will set you back another \$37.

But in terms of quality of life afforded by the oil industry, for the majority of Norwegians it pays to live in Norway.

"Johan Marius Ly, Director of the National Coastal Administration's Department says the oil industry has staved off the country from the global financial collapse of 2008 and E.U.'s ongoing economic troubles."

# Oil-on-water exercise has Norway walking the talk on spill response



Statoil Sture Terminal located near Bergen is neighbour to miles of waterview homes and dozens of docks filled with pleasure craft.

The week before delegates arrived, approximately 30 cubic metres of oil were discharged into the North Sea off of Norway. For a country that promotes its pristine record of no major oil spills, what was even more noteworthy was that the discharge was intentional and government approved.

Norway's "oil-on-water exercise" is an annual three-day event which allows industry to test new oil recovery technologies and train under the most realistic conditions. The exercise is led by the Norwegian Clean Seas Association for Operating Companies (NOSCA) and the Norwegian Coastal Administration (NCA). Around 70 persons from industry, the Coast Guard and the NCA are involved in addition to ship and flight crews.

"This drill sets the stage for realistic testing of products that may be the next generation of oil spill response equipment. You can run things faster and cover more areas," says NOFO's Tor Eivind Moss in the newspaper Stavanger Aften.

Norway is one of the very few countries that allows oil to be discharged this way. In B.C., Western Canada Marine Response Corp. (WCMRC) is restricted to conducting "table top" simulation exercises and equipment deployment in water. Mike Little, District of North Vancouver Councillor, says "oil-on-water" exercises provide the assurance Canadians are looking for.

"Norway has the confidence in their abilities because they've gone and done the practical testing. Under Canadian law we don't have the ability to go and run a full scale exercise which I think is always going to be at the back of our mind that we haven't rolled out the equipment in a full-scale test in a real world situation," says Little. "We've done an extraordinary amount of table top exercises, but we haven't actually gone out and put oil in the water, put our plan into action and seen the positive result at the end of the day. I think that's something we can definitely deliver on when we go back home (and) try to find a way to do more effective testing."

Johan Marius Ly, Director of NCA's Department for Emergency Response, says the "oil-on-water" exercise is integral to maintaining the country's confidence in the industry.

"(It's a validation) of the efficiency of the system. As a developing process, the oil industry needs to demonstrate to the







Above: Save for its hilltop water tower, the terminal is relatively unseen from the road or afar.

Right: Statoil Sture Terminal, located outside of Bergen.

authorities that the equipment they rely upon can deliver on what they say it can," says Ly.

Technology that has reached oil-on-water trials has already passed a litany of tests conducted in contained holding tanks. Last month, the World Maritime News reported on Parat Halvarsen's new steam-based technology to keep heavy oil viscous enough for easy loading and offloading during oil recovery operations. To verify whether alternative hot water-based solutions work, Parat installed a compact heating coil and a steam injection nozzle in a test tank at its facilities in Flekkesfjord. Watched by representatives from shipbuilders, owners, consultants and the NCA, the tests showed that heat transfer in heavy oil using the conventional heating coil was just 10 per cent of that achieved by the steam-injection technology.

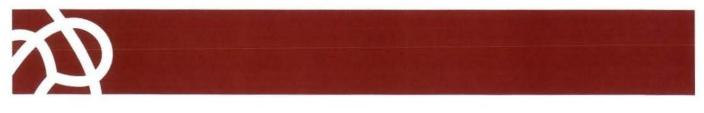
These local advances in oil spill technology are partly fuelled by the deep pockets of Innovation Norway. The organization distributes \$1.25 billion annually to clusters of local companies to develop new and improved technologies in sectors including energy and environment, marine, and maritime oil and gas. Companies can have up to 45 per cent of their development costs funded by Innovation Norway.

It's likely a good bet Innovation Norway had a hand in supporting the development of Markleen's submersible containment booms, a technology on site of tour stops at Esso's Horten refinery and Statoil's Sture terminal. Many delegates were genuinely surprised - and left talking long afterward - by the apparently new technology that allows booms located on the seafloor to pop up to ocean level at the press of a button.

NCA provides the country's main oversight for coastal management and infrastructure, maritime traffic safety and monitoring, and preparedness against acute pollution. It's also the main authority for the nation's oil spill response preparedness and contact point regarding acute pollution at sea and on land. And, if necessary, it will take over oil spill response operations.

NCA is similar to B.C.'s framework in that both enforce industry-pay preparedness and polluter-pay principles. All vessels in both systems must have an arrangement with a response organization and have oil spill response plans, teams and equipment in place. The Norwegian Clean Seas Association for Operating Companies (NOFO), the Scandinavian version of the province's industry-funded WCMRC, is responsible for spill response, planning and preparedness on behalf of the companies operating on Norway's oil-rich continental shelf.

However, delegates were quick to see that the similarities between the two organizations ended at resources. Owing to hosting both a thriving commercial maritime industry and



significant oil industry, NCA has been powered up with a large operating capacity. Its annual budget is approximately \$400 million, of which a third is user financed. Its long capabilities list includes, in part, more than 1,100 employees, 45,000 metres of oil booms, 140 oil recovery devices, five emergency towing vessels, nine coast guard vessels and surveillance aircraft.

Industry and government delegates were impressed by the NCA's map which had more pinholes than a pincushion as it showcased the 16 main emergency response depots and 15 private or supplementary depots spread throughout the country's coastline.

"It's impressive," said one of the delegates in a group discussion on the bus afterward. "That map builds confidence."

Also unique to Norway is the municipality's role in oil spill preparedness. Much like having a regional firehall, a union of municipalities collectively funds an "oil spill" first-responder centre. Approximately 430 individual municipalities are divided into 34 preparedness areas, each self-financed and with its own approved risk based contingency plan. These plans are approved by the Norwegian Climate and Pollution Agency (KLIF). Municipalities are responsible for dealing with minor pollution incidents through the engagement of port authorities and fire departments. Each also has an obligation to assist one another and the government in the event of an incident of major oil pollution.

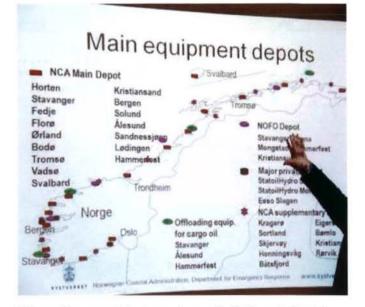
Ly says the separation of duties is clear, although most delegates had a tough time through the trip of discerning the dividing lines.

"If the vessel is connected to the refinery, then it is the refinery's responsibility. If the vessel is en route to and from the refinery, it's the municipality's responsibility. However, (in the abnormal occurrence) if a tanker (grounded) on the municipality's beach, it's the government responsibility. That's one of the cases where we take operational command more or less immediately," says Ly.

Erling Dag Kvalvik, Harbour Master for Statoil's Sture terminal, says it can also simply come down to who can get there first and figure out who's to foot the bill later.

"We just act and find out afterward who is responsible. We're not sitting back. We will act on it if anything happens," says Kvalvik. "I feel we have a very good system in Norway, it's just a matter of who pays for it."

Hans Petter, primary consultant for risk management firm DNV, says Norway's regulatory framework is "above average" but there is still there is a lot of work to be done. For one, the three-level industry/municipality/government approach has its good and bad points.



Industry and government delegates were impressed by the Norwegian Coastal Administration's map which showcased the 16 main emergency response depots and 15 private or supplementary depots spread throughout the country's coastline.

"When it comes to response, our strength is it's a collaborative model. However, when it comes to weaknesses, as several people have mentioned, it still has a lot of unclarity between parties so that's absolutely cause for improvement," says Petter, whose expertise is focused on oil spill preparedness and response. "Where does Norway rate? We've actually seen very professional responders systems and organizations in other parts of the world, which includes Canada. What's good about Norway is that over many years, we've had this framework of regulations ... very much focused on prevention so that not anything should happen. We have proof of this. For the last 40 years there hasn't been a major discharge of petroleum products on the continental shelf. That speaks for itself. It's proof that it works."

All Norwegian officials like Petter were quick to point out there have been no major oil spills or incidents, which many see as the validation of preparedness and planning in place. That assured confidence is shown by the location of Statoil's Sture terminal. In a marriage of industry and scenery, the terminal is neighbour to two fish farms, miles of waterview homes and dozens of docks filled with pleasure craft. Save for its hilltop water tower, the terminal is relatively unseen from the road.

And, as outlined by Kvalvik, the facility has also been inconspicuous by operating safely without any major incidents.



## Norway's risk tolerance unaffected by groundings and spill incidents



Norwegians' risk tolerance might shift if they had a major spill impacting their shorelines, warns Dr. Rob Powell, of WWF-Canada.

Norway's acceptance of the oil industry comes down to an evolving definition of risk tolerance, says one tour delegate.

Dr. Rob Powell, of WWF-Canada, suggests Norway's prevention and preparedness framework has likely mitigated the risk of spill to the lowest standards possible. However, although the industry is a cash cow for the country, Norwegians' tolerance to accept the risk may change if there is a major oil spill.

"My sense is Norway is a place which has brought down risk to a level actually on par with what we have. But their tolerance for risk differs (because their wealth is derived from oil). That DNA, if you like, is hard to transport into Canada," says Powell. However, he adds: "Norway hasn't had a serious problem yet. Their society's risk tolerance might shift if they did."

Considering the high volume of exports and the busy shipping traffic, Norway's oil industry has operated relatively safely, says Johan Marius Ly, Director of the National Coastal Administration's Department for Emergency Response.

"We've not had any large incidents with tankers going in and out of refineries and oil loading terminals on shore," he says.

But there have been incidents. Ly estimates there have been 10 ship groundings in the last 10 years and a number of "smaller" offshore incidents that have resulted in "some sort of governmental approach to cleanup operations."

"Most of them were types of bulk carriers," he says. "The typical spill amount from those vessels was in the region of 300 to 400 tonnes, with the potential for 800 to 1,000 tonnes of heavy fuel oil."





When we have a government response spill operation there is total transparency, says Johan Marius Ly, Director of the National Coastal Administration's Department for Emergency Response.

In 2007, 4,400 tonnes of oil (25,000 barrels of oil) spilled into the North Sea during a mishap while loading crude from the Statoil's Statfjord Alpha platform in Nordsjøen to an oil tanker. The incident was the second largest oil spill in the Norwegian oil industry's history. (The largest, in 1977, had some 12,000 cubic metres - 78,000 barrels - spill during a platform blow-out at Phillips Petroleum's B-14 well in the Norwegian Ekofisk field.)

"At Statfjord, a loading hose broke going from the platform to the shuttle tanker, but none of that oil reached the shorelines. The oil was naturally dispersed. Assessments afterwards said it had very little environmental impact if any," says Ly.

During the Port of Bergen presentation, delegates learned of the capsizing of the gravel carrier Rocknes, which spilled 540 tonnes (3,000 barrels) of heavy oil over 42 kilometres of Bergen coastline in 24 hours. Eighteen lives were lost in the incident blamed on uneven loading and a shallow shoal that featured a dangerous rock whose presence was not universally updated on navigation charts.

Norway's most recent incident happened in the summer 2009 when the carrier Full City ran aground south of Langesund during a thunderstorm. The empty bulk container spilled 200 tonnes (1,100 barrels) of heavy oil that spread as far as 120 kilometres.

"There were a lot of people in holiday houses in that area. The oil spread with the currents. There was immediately a start-up of clean-up operations. The first goal was to have the environmental sensitive areas clean by the time migratory birds took use of them in a few months' time," explains Ly. "Some of the larger areas that were polluted was a very large public beach area which was more or less unusable for that year. But the next year it was clean to perhaps a standard that was better than it was before the incident. The municipality in that area that was the most severely stricken by it was very satisfied with the clean-up operations."

The incident occured a couple of months before a general election and generated lot of political heat. Transparency was paramount to gaining public support, says Ly.

"When we have a government response spill operation there is total transparency. We are open about everything. We try to have as much as possible a proactive information approach, saying "This is what we actually can do and this is how we can do it," explains Ly. "I think if you asked me at the very beginning, I would not necessarily agree that we have the trust of the public because even though we go cleanup someone else's spill, we are often blamed because we are not there fast enough. There is sort of this issue about how quickly things should be done. But fairly quickly that has changed due, I think, to transparency and being





Morten Meibom, Emergency Director for the municipality of Bergen, responds to questions on the municipality's response preparedness and cost responsibilities.

open. People generally see the effects of the clean-up operations, but transparency and openess are two of the key words."

Norway is even open and honest about incidents outside of their borders. After the Deepwater Horizon blowout in the Gulf of Mexico, Norway's government warned a similar spill could happen in the North Sea.

"After this no one can seriously claim that this could not happen in Norway or anywhere else," Norway Environment Minister Erik Solheim told Reuters. "If you are not completely blind it will affect everyone on the entire globe."

"Companies working on the Norwegian continental shelf should take into consideration the results of the investigation from the incident in the Gulf of Mexico in their work to improve safety," added Norway Oil and Energy Minister Terje Riis-Johansen.

Gary Paulson, VP Operations and Harbour Master for the Prince Rupert Port Authority, was impressed by the transparency displayed by Norwegian officials even during the four-day tour.

"The director of the Norwegian Coastal Administration said they are completely open and transparent about everything they do. The Esso refinery representative openly admitted they're doing the best they can but they're still putting (small trace amounts) of oil in the water. I found that kind of refreshing. I think that's the kind of dialogue we need to engage in B.C.," says Paulson

Ly says both Canada and Norway are among an elite group of countries that have good standards backed by modern equipment, well-trained response organizations and a strong scientific/R&D community. He admits Norway has become world renowned for its oil-spill technology, including booms and skimmers. However, Ly says it's difficult to properly rate Norway's effectiveness globally as it hasn't faced what he terms a major incident.

"It's difficult to comment on (whether we're No. 1). We have our approach and we're satisfied with it. We have had a lot of focus on building continuous better response measures, but we haven't had the really big tanker or offshore incident so we train and try to prepare as best we can," says Ly.

B.C.'s coastline has faced two notable spills. In 2006, more than 29,000 litres (175 barrels) of sludgy bunker oil spilled from freighter Westwood Anette after it hit pilings in high winds as it left a Squamish terminal. In 2007, almost 250,000 litres (1,500 barrels) of oil shot out of the ground, soaking a north Burnaby neighbourhood and seeping into the Burrard Inlet after a construction crew inadvertently hit a Kinder Morgan pipeline with an excavator.

"The two major spills we've been involved with (in Squamish and Burnaby), both we've been on scene in under an hour... and that is a testament to our response times, personnel and equipment," says Mark Johncox, CFO, Western Canada Marine Response Corp.

However, in terms of risk tolerance, do British Columbians have an appetitive for one blowout or even one drop of oil? Powell is uncertain.

"Ultimately society decides how much risk it is prepared to tolerate. Has Canada done that? I'm not sure. For some people in Canada very little risk is tolerable – 'I will not tolerate a drop of hydrocarbon in the water' – and that's clearly unreasonable" says Powell.



## Concluding comments

A selection of quotes\* from delegates on impressions of Norway and lessons for B.C.



Michael Davies, Senior Director, Marine Development, Kinder Morgan Canada (at back) provides his summary comments to the group at an informal debriefing near the tour's end.

"They own the oil. They own the industry. These people have a national energy plan that puts them first and that's why they're all so warm and fuzzy about it and we're not. If you want to embrace something you need to make it beneficial to all the people ... We're not going to be able to solve that overnight. But I like the idea of this exercise, the dialogue and that there are so many representatives from different sectors here. I think our responsibility is to go back and exercise some leadership to have this dialogue continue in each one of our sectors. Much good will come of that looking for solutions."

- Art Sterritt Executive Director, Coastal First Nations Great Bear Initiative Society

"I really believe the gap is small when comparing our industry to theirs. Our vessels are smaller and resources proportionally less as a result of the relative size of our industry and traffic, but the same concepts (of industry-pay preparedness and polluter-pay) are in place."

- Mark Johncox CFO, Western Canada Marine Response Corp. "I believe what we have in place for tanker transit guidelines is at least as good, if not better than, Norway. The one area that we lack is that of community direct engagement in the spill response regime and that was one of the big lessons for me ... I think it's been very helpful to spend these few days together because we come from different perspectives."

- Stephen Brown President, Chamber of Shipping BC

"All of the presentations ... had some application as to what we're going through. Specifically, dealing with community engagement and trying to figure out how you can educate the community through transparency about what the real dangers are of an oil spill and how you could demonstrate your ability to respond to one."

- Mike Little Councillor, District of North Vancouver



I think (the tour has) been a great program. I think we can take a lot away from this. I sure hope we can start that open, frank, honest dialogue back home on both sides of the ledger. I really think with proper planning and buy-in it's doable (to replicate Norway's capacity) and I don't think I'm being naive.

Gary Paulson
 VP Operations and Harbour Master, Prince Rupert Port Authority.

"With all the different interests at play and all the concerns we see from the different groups here over the past few days, it was an awesome opportunity to start a dialogue. I don't think we resolved anything, but we started a dialogue. It just seems clear to me we're looking at a model in Norway that's very, very different than what's going to take place in B.C. It outlines to me the amount of work we have ahead of us as a province to deal with all the interests in relation to this issue."

- Kim Baird

Consultant and former Chief of the Tsawwassen First Nation

"The marine industry is embedded in Norwegian culture and has been for over 1,000 years. When confronted with new marine opportunities they focus heavily on how to do it safely. The best practices employed by Norway to ensure the safe export of oil products are not new to Canada and, in fact, are very similar to procedures we employee now or ones that could easily incorporate into our procedures. Norway does, however, focus relentlessly on prevention and preparedness, and the strength of their system is based on cooperation and constant practising involving local and state governments, industry and First Nations."

> - Mike Henderson Regional Director General of Transport Canada

"I haven't seen anything here in the structure that we don't have in ours. The ability of the Coast Guard, or Transport Canada Minister to direct people to respond, the private-public nature of the response organizations, the polluter pay principle, I haven't seen anything here that we don't have the structure for. The difference seems to be the resourcing of this. So I think we have the ability to replicate all of this."

- Michael Davies Senior Director, Marine Development, Kinder Morgan Canada

"This trip has been an amazing opportunity with superb organization. Kudos to everyone who made it happen.

- Dr. Rob Powell Senior Officer, Priority Conservation Programs WWF-Canada

"The information we have gathered in Norway will be shared with my council and staff in Delta, in order that we can better understand what is happening in Norway and how their experiences, processes and policies possibly apply in our area. We have learned much from each other over these several days together and I look forward to continuing our dialogue."

- Delta Mayor Lois Jackson

\*Some quotes have been edited for length or readability, but were not intended to change meaning or context.











#### TANKER SAFETY

- Safely transporting oil for over 50 years
  Tanker inspection program -random checks and international database
- Aframax tankers required to have two senior BC Coast Pilots in addition to ship's captain
- <
  - Tug escorts
  - Daylight hours
  - Slack tide



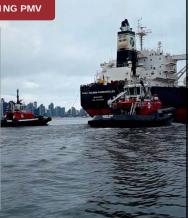
# TANKER SAFETY: INTERNATIONAL REQUIREMENTS Tankers built according to International Maritime Organization regulations Double-hulled, separated cargo holds Ongoing inspections by insurers, classification societies, port and flag state control.

## TANKER SAFETY: APPROACHING PMV

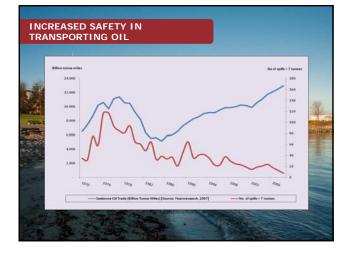
- Within 200 miles of Canada, switch to low-sulfur fuel Get clearance from Canadian Coast Guard and PMV harbour master 2 local BC pilots board vessel at Victoria

#### LOADED TANKERS LEAVING PMV

- 2 local BC pilots on board
  Loaded Aframax tankers require two tethered tugs at the front, one tug at the back
  Loaded tankers transit only during daylight hours, at slark tide

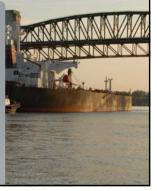


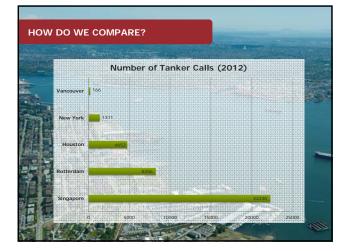




#### EMERGENCY PREPAREDNESS

- In the event of a spill, Coast Guard and PMV harbour patrol are first responders.
- WCMRC is the industry-funded, Transport Canada-certified organization responsible for oil spill cleanup.
- Under Canada Marine Act, the polluter must pay for all cleanup costs no exceptions.
   \$1.37 billion available to pay for cleanup costs.











## **Trans Mountain Expansion Project**

Michael Davies, Senior Director Marine Development September 12, 2013 District of North Vancouver

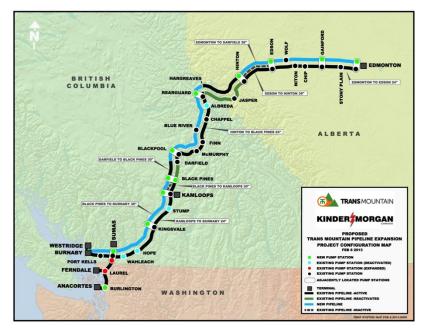






## **Trans Mountain Pipeline**





## Current Operations

- Operating since 1953
- Capacity: 300,000 bpd
- 1150 Km between Edmonton and Burnaby
- Ferndale and Anacortes
- Transports refined products, heavy and light crude oils including dilbit.
- Last expanded in 2008

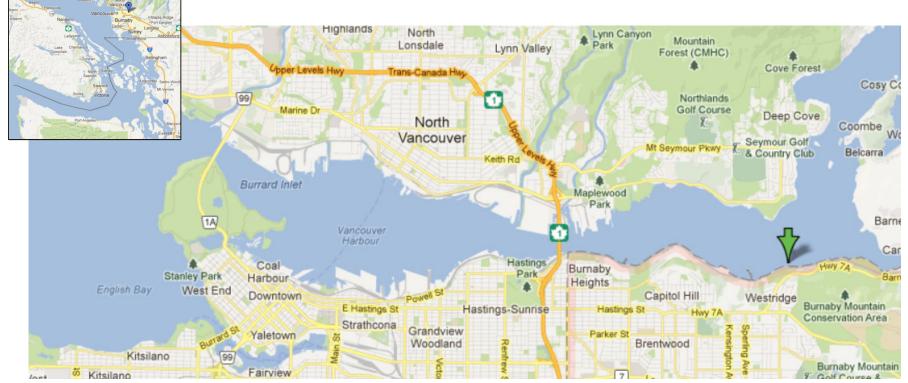
## Proposed Expansion

- Expand capacity to 890,000 bpd
- Customer contracts for ~ 700,000 bpd on 15 and 20 year terms
- Twin remaining 980 Km of pipeline
- Increase pumping capability
- Increase storage capacity
- Increase Puget Sound pipeline capacity
- Add 2 tanker berths
- Increase in tanker traffic not tanker size
- No dredging of 2<sup>nd</sup> Narrows as a requirement of this project





## **Proposed Expansion Project Scope**



- One tanker berth face
- Partially (85%) laden Aframax
  - Typically 5 tankers /month
  - 2 crude oil barges /month
  - 1 jet fuel barge (receiving) /month
- ~3% of PMV traffic

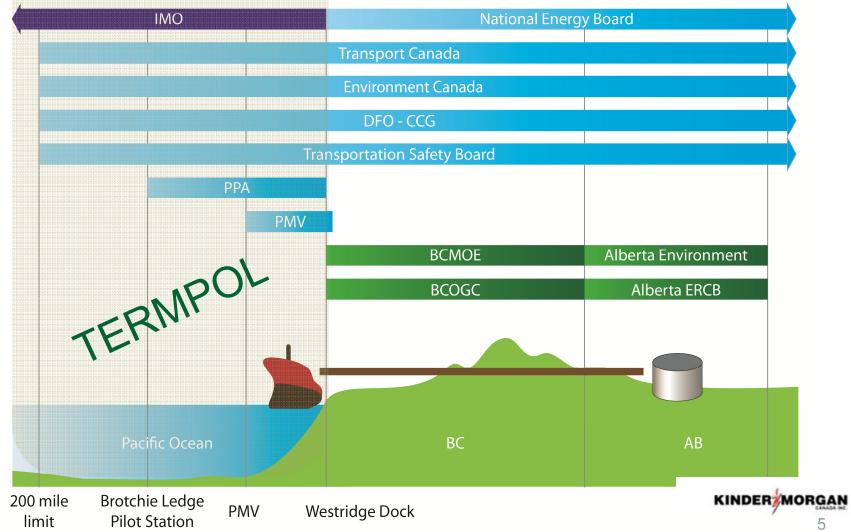
- Three tanker berth faces
- Partially (85%) laden Aframax
  - Up to 34 tankers /month
  - 2 crude oil barges /month
  - 1 jet fuel barge (receiving) /month
- ~14% of current PMV traffic







## **Regulatory Oversight of Crude Oil Transport Operations**



### **Project Application Requirements**



NEB Application must describe effect of the project on the environment including those from normal operations and from accidents and malfunctions:

 The potential environmental and socio-economic effects of marine shipping activities that would result from the proposed Project, including the potential effects of accidents or malfunctions that may occur.

TERMPOL is a voluntary multi-agency review of the navigation infrastructure and regulation led by Transport Canada.



6



### What is changing?

- Same products
- Same vessels
- Same route
- Increased Frequency

## KINDER/MORGAN PUSET SOURD PRELING PUSET SOURD PRELING

### Expect:

- Navigation safety enhancements
  - TERMPOL review
- Spill response enhancements
  - TMEP work with WCRMC
  - Federal tanker safety review
  - BC's five conditions



TRANS MOUNTAIN



### Next Steps

- Facilities Application to be filed to the National Energy Board in late 2013
- This will initiate the NEB's comprehensive review of the application
- Public participation in the review
- Decision to be made in 2015









### **CONTACT US:**

**Trans Mountain Expansion Project** 



Email: info@transmountain.com



Phone: 1.866.514.6700





@TransMtn

2844 Bainbridge Avenue

PO Box 84028 Bainbridge

Burnaby, BC V5A 4T9



Celebrating 60 Years



## CELEBRATING

### YEARS OF SERVICE **1953** to **2013**





### ADDITONAL SLIDES

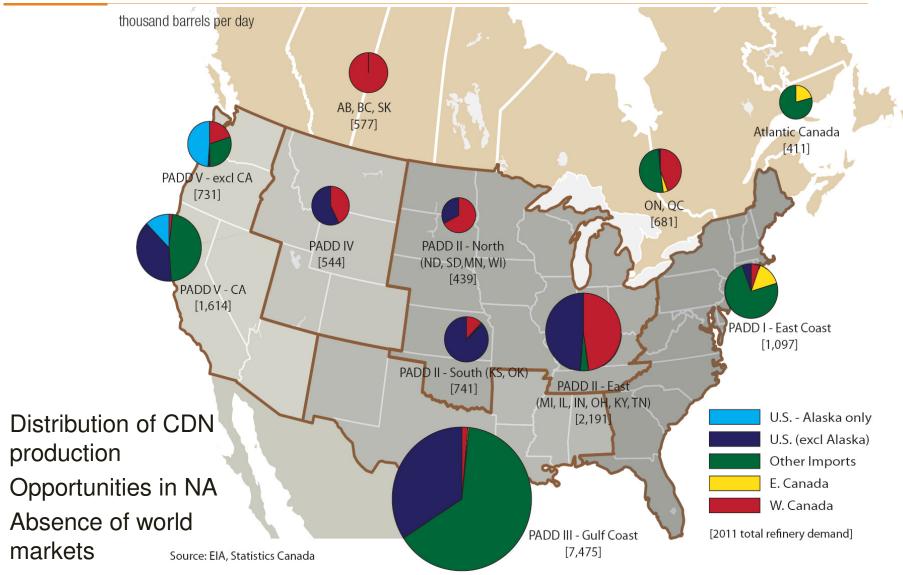




### West Coast Access – Oil Markets

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### **Economic Benefits**





- \$5.4 B Capital Spending (to 2018)
   60% to be spent in BC
- \$5.9 B in Operating Expenditures (2019 2048)
- \$2.34 B tax revenues to 3 levels of government (2019 2048)
  - \$1 billion to Government of Canada
  - \$640 million to provincial governments
    - BC: \$355 million
  - \$700 million in increased property taxes to municipal governments during operations
    - BC: \$600 million, \$22 million annually





### **Opportunities for North Van**

TMEP held an open house in North Van last year and representatives have been meeting with local community organizations, environmental groups, and local governments to identify concerns and interests in the project.

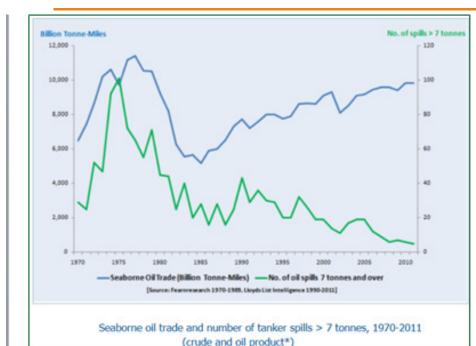
- Local procurement
- Jobs (with KMC or in the harbour)
- Training (e.g. BCIT Marine Campus \$250K contribution)
- Emergency preparedness, community coordination
- Detailed mapping, shoreline analysis
- Other related community investments

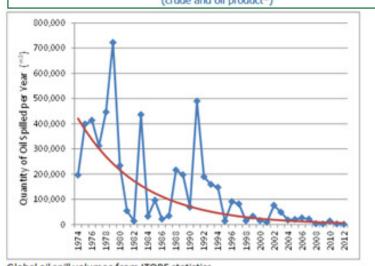




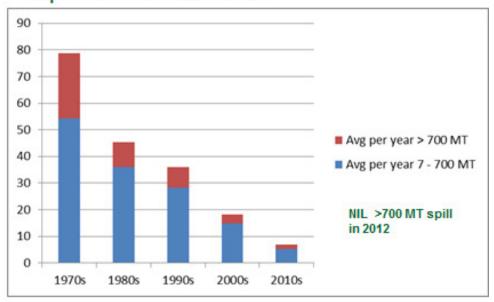
### **Global Tanker Safety**





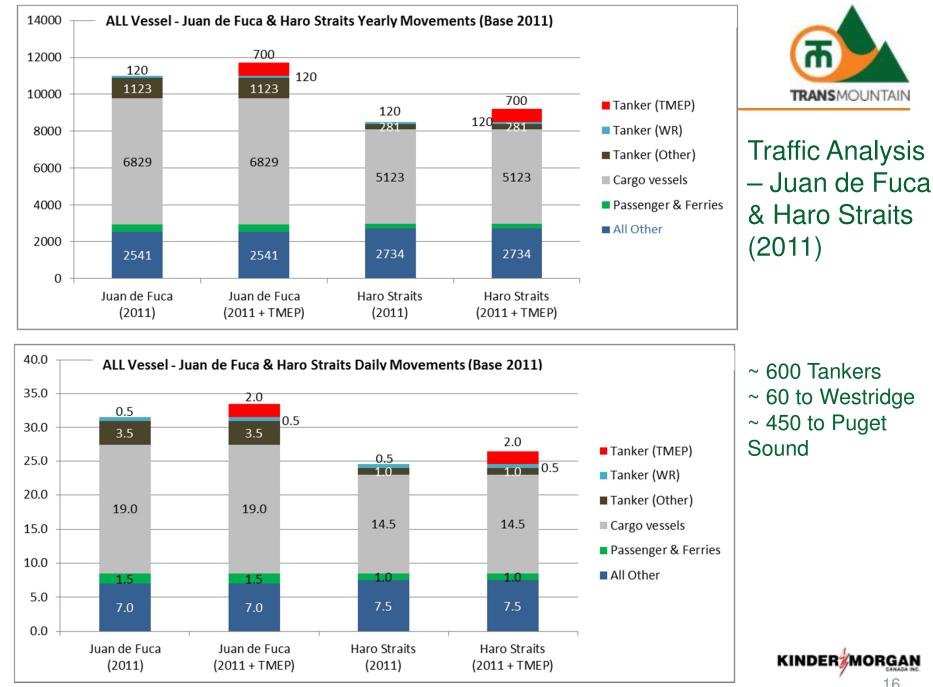


Clearly developments in the design and operation of tankers, stringent global oversight rules, regulations and heightened attention to safety procedures have all contributed towards significant reduction in the possibility of spills from oil tankers

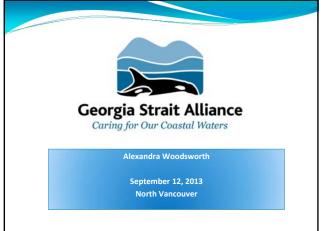


Average number of medium and large oil spills per decade.

Statistics from ITOPF (www.itopf.com)



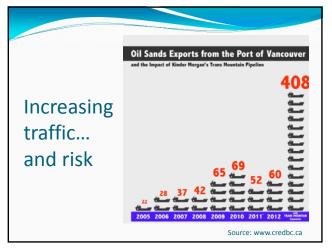
Based on 2011 AIS information from Marine Exchange





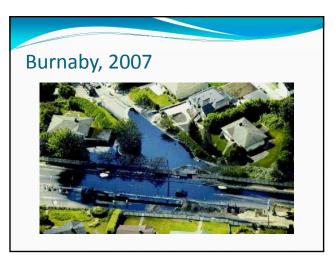


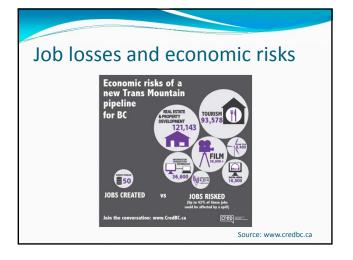














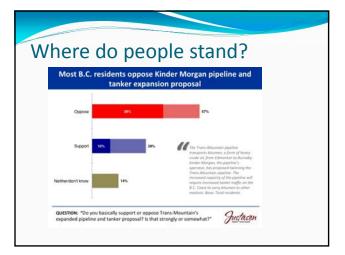






- Tar sands 3x more carbon intensive than conventional oil
- 'Carbon spill' of 400,000 tonnes per tanker load, 112 million tonnes per year (twice BC's total annual emissions)





### Get informed, get involved

- Inform yourself and your network
- Federal, provincial and municipal representatives
- National Energy Board review

www.georgiastrait.org www.salishseaaction.org



### Home News Kinder Morgan Proposal What You Can Do

### Slideshow



About Sacred Trust

The Sacred Trust is an initiative of the Tsleil-Waututh Nation. The Sacred Trust is mandated to oppose and stop the Kinder Morgan Trans Mountain pipeline project. This site is officially sanctioned by Tsleil-Waututh Chief and Council. The information shared on this site is from many sources and is presented without prejudice. Learn More...

### Kwel hoy': "We Draw the Line" Totem Raising Photo Gallery

October 11, 2013 Filled underNews



Back

Picture 1 of 15

The Sacred Trust is an initiative of the Tsleil-Waututh Nation

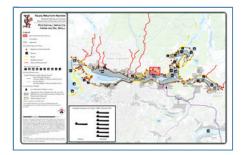


### Subscribe to get updates

Please sign up if you are interested in receiving news about Sacred Trust and our protest of the Kinder Morgan pipeline.

First name	
Last name	
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Maps



### TwitterFeed



TWNSacredTrust Tsleil-Waututh Sacred Trust Initiative [OFFICIAL PAGE]. The Sacred Trust is mandated to oppose and stop the Kinder Morgan Trans Mountain pipeline project.

@tsleilwaututh leads a ceremony on #Thanksgiving
to #heal the #water from

Next 🕨

### Kwel hoy': "We Draw the Line" Tsleil-Waututh Nation accepts a gift in solidarity, connecting Nations along the West Coast

September 29, 2013 Filled underNews

North Vancouver, B.C. Coast Salish Territory: September 29, 2013 - Tsleil-Waututh Nation unveils a gift from master carver Jewell James of the Lummi Tribe. This unique Totem will stand tall in the Tsleil-Waututh community as a permanent symbol of solidarity among Coast Salish Nations opposing destructive fossil fuel projects like Kinder Morgan's project to twin the already existing pipeline that runs from Alberta's tar sands to Burnaby's Westridge Terminal which will increase oil tanker traffic along the West Coast. This will have a devastating impact on both the Tsleil-Waututh Nation, people of the Inlet, and the Lummi Nation, people of the Sea.

"In accepting this wonderful gift of unity, we are also sending a clear message to Kinder Morgan: *Kwel hoy*' - meaning We Draw the Line in the traditional Lummi language," says Chief Maureen Thomas, Tsleil-Waututh Nation. "We will do what it takes to protect our community, our land and our water from oil spills, and to heal the land and water from the harm Kinder Morgan and its predecessors have already done."

The journey of this totem pole has connected people by standing together in solidarity with one another to protect their sacred lands and waters of their ancestors. Uniting First Nations across North America sends a strong message that we are one, and we will stand together to protect our sacred Mother Earth.

"We come in peace with this gift, which affirms our unified stand to protect the Salish Sea from the Kinder Morgan Trans Mountain proposal and other destructive fossil fuel projects," says Jewell James, carver of the pole and Director of the Lummi Nation's Sovereignty and Treaty Protection Office. "The devastation of an Exxon-Valdez like oil spill will know no international boundaries.

Earlier this year, with Kinder Morgan's plan to triple the volume of bitumen transported by tanker through the Salish Sea on the horizon, the Tsleil-Waututh and Lummi Nations joined other Coast Salish nations in signing the International Treaty to Protect the Sacred from Tar Sands Projects. The Treaty commits tribal signatories to "mutual, collective, and lawful enforcement of our responsibilities to protect our lands, waters, and air by all means necessary."

### About Tsleil-Waututh Nation:

Tsleil-Waututh Nation is a progressive and vibrant Coast Salish community of approximately 500 members. The Nation is located along the shores of Burrard Inlet in North Vancouver, B.C., Canada, across the Inlet from the Burnaby terminus of Kinder Morgan's Trans Mountain pipeline.

The Nation's Sacred Trust Initiative is mandated to oppose and stop the Kinder Morgan Trans Mountain pipeline project. Follow the Tsleil-Waututh Sacred Trust Initiative on Twitter: <u>@TWNSacredTrust</u>.

For more information please visit www.twnation.ca

Media Contact:

Tsleil-Waututh Nation 604-358-3371 media@twnation.ca

Media backgrounder: http://twnsacredtrust.ca/we-draw-the-line-why-the-tsleil-waututh-nation-israising-a-totem-pole-in-our-territories

### Press Package:

Photos of Totem Pole raising, September 29, 2013, Tsleil-Waututh.

### #oiltankershttp://t.co/qdpY20jukG #northvan #FirstNations

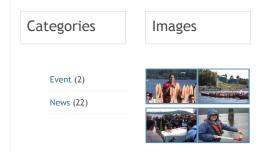
Mon 14th Oct 13 22:55

#totempole standing tall outside our community
centre #solidarity #WeAreOne #wedrawtheline
protecting #motherearth http://t.co/wbpIFcDs50
Sun 29th Sep 13 18:12

#Totempole from Lummi Nation our relatives across the boarder who stand with us to protect #motherearth http://t.co/WQbjNEKpbV Sun 29th Sep 13 18:11

@Blubdha @Khelsilem it would be an honour to have as many people possible to come and show their support and stand with us in solidarity! Sat 28th Sep 13 12:44

Unique #totempole unveiling this Sunday #wedrawtheline please come witness @CAThomas7 @GWLeah @edgegeo@Khelsilem http://t.co/Yv75JRR6oe Sat 28th Sep 13 11:40



### Media Information & Contact

### Media Contact:

e: media@twnation.ca

Tsleil-Waututh Nation is a progressive and vibrant Coast Salish community of approximately 500 members. The Nation is located along the shores of Burrard Inlet in North Vancouver, B.C., Canada, across the Inlet from the Burnaby terminus of Kinder Morgan's Trans Mountain pipeline.

The Nation's Sacred Trust Initiative is mandated to oppose and stop the Kinder Morgan Trans Mountain pipeline project.

For more information please visit <u>www.twnation.ca</u>.



### We Draw the Line: Why the Tsleil-Waututh Nation is raising a totem pole in our territories

September 29, 2013 Filled underNews

On September 29, 2013, the Tsleil-Waututh Nation will welcome a powerful totem pole to our territories, the gift of our Salish relatives, the Lummi people. The Lummi Nation's House of Tears Carvers have created a tradition of carving and delivering totem poles to areas struck by disaster or otherwise in need of hope, healing and protection. With this in mind, Master carver Jewell James has focused on the Salish Sea, the sacred landscape of both our nations. This gift unites the Tsleil-Waututh Nation with the Lummi Nation and all nations and allies who are opposed to new proposals to ship fossil fuels through the Salish Sea that would threaten sacred sites, the health of human populations and the integrity of marine ecosystems. The totem pole, which has journeyed along the coal train route from Montana through Washington State, will be raised in Tsleil-Waututh territories, looking across the Burrard Inlet to the holding tanks at Westridge Terminal site where Kinder Morgan loads crude oil and bitumen from the Trans Mountain pipeline onto tankers.

Kinder Morgan is proposing to build a new Trans Mountain pipeline roughly parallel to the existing pipeline built in 1953 from Alberta's tar sands to the Lower Mainland. A new pipeline would triple the amount of bitumen shipped through the traditional territories of the Tsleil-Waututh Nation, including the waters of the Burrard Inlet and the Salish Sea, from the current 300,000 barrels per day to 890,000. Tanker traffic - and with it, the risk of a catastrophic spill – would increase dramatically, with one or more supertankers per day loading at Westridge Terminal in Burnaby and transiting through Vancouver's harbour.

Tsleil-Waututh, the people of the Inlet, have always relied on the bounty of the local waters and shores, which historically supplied us with a secure source of food. We have said "no" to a new pipeline because of our experience with the old pipeline and the degradation of the Inlet. The existing pipeline has had four major leaks since Kinder Morgan took over pipeline operations in 2005 and two leaks in the past six months. The 2007 rupture of the pipeline in a Burnaby neighborhood spilled almost 250,000 litres (1500 barrels) of crude oil; enough flowed into Burrard Inlet to mark the shore on the other side. A spill in Burrard Inlet or the Salish Sea could result in more than \$10 billion in economic costs alone and could never be fully cleaned up or remediated. The environmental effects of such a catastrophe would be irreversible.

Tsleil-Waututh Nation has voiced strong public opposition to a second Kinder Morgan pipeline. Tsleil-Waututh has established the Sacred Trust Initiative with the goal of stopping the Kinder Morgan Trans Mountain pipeline project. On September 1, 2012, Tsleil-Waututh and the Squamish Nation signed a historic declaration committing our two nations to jointly opposing Kinder Morgan's plans for a new pipeline.

The Lummi Nation is fighting a proposal to build North America's largest coal port on their traditional territory, in an area of that encompasses burial grounds. Construction of a terminal at Cherry Point (which the Lummi call Xwe'chi'eXen) in Washington State would result in significant interference with Lummi treaty rights and irreversible and irrerievable damage to Lummi spiritual values. The Lummi Nation is concerned not only about the destruction of their sacred sites, but also about the deterioration in air quality and contamination of water and soil as a result of fugitive coal dust dispersal. Shipping of coal could also have devastating impacts on fishing and fishing rights along the Washington coast. As a result, in 2012 the Lummi Nation adopted a formal position opposing the proposed project. As Lummi Councilman Jay Julius, in opposing the proposed coal port, has said, Kwel hoy': "We draw the line." The

name Kwel hoy' has also been given to the sacred totem pole.

The combined transits of ships carrying coal and supertankers loaded with bitumen through the same narrow transits of the Salish Sea make an oil spill virtually inevitable. Concerned groups on both sides of the border are supporting and applauding the efforts of the Tsleil-Waututh and Lummi Nations to protect the Salish Sea and prevent it from being turned into a fossil fuel corridor.

### For more information:

About Tsleil-Waututh Nation and the Sacred Trust Initiative:

- <u>http://www.twnation.ca/</u>
- <u>http://twnsacredtrust.ca/</u>

About the totem pole and its journey:

- https://www.facebook.com/events/414359498670663/
- <u>http://ravenredbone.wordpress.com/tag/cherry-point/</u>
- <u>http://www.indiegogo.com/projects/kwel-hov-we-draw-the-line-a-totem-pole-journey-to-fight</u>
   <u>big-coal</u>
- <u>http://totempolejourney.com/petition/</u>

### Tsleil-Waututh Nation to Kinder Morgan- Kwel hoy': "We Draw the Line" against destructive fossil fuel projects

September 28, 2013 Filled underEvent, News

The Tsleil-Waututh Nation will be unveiling a Totem Pole, Sunday, September 29th, as a permanent symbol of cross-border unity among Coast Salish nations opposing destructive fossil fuel projects like the proposed Kinder Morgan pipeline and tanker expansion. Click on the headline above for event details. <u>more</u>

### Tsleil-Waututh Nation Dismayed by Latest Kinder Morgan Spill, Harper Government Announcement

June 28, 2013 Filled underNews

June 27, 2013 - Tsleil-Waututh Nation is dismayed, but not surprised, by the news today of a second oil spill in as many weeks on Kinder Morgan's Trans Mountain pipeline. <u>more</u>

### Tsleil-Waututh Nation Calls Attention to Pipeline Risks After Kinder Morgan Spill

June 13, 2013 Filled underNews

NORTH VANCOUVER, BC, June 13, 2013 - Tsleil-Waututh Nation is calling attention to the risks associated with pipelines after an oil spill shut down Kinder Morgan's Trans Mountain pipeline yesterday. The 12-barrel spill occurred near Merritt, B.C., while Kinder Morgan was performing maintenance on the line.

"This incident demonstrates that with pipelines, spills are inevitable," says Chief Maureen Thomas, Tsleil-Waututh Nation. "Kinder Morgan may call this a 'small' spill, but 12 barrels spilled in any one location is not insignificant. If that amount spilled in our community, it would have a tremendous impact on the health of our people and the local wildlife."

"This spill should be a wake up call for all of us," says Gabriel George, Project Manager, Culture & Language, Sacred Trust Initiative, Tsleil-Waututh Nation. "Kinder Morgan says that there has been no impact to any water course and no threat to the public, but what about the next spill? They are proving that they can't eliminate the threat posed by their pipeline."

Tsleil-Waututh Nation is adamantly opposed to Kinder Morgan's proposal to build a new pipeline to bring crude oil/bitumen to foreign markets through Burrard Inlet and the Salish Sea. The proposal would see the transport of crude oil expanded from its present level of approximately 300,000 barrels per day to 890,000 barrels per day. The pipeline terminates in Tsleil-Waututh territory. The Nation has experienced the results of crude oil handling and refining on Burrard Inlet for a number of decades.

### Tsleil-Waututh Nation Commends Government of BC for Rejecting Northern Gateway Proposal

May 31, 2013 Filled underNews

http://twnsacredtrust.ca/

NORTH VANCOUVER, May 31, 2013 - Tsleil-Waututh Nation is commending the Government of BC on its announcement today regarding Enbridge's Northern Gateway pipeline. The Province stated that it cannot support the project as presented because it has not been able to address British Columbians' environmental concerns.

"Today we raise our hands to Premier Clark and the Government of BC for making the right decision. It reassures us that the people of British Columbia are being heard when it comes to the health of our environment," says ChiefMaureen Thomas, Tsleil-Waututh Nation. "We feel certain that when the province applies their five criteria to Kinder Morgan's proposal that they will find that it also fails to meet those basic standards."

Tsleil-Waututh Nation stands firm with First Nations across BC who believe the risks associated with mega pipeline projects are too great to accept. More than 160 Nations have signed the *Save the Fraser Declaration*, an Indigenous law ban on tar sands pipelines through First Nations traditional territories. It also bans tar sands oil tankers in the ocean migration routes of Fraser River salmon on the north and south coasts of British Columbia.

"The announcement today goes a long way toward supporting our work here in Burrard Inlet," says Gabriel George, Project Manager, Culture & Language, Sacred Trust Initiative. "It is our sacred trust to care for our lands and waters and ensure that pipeline projects won't further impact the their health. We are standing up on behalf of everyone to protect these waters for future generations."

Tsleil-Waututh Nation supports sustainable economic development. The Nation has developed and invested in TWN Wind Power, a sustainable energy company that offers communities an opportunity to generate clean energy through small wind power.

Tsleil-Waututh Nation is adamantly opposed to Kinder Morgan's proposal to build a new pipeline to bring crude oil/bitumen to foreign markets through Burrard Inlet and the Salish Sea. The proposal would see the transport of crude oil expanded from its present level of approximately 300,000 barrels per day to 890,000 barrels per day. The pipeline terminates in Tsleil-Waututh territory. The Nation has experienced the results of crude oil handling and refining on Burrard Inlet for a number of decades. The Nation is expecting government-to-government consultation on this project.

### Tsleil-Waututh Nation Deeply Concerned by Kinder Morgan Project Description

May 28, 2013 Filled underNews

New infrastructure at Westridge Terminal, Burnaby tank farm pose grave risk to Burrard Inlet

NORTH VANCOUVER, BC, May 28, 2013 - Tsleil-Waututh Nation is disturbed by details revealed in Kinder Morgan's Project Description filed last week with the National Energy Board. The document outlines further details for the new Trans Mountain pipeline. Of particular concern to the Nation is the tripling of oil storage tank capacity in Burnaby and the significant expansion of the Westridge Marine terminal.

"Kinder Morgan's plans should concern us all," says Chief Maureen Thomas, Tsleil-Waututh Nation. "They are proposing a huge increase in infrastructure that will run right through the heart of countless neighbourhoods and territories. Not only do we need to be worried about the impact of a natural disaster or a pipeline failure, but daily operations also leak so-called 'acceptable' amounts of oil into the environment. All of our communities will be exposed to dangerous pollutants."

Kinder Morgan's plans call for the existing 13 oil storage tanks in north Burnaby to be doubled to 26 and their capacity tripled to 890,432 cubic metres of oil. The Nation has grave concerns about such a significant amount of oil being stored in close proximity to Burnard Inlet. In 2012, Kinder Morgan spilled approximately 90,000 litres of crude oil at its Sumas tank farm. The company was criticized by the NEB for late detection of the leak and not following procedures. Operators ignored warning alarms for three-and-a-half hours before responding.

The project also calls for a replacement of the docks at the Westridge Marine Terminal in order to accommodate three tanker berths. The company may need to dredge the Inlet in order to conduct this work. Dredging could have a serious impact on the health of the Inlet as it stirs up toxins that have settled in the sediment.

"When our people paddle on the water, we see the impact of 'everyday operations' on the health of the Inlet. We see the sheen on the water and on the shore. We can no longer eat the shellfish from our beaches," says Gabriel George, Project Manager, Sacred Trust Initiative, Tsleil-Waututh Nation. "Our Nation has a sacred trust, a responsibility to care for our lands and waters. We must protect what we have left and work together to restore what we have lost. We cannot support Kinder Morgan's new pipeline."

Pipeline projects face strong opposition from First Nations in BC. More than 160 Nations have signed the *Save the Fraser Declaration*, an Indigenous law ban on tar sands pipelines through First Nations traditional territories. It also bans tar sands oil tankers in the ocean migration routes of Fraser River salmon on the north and south coasts of British Columbia.

Tsleil-Waututh Nation is adamantly opposed to Kinder Morgan's proposal to build a new pipeline to bring crude oil/bitumen to foreign markets through Burrard Inlet and the Salish Sea. The proposal would see the transport of crude oil expanded from its present level of approximately 300,000 barrels per day to 890,000 barrels per day. The pipeline terminates in Tsleil-Waututh territory. The Nation has experienced the results of crude oil handling and refining on Burrard Inlet for a number of decades. The Nation is expecting government-to-government consultation on this project.

### Tsleil-Waututh Nation Applauds Adrian Dix and the NDP for Taking A Stand Against Kinder Morgan

April 22, 2013 Filled underNews

The Tsleil-Waututh Nation has been adamantly opposed to Kinder Morgan's expansion of its Trans Mountain Pipeline since plans were first made public. The existing pipeline runs nearly 1,100 km from the Alberta tar sands to Westridge Terminal in the Burrard Inlet, the core of Tsleil-Waututh territory. <u>more</u>

### National and International Indigenous Leaders Support Tsleil-Waututh Nation Signing International Treaty to Protect the Sacred from Tar Sands Projects

April 19, 2013 Filled underEvent, News



TSLEIL-WAUTUTH/COAST SALISH TERRITORY, VANCOUVER, BC, April 19, 2013 - A group of influential Indigenous leaders joined Chief Maureen Thomas and Council of the Tsleil-Waututh Nation in the signing of an International Treaty to protect land, water and indigenous way of life against the tar sands projects. With ratification from Keystone XL, Enbridge Northern Gateway, Enbridge Line 9 and now Kinder Morgan opposed nations, the International Treaty to Protect the Sacred from Tar Sands Projects effectively closes off all exits for tar sands oil to international markets.

The Treaty signing was witnessed at the Sheraton Wall Centre in Vancouver by National Chief Shawn-Ain-chut Atleo, Grand Chief Stewart Phillip of the Union of BC Indian Chiefs, Hereditary Chief Phil Lane Jr. of the Ihanktonwan Dakota and Chickasaw Nations, and Deborah Parker, Vice Chair Woman of the Tulalip Tribes.

The International Treaty to Protect the Sacred from Tar Sands Projects was signed by Tsleil-Waututh Chief Maureen Thomas and Jewell James of the Lummi Tribe. The Treaty was created by the Yankton Sioux and Pawnee Nations and has since been signed by more than 10 Indigenous Nations since its creation in January 2013. The Tsleil-Waututh is the first Nation to sign the Treaty opposing Kinder Morgan.

"The Tsleil-Waututh Nation have a sacred trust, a responsibility to care for our lands and waters," said Tsleil-Waututh Chief Maureen Thomas. "By signing this Treaty, we assert our right to protect our way of life, and to partner with other impacted Nations and Tribes who are taking a stand against tar sands projects. We hope this treaty will send a strong signal to Kinder Morgan and other pipeline companies, that there will be no exit for tar sands oil."

"The Assembly of First Nations strongly supports Tsleil-Waututh First Nation's emphasis on partnerships with the surrounding community and actions to enhance relations with fellow Coast Salish peoples and with other indigenous peoples to address common issues," said Assembly of First Nations National Chief Shawn-A-in-chut Atleo. "This Treaty and these actions represent the implementation of key provisions of the United Nations Declaration of the Rights of Indigenous Peoples at a time when First Nations, across the country, are shaping the future of development, sustainability and protection of their lands as necessary. This treaty advances the standard of free, prior and informed consent and ensures that indigenous peoples are coordinating and supporting one another in the advancement of their rights and responsibilities."

Following the Treaty signing, First Nations, environmentalists and public leaders are gathering for the West Coast Oil Pipeline Summit. The conference looks at the concept of transitioning from oilgenerated energy to alternative forms of renewable energy production. The event was designed using speakers from various backgrounds and expertise in order to generate dialogue on a very complex issue. Speakers include Mayor Gregor Robertson of Vancouver, Mayor Derek Corrigan of Burnaby, Grand Chief Stewart Phillip, President, Union of BC Indian Chiefs, Paul Kariya, Executive Director, Clean Energy BC, Dave Coles, President of the Communications, Energy and Paperworkers Union, andRobyn Allan, Economist.

The Tsleil-Waututh Nation is a growing community of 500 located on the north shore of the Burrard Inlet near the neighbourhood of Deep Cove. Tsleil-Waututh traditional territory with its land and waters has been home to the Nation since time out of mind and encompasses approximately 190,000 hectares (720 square miles). The Tsleil-Waututh Nation is not opposed to development, rather it focuses on sustainable projects and methodologies and has been successful in economic development for 20 years.

For more information about the West Coast Oil Pipeline Summit, please visit www.twnation.ca

### Sacred Trust - Protecting Tsleil-Waututh Territory

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Next Page »

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### Home News Kinder Morgan Proposal What You Can Do

### Kinder Morgan Proposal



In April 2012, Kinder Morgan announced that they want to build approximately 900 km of new pipeline along the Trans Mountain Pipeline so that the company can transport heavy crude oil from the tar sands in Alberta for refinement in foreign markets. This would more than double the amount of heavy crude travelling through BC from 300,000 barrels to 750,000 barrels. The company would also need to build pumping stations along the pipeline route and expand the Westridge Terminal on the Burrard Inlet.

This proposal comes at a time when there are huge changes being made to the environmental laws in Canada that govern these mega-projects. On June 29, 2012 Bill C-38 became law. It included the repealing of the Canadian Environmental Assessment Act. This new law means that the Prime Minister and his Cabinet Ministers can have the final decision for the pipeline project, regardless of input of environmental or any other assessments.

The Federal Government also announced the reduction of science personnel across government and the closure of the Pacific Coast's oil-spill response centre, which will diminish capacity to prevent, monitor, and respond to environmental disasters.

The Kinder Morgan Trans Mountain Pipeline Project could have serious and far-reaching environmental, economic, and health repercussions for people in BC.

### Kinder Morgan's Record of Spills

Since the 1960s, the longest period of time the Trans Mountain Pipeline has gone without a spill is approximately four years. Most of these spills have been of crude oil. Crude oil spills have dire and long-lasting impacts on the environment, and are incredibly difficult to clean.

Below are notable spills originating from Kinder Morgan facilities in the last ten years.

### On the south coast of BC:

July 24, 2007: 232,000 litres of crude oil spilled out of the pipeline in Burnaby, BC. The crude oil flowed through neighbourhood storm sewers and ditches before entering and contaminating a large portion of Burrard Inlet.

May 6, 2009: an estimated 200,000 litres of crude oil leaked from Kinder Morgan's oil storage facility in Burnaby, BC.

January 31, 2012: an estimated 110,000 litres of crude oil leaked from Kinder Morgan's oil storage facility on Sumas Mountain in Abbotsford.

### Elsewhere in North America:

November 9, 2004: Five people were killed in an explosion when an excavator hit a Kinder Morgan gas pipeline in Walnut Creek, California. Kinder Morgan had failed to properly mark the pipeline's location, and the excavator operator had been given an inaccurate map.

### Tanker Traffic

The Trans Mountain Pipeline project could result in a massive increase of tanker traffic in the Burrard Inlet. Now, approximately 30 to 70 tankers move through the Inlet per year. The project would see this number increased to between 300 and 360 large crude oil tankers per year.

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Please sign up if you are interested in receiving news about Sacred Trust and our protest of the Kinder Morgan pipeline.

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### Archives

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### Categories

Event

### Kinder Morgan Proposal | Sacred Trust

### Along the Pipeline Route

The Trans Mountain Pipeline project has the potential to affect thousands of landowners along the proposed route. Land uses along the existing Trans Mountain Pipeline route have changed over time. While Kinder Morgan says the project will remain within the

existing right-of-way, that right-of-way does allow for expropriation of land if necessary.

### Kinder Morgan Trans Mountain Pipeline: A Risk Too Great to Accept

Kinder Morgan is one of the largest energy companies in North America, operating pipelines and facilities that transport and handle natural gas, crude oil, jet fuel, refined petroleum and more. The company intends to more than double the capacity of its Trans Mountain Pipeline, which extends approximately 1100 km between Edmonton, Alberta and the Westridge Marine Terminal on the south shore of the Burrard Inlet.

The pipeline project is not intended to meet the energy needs of the Lower Mainland or British Columbia. The crude that the pipeline will carry is for export and will not be refined in Canada.

British Columbia is one of the most beautiful and livable places in the world. There is just too much at stake to allow this project to proceed. It's time to stand together against this proposal.

Click here for a copy of our Kinder Morgan information brochure.

### Sacred Trust Media Contact

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### Trans Mountain Expansion Project Westridge Terminal Expansion

**District of North Vancouver** 

November 6, 2013







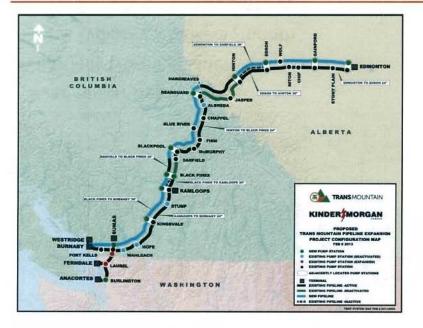


### Agenda: TMEP Project Update

- Project Overview and Status
- Terminals
- Environmental Studies & Emergency Response
- Engagement
- Areas of Interest to North Vancouver

### **Trans Mountain Pipeline**





**Current Operations** 

- Operating since 1953
- Capacity: 300,000 bpd
- 1150 km between Edmonton and Burnaby
- Ferndale and Anacortes
- Transports refined products, heavy and light crude oils including dilbit
- Last expanded in 2008, including 150 km of pipeline twinned for the Anchor Loop Project

### Proposed Expansion

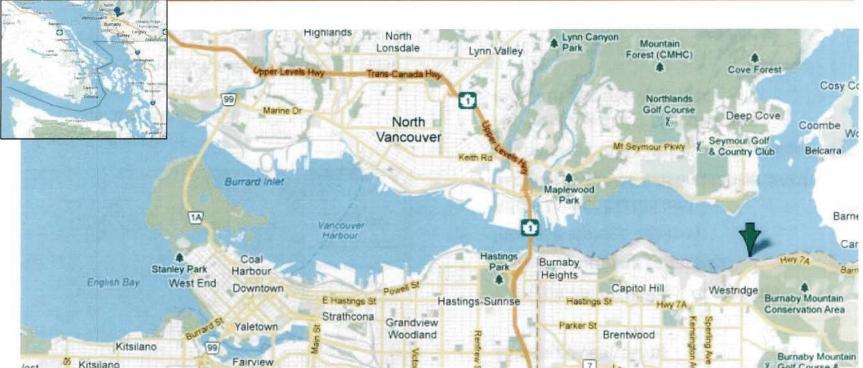
- Expand capacity to 890,000 bpd
- Customer contracts for ~ 700,000 bpd on 15 and 20 year terms
- Twin remaining 980 km of pipeline
- Increase pumping capability
- Increase storage capacity
- Add 3 tanker berths and decommissioning existing tanker berth
- Increase in tanker traffic not tanker size
- No dredging of 2<sup>nd</sup> Narrows as a requirement of this project

### 



4

### **Proposed Expansion Project Scope**



- One tanker berth
- Partially (75-85%) laden Aframax
  - Typically 5 tankers /month
  - 2 crude oil barges /month
  - 1 jet fuel barge (receiving) /month
- ~3% of PMV traffic

- Three tanker berths
- Partially (75-85%) laden Aframax
  - Up to 34 tankers /month
  - 2 crude oil barges /month
  - 1 jet fuel barge (receiving) /month
- ~14% of current PMV traffic



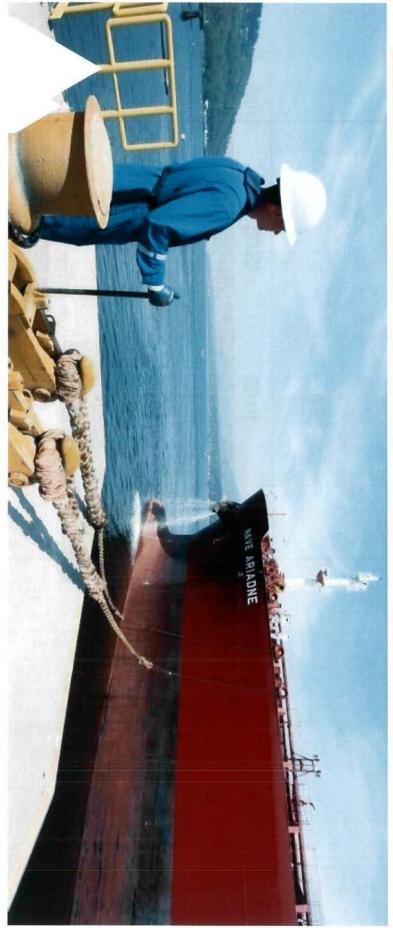
### **Trans Mountain Expansion Schedule**



KINDER



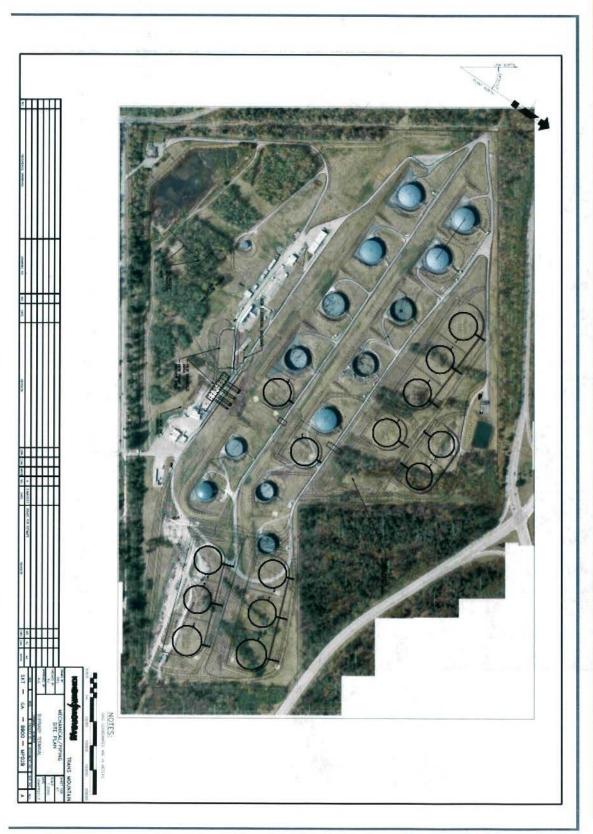
### TERMINALS



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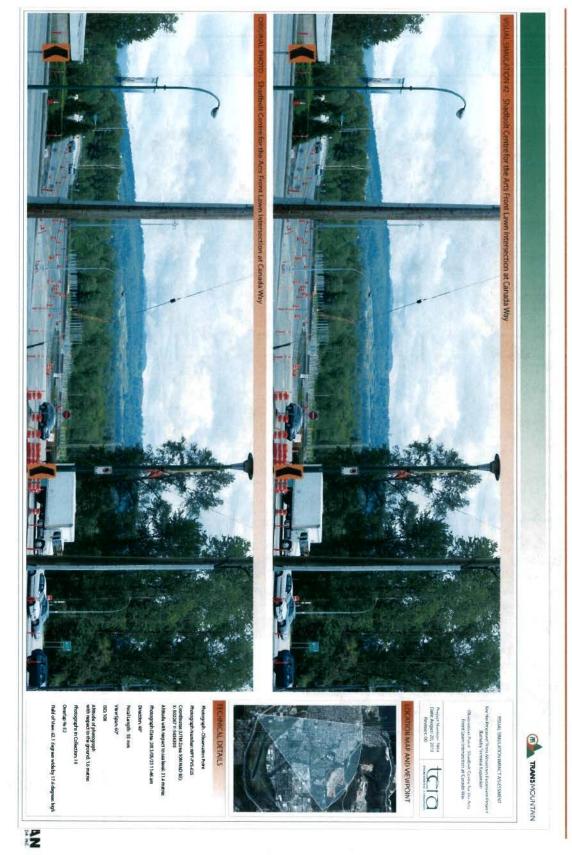
## **Burnaby Terminal**







# **Burnaby Terminal, from Canada Way**



### **Burnaby Terminal**



Existing	Planned (additional) within existing site
<ul> <li>Tanks and Containment</li> <li>13 tanks with a total 1.6 million bbl capacity</li> <li>Current upgrading – Existing secondary containment areas are being upgraded to include membrane liners. The program started in 2010 and will be complete in 2016</li> </ul>	<ul> <li>Tanks (all within the existing site)</li> <li>14 new tanks with a total of 3.9 million bbl capacity</li> <li>Removal of an existing tank, number 74, to make room for one new tank</li> <li>After expansion, there will be 26 tanks on-site</li> <li>All tanks will have floating roofs with seals to reduce emissions</li> <li>Tanks with TVAUs (see below) will have fixed roofs, ither steel cone roofs or aluminum dome roofs</li> <li>New secondary containment areas with membrane liners</li> <li>Tank colour to be determined with public input. Lighter colours reduce emissions.</li> </ul>
Tank Vapour Adsorption Units (TVAU) Installed on three tanks (87, 88, 90)	<ul> <li>Tank Vapour Adsorption Unites (TVAU)</li> <li>To be installed on new tanks intended to store higher odour products</li> </ul>
<ul> <li>Pipelines &amp; Piping</li> <li>24-inch pipeline from Edmonton entering from the southeast</li> <li>24-inch pipeline to Westridge Marine Terminal exiting to the northwest</li> <li>Manifold Area</li> </ul>	<ul> <li>Pipelines &amp; Piping</li> <li>New 36-inch pipeline from Edmonton entering from the southeast</li> <li>Two new 30-inch lines to the Westridge Marine Terminal from the Burnaby Terminal exiting to the northwest</li> <li>New Manifold Area interconnected to existing Manifold Area, existing pipelines and new pipelines</li> </ul>



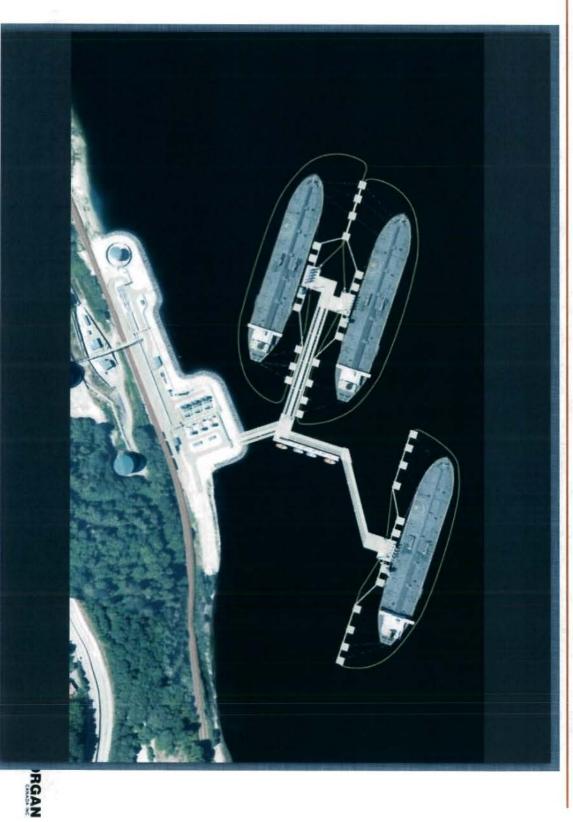
### Burnaby Terminal, cont.

Existing	Planned (additional) within existing site
Storm Water Treatment System <ul> <li>Tertiary containment basin</li> </ul>	<ul> <li>Storm Water Treatment System</li> <li>New intermediate water retention basin (equipped with hydrocarbon detection) to improve the management of water discharge from the new tank containment areas</li> <li>New oil/water separators at the discharge point of the intermediate water retention basin (between the intermediate basin and the tertiary containment basin)</li> </ul>
Fire Protection System	Fire Protection System
<ul> <li>Wet fire-water distribution system is being upgraded with new piping, valves, and hydrants</li> </ul>	<ul> <li>New inlet line to supplement existing water source (Eagle Creek)</li> <li>New fire-water/foam pumping system</li> <li>Existing wet fire-water distribution system to be extended to new tank areas</li> </ul>
	<ul> <li>New automated (normally) dry foam distribution system</li> </ul>

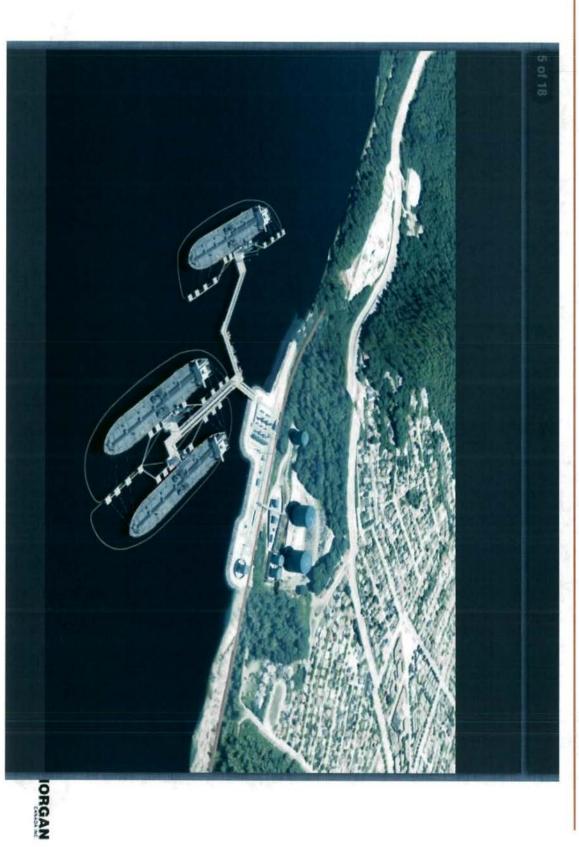
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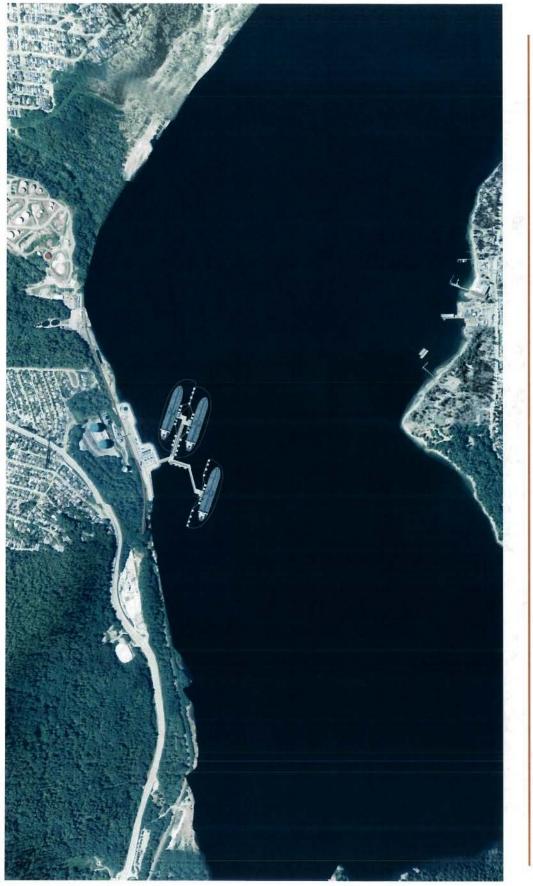








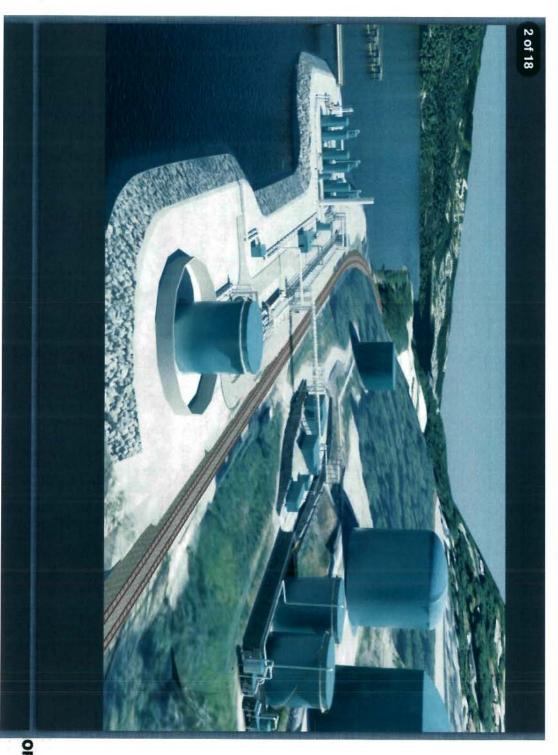












## Westridge Terminal, cont.



Existing	Planned (Additional)
<ul> <li>Storm Water Treatment System</li> <li>Storm water from facilities (eg., tank secondary containment, docks, pump area, manifolds, vapour recovery unit) flows to an oil/water separator, where it is then inspected and discharged onto adjacent land or to Burrard Inlet as per BC Ministry of Environment permit requirements</li> <li>Surface run-off from other existing areas within the terminal (e.g., treed areas) flows to Burrard Inlet</li> <li>Terminal storm water discharge treatment system will be evaluated and upgraded as required to meet new permit requirements at the expanded terminal</li> </ul>	<ul> <li>Storm Water Treatment System</li> <li>Storm water run-off will be collected from: <ul> <li>Dock loading platforms</li> <li>Tank containment areas</li> <li>Manifold areas</li> <li>VRU and related equipment areas</li> </ul> </li> <li>Collected storm water will be directed through separators and released in accordance with permit requirements.</li> </ul>
<ul> <li>Fire Protection System</li> <li>Remotely controlled by Operator</li> <li>Dependent upon water supply</li> <li>Portable foam system</li> <li>Designed for one Aframax at dock</li> </ul>	<ul> <li>Fire Protection System</li> <li>Two high-capacity submersible pumps taking water from Burrard Inlet</li> <li>New central foam tank and proportioning system</li> <li>New fire-water / foam distribution systems</li> </ul>

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One dock, capable of loading one Aframax-size or smaller vessel and will continue operations during construction of the proposed expansion The existing berth will be deactivated and eventually part or all of it will be demolished after new berths enter service Restrictions: Due to PMV draft restrictions in the Second Narrows, Aframax vessels calling at Westridge can load no more than 660,000 bbls although they typically load no more than 585,000 and often load less	<ul> <li>Docks</li> <li>One new dock complex (located near the centre of the Westridge Marine Terminal foreshore) having three berths each capable of accommodating Aframax-size</li> <li>Construction will include the installation of approximately 200 piles – the installation method will be determined once geotechnical study work has been completed in 2014</li> <li>Post-expansion Aframax tankers will be subject to the same draft restrictions; it is expected that the average cargo will be about 550,000 bbls (about 75% of maximum capacity)</li> <li>Approximately 80% of the time, either one or two of the three berths will be in use for loading purposes</li> <li>Each berth will have its own spill containment boom</li> <li>One new utility dock for tugs, boom boats, and emergency response vessels</li> </ul>
nchorages Four PMV designated anchorage locations	<ul> <li>Anchorages</li> <li>Additional anchorage locations are not planned</li> </ul>
<ul> <li>One 24" pipe from Burnaby Terminal to</li> <li>Westridge Terminal (Westridge Line) which will remain in service</li> </ul>	<ul> <li>Pipe</li> <li>Two additional new 30-inch delivery lines from Burnaby Terminal to the Westridge Marine Terminal</li> <li>Manifold system that allows any of the three incoming pipes to deliver to any of the three berths</li> <li>Delivery system will include automated and manual flow control devices and isolation valves</li> </ul>



## Westridge Terminal, cont.

Existing	Planned (additional)
<ul> <li>Vapour Combustion Unit (VCU)</li> <li>Existing unit will remain in operation during the construction period and will be decommissioned after the new berths enter service</li> </ul>	<ul> <li>Vapour Recovery Units (VRU)</li> <li>Two new VRUs – these units do not combust (or burn) hydrocarbon vapours but collect them for reinjection back to the vessels being loaded</li> <li>Vapour Combustion Unit (VCU)</li> <li>One new VCU for occasional use during periods of high berth utilization (less than 5% of the time) and as back up to the VRUs during maintenance activities</li> </ul>
<ul> <li>Existing Foreshore</li> <li>Currently available foreshore area does not provide adequate area for proposed infrastructure</li> </ul>	<ul> <li>Foreshore Extension</li> <li>Extension of the foreshore further into the water will be necessary to accommodate new equipment, primarily the VRUs.</li> <li>Compensation (in the form of new habitat) in accordance with Department of Fisheries &amp; Oceans (DFO) requirements may be made to replace the habitat lost along the foreshore</li> </ul>
<ul> <li>Existing Infrastructure</li> <li>The three existing jet fuel tanks will remain in their current configuration, with no anticipated change in volume received</li> </ul>	<ul> <li>New Foreshore Infrastructure</li> <li>Piping manifold</li> <li>Metering</li> <li>Pressure relief tank (may be eliminated through the use of high pressure piping)</li> <li>Odour management system (to handle H<sub>2</sub>S and other sulfurous compounds prior to reinjection)</li> <li>VRUs / VCU</li> <li>Fire-water pumping system</li> <li>Electrical systems (switch gear, transformers, buildings, motor control centers, &amp; lighting)</li> <li>Space for possible future installation of shore power facilities (only 5% of the world-wide tanker fleet has</li> </ul>
	<ul> <li>ability to take shore power)</li> <li>Control room for the dock</li> <li>Storage for oil spill response equipment</li> </ul>



## **Geotechnical Studies: Seismic**

- Seismic loading design will be consistent with the current National Building Code of Canada
- Investigations to date:
  - Route: Screening level assessment complete of the two dominant seismic hazards along the entire pipeline corridor
  - Burnaby and Westridge Terminals: Site specific studies completed to assess seismic stability of existing terminals including the tanks and ancillary structures. Review of existing seismic studies in Burrard Inlet region indicates no active faults (where rupture has occurred in the last 11,000 years) have been identified in British Columbia
- Next steps as Project moves into Detailed Engineering
  - LIDAR survey in selected areas, 2014
  - Regional Seismic Assessment
  - Further studies to confirm absence of active faults crossing or running close to the route
  - Seismic stability analysis of terminal infrastructure

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# ENVIRONMENTAL STUDIES AND EMERGENCY RESPONSE





## **Environment Field Studies**



- Field studies along the study corridor
  - Commenced in May 2012
- Terrestrial field studies include:
  - Soil
  - Wildlife
  - Fisheries
  - Wetlands
  - Rare plant and rare plant community surveys
  - Terrestrial ecosystem mapping
  - Groundwater
  - Air and noise assessments
  - Archaeology
  - Palaeontology
  - Socio-economic and Land Use
  - Traditional Land Use
- Input sought to Environment & Socio-Economic Approach





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## **Marine Environment Field Studies**

- Field studies at Westridge Marine Terminal
  - Commenced in August 2012
- Marine field studies include:
  - Marine Fish and Fish Habitat
  - Marine Birds
  - Marine Sediment and Water Quality
  - Common Terrestrial Elements for Westridge onshore facilities
    - (Water, Vegetation, Wildlife, etc)
  - Traditional Marine Resource Use
  - Marine Commercial, Recreational and Tourism Use
  - Marine Heritage Resources
  - Marine Mammals (underwater noise desktop only)
- Input sought to Environment & Socio-Economic Approach







## What we heard - 'closing the loop'



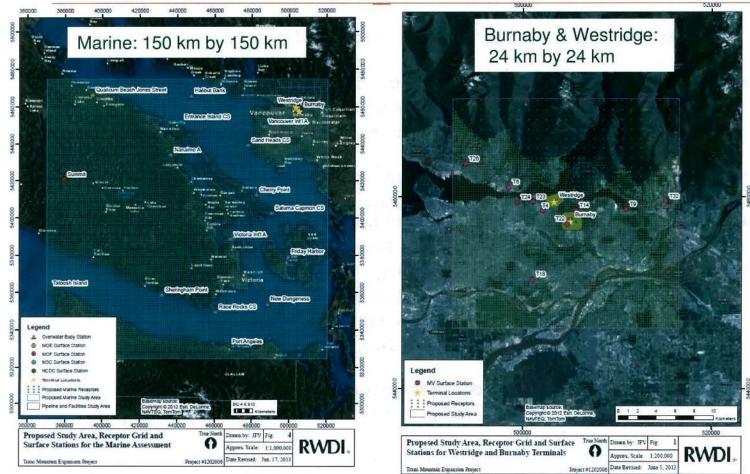
- Based on engagement with Aboriginal Peoples, stakeholders and government agencies, the TMEP team and discipline technical environmental experts have been addressing comments and concerns over the past 10+ months by:
  - Completing detailed aesthetics / viewshed analysis at the Westridge and Burnaby Terminals
  - Addressing the potential effects of large spills by:
    - Completing Ecological and Human Health Risk Assessments
    - Working closely with WCMRC (formerly Burrard Clean)
    - Preparing Pre-spill Shoreline Clean-up Assessment Technique database
    - Completing Gainford Trials flux to air empirical data to validate air models
    - Utilizing Aboriginal, environmental and socio-economic considerations in determining 'credible worst case' spill scenarios
  - Integrating existing data from government, industry, academia, and ENGOs in the assessment
  - Widening the scope / study area of the marine transportation assessment
    - Burrard Inlet -> Race Rock (off Victoria) -> 12 Nautical Miles
  - Including marine underwater noise modeling in ESA scope for marine transportation
- Modification of ESA Approach (indicators, study areas, methods)
- TMEP signatory to "Green Marine" program
- Conceptual Habitat Compensation Planning

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### **BC Detailed Model Plans**

CALMET v6.42 CALPUFF v6.42





Burnaby Terminal and Westridge Terminal modelled together in a single domain due to their locations less than 3 km apart

24 km by 24 km Total

 Updated model plan (v4 July 2014) Developed in consultation with Metro Vancouver and BC MoE
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## **Air Quality**



- Engaged air quality specialists for the project (RWDI and SNC Lavalin)
- Indicators have been developed in consultation with federal, provincial and regional municipalities
- ESA will be completed in accordance with Guidelines for Air Quality Dispersion Modelling in BC models: for H<sub>2</sub>S and other contaminants CALMET/CALPUFF and for ozone CMAQ
- CALPUFF dispersion model will predict off-site impacts from all tanks and all chemicals of interest for both the human health risk assessment and to published odour detection and annoyance thresholds
  - Model Burnaby Terminal (14 new tanks)
  - Compare to municipal, provincial and national air quality criteria
- For new tanks
  - Industry standard steel tank, double roof seals
  - Continuing to study supplemental odour abatement

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Ongoing operations & maintenance practices to prevent or mitigate odour emissions:

- Industry standard floating roofs with double seals minimize potential odour emissions
- Use of mobile vapour scrubbers where possible during maintenance (*i.e.*, tank Ambient air modeling at Burnaby Terminal
- Hazard analysis and Human Health Risk Assessment for urban pipeline spill scenario (*i.e.*, spill to land)

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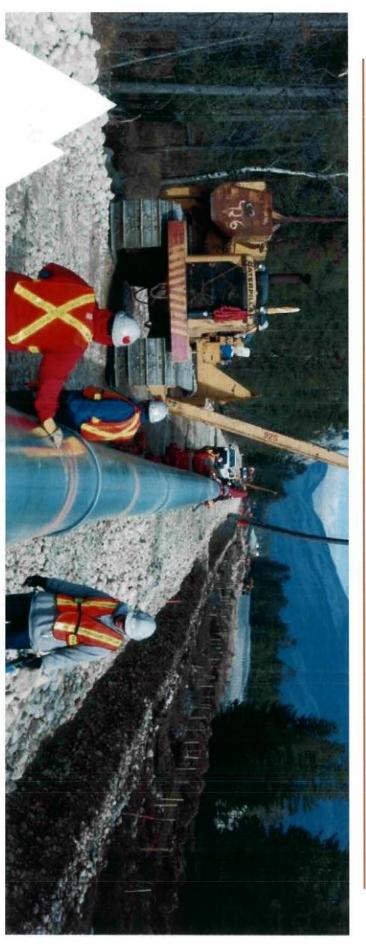
### **Emergency Response**



- KMC's top priority is pipeline and facilities safety, and emergency response
- From engagement to date, pipeline safety and emergency response consistently topic of most interest
- KMC supportive of BC Government's Five Conditions, two related to emergency response
- As part of the proposed TMEP, next steps include
  - Continuous improvement of KMC's emergency response equipment and strategies
  - Review and enhancement of Emergency Response plans with input from BC Provincial Government, municipal Emergency Managers and First Responders
  - Addition of resources where required (equipment or training) to KMC's complement
  - Review and enhancement of facilities emergency response and fire protection plan



## ENGAGEMENT







### **Stakeholder Engagement and Communications**





#### **PROPOSED TRANS MOUNTAIN EXPANSION PROJECT ENGAGEMENT TIMELINE**





- Report out on information gathered during Community Conversations
- Terminals Information Sessions
  - Burnaby date: September 25, 2013
- Key stakeholder updates
- Community readiness presentation series with Chamber of Commerce's
- Prepare and submit Facilities Application
  - Late December 2013
- Ongoing dialogue

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## **Aboriginal Engagement - Groups**



- Trans Mountain has identified and is engaged with 103 Aboriginal groups who might have an interest in the project, or that might have Aboriginal interests potentially affected by the project
- The proposed project will encounter at least 24 traditional territories and may cross the15 Indian Reserves crossed by the existing pipeline
- 18 First Nations in British Columbia have interests in the 15 IRs (some share a reserve)

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## Top areas of interest to date: North Van

- Terminals and dock emissions, spill risk during loading operations, Westridge Marine Terminal dock location/layout
- Operations Risk of oil spill to DNV shoreline, tanker traffic (volume), tanker movement, use of anchorage locations (or addition of)
- Environmental effects birds, water resources, parks, air
- Economic benefit/impact impact of spill on property values, potential community benefits





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North shore examples:

- Support for north shore conservation groups such as Wild Bird Trust and Seymour Salmonid Society
- Sharing of environmental assessment data, shoreline SCAT surveys and findings related to sea level rise
- Work with NS Emergency Management office and regional emergency planning representatives for improved coordination and resources for emergency planning and response in the harbour
- Work with shipping community to introduce good neighbour program for vessels that anchor near Indian Arm to address concerns about tanker noise, lights, etc.
- Work with local chamber and industry as part of business readiness program targeting north shore small businesses

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## We want to hear from you

## **CONTACT US:**

**Trans Mountain Expansion Project** 



- Email: info@transmountain.com
- P
  - Phone: 1.866.514.6700
  - Website: www.transmountain.com



@TransMtn



- 2844 Bainbridge Avenue
- PO Box 84028 Bainbridge Burnaby, BC V5A 4T9



Celebrating 60 Years



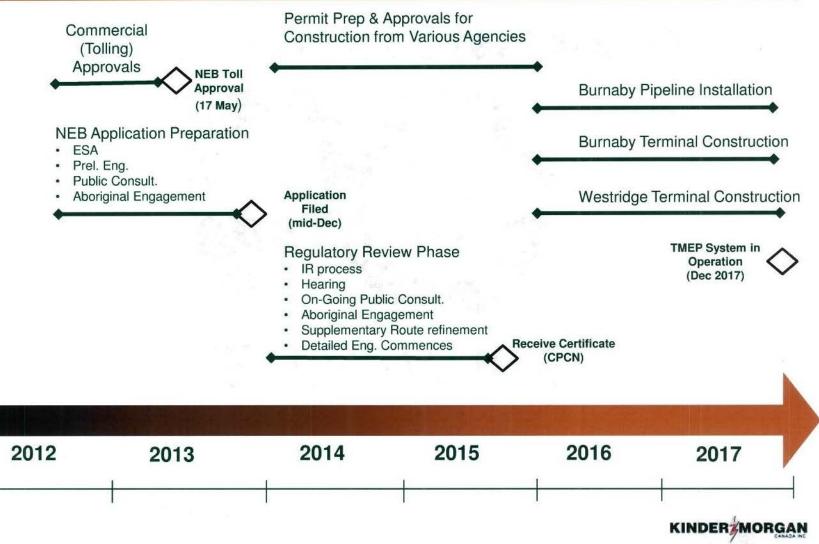


## YEARS OF SERVICE 1953 to 2013



## **Trans Mountain Expansion Schedule**







#### VILLAGE OF BELCARRA

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#### 5.7 Attachment 1

September 16, 2013.

Kinder Morgan Canada 2844 Bainbridge Avenue P.O. Box 84028 Burnaby, BC, V5A 4T9

Attention: Margaret Mears, Environmental Lead, TMEP

Dear Ms. Mears,

#### Re: Burrard Inlet Marine Environment

This has reference to your September 10<sup>th</sup> response to Belcarra Council's letter of August 29<sup>th</sup> regarding the study of the marine environment in the vicinity of the *Westridge Marine Terminal* (WMT) on Burrard Inlet. While we appreciate your response to our specific questions regarding some of the unique aspects of Burrard Inlet's marine environment, additional context needs to be provided to this dialogue.

#### Paradigm Shift

The public now expects a higher standard of environmental "best practices" than those deemed acceptable during the late 20<sup>th</sup>-century. Indeed, today it is no longer sufficient to just "minimize harm" or "compensate for loss". Current 21<sup>st</sup>-century environmental "best practices" are founded on the ethics of "preserve, protect and <u>enhance</u>". In today's paradigm corporations need to demonstrate leadership in <u>both</u> environmental ethics <u>and</u> environmental stewardship.

#### Social License

This paradigm shift means that public support ("social license") is dependent upon <u>demonstrating</u> commitment to the ethics of "preserve, protect and <u>enhance</u>" beyond the basic regulatory requirements to "minimize harm" or "compensate for loss". The environment is a public asset, and the public expects corporations to "walk the talk" and demonstrate commitment through action on enhancement initiatives beyond those required by regulation.

#### Herring Spawn

A case in point is the return of herring spawn to the eastern portion of Burrard Inlet which is vitally important to Burrard Inlet's marine ecosystem. This should be viewed by KMC as an opportunity to sponsor research regarding measures to protect and enhance this small stock. KMC should also give consideration to participating in the *Northshore Wetlands Partnership* to enhance other herring stocks in Burrard Inlet.

...page two

Margaret Mears, Environmental Lead, TMEP Kinder Morgan Canada Page two, continued

#### Squid Spawn

We were all surprised to learn that, for the first time in many years, there has been a spawn of squid in eastern Burrard Inlet. Since these fast growing molluscs are a significant food fish for salmon, and since little is known about the presence of squid in Burrard Inlet, this also should be viewed by KMC as an opportunity to sponsor research regarding the habitat requirements of this species.

#### Legacy Enhancements

Kinder Morgan Canada has a unique opportunity to create important legacy enhancements to the Burrard Inlet marine environment, and some suggestions would be the following:

- On-going research relationships with *Metro Vancouver's* post-secondary institutions and the Vancouver Aquarium regarding the study and protection of the Burrard Inlet marine environment. KMC needs to be working with, and supporting, the local educational and research communities to ensure a thorough knowledge and understanding of the health and unique aspects of the Burrard Inlet marine environment.
- Construction of a sub-tidal rock reef within or directly adjacent to the eastern Burrard Inlet Rockfish Conservation Area (RCA) to create much needed habitat for rockfish conservation.
- Given the tremendous ecological value of eelgrass habitat, another important legacy would be the creation of additional eelgrass habitat in areas outside of the WMT footprint.

We trust that the foregoing will be considered as useful context to the dialogue regarding the Burrard Inlet marine environment. As always, *Kinder Morgan's* response to the foregoing would be appreciated by all of the communities located around Burrard Inlet.

Sincerely,

Ralph Drew, Mayor Village of Belcarra

RED/

cc: Ian Anderson, President, Kinder Morgan Canada

Greg Toth, Senior Project Director, TMEP, Kinder Morgan Canada Mike Davies, Director, Marine Development, Kinder Morgan Canada Lexa Hobenshield, Manager, External Relations, Kinder Morgan Canada Robin Silvester, President and CEO, Port Metro Vancouver Darrell Desjardin, Director, Sustainable Development, Port Metro Vancouver Laura Strand, Manager, Aboriginal Affairs, Port Metro Vancouver Naomi Horsford, Manager, Community Affairs, Port Metro Vancouver Environment and Parks Committee, Metro Vancouver Burrard Inlet Mayors and Councils

#### 5.7 Attachment 2



Trans Mountain Expansion Project
Email: info@transmountain.com Phone: 1.860

Phone: 1.866.514.6700 |

Website: www.transmountain.com | @TransMtn

October 9, 2013

Mayor Ralph Drew Village of Belcarra 4084 Bedwell Bay Road Belcarra, BC V3H 4P8

#### **RE: Burrard Inlet Marine Environment**

Dear Mayor Drew,

Thank you for your letter dated September 16, 2013 providing additional context about Burrard Inlet's Marine Environment. We appreciate the insights and recommendations you have shared.

As described in our letter to you dated September 10, 2013, as part of our submission of the Section 52 facilities application to the National Energy Board later this year, we are completing an Environmental Socio Economic Assessment (ESA) which will detail an assessment of our anticipated impacts on the local marine environment from the construction and operations of our proposed project. This includes the area of the Inlet where upgrades to Westridge Marine Terminal will be constructed. We are also providing information on the potential impacts of increased marine shipping.

An environmental protection plan is being developed for the Westridge Marine Terminal as part of the proposed expansion project which will include detailed mitigation plans for the construction phase and ongoing operations. As you suggest and have discussed with our team, expectations today are for best practices to include local enhancements of current environmental conditions. As you know we support this view and we will continue to involve local marine expertise and local communities in the identification and design of the program.

In 2007, we took a proactive approach with the construction of the Anchor Loop expansion of the Trans Mountain Pipeline through Jasper National Park and Mt Robson Provincial Park. Working with park users, environmental groups and local regulators, the project has left many environmental legacies. Kinder Morgan Canada won an environmental award for the project for outstanding environmental leadership and excellence. Legacy initiatives included improvement of





aquatic connectivity, reclaiming pre-existing gravel pits developed by others with native vegetation, biodiversity and sustainability measures included extensive vegetation management for invasive species, collection of local genotypes of plant material to propagate for restoration, new data collection on park species, in collaboration with the University of Alberta the project developed seed mixes which the parks can use in the future, inventory of over 3,000 recovered archeological artifacts and an environmental legacy fund that continues to identify and invest in opportunities to improve the ecological integrity (and public enjoyment) of the parks today.

Building on the success of Anchor Loop, we will continue to meet with local stakeholders, First Nations and regulators over the next few years throughout the regulatory review and as our project design is refined so we can identify opportunities to preserve, protect and enhance the environment. Your suggestions are helpful and we will include them for consideration in our assessment work as we consider future opportunities.

If you have further questions or concerns please do not hesitate to contact me to discuss further at your convenience.

Sincerely,

Trans Mountain Pipeline L. P.

Mas Me

Margaret Mears Trans Mountain Expansion Project Environment Lead

cc: Ian Anderson, President, Kinder Morgan Canada Mike Davies, Director, Marine Development, Kinder Morgan Canada Lexa Hobenshield, Manager, External Relations, Kinder Morgan Canada





VILLAGE OF BELCARRA

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5.7 Attachment 3

September 30, 2013.

Kinder Morgan Canada 2844 Bainbridge Avenue P.O. Box 84028 Burnaby, BC, V5A 4T9

Attention: Ian Anderson, President, Kinder Morgan Canada

Dear Mr. Anderson,

#### Re: Westridge Marine Terminal - Preliminary Design

This has reference to KMC's September 25<sup>th</sup> release of the <u>preliminary design</u> of the *Westridge Marine Terminal* (WMT) on Burrard Inlet. While we appreciate KMC's response to some of the questions regarding the proposed expansion of the WMT on Burrard Inlet, there are key considerations with the WMT proposal that have <u>not</u> been addressed by *Kinder Morgan* (KMC).

#### Tanker Disturbances

The *TransMountain Expansion Project* (TMEP) proposes a five-fold increase in the number of tanker shipments from the WMT, from the current one tanker per week to an estimated five tankers per week. The single greatest source of complaint from residents in proximity of the WMT is the bright lights and noise from the tankers using the anchorages east of the Second Narrows. Since the tankers are KMC's clients, how does KMC propose to minimize and/or mitigate the bright lights and noise from on-board the vessels both at anchor and at dock?

#### Oil Containment Booms

While it is both a *Port Metro Vancouver* (PMV) requirement and KMC's policy to deploy oil containment booms around all tankers berthed at the WMT docks, there is no mention as to the technology and efficacy of the containment booms proposed for the expanded WMT facility. One of the "lessons learned" from the 2007 oil spill was that the type of containment boom utilized during the 2007 event was not appropriate for the water conditions encountered in Central Burrard Inlet. There are different types of oil spill containment booms, and containment boom technology has also evolved since 2007. Does KMC intend to utilize the "best available technology" for the new oil containment booms at its expanded WMT facility?

...page two

lan Anderson, President Kinder Morgan Canada Page two, continued

#### **Terminal Footprint**

The proposed expansion of the WMT involves tripling the size of the facility's footprint on Burrard Inlet accompanied by a significant encroachment into Burrard Inlet. The proposed increase in the size of terminal has consequences for both Burrard Inlet itself and the communities surrounding Burrard Inlet, but KMC's proposal does not mention recompense for tripling its encroachment. What does KMC intend to "give back" to Burrard Inlet and its neighbours surrounding the WMT?

#### Legacy Enhancements

Today it is no longer sufficient to just "minimize harm" or "compensate for loss". Current environmental "best practices" are founded on the ethics of "preserve, protect and <u>enhance</u>". The environment is a public asset, and the public expects that projects such as the WMT expansion provide environmental enhancements beyond the basic regulatory requirements. In our letter of September 16<sup>th</sup> we provided KMC with some practical examples legacy enhancements. However, KMC has only referenced the basic regulatory requirement of "habitat compensation for habitat loss in the marine environment" without acknowledging the public expectation of "habitat enhancement". Does KMC intend to provide habitat enhancement of the Burrard Inlet marine environment beyond merely "compensation for loss"?

We trust that the foregoing will be given fullsome consideration during subsequent planning of the proposed WMT expansion project. As always, *Kinder Morgan's* response to the foregoing would be appreciated by all of the communities located around Burrard Inlet.

Sincerely,

Ralph Drew, Mayor Village of Belcarra

RED/

cc: Greg Toth, Senior Project Director, TMEP, Kinder Morgan Canada Mike Davies, Director, Marine Development, Kinder Morgan Canada Lexa Hobenshield, Manager, External Relations, Kinder Morgan Canada Robin Silvester, President and CEO, Port Metro Vancouver Darrell Desjardin, Director, Sustainable Development, Port Metro Vancouver Laura Strand, Manager, Aboriginal Affairs, Port Metro Vancouver Naomi Horsford, Manager, Community Affairs, Port Metro Vancouver Environment and Parks Committee, Metro Vancouver Burrard Inlet Mayors and Councils



5.7 Attachment 4

**Trans Mountain Expansion Project** 

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October 20, 2013

Ralph Drew Mayor, Village of Belcarra 4084 Bedwell Bay Road Belcarra, BC V3H 4P8

Dear Mayor Drew,

Thank you for your letter of July 29, 2013 requesting additional information about post mortem assessments of the 2007 Third Party Strike to our pipeline resulting in the Inlet Drive release.

Applying lessons learned as part of continuous improvement is a critical part of any emergency response. After the 2007 Inlet Drive Oil Spill, several post-incident reviews were completed:

#### Transportation Safety Board (TSB)

The TSB completed a review of the incident, determined findings and summarized safety actions taken. Findings from the report are outlined in this letter below. The review is available on the TSB's website at <a href="http://www.tsb.gc.ca/eng/rapports-reports/pipeline/2007/p07h0040/p07h0040.pdf">http://www.tsb.gc.ca/eng/rapports-reports/pipeline/2007/p07h0040/p07h0040.pdf</a>

#### National Energy Board (NEB)

In response to this incident, the NEB took the following actions:

- Sessions were organized for all those who took part in the emergency response and the post-remediation monitoring and clean-up to discuss what worked and what did not, and to discuss enhancements to future emergency responses.
- A multi-agency stakeholder group was established with the NEB as lead agency to share information during site remediation work.
- An audit of Kinder Morgan Canada's (KMC's) integrity programs including our damage prevention program took take place in early 2009.

KMC fully participated in these sessions. As the review was led by the NEB, any request for information would need to be directed to them. The NEB can be reached at 1.800.899.1265 or info@neb-one.gc.ca.



Trans Mountain Expansion Project

#### Kinder Morgan Canada (KMC)

KMC completed its own review of the incident. Key outcomes from our review and other important emergency response developments are provided below:

1. Pipeline Protection Department

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- In 2008, KMC implemented a pipeline protection department whose sole responsibility is to protect the pipeline and facilities. This department's responsibilities include:
  - Public awareness
  - · Pipeline and associated facilities markings
  - · Issuing permits for safe work around pipeline and associated facilities
  - Responds to BC and AB One Calls
  - Aerial and ground patrols
- 2. Collection of Benchmark Data

One of the steps taken since this incident has been to collect environmental data important to any future emergency response in Burrard Inlet. As part of the long-term monitoring program, changes to level of contaminants were assessed in the marine environment, including the evaluation of potential effects on marine organisms.

3. Non Mechanical Spill Response Techniques Pre-approvals

Earlier this year (2013), KMC made a submission to the Federal Expert Tanker Safety Panel; the full report can be found at

http://www.transmountain.com/uploads/pages/1373407780-TransMountain\_Submissionto-the-Tanker-Safety-Expert-Panel\_June-21--2013.pdf. As part of this submission, KMC requested the Panel consider recommending conditional pre-approvals of non mechanical marine spill response techniques. These techniques include use of dispersants and beach cleaning agents, as well as in-situ burning. Such pre-approval would ensure that these techniques could be employed quickly when they are deemed appropriate to minimize environmental harm.

#### Western Canada Marine Response Corporation (WCMRC)

As you are aware, WCMRC is the marine spill response organization certified by Transport Canada to meet the requirements of the Canada Shipping Act. The Act requires all large vessels and oil handling facilities to have an arrangement for spill response as a condition of operating in Canadian waters.

WCMRC also provides response services on contract to KMC; which was the case for the Inlet Drive spill.



Trans Mountain Expansion Project

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The Inlet Drive spill was not a ship or terminal based spill. Rather, it was a land based spill that reached Burrard inlet through a number of pathways, primarily storm drains. These pathways were not all obvious in the early stages of the response. Some sources were from the shoreline while others were from storm drain outfalls on the ocean floor.

WCMRC conducted its own post-incident review following the spill. KMC is not aware of any findings that indicate that the booms used during the 2007 event were inappropriate for the water or shoreline conditions. While some oil eluded capture early in the response primarily because of the nature and diversity of the pathways and some oil did escape the booms during operation, aerial photographs taken during the response show that the booms were effective in containing the majority of the oil.

It is unfortunate if the strategy for dealing with fugitive oil may have appeared uncoordinated when it was in fact structured and managed through an Incident Command System response organization. Air flights were conducted daily to seek and track fugitive oil and teams were dispatched to assess affected shorelines. Their recommendations formed the basis for daily incident action plans for both the water and shoreline clean up teams.

In addition to conducting post incident reviews, WCMRC conducts benchmarking with other organizations and continually monitors the industry to identify best practices and equipment innovations. We understand that WCMRC has offered to provide a tour of their operations and an introduction to their organization for the Belcarra Mayor and Council. We believe this would be an effective way to understand their capabilities and ask questions.

#### **Further Improvements**

As part of the work and studies being undertaken for the proposed Trans Mountain Expansion Project KMC is updating and enhancing the Shoreline Cleanup and Assessment Technique (SCAT) information gathered during the Inlet Drive spill. This information will be incorporated into Trans Mountain's Emergency Response Plans and provided to WCMRC. WCMRC will use the information as part of a demonstration project for a new Geographic Information System (GIS) for Geographic Response plans. Building on existing geographic plans and information maintained by WCMRC, this system will use the area surrounding Belcarra to demonstrate a larger system proposed for the Salish Sea. Use of a dedicated GIS system is a best practice identified in other jurisdictions. KMC is providing SCAT information and other resources to develop a more effective system in BC.





In response to concerns identified through our public engagement for the proposed expansion project, KMC is working with WCMRC to identify enhancements to the existing spill response capacity mandated by Transport Canada. Through our engagement we have heard concern for both response capacity and response times; and as part of our NEB application for the proposed expansion project (anticipated to be filed in late 2013) we are developing a plan to address these and other issues that may arise from the provincial or federal reviews on tanker safety.

I trust this information is helpful. Please contact Lexa Hobenshield at 604.809.9869 or <u>lexa hobenshield@kindermorgan.com</u> should you wish to discuss further.

Sincerely,

#### **ORIGINAL SIGNED BY**

Michael Davies

.cc Kevin Gardner, WCMRC Lexa Hobenshield, Trans Mountain Expansion Project



2844 Bainbridge Avenue, PO Box 84028, Bainbridge, Burnaby, BC, V5A 4T9 CANADA



VILLAGE OF BELCARRA

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#### 5.7 Attachment 5

October 31, 2013.

Kinder Morgan Canada 2844 Bainbridge Avenue P.O. Box 84028 Burnaby, BC, V5A 4T9

Attention: Michael Davies, Director, Marine Development

Dear Mr. Davies,

#### Re: Post-Mortem on the 2007 Oil Spill Response

This has reference to <u>KMC's October 20<sup>th</sup> response</u> to Belcarra's <u>July 29<sup>th</sup> letter</u> regarding the post-mortem review by <u>Kinder Morgan Canada</u> (KMC) on the response by <u>Western Canada</u> <u>Marine Response Corporation</u> (WCMRC) to the 2007 oil spill into Burrard Inlet. While we appreciate KMC's answers to some of the questions that were posed, there are a number of questions and issues that have <u>not</u> been addressed by KMC.

#### KMC's Post-Mortem

Although KMC undertook its own post-mortem review following the 2007 oil spill, KMC still has not publicly disclosed its review of the incident. Your letter references some outcomes from the review, but does not discuss the problems and issues encountered during the oil spill response or identify the lessons learned from the incident. Trust is founded on transparency and open information sharing, and by openly addressing the problems and issues encountered during the 2007 oil spill, KMC can help build trust with its neighbouring communities.

#### WCMRC Response

We continue to have questions regarding the WCMRC response to the 2007 oil spill. Although WCMRC is located immediately adjacent to the Westridge Marine Terminal (WMT), it took WCMRC an exceptionally long time to get its vessels on the water and respond to the spill. On the day of the oil spill Rod MacVicar received a telephone call at approximately 1330 hours from the supervisor of the 'Open Water Sea Lion Project' located just east of the Barnet Beach, who reported that an oil spill was potentially endangering the research station. Rod drove from his home to the research station, boarded their research vessel along with technicians from the facility and proceeded to the scene of the oil spill. By that time it was almost 1500 hours, and they were first on scene. It is our understanding that WCMRC was not on the scene because the road was closed and the WCMRC crews could not get to the response vessels. Has WCMRC implemented appropriate emergency response protocols to prevent such a reoccurrence?

WCMRC says it can respond to oil spills within the Burrard Inlet harbour in six hours — the duration of a full tidal cycle — which is an unacceptably long response time. There is something wrong with the emergency response plan if WCMRC vessels cannot respond to oil spills in Burrard Inlet within one hour of a spill being reported. Rod MacVicar was on scene in less than an hour and he was not the first to know about the oil spill. How can KMC suggest that the WCMRC response to the 2007 oil spill was either timely or adequate when the WCMRC response was not assessed by an independent third party?

October 31st, 2013.

Michael Davies, Director, Marine Development Kinder Morgan Canada Page two, continued

#### Oil Containment Booms

The oil spill containment booms used by WCMRC did <u>not</u> fully contain the spilled oil in 2007, and Rod MacVicar and others have photographs of gaps in the booms and escaping oil. The oil containment booms also were inadequate in sealing spills on the rocky tidal shore, another issue that we have previously raised that neither KMC nor WCMRC have acknowledged or addressed. The summer weather, daylight conditions and proximity to WCMRC response vessels during the 2007 oil spill incident could not have been any better for a spill response, yet there was a considerable amount of unrecovered fugitive oil that contaminated the beaches of Burrard Inlet. We are still waiting for assurances that KMC and WCMRC will utilize the "best available technology" for all oil containment booms used both at the WMT facility and for any oil spill response in Burrard Inlet.

#### Incident Command

It is our understanding that KMC brought-in a consultant from the USA to handle the oil spill response and provide needed expertise that KMC did not have available "in-house". While expertise in "Incident Command" is important, it is equally important to have expert knowledge of the Burrard Inlet locale and the roles of the regional emergency response agencies. Does KMC plan to develop its own expertise for oil spill incident command, or will KMC continue to rely on outside consultants?

It is also our understanding that after the first day of the oil spill, all direction of spill response was assumed by KMC and its consultant. What were the roles of KMC, WCMRC and the Canadian Coast Guard during the 2007 oil spill incident? Who had responsibility for directing the WCMRC response, and ensuring that clean-up measures were comprehensive and adequate? Were the oil spill response measures undertaken on Burrard Inlet <u>during the first week</u> assessed by an independent third party, and is there a report of the assessment?

As always, Kinder Morgan's fullsome response to the foregoing would be appreciated by all of the communities located around Burrard Inlet.

Sincerely,

Ralph Drew, Mayor Village of Belcarra

RED/

cc: Ian Anderson, President, Kinder Morgan Canada

Greg Toth, Senior Project Director, TMEP, Kinder Morgan Canada Lexa Hobenshield, Manager, External Relations, Kinder Morgan Canada Kevin Gardner, President, WCMRC Robin Silvester, President and CEO, Port Metro Vancouver Darrell Desjardin, Director, Sustainable Development, Port Metro Vancouver Laura Strand, Manager, Aboriginal Affairs, Port Metro Vancouver Naomi Horsford, Manager, Community Affairs, Port Metro Vancouver Environment and Parks Committee, Metro Vancouver Burrard Inlet Mayors and Councils THIS PAGE LEFT BLANK INTENTIONALLY