

ROBERTS BANK TERMINAL 2 (RBT2) PROJECT WORKING GROUP

Workshop #4

June 17, 2014

Summary of the Roberts Bank Terminal 2 Project Working Group – Workshop #4 held Tuesday, June 17, 2014 at the SFU Harbour Centre, Room 2270, 515 West Hastings Street, Vancouver, British Columbia.

ATTENDEES

- David Grace, B.C. Environmental Assessment Office (Project Assessment Manager)
- Robyn McLean, Canadian Environmental Assessment Agency
- Debra Myles, Canadian Environmental Assessment Agency (Panel Manager)
- Analise Saely, Canadian Environmental Assessment Agency (Senior Policy Advisor)
- Neonila Lilova, City of Richmond
- Amarjeet Rattan, City of Richmond (Director, Intergovernmental Relations and Protocol Unit) (arrived 1:50 p.m.)
- Polly Ng, City of Surrey
- Mike Brotherston, Corporation of Delta
- Goran Krstic, Fraser Health Authority
- Derek Debiasio, Golder Associates Ltd.*
- Roxanne Scott, Golder Associates Ltd.* (Socio-Economic Technical Lead)
- Marla Orenstein, Habitat Health Impact Consulting Corp.* (Health Impact Assessment Specialist)
- Erin Bishop, Hemmera* (Socio-Economic Manager)
- Doug Bright, Hemmera* (Health Risk Assessment Specialist)
- Tanya Hebron, Hemmera* (Project Coordinator)
- Kim Niggemann, Hemmera* (Project Director)
- Derek Nishimura, Hemmera*(Ecosystem Productivity)
- Pamela O'Hara, Hemmera* (Senior Project Manager)
- Joe Truscott, Hemmera* (Socio-Economic Technical Director)
- Claire Williams, Hemmera*(Technical Integration Specialist)
- Alan Grove, Hwlitsum First Nation (departed 3:00 p.m.)

- Kathleen Johnnie, Lyackson First Nation
- Eric Aderneck, Metro Vancouver
- James McQueen, Metro Vancouver
- Kathy Preston, Metro Vancouver (arrived 1:00 p.m.)
- Francis Ries, Metro Vancouver
- Shelina Sidi, Metro Vancouver
- Donna Underhill, Metro Vancouver (arrived 2:15 p.m.)
- David Crozier, Ministry of Transportation and Infrastructure
- Earl Strueby, Ministry of Transportation and Infrastructure
- Myrus James, Penelakut Tribe (departed 3:00 p.m.)
- Jody Addah, Port Metro Vancouver (Sustainable Development Specialist Infrastructure Development)
- Sharleen Dumont, Port Metro Vancouver (Senior Legal Counsel)
- Rhona Hunter, Port Metro Vancouver (Director, Infrastructure Sustainability)
- Michelle Lachmann, Port Metro Vancouver (Regulatory Engagement)
- Cindy McCarthy, Port Metro Vancouver (Manager, Project Communications Community and Aboriginal Affairs)
- Sarah Pilgrim, Port Metro Vancouver
- Kyle Robertson, Port Metro Vancouver (Manager, EA & Permitting, Container Capacity Improvement Program)
- Erika Schade, Port Metro Vancouver
- Jemma Scoble, Port Metro Vancouver (Aboriginal Consultation)
- Debbie Walker, Port Metro Vancouver
- Dan Hrebenyk, SENES* (arrived 1:00 p.m.) (Air Quality Specialist)
- Gina Aitchison, Transport Canada (Senior Environmental Officer)
- Clint Carl, Transport Canada
- Catherine Galbrand, Transport Canada
- Madhvi Russell, Transport Canada
- Andrew Bak, Tsawwassen First Nation

FACILITATION / MEETING SUMMARY

- Malcolm Smith, Hemmera* (Corporate Sponsor)
- Carrie Peacock, Recording Secretary, Raincoast Ventures Ltd.

(* Attending on behalf of Port Metro Vancouver)

CALL TO ORDER

The Roberts Bank Terminal 2 Project Working Group – Workshop #4 was called to order at 10:29 a.m.

1. WELCOME AND INTRODUCTIONS

Kyle Robertson, Environmental Manager, Port Metro Vancouver (PMV), welcomed participants to the Roberts Bank Terminal 2 (RBT2) Project Working Group – Workshop #4 (WG#4) and acknowledged that the workshop was being held on the traditional land of the Coast Salish peoples. Prior working groups were noted to be helpful in guiding PMV's work in preparing for the environmental assessment process including identifying issues and interests raised by meeting participants. Mr. Robertson introduced Malcolm Smith, Hemmera, to facilitate the Workshop.

Malcolm Smith, Facilitator, welcomed participants, before leading the meeting in a round of self-introductions.

2. RECAP OF WORKING GROUP PROCESS TO DATE

Mr. Smith reported that comments received at Working Group – Workshop #3 (WG#3) included: an overview of the issues scoping process for candidate valued components (VCs); overview of the cumulative effects assessment methodology; proposed intermediate components (ICs); proposed biophysical VCs and a summary of proposed social VCs.

Following feedback received from WG#3, WG#4 has been planned to provide for discussion on all proposed social VCs, with an increased focus on: marine commercial use; land and water use; and human health. In addition, WG#4 would include an overview of the conceptual methodology used to assess changes in "ongoing productivity" associated with the Roberts Bank ecosystem.

Participants were informed that: the meeting record of WG#3 had been distributed to participants; and, the meeting record for the working group process (and the overhead presentations provided) would be available on the Canadian Environmental Assessment Agency (CEA Agency) website at the end of the working group process.

The goals and objectives of the working group were reviewed. These include:

- Goals:
 - Increase awareness and understanding of the work being undertaken by PMV for the RBT2 Project environmental assessment; and
 - Solicit input to be considered in the development of the EIS.

- Objectives:
 - Share approaches and methodologies;
 - Inventory key interests of regulators and government agencies and Aboriginal groups; and
 - Consider WG feedback in advance of the EIS submission.

Mr. Smith reviewed the outcome of discussions at previous working groups and confirmed the objective of WG#4 was to discuss: the proposed social and economic VCs; assessment tools and approaches supporting the proposed human health VC; and the conceptual approach to assessing ongoing productivity of the Roberts Bank ecosystem.

As additional WG engagements may continue in the fall and into early 2015, participants were invited to submit discussion topics and to seek responses to any specific questions in the interim.

3. PROPOSED SOCIAL AND ECONOMIC VALUED COMPONENTS

Roxanne Scott, Socio-Economic Technical Lead, gave an overview presentation on the proposed social and economic VCs being considered for the Project.

Comments were provided by working group participants on the basis for selection, component linkages and proposed assessment areas related to the following proposed VCs: Labour Market; Economic Development; Local Government Finances; and Marine Commercial Use.

<p>Discussion Session</p> <p>Questions and comments from WG members are summarised below, with responses from PMV representatives (or those attending on PMV's behalf) in <i>italics</i>.</p>
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Questions and comments from WG members are summarised below, with responses from PMV representatives (or those attending on PMV's behalf) in *italics*.

- 1) There have been effects (to Aboriginal groups), of a deterioration of the marsh area since the 1980s, on the harvesting of salmon, sturgeon and crab. Chiefs in the area have informed PMV that this is an important spiritual and cultural centre. Will the deterioration of the marsh be addressed?

The effects of previous development will be considered as part of the description of existing conditions for biophysical VCs. This was touched on, as part of the overview of the EIS methodology at WG #3. The EIS will also consider areas, identified by Aboriginal groups, as being of cultural importance.

- 2) With respect to Marine Commercial Use, the issue of “jobs” is often a lower priority than “spiritual and cultural issues” for many First Nations communities. As stewards of the environment, Aboriginal groups want to ensure the Project is safe to go forward. These are key values of the First Nation communities that I represent.

There are two aspects to marine resources being assessed: firstly, commercial harvesting and secondly, the current use of traditional resources, which is looked at in the context of the EA and potential effects of the Project (i.e., marine resources, cultural impacts). We will make note of the link to the aspects you are bringing forward in relation to your community. The current use of traditional resources will not be discussed today. There is another stream of engagement with Aboriginal groups, at which some of these discussions will be captured.

- 3) Our Aboriginal communities have a total of approximately 7,000 people. They have not been consulted on cultural areas and traditional use.

It is important to hear these comments, even if they are also addressed elsewhere under different headings. Current uses for traditional purposes are being addressed in a separate area of the EIS and consultations on this topic are underway.

If there are issues and interests that have not been identified through consultation undertaken to date by PMV, follow up meetings will be planned to provide for this.

- 4) Can you clarify why you have chosen to discuss only three areas of socio-economic importance to cover today?

We chose to review in detail, three of the ten identified socio-economic areas as those topics received the most interest based on feedback at WG#3. However we can spend as much time as needed on any of the ten areas. If we do not have enough time today, we will find other opportunities to do so, to the depth participants feel comfortable. There is a follow up session scheduled with First Nations representatives, on July 3, 2014. There will be ample opportunities for discussion.

- 5) Aboriginal groups’ first concerns relate to the environment and health of the marsh.

Thank you. You have shared comments that PMV needs to be aware of and to consider with respect to your community.

- 6) I am interested in the skills and training requirements referenced. Most of our aboriginal villages have an 80% unemployment rate. Who is the contact person for the type of training required for any of the jobs available at PMV?

This is the kind of issue that will be considered under the proposed labour market VC, and PMV is interested in discussing this in more detail. A discussion is needed on the importance of flagging training relevant to upcoming Project-related jobs. Jemma Scoble is the PMV contact person to connect with on this. We are aware of the importance of giving communities time to prepare for employment opportunities. We want communities to have sufficient time to prepare.

- 7) Are these economic issues from the Provincial input/output model? Has a cost benefit analysis been done? Benefits and costs should be shown, not just the potential impacts. Impacts should be relative to the costs when determining the best use of public funds. There are a lot of public goods at stake here. Although this is my first working group meeting, there seems to be a methodological gap.

We are using the Provincial input/output model to determine effects. Goods and services impacts are considered. This Project will be financed with private financing.

- 8) A cost benefit analysis is needed on various components. Although private capital is used, this is a collective project. The public good is being affected.

We are including a high-level discussion on benefits in the EIS. It is not included in the impact assessment part, but at the front-end where we discuss alternatives and the business case for the Project. A high level cost benefit analysis was done during the early planning for this Project.

- 9) Do you have a willingness to pay and accept on cost analysis? Is a cost analysis required? A full cost benefit is needed. Private entities, Aboriginal groups and other Canadians will have their own perspectives.

The EIS Guidelines, developed by CEA Agency, are available for review and describe the specific information to be provided including economic aspects of the assessment. There is a lot of information in the EIS that speaks to the economic aspects of the Project. The benefits to Canadians are at a higher level than what you are describing. Your comments are appreciated and have been noted.

Follow up response provided by D. Myles, CEA Agency: *There are specific requirements of the Canadian Environmental Assessment Act (CEAA 2012) that are laid out in the guidelines. The CEAA 2012 is focused on getting answers to whether or not a project would cause significant adverse environmental effects. There is a requirement to look at benefits to Canadians. If there are any adverse effects (this could include indirect socio-economic effects due to changes caused by the Project) cabinet could determine that the effects can be justified. They would consider benefits to Canadians at a high level. Port Metro Vancouver will include in its EIS, information needed for the Project however, not all the information submitted will be utilised in the federal decision making of the EA.*

- 10) The input/output model is generally: "garbage in garbage out". Are you talking about the input/output model assessing net benefits for the region, or incremental benefits of the Project only? For example, are you only looking at what this Project will add in terms of jobs or will you consider how it will impact the labour market within the container movement industry? Is this the net effect or incremental growth? Usually input/output models consider other levels. Is this part of this?

The "economic impact" work for this Project will look at several indicators, including employment and GDP. The modelling effort and analysis will look at net incremental impacts for the region, province and certain industries, including the container terminal industry. There are different ways to analyse a project from an economic

perspective. We are doing an economic impact analysis, which is appropriate for EAs, as it looks at the distribution of benefits whether geographically or between sectors. The analysis we are doing is typically done within an EA context as it provides effects estimates at the regional and industry levels, as well as at the provincial level.

- 11) We have met with PMV (Jemma Scoble and Sharleen Dumont), and we have provided them with our traditional harvesting patterns. Any loss of habitat would impact our food for traditional and ceremonial purposes, and commercial use. If we take out active harvesting habitat, there will be a detrimental impact on Aboriginal groups.

Your comments have been noted. Information is being broken down into different categories in the EIS (i.e., marine commercial use, current use of traditional resources). Your comments have been heard and will be reflected in the EIS.

- 12) Information from the Tsawwassen First Nation (TFN) is still forthcoming.

Due to the physical requirements of the Project, will there be an economic impact on things that may be considered "public good" (i.e. dredging)? Where within the EIS will there be an examination of cost and value of impact on public goods? For example, through construction there will be an area which will be filled with sand dredged from the Fraser River. Other groups could be interested in gaining access to that material (i.e. for building dykes). An economic analysis of this would be helpful.

An important element of the Project is the creation of land in offshore waters and this will require the acquisition of fill and aggregate materials from regional and non-regional sources. The Project's demand for these materials and the regional supply capacity will be examined within the EA's consideration of the economic development implications of the Project.

- 13) Coastal harvesting is an important economic activity for our community. How are you categorising that? Aboriginal groups will typically prefer you deal with food and ceremonial fisheries first. There is an important economic component to that. Aboriginal groups rely significantly on fisheries. In future, the first call under "resources" should be Aboriginal.

We appreciate you flagging topics that you want to see covered in the EIS.

Post Meeting Note: Coastal harvesting as it relates to food and ceremonial uses will be covered in the assessment of Current Use of Land and Resources for Traditional Purposes.

- 14) It would be helpful if PMV illustrated that they are aware of impacts on Aboriginal groups' food and ceremonial requirements.

Another series of meeting will be held with Aboriginal groups in the fall, after some preliminary findings have been compiled. We are seeking feedback on the proposed valued components. We are currently just proposing topics we will be looking at

further. Collectively, the effects on marine resources for Aboriginal groups are being assessed in relation to food and social / ceremonial purposes. We are also looking at commercial uses by Aboriginal groups. We do understand there is a holistic context that Aboriginal groups want us to see.

Post Meeting Note: These topics will be covered in the assessment of Current Use of Land and Resources for Traditional Purposes.

Erin Bishop, Socio-Economic Project Manager, continued the presentation on proposed social and economic VCs. Comments were offered on the basis for selection, component linkages and proposed assessment areas related to the following proposed VCs: Visual Resources; Physical and Cultural Heritage; and Land and Water Use.

Discussion Session

Questions and comments from WG members are summarised below, with responses from PMV representatives (or those attending on PMV's behalf) in *italics*.

- 1) We are talking about value components, but will air quality be an intermediate component of the Visual Resources VC?

Visual quality is not one of the aspects of the air quality assessment, and air quality is not taken into account in the proposed Visual Resources VC. It is acknowledged that this topic was previously raised and discussed with Metro Vancouver at the last Working Group meeting.

Post Meeting Note: Please see Q&A document from Working Group meeting #3 for a response.

- 2) Note: Tsawwassen First Nation will have some comments on changes in marine use. Information from the TFN is forthcoming.

Noted.

- 3) Could you provide further information on the archeological assessment you referred to in the presentation?

The "Archeological Overview Assessment" report that was undertaken will inform the environmental assessment.

Post Meeting Note: This document was provided to Aboriginal groups in draft for their review and comment in December 2013. Comments received from Aboriginal groups were provided to the author of the draft Archaeological Overview Assessment and where appropriate, revisions were made to the report. The revised Archaeological Overview Assessment was provided to Aboriginal groups in May 2014.

- 4) Hwlitsum First Nation would like to have a copy of the "Archeological Overview Assessment". The heritage registry recognises a cemetery on Westham Island. None of the Cowichan communities were contacted and should be. We are currently harvesting in the area. Could you expand the survey for land and water use?

This question is in relation to the Archaeological and Heritage Resources VC, rather than Land and Water Use. There is a discussion on sites and historic uses in the areas outlined in the presentation Hwlitsum First Nation, along with all other Aboriginal groups, including the Cowichan Nation Alliance (CNA), were provided with the draft Archaeological Overview Assessment (AOA) for comment. Port Metro Vancouver received feedback from the CNA on the draft and the document was revised by Millennia. These groups were also provided with the revised AOA.

- 5) You have referred to a number of issues PMV plans to get to in the fall. Aboriginal groups need time to reasonably react. You should contact us immediately so we will not be an obstruction.

We will be compiling a list of issues you have mentioned and follow up at the appropriate forum.

- 6) I am assuming this information will (also) be presented at the Aboriginal groups session on July 3, 2014. I appreciate what the presenters are doing, however I would appreciate having a greater understanding. I am feeling like you are speeding through this and I am having difficulty following. It helps to hear about what experts are talking about. When experts do not have a chance to finalise their comments, it is difficult for me to process their information. Please allow them time to have dialogue. That is the primary reason I am here. I would have liked to have commented on a few issues earlier, but I could not formulate my thoughts quickly enough.

Efforts are being made to get through all of the information today at some level. We do have time and could stay later to answer questions.

- 7) In an earlier slide, you referenced Aboriginal groups and indicated which groups you consulted. We were not consulted on items you referred to as receiving "Aboriginal" feedback on. Please indicate which groups you consulted with.

The purpose of today's discussion is to carry forward what we have heard. Your comments are valued and will be brought back as we prepare for the July 3, 2014 meeting. The next iteration for this July 3rd meeting will include a broader spectrum of information. Port Metro Vancouver is aware that a group-by-group engagement is needed with Aboriginal groups on a number of issues raised. Port Metro Vancouver will work towards addressing those. The presentation is only a high level summary outlining the types of issues raised by Aboriginal groups to date. The summaries indicate some of the issues we have heard about. More detailed information will be provided in the EIS.

- 8) Please do not generalise when referring to Aboriginal group consultation. We can take ownership of our own positions.

Noted.

- 9) Questions appear in my mind while the speakers are presenting, however they quickly move forward. As I have only had a brief one-day workshop on socio-economic impacts, the information that experts here can provide can help me understand better. If I had printed copies of the information in front of me I would write notes on it and report back to my community. On several levels, I am uncertain what you are talking about.

Efforts will be made to let the conversations go further throughout the day. We are still very early in EIS development. At a later date, we will reach a point where everyone can have actual documents in front of them to refer to.

Break: The Workshop recessed at 12:00 p.m. and reconvened at 1:00 p.m.

4. ASSESSMENT OF PROPOSED HUMAN HEALTH VALUED COMPONENT

Erin Bishop, Socio-Economic Project Manager, gave an overview presentation on the proposed Human Health VC. Comments were offered on the basis for selection, component linkages and proposed assessment areas for the human health proposed valued component. Additionally, comments were offered on health effects assessment tools.

Doug Bright, Health Risk Assessment Specialist, gave a presentation on one of the tools (human health risk assessment, or HHRA) used to support the assessment of the proposed Human Health VC. Comments were offered on the rationale, methodology, scope, and proposed assessment areas related to the HHRA. The presentation included information on the scope of the related air quality, noise and vibration, and shellfish consumption studies.

Discussion Session

Questions and comments from WG members are summarised below, with responses from PMV representatives (or those attending on PMV's behalf) in *italics*.

- 1) Can you provide an example of a social determinant of health? Could there be economic impacts derived from change?

Employment is a potential social determinant of health. Social determinants of health and environmental determinants of health can influence health outcomes. Examples of determinants of health include housing, our communities, the environment around us and infrastructure. A lot of the effects on the health side are not direct – they go through intermediate pathways, which we refer to as "social determinants of health".

- 2) About six to ten times a year, when the wind blows northeast, members of our community living along Canoe Pass will have coal dust on their cars. Would that be considered in this study? Is that considered air quality particulate?

This Project will not contribute to coal dust, as the Project is a container terminal (and does not transport coal). We will, however consider coal dust from Westshore

(the existing coal terminal at Roberts Bank) in considering existing conditions and cumulative effects. Coal dust from these other sources will be included in our dispersion modelling of ambient air quality conditions. We will take into account estimated normal emissions from normal operations. What we cannot do, is estimate emissions from episodic periods (i.e., isolated events).

- 3) At the first meeting, it was noted that there would be no coal in the new Project. With that in mind, will the percentage of coal increase at Westshore?

There will be no additional coal ships coming in as a result of the Project. The proposed Project will not influence coal shipments one way or the other. If this Project does not proceed, Westshore's proposed expansion could continue regardless.

- 4) Will the coal dust issue be included in the EIS?

Yes. This will be considered in the existing conditions and cumulative effects analysis of the air quality assessment. This will be presented in the EIS as two different scenarios: "with" or "without" the Project.

- 5) There are a lot of end points coming out of the air quality model. Are you using a maximum of one hour, annual amounts, 24-hour amounts, or 98th percentiles? Is the maximum predicted in the area or at the receptor sites?

Details about the toxicity reference values that will be used, including summary statistics that will inform the Human Health Risk Assessment will be provided in the EIS. The intent for this WG meeting is to provide a higher level overview.

For annual exposures, the average predicted exposure value is the primary metric used. The decision to use an average, 98th percentile or maximum predicted air concentration for predicting human exposures depends on the contaminant of potential concern, and the underlying scientific basis of the ambient air quality objective or equivalent toxicity reference value.

- 6) Will you use the maximum predicted?

The deterministic exposure prediction statistic used depends on which contaminant of potential concern is being addressed. The maximum is not uniformly the most defensible approach.

- 7) Will you look at the draft Canadian Air Quality Standards for NO₂ and SO₂?

We are aware that the scientific thinking about thresholds of effects for both NO_x and SO₂ are in a state of flux. We will consider the most appropriate guidance on these Criteria Air Contaminants (CACs) as we develop the Environmental Impact Statement.

- 8) I am seeing levels of 25 to 65 ppb NO_x per hour.

This EA considers conditions a number of years into the future. We are doing our best to anticipate and keep abreast of regulatory changes and take those into account in our assessment methodology. The EIS assumes a 5.5 year construction period. We will include comparisons of today and future points in time that are

informed by our understanding of the current regulatory framework.

- 9) If you look at the “air quality receptor sites” slide and Brunswick Point – we have a fish wharf there where a number of our people work regularly. We have not been interviewed about this. The only fish wharves in the vicinity are controlled by Hwlitsum. Will our people be canvassed about their opinion on air quality?

The point of having receptor locations is that based on patterns of dispersion, there are a number of areas where exposures are likely to be greater than the locations you have identified. We will make judgments about the landscape and the discrete receptor areas. Those kinds of predictions will extend to other areas of the landscape.

- 10) Aboriginal fishermen are exercising their rights in their routine business daily. It is necessary that you talk with them about air quality. There is an adverse impact and we should know what level it is at.

The model includes the Brunswick Point area, and will provide air quality assessment information on this area. The human health assessment will discuss potential health effects for these areas in the LAA.

- 11) Port Metro Vancouver could provide details on acute short and long term durations and assessments. There are ways of determining predicted concentrations. You could identify a particular area, and determine what levels of pollution are anticipated.

We can get data for any point. Your request for details on the difference between chronic and acute effects has been noted.

- 12) There may be little if any, contamination of shellfish, assuming vessels are working properly, and operations go as they should. However, at some point there needs to be an assessment of a potential marine spill.

Risk of marine spills will be covered under “accidents and malfunctions”.

- 13) You talked about the contamination of crustaceans and clams. I do not see anything in regard to contamination as a result of bilge pumps, from ships anchored in the waters. There can be a lot of damage from discharge from those pumps. Why is nothing included in the report about this? What about ships with sewage effluent holding tanks?

The reason bilge pumps are not referenced here is that there are regulations currently in place that prevent the discharge of bilge water in PMV jurisdiction. Similarly, vessels that enter PMV jurisdiction are not permitted to release raw sewage effluent. If required, untreated sewage can be discharged at least 12 miles (19.3 km) from shore with the ship moving faster than 4 knots. If sewage is comminuted (i.e. blended or pulverised), discharges can take place 3 miles (4.8 km) from shore. For ships equipped with approved treatment plants there are also limits to the permissible coliform counts.

- 14) Despite regulations there is a concern that the various measures in place might lack adequate enforcement.

Noted.

Post Meeting Note: Port Metro Vancouver has a bilge water protocol to prevent any oil or other liquids containing oil from being discharged into PMV waters. Information surrounding the discharge of liquids from vessels, including distances offshore and areas where such activities may be permitted, can be found in the Vessel Pollution and Dangerous Chemical Regulations within the Canada Shipping Act (CSA 2001).<http://laws-lois.justice.gc.ca/eng/regulations/sor-2012-69/page-1.html>

Transport Canada is the responsible agency in regard to ballast water in line with international regulations through the IMO. For further information: <http://www.tc.gc.ca/eng/marinesafety/tp-tp13617-menu-2138.htm>
<http://www.imo.org/ourwork/environment/ballastwatermanagement/Pages/Default.aspx>

Port Metro Vancouver's Ballast Water Management Regulations (2004) place the following obligations on vessels calling at the Port of Vancouver: 1) Vessels must have on board a ballast water management plan; 2) Vessels intending to discharge ballast water within port limits must carry out mid-ocean ballast water exchange. All commercial deep sea vessels are required to carry out a ballast water exchange prior to entering Canadian waters, which is 200 nautical miles (370 km) outside the exclusive economic zone in water deeper than 2000 m. An official ballast water exchange report must be completed and filed to Marine Communications and Traffic Services (Coast Guard) at least 96 hours prior to entry into Canadian waters. In addition, an official entry must be made in the deck log book recording the time and position of the ballast water exchange. By requiring vessels to complete this ballast 'flush' well outside our waters, the aim is to prevent any foreign organisms from entering into our local ecosystem.

- 15) At the WG#2 I asked about the effects of noise on birds. Under the *Migratory Bird Act* there should not be disruptions in the bird habitat area. We get concerned when we see a lot of the birds congregating, and overgrazing. I need to see a study on the effects of noise on birds. Birds may tolerate a lower noise levels than humans.

We have noted your request that the potential effects of Project-related noise on birds be addressed in the EIS.

- 16) Our community harvests crabs in the area. The crabs often come up with coal dust, so harvesters have to throw away the contaminated ones, and harvest more. Will this be addressed in the EIS?

We have sampled and analysed tissues from crabs in the area. We did not see crabs with coal dust in their gills. We will take this into further consideration.

Marla Orenstein, Health Impact Assessment Specialist, gave an overview presentation on the health impact assessment (HIA), which is one of the tools used to support the assessment of the proposed Human Health VC. Comments were offered on: RBT2 HIA rationale, scope, proposed assessment areas, and methodology.

Discussion Session

Questions and comments from WG members are summarised below, with responses from PMV representatives (or those attending on PMV's behalf) in *italics*.

- 1) Our community has the only two fishing wharves in the area outlined in the presentation. As no one has talked to us about the area, reporting on the fishing wharves makes me question the reliability of your report.

This is still just a plan. We have not reported yet. There are a number of First Nations groups that will be consulted including: Tsawwassen First Nation, Musqueam, Semiahmoo, Tsleil-Waututh, Cowichan Tribes, Lake Cowichan First Nation, Hwlitsum and others. Port Metro Vancouver will be speaking with these groups to understand how Aboriginal groups may be affected. Research is being done on current use of land and resources for traditional purposes. Reports of traditional resources have been requested and received from some Aboriginal groups. Interviews may not have been held yet with all groups. We will follow up on this.

Post Meeting Note: Interviews related to current use of land and resources for traditional purposes are requested in cases where there is not sufficient written information available. Therefore, interviews will not necessarily be requested with members of each First Nation if studies have already been carried out and reports provided to PMV for use in the assessment.

- 2) How will the results of both of the HIA and HHRA assessment processes presented be combined, to consider their significance?

We will do the assessments in parallel. The HHRA stands out differently. With the HHRA we have thresholds for significant adverse effects. When you get into the HIA realm, the assessment is qualitative, not quantitative. The HIA will consider frequency, diversity and will clearly define "high", "medium" or "low". Both the HHRA

and HIA are technical inputs to the health value component. Socio-Economic effects identified through these studies will go through the traditional methodology for determining significance as part of the proposed human health VC.

- 3) If there is an ambient air quality issue, how will that feed through?

Any ambient air quality issues would feed into the HHRA "threshold of exposure". We would talk about those affected by the exceedance and how it could affect chronic health outcomes. Duration and intensity will be considered.

- 4) It would be useful to receive in advance, the methodology for determining significance, with respect to Human Health VC. I am also interested in what the threshold is going to be for PM, and that sort of thing.

We have noted this request and will follow up to discuss our methodology in more detail.

- 5) From an Aboriginal groups perspective, there is potential for adverse impacts to communities and people. Your reports should identify this potential, so we can make an assessment on the risk factors to human health.

Noted.

- 6) Which contaminants will be studied for direct or indirect exposure?

The mobile source air toxics are derived from a list of US EPA priority contaminants. An item of concern on the list is formaldehyde. There are no metals included in the US EPA update.

- 7) In Washington State they are able to put a lock on a ship's bilge pump or other devices. There are huge issues with ships releasing their bilge along Vancouver Island (i.e., Clam Bay). This is a way to remedy this.

The EIS will include a description of the mechanisms in place, including those where PMV has influence, to manage bilge discharges from vessels calling at PMV facilities. Within PMV jurisdiction, ships are not allowed (by regulation) to release bilge water.

Post Meeting Note: There is no dumping of noxious liquid substances, including bilge water, allowed within PMV jurisdiction and Canadian waters, as regulated by the Canada Shipping Act, 2001, and the Vessel Pollution and Dangerous Chemicals Regulations, SOR/2012-69.

Port Metro Vancouver has a bilge water protocol to prevent any oil or other liquids containing oil from being discharged into PMV waters. No vessel is allowed to illegally discharge any pollutant into the water within the Port of Vancouver. To help protect vessels and the environment from the accidental discharge of oil or oily (bilge)

water, PMV Harbour Master's Patrol Staff seal the engine room bilge outside discharge valve(s).

- 8) It may not be a PMV issue, but it is a Crown-First Nation issue. The Crown is asking Aboriginal groups to allow an increase in tankers into the Salish Sea. While comments may not be directed at PMV, they may influence this. PMV is responsible for certain areas of waters. Please do not wash away our concerns with "PMV does not have authority to address this". Please flag our concerns and note them.

Noted.

- 9) There were six ships seen recently between Chemainus and Ladysmith (a 12 km stretch). Ships were situated north of Thetis Island, and at the south end of Penelakut Island. We have never seen so many ships anchored there. We guessed they were waiting to come to PMV to load up. Our Chemainus neighbours were concerned about the impacts on the shellfish in the area. There are very few harvesting areas due to pollution. Clams cannot be harvested on half the island. This Project could impact our food source. Elders are concerned about the increased number of ships coming into the territory.

Thank you for your comments.

Break: The Workshop recessed at 2:25 p.m. and reconvened at 2:43 p.m.

5. ONGOING PRODUCTIVITY OF ROBERTS BANK ECOSYSTEM

Derek Nishimura, Senior Biologist – Ecosystem Productivity, continued with an overview presentation "Summary of the Roberts Bank Ecosystem Assessment".

Comments were offered on the Roberts Bank ecosystem assessment, and the related approach, rationale, methodology, ecosystem based model output, food web, proposed VC, component linkages, and proposed local assessment area.

Post Meeting Note: Productive capacity definition: The maximum natural capability of habitats to produce healthy fish that are safe for human consumption, or to support or produce aquatic organisms upon which fish depend. This term is superseded with "ongoing productivity" (productivity) in the RBT2 environmental impact statement (EIS), as defined by the Fisheries Protection Investment Policy."

Discussion Session

Questions and comments from WG members are summarised below, with responses from PMV representatives (or those attending on PMV's behalf) in *italics*.

- 1) Can you clarify "nutrient cycling" and "carbon sink"?

Silt can carry nutrients. The silt, sediments and particulates that settle in the Fraser River on tidal flats provide food for different animals that live in sediment and for animals that feed on those animals. There are a number of plants that grow in the marsh. Nutrient cycling refers to the nutrient uptake throughout this process. Carbon sink refers to the growth of plants and animals, and sequestration of carbon, throughout this process.

- 2) What is the "blue carbon" that occurs in the marine environment?

I have not heard this term – this may be a sequestration of carbon in a natural system. All organisms are made of carbon, and add nutrients back to the system.

- 3) Can you comment on some of the terms referenced in the presentation, such as "nutrient cycling"?

Organisms could include plants that live in the sediment that use up nutrients (i.e. phosphorous, carbon, and potassium). Organisms dying in the area return the nutrients. Nutrient cycling refers to the accumulation of nutrients in the area.

- 4) Elders say when the water is at a reduced level, the nutrient cycling will not go throughout the whole area.

There are a lot of nutrients in the Fraser River, and a lot of other factors that influence their movement within Roberts Bank.

- 5) In the EIS, we can look at the effects of the assessments, and predict change. What does the ecosystem model do differently?

The ecosystem model is a tool to illustrate inter-linkages between species and what will happen with or without the Project. It is important to complement the assessment of proposed VCs.

- 6) I am not certain what you are talking about. Are you referring to changes in biomass? How can that be assessed?

Yes, the ecosystem model helps us understand potential changes in biomass generated by the Roberts Bank ecosystem, as a result of the proposed Project, as well as how individual species may be affected.

- 7) This is a perfect area for traditional knowledge to be encapsulated. We have an Elder in the community who could add a lot here. He has fished for many years, and lived in the same area. Elders have harvested and know the waters well.

There are opportunities to participate. Consultations are ongoing and Aboriginal groups are part of this process.

Post Meeting Note: Aboriginal Traditional Knowledge workshops were held with TFN and MIB Crabbers and Fishers.

8) Could you explain "focal species"?

"Focal species" refers to species with societal, economic or traditional purposes. Focal species were selected from a list of many species that are known to occur at Roberts Bank, as described at WG#3.

The "food web" (on the slide) shows sample data and is provided to illustrate the relationships between focal species at Roberts Bank and the relative amount of biomass associated with specific species. This could be populated with information on existing conditions to describe the current state (productivity), prior to development.

The model can then be run to model how changes in physical conditions (i.e. salinity, depth, velocity, and wave height) as a result of a project might result in changes to the food web and the productivity of the ecosystem. When this tool is used to support the environmental assessment of the Project, model results will be shown in the EIS "with" and "without" the Project in place.

9) Could the model test mitigation strategies?

The model can be used to help consider potential mitigation options, in the event the Project impacts habitat. To do so, it is important to have an idea of the habitat "before and after" so we can understand which species might benefit and which might be adversely affected. If there are species that are adversely affected, mitigation measures can be focused on those specific species to reduce or eliminate the impact.

10) Due to noise factors, let's say that orcas leave the area, how does the model adjust for that? You have shown options "with RBT2" and "without RBT2". How will that be shown? Will there be an increase in other species in terms of biomass?

This tool can look at the ecosystem overall. The potential of noise impacts on mammals will be looked at as well. Any potential effects can be assessed, and efforts could be made to consider mitigation options.

11) Are you doing this on all 25 focal species?

Yes, for the biophysical species discussed at the WG#3. This is a complementary tool to help provide greater understanding.

12) We have identified a number of VCs we are concerned with. Will invasive species be included?

There are existing invasive species in the area. For example, there is one species of eelgrass which is an invasive species and is component of the existing ecosystem. It is included in the model.

13) Some of the invasive species could compete for resources. Aboriginal groups noted that eelgrass could be pushed aside. This could increase biomass, but it may be harmful to the crabs. Can invasive species be flagged?

Yes – invasive species can be flagged. We will identify potential effects to a range of species (through the model) to understand what the offsetting needs are. If there is an increase in invasive species, measures could be undertaken to address this effect.

Port Metro Vancouver contracted a group at UBC to design, build and run this model, for a number of uses. This model has been internationally recognised and used by many countries to support fisheries' harvesting plans and marine planning initiatives.

- 14) Would the 'biomass balloons' shown in the slides get larger or smaller? The eelgrass 'biomass balloon' is smaller than others.

The size of the circles (balloons) shown in the food web represents the amount of biomass associated with a specific species. The model would be run without the Project, then re-run with the Project in place. Changes in the size of any of the balloons would illustrate the change in biomass (productivity) that would be anticipated to occur. The information in the slide is based on sample data for illustrative purposes, not results from the environmental assessment.

- 15) The food web could indicate the impact on species, if the Project proceeded.

A number will be calculated (using the model) indicating the total net productivity for Roberts Bank. We will be able to see how it changes before and after development. It could go up or down for individual species.

- 16) How do we deal with species that do not occur in the area every year (i.e. pink salmon have a dominant cycle every second year).

These species would be included in a group of fish, which is averaged over a number of years. The next slide shows environmental conditions (salinity, depth, velocity and wave height) which are crucial to informing the assessment of proposed valued components. Their levels could change depending on the scope of the Project and the Project's activities.

- 17) I would like to also see information on how temperature changes affect productivity.

The slide shows just an example of the conditions considered. There are many other input conditions considered, including temperature. In addition, sediment grain size is also considered as one of the variables. There is a website link of the model, which offers information on the power of the tool (<http://www.ecopath.org/about>).

- 18) Is this a new system for measuring productivity? I do not think this was done with the DP3 assessment. During the 1960s, they counted grams of carbon per cubic metre. Could past data be brought forward?

Different measures have been used to measure productivity in the past. For example, growth rates and nutrients present. Older computers did not have the power to be able to run a model such as this. Habitat suitability models could be used to consider the activity of specific species. They can incorporate information that goes into other models. There is a suite of different tools that can be used to make assessments.

- 19) Have climate change impacts on the ecosystem or marine habitat been considered?

Climate change could set the stage for changes, including to biological changes. Effects of climate change, such as sea-level rise are taken into consideration in the model.

6. GENERAL FEEDBACK AND QUESTIONS

Malcolm Smith, Facilitator invited participants to complete and submit the "Roberts Bank Terminal 2 WG #4 Question Form" provided at the workshop.

Opportunities for further discussion in the fall, and in 2015 to receive an overview of the content of the EIS, were identified assuming there was sufficient interest from Working Group members. A meeting with Aboriginal groups on the proposed valued components was scheduled for July 3, 2014. Additional discussions could be arranged during the summer months, if needed.

Discussion Session

Questions and comments from WG members are summarised below, with responses from PMV representatives (or those attending on PMV's behalf) in *italics*.

- 1) Can we get an update on the B.C. EA process?

Representatives from the province have attended every Working Group meeting with colleagues from the Ministry of Transportation. Our approach to the assessment of the Project has not been formalised. It is important to raise issues here that need to be addressed by PMV as they move forward with the EA. A formal approach by the Province will likely be announced later in the summer. (David Grace, B.C. Environmental Assessment Office)

7. CLOSING AND NEXT STEPS

Kyle Robertson, Environmental Manager, Port Metro Vancouver, thanked attendees for their participation and advised that the comments shared during WG#4 would be reviewed, considered and compiled. He confirmed that engagement with regulatory agencies, local governments and Aboriginal groups was valued by PMV and would continue. A public engagement process is planned for the fall of 2014 which will focus on proposed mitigation.

Malcolm Smith, Facilitator, confirmed that the overhead presentations provided at WG#4 would be distributed along with the WG#4 meeting record. At the end of the process, material from all the working group meetings would be synthesised into a summary document and posted on the CEA Agency website.

Mr. Robertson concluded by noting that WG#4 was the last Working Group meeting scheduled. Participants were invited to submit further comments on the feedback forms provided, and thanked for their keen interest, participation and assistance to the PMV.

CONCLUSION

The Roberts Bank Terminal 2 (RBT2) Project, Working Group – Workshop #4 concluded at approximately 3:40 p.m.

INFORMATION PROVIDED

The following information items were provided at the meeting:

- Agenda for the Roberts Bank Terminal 2 Project, Working Group (WG) Workshop #4 scheduled Tuesday, June 17, 2014
- Roberts Bank Terminal 2 Working Group #4 Question Form