

**PORT METRO VANCOUVER
ROBERTS BANK TERMINAL 2 PROJECT
CONSULTATION REGARDING PRELIMINARY ENVIRONMENTAL MITIGATION CONCEPTS**

**Small Group Meeting 2
September 29, 2014**

Notes from a small group meeting for the proposed Roberts Bank Terminal 2 Project, September 29, 2014, 6 :00pm – 8:00pm, at the Delta Town & Country Inn, Delta, B.C.

Attendees: Cynthia Bodman
Clifford Caprani, Citizens Against Port Expansion
Peter Duffy
Peter Holt
Heather King
Jeremy McCall, Nature Vancouver
Margaret Meggy
Anne Murray
Mary Taitt, Burns Bog Conservation Coalition, Against Port Expansion

Port Metro Vancouver: Judy Kirk, Facilitator (Kirk & Co. Consulting Ltd.)
Cliff Stewart, Vice President, Infrastructure Delivery
Kyle Robertson, Manager, Environmental Assessment and Permitting, Container Capacity Improvement Program
Charlotte Olson, Environmental Project Management Specialist, Habitat Enhancement Program
Cindy McCarthy, Manager, Project Communications
Pamela O'Hara, [Regulatory Manager (Hemmera)
Zoe Mullard (Kirk & Co. Consulting Ltd.)
Carmen Bennett, Meeting Recorder (Kirk & Co. Consulting Ltd.)

The record notes that the meeting commenced at 6:03pm

KEY THEMES:

- Some participants expressed skepticism regarding the validity of the 2014 Ocean Shipping Consultants forecast, and requested forecasts from previous years to verify the accuracy of past forecasts.
- Some participants expressed concern regarding potential Project-related effects on the environment.
- Some participants expressed concern about whether Port Metro Vancouver can enforce emissions standards or require ships to use shore power.
- Some participants expressed concern about artificial lighting at the terminal and were concerned that the proposed mitigation measures would not be effective.
- Some participants asserted that current and previous light and noise mitigation measures have not been effective and expressed concern about whether Port Metro Vancouver will implement required mitigation or whether the proposed mitigation would be successful.

(Abbreviations will be used and mean – Q: Question, A: Answer, C: Comment)

1. Welcome and Introductions – Judy Kirk

Judy Kirk welcomed participants to the meeting and noted that the session would be recorded for the purpose of checking meeting notes for accuracy. Judy explained the format of the meeting, introduced the Discussion Guide and Feedback Form, and invited participants to provide feedback by October 10, 2014. Judy then facilitated round-table introductions for representatives of Port Metro Vancouver and meeting participants.

Q: *Mary Taitt: Judy, have we had anything back from all the input that we have put in so far? I have not seen anything. We asked very specific questions. I remember being in this room, for example, asking the Port where it got these ridiculous statistical forecasts, because we had seen models with totally different forecasts.*

A: *Judy Kirk: We will come to that in just a minute. This meeting goes until 8:00pm and we will stop at 8:00pm. I would like Cliff Stewart to begin taking us through the Discussion Guide. Mary, we will come back to your question.*

2. Review of Consultation Discussion Guide – All

Cliff Stewart reviewed the introduction to the Discussion Guide, providing a description of the proposed Roberts Bank Terminal 2 Project and the role of Port Metro Vancouver. Mr. Stewart reviewed information regarding the scope and timing of the Port-led consultation process, and provided an overview of the current container forecast) (pages 2-5 of the Discussion Guide).

A: *Cliff Stewart: Demand moves around a bit each year depending on a variety of factors, but it generally remains in same area. The graph on page 5 shows the demand from the latest forecast. The question was asked regarding where we get this forecast from. It's a rigorous process that starts from looking at fundamental economic forecasts with Canada and its trading partners, and then builds from there on a range of issues that impact container flows relative to those economic fundamentals. On the graph there are a number of projects that have been presented in previous years, particularly Deltaport, the Deltaport Terminal, Road and Rail Improvement Project or DTRRIP, projects at Prince Rupert, and a new project at Centerm, which wasn't there the last time we met. That's a project that has become available to us as a result of the decision to exit the cruise business at the existing Ballantyne Cruise Terminal in the inner harbour. This is a project that would produce about another 600,000 TEUs of capacity, if it is approved, and would be able to produce that capacity quite a bit sooner than Terminal 2. The Centerm project is in the project definition stage and we will know probably next summer or fall whether it will proceed. Also, the graph shows some other inner harbour capacity that may become possible beyond about 2028, based on the availability of facilities that are currently being used for other purposes. So that's where the demand comes from. The forecast of capacity comes from an ongoing conversation between ourselves and Prince Rupert. On page 6 we also talk about where we generally find capacity. First of all, we want to find it in existing terminals by making them more efficient, because that is the lowest cost opportunity. The next opportunity is to expand existing terminals, such as we are doing down at Deltaport with the DTRRIP overpass, or to convert underutilized terminals that aren't currently handling containers. Finally the last choice, also the most expensive, is to build a new facility, which is the intention of the proposed Roberts Bank Terminal 2 Project.*

Q: *Mary Taitt: Where are the outcomes, the results, of the previous three meetings?*

- A: *Judy Kirk*: Do you mean the last three phases of consultation? Those are on the Port's website, and also generally an email is sent notifying participants.
- Q: *Mary Taitt*: So where does this go in terms of the CEA Agency process? We're talking about it being separate; what influence does it have on the CEA Agency process?
- C: *Cliff Stewart*: All of the information that we have gathered over the three and a half years that we have been working on this is made available to CEA Agency. Kirk & Co. Consulting are hired by Port Metro Vancouver to run the consultation process independent of us. After each round, they produce what's called a Consultation Summary Report, which are all available on the website. Following that, the Port produces a Consideration Memo. The Summary Report says, here's what we heard, and the Consideration Memo says what we are doing with what we heard. Those are all available on the website, and there is one for each round of consultation.
- C: *Judy Kirk*: Mary, I think your question was, does this information get delivered to CEA Agency. And I think Kyle, in the previous meeting you gave a response with respect to the Environmental Impact Statement (EIS).
- A: *Kyle Robertson*: The EIS is a summary of studies that we've been doing and we anticipate we will deliver that in early 2015. Within that is a section that talks about the consultation that has been conducted and what we have considered through the process. All the years of consultation will be summarized in the EIS document and delivered to CEA Agency.
- Q: *Peter Duffy*: The demonstration of need is at the root cause of this whole project. The demonstration of need relies on the analysis by Ocean Shipping Consultants. In 2011, 2012 and 2013 they had indicated their views on the need. In 2014 that has been updated, I suppose? Is it possible, on the website, to see any differences in their forecasts during those four years?
- A: *Cliff Stewart*: Those forecasts are all on the website.
- Q: *Peter Duffy*: Have they changed their forecast at all or has it been constant?
- A: *Cliff Stewart*: It went up in 2013 from 2012, then it came down in 2014 from 2013, back to around the 2012 level. So that's fairly normal with annual forecasts, it's going to move around a bit, but will be generally in the same area.
- Q: *Peter Duffy*: Because I've been in the consulting process, and we're dealing with a situation of being updated by a later report. That report I think should be available before this meeting so that we can see the forecast, based on the 2014 report.
- C: *Cliff Stewart*: This is based on 2014.
- C: *Peter Duffy*: I've always queried the validity of the forecast by one consulting firm, and I still hope, and I believe that the need, as such, is crux of the matter as whether this is needed or whether it isn't. You've been very defensive and provided a lot of information that it's needed all the time. I'm not convinced it is needed to the degree at which you have planned it, whether in fact the exact dimensions of Terminal 2 are correct, or whether it should be more or less, I think is up for consideration. I think this consultative process requires, and this type of meeting would like to have had, all the previous reports of TEUs. I'll also note on page 5 there is a maximum capacity shown that is approximately 1.2 million TEUs in excess of the maximum expected high case. This is to be a big safety play. Are you constructing to this maximum capacity, or is it that you're constructing to the high case? What is the parameter that you're using in terms of capacity?

- C: *Judy Kirk*: Before I ask Cliff to answer, I wonder, Kyle, if you could let Peter and others know about what the panel will do with respect to the hearing on need.
- A: *Kyle Robertson*: As Cliff indicated, the Environmental Impact Statement, the summary of our work, will go forward to an independent panel for a review. Part of that is captured in the guidelines for our assessment and includes the alternatives that need to be considered. So we need to do an assessment on alternative means of delivering the project, and alternatives to the project. We are considering that in our environmental impact statement that we will be submitting in early 2015.
- C: *Peter Duffy*: I'm sure you'll agree that the size of the project is directly related to the environmental impacts, and therefore the size of the plan and the need is directly related to any environmental impacts that may occur.
- C: *Judy Kirk*: I don't want to paraphrase your question Peter, but it had to do with building to the high case I think.
- A: *Cliff Stewart*: So the intention is, the base case is the target number that we are looking at, which is the red line. What a company like Ocean Shipping Consultants does when it does a forecast is to give a range of things that may occur, and says if all of those things occur, and we think this is what will happen, that's the base case, and the range of uncertainty from that perspective is the low and the high case. Our target is to try and deliver capacity as required to ensure we don't rise above the base case throughput. You'll notice that in this forecast in 2021 we will rise above the base case capacity in the event that Prince Rupert Stage 2 isn't able to be delivered sooner than 2022. If you looked at this graph and compared it to last year's forecast, you would have seen that the red line was some ways above the solid purple line – above the practical capacity. And the difference between practical capacity and maximum capacity is simply that, as in anything when you're operating at your maximum capacity, there's no ability to recover from hiccups in the system. So if there's a problem in the terminal itself, or terminals, there's no recovery capability. If there's a problem with a railroad or shipping lines and these sorts of things, as a general rule in most types of infrastructure, you try and keep some room for the problems that may occur in day-to-day life. That's the difference between practical capacity and maximum capacity. Maximum is if everything worked well in the world that we inhabit, not a theoretical world, then you could put that much capacity through, but if you were running at that level there would be nothing left for recovering from problems. The target is to have a base case be just below the practical capacity at the time that new capacity is brought on board.
- Q: *Jeremy McCall*: I was going to reiterate the kind of things that Peter was talking about. I'm glad to see that you have low case, base case and high case because I seem to remember at the initial consultations we just had a single case. This does help to explain the differences. It seems to me that you are building in 15% of maximum capacity at the end there in 2030, but that's above the high case; but that actually is 30% – you're building at a 30% over capacity at maximum capacity for the base case, and it seems to me that's excessive. We have always thought, particularly from the work that Against Port Expansion and Roger Emsley have done, that the forecasts of capacity are excessive. It seems to me that with this chart you are virtually confirming what Roger Emsley has been saying all along, so I think that's very troubling.
- A: *Cliff Stewart*: I'm not entirely sure what Roger has been saying, but I'll be very clear about what we're saying...
- C: *Jeremy McCall*: It's on the Against Port Expansion website if you need to see it.

- A: *Cliff Stewart*: So what we're saying is that, for all intents and purposes, when a range of infrastructure is operating at 85% then it's full.
- C: *Jeremy McCall*: But here we're talking about 30%.
- A: *Cliff Stewart*: No, we're not actually. The dotted and the solid line are 15% apart.
- C: *Jeremy McCall*: I mean where it's gone blue to green.
- A: *Cliff Stewart*: Oh, well, in fact you probably wouldn't build the inner harbor capacity in 2028 if you were on the base case throughput.
- Q: *Jeremy McCall*: What is the inner harbor, the 2028 proposal? What would it include?
- A: *Cliff Stewart*: It's a potential expansion at Vanterm. It's an expansion that's not available until 2028 because of other land uses.
- Q: *Mary Taitt*: To this graph, I'm interested in what the red line and the blue line would look like from 2011. Do you have that information? Did they look back to see how good the forecast was?
- A: *Cliff Stewart*: We don't have it here but, Cindy, is the 2011 forecast on the website?
- A: *Cindy McCarthy*: I would have to check.
- C: *Kyle Robertson*: I believe it's in our Project Description.
- C: *Cliff Stewart*: Ocean Shipping Consultants has done forecasts for us from time to time over the years, and they did one in 2001. And we have the actuals. So what they did in 2001, there was only Port Metro Vancouver at that time. Prince Rupert came along later. They did a forecast of demand and you can see the actuals compared to that.
- Q: *Judy Kirk*: And is that true with 2011 as well?
- A: *Cliff Stewart*: We hadn't actually gone back and done it with 2011 or 2012 or 2013.
- Q: *Mary Taitt*: Why are they not included on the graph (the red and the blue)?
- A: *Cliff Stewart*: Because the gold line shows the actual throughput. All that information is available on the website, so if you're interested you can look at it there.
- C: *Mary Taitt*: I think it would have been very informative for the public to have had the red, blue and green line just to get a feel for whether this company is giving you good information.
- C: *Kyle Robertson*: In our Project Description that we submitted to CEA Agency in September, I believe in there we have the 2001 forecast versus actual. What you see is that it goes up in 2008, then we had the global economic downturn, so you see a big drop and then in 2009 or 2010 we're right back up, and from there we have been tracking to the high case scenario.
- Q: *Peter Holt*: On the environmental side, I mean we've just been talking about the scale of the expansion of the port. Does that track in a linear fashion to the actual impact on the environment? Because in most respects it is not necessarily a linear relationship. I'm not going to challenge necessarily as I think the high and the low is the normal way to do it – but looking at the actual environmental mitigation, if we are on the blue line how much better off are we than if we end up on the green line? What would be the environmental mitigation should you stay to the blue line as opposed to being on the green line?

- A: *Cliff Stewart*: If I could I would like to take that and I would like to take something that Peter said earlier about not thinking that this is required. What I will remind everybody, and I've been saying this since I got involved in the project four years ago. If the base case throughput forecast is correct, then we are on the critical path to get this built. If, as we move through time, we discover that we are on the blue, low case throughput, then I think it's quite simple, the Project likely won't get built because there won't be an economic case for doing it. But we don't have the luxury of waiting to see, because it actually takes 10 years. From the time you make the decision, until you start the process, until you can actually handle a container, takes 10 years. I've been working on this full time now for 4 years, and we are at least 6 years, probably more like 10 years away. But regardless, one doesn't have the luxury of waiting to see what the future will look like and then preparing for it. So, if as we go along the forecast says it doesn't make any sense to build the project, I think it's fairly clear the project wouldn't get built until the demand had materialized to the point where there was going to be a requirement for it.
- C: *Anne Murray*: I'm unhappy with this graph and being offered this as some justification. I think the graph should have started a lot earlier. When you were doing the Deltaport Third Berth, we were told that Terminal 2 was not really on the horizon at all, and we were following a series of forecasts there. So I'd like to see it going further back. You've got a very unmathematical change in the slope of your curve at 2013. You've just told us that it had gone up in 2013 and back down in 2014 and I don't know why there's not some 2014 numbers on here in that case. I mean, we're almost in October so you could have upgraded it. To have that sudden change in slope, that's not the best line through those three points. Really with only three points on this side you can't even draw a proper projection curve.
- A: *Cliff Stewart*: Perhaps I could explain what you're looking at. 2011, 2012 and 2013 are actual throughputs, so that simply shows what happened.
- C: *Anne Murray*: Yes, I see that. I would like to see further back so as to get a correct slope so that you don't have a sudden change at 2013, with the slope suddenly taking off for all three scenarios at a steeper rate than it was going beforehand.
- Q: *Jeremy McCall*: Just to follow up on what Anne's saying, what is the average percentage increase per annum of each of those three coloured lines?
- A: *Cliff Stewart*: About 3%, 4% and 5%. It's not exactly that, but it's in that neighbourhood. If you want the exact numbers we could get that for you, or, I would suggest if you're interested in a detailed assessment, I would encourage you to have a look at the report that Ocean Shipping Consultants put together, which is online.
- C: *Anne Murray*: Could I suggest that at these events, which we spend a lot of our free time doing and which we feel obliged to attend to find out what's going on, could I suggest that you bring a screen and a projector so that if you say that something is on the website we can all look at it. Because, otherwise, what are we talking about half the time? Do you want me to be on my iPhone all evening checking out the website? We're here to discuss something. It's much easier if we have the material in front of us.
- C: *Judy Kirk*: Thank you Anne. I think both Peter Holt and Peter Duffy had their hands up indicating they had something they would like to say. What I would like to do is come to you first Peter Holt, and then in the interest of time I'd like to ask Cliff to continue on. If we want to come back to the forecast we can do that at the end of the meeting.

- Q: *Peter Holt*: I was just asking the question, and I think I know the answer, but the increases in container traffic aren't just increases in container traffic. It's true to say that more things are going in containers than before. So things like grains and that, which used to go bulk are now being containerized. Is that having a big impact on the consultants who are putting this out?
- A: *Cliff Stewart*: It's all part of the reports, which are about 200 pages long, and it looks at all those sorts of issues. It's a variety of economic and trade issues that drive the forecast, that being one of them.
- Q: *Peter Duffy*: On the graph, am I correct in assuming that in 2018 at the Centerm level, that includes Vanterm as well?
- A: *Cliff Stewart*: No, that's just Centerm. This is a project that would generate incremental capacity at Centerm, so the existing capacity of all those projects is already in that solid purple line, which is the practical capacity, and the dotted purple line, which is the maximum capacity. So those facilities capacities are in there today, getting us up to just shy of 4 million TEUs of capacity on the West Coast of Canada today, and each project either here or in Prince Rupert that has been proposed is additive to show us, if all of those projects proceed, where we will end up.
- Q: *Peter Duffy*: I understand that. What I'm saying is in constructing the graph, that you have a Centerm and a Vanterm expansion. Those are two separate things?
- A: *Cliff Stewart*: Last time you saw this, both Centerm and Vanterm were within what was called Inner Harbour in 2028, because for a variety of different reasons, neither of them could proceed until then. What we probably should have done when we pulled Centerm out and called it out specifically in 2018, we should have changed that so that 2028 said Vanterm.
- Q: *Margaret Meggy*: Is there labour unrest in the U.S. ports and how does that affect this graph for 2014?
- C: *Judy Kirk*: Does this forecast take into account potential labour unrest?
- C: *Margaret Meggy*: Not potential, existing.
- A: *Cliff Stewart*: The forecast wouldn't take into account anything that is actually happening this year, because the forecast builds off the actual throughput in 2013.
- Q: *Mary Taitt*: Specific to the graph, what's happening at Deltaport in 2015 and 2016?
- A: *Cliff Stewart*: The DTRRIP project – the Deltaport Terminal Road and Rail Improvement Project – has three separate components, first of which is the overpass, which is being delivered by Port Metro Vancouver and will be completed by the end of this year. That provides a first piece of capacity, and then there are two additional components of that program. One is on-terminal rail works and the other is off-terminal rail works. Those are projected to occur in 2015 for 2016 capacity, and in 2016 for 2017 capacity.
- Q: *Mary Taitt*: How do they produce the increases? How do they contribute to more millions of TEUs?
- A: *Cliff Stewart*: By freeing up or creating the ability to move more rail containers through Deltaport. So right now, Deltaport terminal capacity is limited by the amount of rail it can move.
- C: *Judy Kirk*: These are very good questions. In the interest of time, it's now 6:45, I'm going to ask Cliff to go through pages 7 to 12 and then we will pause for more questions or comments.

The Advantages of Roberts Bank and the Environmental Assessment Process

Cliff Stewart provided an overview of trade infrastructure at Roberts Bank, including the South Fraser Perimeter Road and the Roberts Bank Rail Corridor Program, as well as the anticipated economic benefits of the project. Cliff Stewart then gave a brief overview of the environmental assessment process for the Roberts Bank Terminal 2 Project, including the role of the CEA Agency and of valued components and intermediate components in the environmental assessment processes and how these are used to develop mitigation plans (pages 7-11 of the Discussion Guide).

Q: *Mary Taitt: What does human health include?*

A: *Cliff Stewart: To answer that question, I will go through page 11. Intermediate components are those things through which the project might have impact on a valued component. For example, human health might be impacted through air quality, noise, light, possibly through population demographics, possibly through some of the other valued components. As an example, a couple of Project activities that would likely take place during construction would be dredging and dike construction. Those could lead to a Project effect, which is sediment re-suspension, which could have impact on intermediate components, including marine water quality and sediments. Those two intermediate components could have an impact on marine fish. Marine fish are in and of themselves a valued component, but they also could have an impact on a series of other valued components, including several types of fishing, coastal birds and predators (marine mammals), and those valued components could also have impact on human health. So that's just an example of how valued components and intermediate components interact with activities and effects.*

Q: *Cliff Caprani: On page 8 in the graph regarding operations, it says 12,400 jobs per year. Robin Silvester was quoted in the Delta Optimist last year saying that it actually would generate 18,300 jobs per year, so that is a bit of a change in numbers. I would like to know why, if you can comment on that. And the second part of my question is, do you know how many people will actually be working on the new terminal?*

A: *Cliff Stewart: I don't have it here but we can get it.*

Q: *Cliff Caprani: The actual number of guys that will be working on the terminal, you don't know that?*

A: *Cliff Stewart: I don't have an immediate number with me, but we can get it.*

C: *Judy Kirk: Part one of your question was the difference in quoted job numbers.*

Q: *Cliff Caprani: Yes, any sense of the reason for the change from 18,300 to 12,400 a year?*

A: *Cliff Stewart: Interestingly enough, while the number of jobs has gone down significantly, the actual wages produced by them has gone up. And the answer here quite simply is that the earlier numbers were based on a much more simplistic model, which was a more generic model. Now that we're into the environmental assessment and doing much more detailed studies, a different methodology was used called the B.C. Input-Output Model, which is much more industry-specific and a much more detailed examination, which is why job numbers actually went down, but the value of the jobs went up.*

Q: *Cliff Caprani: Can you get the answer to my other question regarding how many people will actually be employed, specifically working on the terminal – how many will clock on every day.*

Q: *Heather King: Can you give everybody an answer to that?*

A: *Judy Kirk: Yes, if everyone has left their email address, we can do that.*

- Q: *Margaret Meggy:* Again on the employment, 7,600 jobs, you don't know how many of those will be at the terminal? Maybe half of them, maybe a third of them? I wanted to point out that you talk about induced jobs such as farmers in Saskatchewan.
- A: *Cliff Stewart:* I just want to be clear, induced jobs are not counted in the numbers.
- Q: *Margaret Meggy:* What is an induced job?
- A: *Cliff Stewart:* An induced job would be a job that depends upon the wages of the direct and indirect jobs.
- C: *Margaret Meggy:* I understand. So the Port I believe uses a factor of 4:1 for direct to indirect jobs when general economics is 3:1.
- A: *Cliff Stewart:* Just to be clear this wasn't done by the Port, this was done for us.
- C: *Margaret Meggy:* The consultants at the Port use a factor of 4:1.
- C: *Kyle Robertson:* To clarify, this was a specific study on the economic effects and benefits of the Roberts Bank Terminal 2 Project specifically, so we had our own consultants conducting this work using the standard methodology that is used for many large infrastructure projects in B.C.
- C: *Judy Kirk:* I think what Margaret is saying is that it was a 4:1 ratio. I'm not sure what that means.
- C: *Margaret Meggy:* Direct jobs to indirect jobs. So they're magnifying the number of jobs that will be created.
- C: *Judy Kirk:* And do we know what the multiplier was in this model?
- A: *Cliff Stewart:* Not off hand, but it's whatever it is in the B.C. Input-Output Model. The model actually belongs to the government of British Columbia.
- Q: *Margaret Meggy:* Can I ask another question? In the environmental assessment process, what is the baseline year going to be for environmental changes?
- A: *Kyle Robertson:* We are studying existing conditions and we have a myriad of different studies that we're looking at, so they all depend on field studies, but generally it's between 2010 and 2013.
- Q: *Margaret Meggy:* When the container port was proposed and then approved, the Government of Canada promised that would be the baseline year, pre-construction of the container port. Why is it shifting and shifting?
- A: *Kyle Robertson:* The existing conditions that we characterized for each one of these valued components and the intermediate components considers trends, and those trends of how those conditions are – as they are measured today – capture all previous developments that have happened in the past.
- Q: *Margaret Meggy:* So you're saying that because there is this terrible pollution and noise and everything that you've done so far, that's going to be in the baseline.
- A: *Kyle Robertson:* We are required to look at the existing conditions.
- Q: *Margaret Meggy:* One more question, on page 11, I'm sorry I don't know what coastal geomorphology is.
- A: *Kyle Robertson:* That's a good example to your previous question. Coastal geomorphology is basically how sediments move within the ocean. So the currents move sediments, and the ocean

bed will change based on those movements. So if you put a new terminal there, it's going to change ocean currents, and it's dynamic. It's always going to change over time.

Q: *Margaret Meggy:* There is currently significant erosion on Tsawwassen Beach. Is that a result of port operations and the building of the port?

C: *Judy Kirk:* I'm going to ask you to hang on to that question, Margaret, and we can come back to it.

Q: *Mary Taitt:* I would like to reiterate Cliff [Caprani's] first question about how many jobs are going to be on the terminal site, because longshoremen have told me it's going to be peanuts because it's going to be a totally automated terminal.

C: *Judy Kirk:* Ok, we've got that question, Mary. Did you have one other before I move on?

Q: *Mary Taitt:* Yes, you say that the environmental assessment is sort of all underway, and yet we've all just been contributing to the panel Terms of Reference. That's just being developed right now. So how come you've already done it, when we're still talking about what should be done for the environmental assessment.

A: *Judy Kirk:* So I'll just step in on that for the process, the panel Terms of Reference is developed by CEA Agency – the Canadian Environmental Assessment Agency – it's not the Port.

C: *Mary Taitt:* I know, but they dictate what the Port's got to do for an environmental assessment.

C: *Judy Kirk:* But I don't want you to confuse, or confuse others, that the Terms of Reference for the panel is the same as the overall assessment. So, Cliff can you clarify?

A: *Cliff Stewart:* Yes, perhaps if we go back to page 9. So, the way the process works, in any project, the proponent submits a Project Description. The CEA Agency looks to see whether they believe that that description is complete enough to allow them to determine if an assessment is required and, if so, what type of assessment that is. That was the first step, and that all happened around this time last year. The second step is for the CEA Agency to determine, based on that Project Description, whether or not an assessment is required and, if so, the nature of that assessment.

C: *Judy Kirk:* So Mary, if I could, I think that is the first step of determining the scope and nature of the assessment, and then the panel terms of reference is in addition to that.

A: *Cliff Stewart:* Right, so in that second box, the Environmental Impact Statement Guidelines, which were promulgated by CEA Agency about 11 months ago, and for which there was public input requested, told us what we needed to do in order to prepare our Environmental Impact Statement. So we are working on the basis of that direction from CEA Agency.

Q: *Peter Duffy:* First of all, has the Government of Canada or Port Metro Vancouver had any discussions with the United States, Washington State or the Government of the United States, with regard to the possible environmental impact on American waters, being so close to the port?

A: *Cliff Stewart:* They have been notified, but there hasn't been any discussion so I can't speak to that.

Q: *Peter Duffy:* Has there been any response? What do the United States think of this project? Do they feel affected by it? Are they happy with it? Our ferries go through their waters.

A: *Cliff Stewart:* We can't speak to that because we're not part of that conversation. You would have to ask CEA Agency whether or not there has been a response.

Q: *Peter Duffy:* My other question is, on page 7 with regard to the Gateway Transportation

Collaboration Forum, you're talking about funding. TransLink at the moment is screaming for money and there are all sorts of problems with that. I can see the funding here is going to be an interesting event in terms of the expansion of the road network to serve an increased port of this capacity. Also, related to that, I wonder whether the Canadian Environmental Assessment Agency has got on board the possible effects to the Lower Mainland, as opposed to just locally to the Port, with regard to the effect on the inhabitants of the local mainland by the increase of traffic through them to reach the port. The truck traffic, other noise and all the pollution that this is likely to cause. Is that part of their brief, to consider that, or are they simply considering the local effect at the port? I would like to make the point that all residents in the area serving the port are likely to be affected in one way or the other, depending on the size of the project.

A: *Cliff Stewart*: With respect to the scope of the project that they have assigned; the scope of the project is from the shoreline out to the area of new construction. The scope of assessment is for anything that originates in that and then works synergistically with it. So, on air quality for example, we look at the point beyond that footprint where the impact of the project is no longer discernable. So if there is an air quality issue arising from within the project footprint, then we follow that out to the point where it's no longer measurable other than as background for the rest of the Lower Mainland. Beyond the shore into the population areas.

C: *Peter Duffy*: I'd like to make the point that this document is limited in its content to port issues locally, and I think a separate document should have been provided looking in detail at the downstream effects on land, and related to the amount of size of the port that is finally approved. There's a possibility that it may be more or it may be less by 2030, and we need to know in comprehensive planning between all the municipalities and local governments, and the federal government and the funding sources, what we can do and what's likely to happen.

Q: *Jeremy McCall*: I'd like to make a point as a comment on what Peter just said, that, surely the panel will be looking at the cumulative impacts. And it will be looking at the cumulative impacts not only of the port itself, but on the region, going as far as Langley and even further if necessary. We certainly put that in our comments on the Terms of Reference that we put in a couple of weeks ago. My question is about the role of the B.C. Environmental Assessment Office, which was quite involved in the Deltaport Third Berth assessment. I think it was a joint review at that time. What is their role on this one? Has that been determined yet, and is it going to be joint, harmonized, or has the BC EAO deferred completely to CEA Agency on this one?

A: *Cliff Stewart*: I can't speak for BCEAO.

Q: *Jeremy McCall*: Have you spoken to them? What did they say?

A: *Cliff Stewart*: We have spoken to them. They've said they'll be making a decision in the near future.

C: *Peter Holt*: I was just going to go back to Peter's point, because I think what he was describing was basically a linear study. So at the moment the study that I can see, which is the shoreline to the actual terminal, and the impacts that might take place in that area. Air quality is a good example. The process I believe, and I'm not an expert in this, but I think I'm right in saying you require linear studies. These linear studies basically would follow the rail line and say what the impact is of all the freight that's going around, in terms of noise, for example. It depends how you actually put in the criteria for the study. You can't just have an open study and I think people recognize that. What I'm getting to is the study we have at the moment is the environmental mitigation from the shoreline to the terminal as we see it, and certainly my interests are on the environmental side of what can be done in this area within the study. I accept fully that the study isn't as expansive as one would

want. But in this respect I think we have to capture some of the good things that can be done with that thing called funding, that I think Port Metro Vancouver actually has, and we want to make sure we capture those as well as making sure that we can identify other areas where we need to be involved.

Q: *Heather King:* I have a couple concerns and it's more on shore impacts to human health in terms of air quality, and I noticed that on Arthur Drive they had a mobile air monitoring unit that I believe Westshore Terminal had put there. We had driven by there for the last 8 months and it's no longer there. When I phoned Metro Vancouver to ask whether they have air quality studies, they don't and they don't intend to, unfortunately. So, I'm very concerned about the baseline of air quality in a variety of places. You can go on the greater Vancouver website and look at Tsawwassen to see what levels there are for sulphur oxide and things like that. Personally, as a resident and as a person trying to protect human health and air quality, I would prefer that we have a mobile air monitoring system there to look at baseline figures, in terms of the diesel. When I first began in 2008 on Council I was given current issues in Delta, and one of them was looking at Terminal 2 in terms of the number of additional trucks that would be on the road. When I looked at APE's website it said something like 600 a day, but what I had been given from the Corporation of Delta was 2,200 per day. So if you can help me understand which one, because they're quite different, in terms of the number of trucks you'll have on the road every day because of T2 once it's up and running.

A: *Cliff Stewart:* It's certainly closer to the 2,200 than the 600.

Q: *Heather King:* So in keeping with that, air quality is certainly affected by the quality of diesel, and a lot of these trucks are coming from North America, so I'm hopeful that diesel quality is going to be okay; but 2,200 a day is an immense increase and a detriment to air quality, so I have some concerns. I am wondering if you can perhaps help me understand how we are going to deal with that.

C: *Cliff Stewart:* That's actually a nice segue into page 14, but I'm wondering if I can get us there through pages 12 and 13 first and then come back to that?

C: *Heather King:* Certainly.

Proposed Environmental Mitigation Concepts

Cliff Stewart outlined the proposed mitigation concepts for light, noise and air quality (pages 12 and 13 in the Discussion Guide).

A: *Cliff Stewart:* Air quality is obviously a very important aspect of human health, and what we have on page 14 are possible mitigations. Shore power is one of the mitigations that would have a significant impact on air quality. Trucking also has a significant impact on air quality. There's a series of either existing or potential mitigations, one of which is the truck licensing system. One of the things with that is we look to ensure the vehicles servicing the port are relatively new. By 2015 or 2016 all new trucks will be required to be the 2010 engine standard, which is the cleanest engine standard in North America. So by the time Terminal 2 comes along there will be significant reductions in emissions related to trucking, which is a concern we heard earlier. Already the truck fleet is significantly cleaner than what it was a decade ago.

Q: *Heather King:* 100% shore power by 2020, that's marvelous. When I'm looking at the Ocean Shipping Consultants report that's on your website, it looked at the Port of Los Angeles and several other ports, and they were able to implement that and enforce it because their shipping lines had a lease with the port, and so when a lease came up they were able to enforce ship-to-shore power.

We don't have that with Port Metro Vancouver from what I understand, so your ability to enforce and to motivate is not there in terms of that. Cliff, you and I spoke the other day at the open house, but I just want to ask a few more detailed questions, as this is a complex issue. 100% by 2020 would be great, but when are you going to initiate, who is enforcing it, is it legislated, and how is that going to start?

A: *Cliff Stewart:* It actually started a decade ago. When Centerm was expanded in the inner harbour, the civil infrastructure was put in place to allow for shore power.

Q: *Heather King:* And that was for the cruise ships?

A: *Cliff Stewart:* No, this was for the Centerm container terminal. When Deltaport was expanded for the Third Berth project, the civil infrastructure was put in place. What the Port said at that time was there is not yet an international standard nor is there really an ability to provision something that anybody would be in a position to use. Since that time, the international standard has been settled, and we're in the process now of designing or preparing a tender package to go out for both the Deltaport Third Berth and for Centerm, to allow for the provision of the electrical infrastructure that goes along with that civil infrastructure so that we're in a position for ships probably by about 2016. That is about the time we think that we will be seeing roughly half the fleet equipped to be able to plug in.

C: *Judy Kirk:* I think there was an enforcement question as well.

A: *Cliff Stewart:* At this point, from the perspective of ships that are equipped, we don't think there's going to be a requirement to do any enforcement, because as a result of work that actually grew out of standards here in Port Metro Vancouver, there is an international standard now called the Emissions Control Area, which requires ships to use the very cleanest marine diesel fuel available. It's about 90% cleaner on the basis of sulphur content than what they had been using traditionally. It's significantly more expensive; so once the shore power is available, and the ship is equipped to plug in, there is a strong economic incentive for them to plug in because they save a lot of money using hydro power versus running their generators.

C: *Margaret Meggy:* In December 2011, we met in this room and I asked Mr. Stewart a question about the noise created by the generators, and he informed me that in the next year the provincial government was going to set up a standard for tightening up the amount of sulphur allowed in fuels, and every year it would get tighter and tighter, and ships that don't comply would be penalized, and by 2018 there would be no ship that was not plugged in. That gave me a huge level of comfort, I went away happy with Mr. Stewart and another falsehood that was made to me by the environmental people, and that comfort was misplaced.

C: *Peter Duffy:* Very much on the same point as Margaret, I see on page 14, the proposed mitigation concepts are not allied with a firm recording of emissions and pollution, and there is no apparent plan for sanctions against those people who break those limits. This might cause people to shear away to ports where there aren't limits. But I believe that it's necessary for you to have an active recording for public inspection of emission standards of trucks, shipping and noise, so that these can be used in a legal process against people who break our law. Thank you.

Q: *Jeremy McCall:* My question is about trucks. Cliff, what are the current rules for trucks idling on the causeway where there are sometimes very long lines of trucks delivering containers. Is there a 'no idling' rule? And what is proposed for the future?

A: *Cliff Stewart:* I believe there is a no idling rule, but I will tell you what's being proposed for the very

near future, and that is a change in the operating model on the causeway to actually facilitate the trucks shutting their engines off. There is a change afoot, which is in the process of being constructed as part of DTRRIP to actually facilitate trucks turning off their engines. The challenge they face today is that the trucks go into the queue and they are released from the cue one truck at a time, so the queue only inches forward. So while we have a no idling policy, every time a truck moves the clock restarts in essence, which is not particularly helpful for actually getting the trucks to stop idling. So as part of the work that's being done on DTRIPP, the trucks will actually be released in batches, so they have the opportunity to stop, turn their engine off, wait, turn the engine back on, move forward and turn the engine off.

C: *Jeremy McCall*: Same as at the U.S. border, which works extremely well.

C: *Cliff Stewart*: So we expect to see that in place probably by next summer.

Q: *Anne Murray*: I've got a concern about light at the port. Light is very important biologically. It has huge impacts on just about every organism that exists. I don't feel this has been properly addressed in previous expansions of the port. It's just gotten brighter and brighter from a viewing perspective. I haven't measured it, but there's an awful lot more light there than when I moved to this area 25 years ago, and this is the mouth of the Fraser River with all of its salmon, birds and life in the mudflats there, all of which must be being significantly affected by artificial night lighting. You've put down here a number of mitigation concepts. They look to be fairly similar to the ones that were put forward for the third berth, but I didn't really notice any difference. If anything it got brighter, and now we are going to have a very bright area right out in the water if this project goes ahead. What other suggestions can be made, because these look really pretty inadequate. For example, directing lighting downward – I believe that's what they already do, but it hasn't lessened the amount of light.

C: *Judy Kirk*: Anne, correct me if I'm wrong, but I think what you're expressing in terms of the proposed mitigation is that it will not be sufficient to deal with the lighting concerns you have.

A: *Anne Murray*: Yes, I mean, I'm not an expert on this at all, but I'm looking at it in terms of there was no light out there before, and then it got brighter and brighter with previous expansions. Now you're talking about doubling it, so it's going to be doubly bright. These concepts – shielding light, directing lighting downward – I don't see anything new here. So maybe my question should be more specific regarding what is new here, and if there are things that can be done to mitigate it. Was anything done with the last one? Because it sure doesn't look like it.

A: *Kyle Robertson*: We will be looking at the potential effects of changes to light from the proposed Roberts Bank Terminal 2 on wildlife in addition to the human environment as well. So we will be looking at that. Part of this process is actually to get feedback if there are new things that we are not capturing necessarily, we want to hear that. Some of the things include that there are new technologies in light as well. We're seeing that in our homes, with new light bulbs for example. But as you get this large infrastructure, there are very specific criteria for things like safety that need to be applied. But technology is catching up, and I understand already at Deltaport they're using LED lights, that are able to reduce the amount of what's called trespass light to more specific areas. And also timing of when those lights need to be on and off. So by the time this project is advanced, we expect advancing technology to also help in addressing some of those concerns; but we are always looking for new feedback on the existing conditions and what could be improved, and also how this project in itself can be improved.

C: *Anne Murray*: I'm thinking it should be improved now with the existing port to show that it can be

done, because we cannot have it doubling in light out there. It's already probably wrecking the ecosystem as it is. And you say things are being done with LED lights and so on, but I'm not seeing any reduction in light. If you're only going to go back to a very early baseline, you're only going back to 2010 or 2011, you're not going to capture that change in the effects on wildlife. I just feel it's inadequate.

- C: *Peter Holt*: I was just going to add something to Mary's earlier comment about the projection for low sulphur fuels. I actually worked around three years ago on the fringes of that, and it sounds as though I'm defending Cliff here, but fundamentally those are very complex international rules, and there is a shortage of low sulphur fuel as well, and the shipping industry partly were very resistant to doing it. So it's been very difficult to get that timeline, but I think that timeline is there now and we will see it go worldwide and we will be the beneficiaries of that. We can still go lower maybe in reducing sulphur content, but it's a very long process, frustrating as it is.
- C: *Margaret Meggy*: The Port has lost my trust.
- A: *Mary Taitt*: It's very interesting, the questions that Anne's raising here. I remember raising the same ones for DP3, and Darrell Desjardins was sitting in your seat and said the exact same things that you did. As far as I can see, none of what he talked about has been done. My second point is, about these emissions from ships, I have talked to longshoremen and they tell me we can't attract the big wonderful techno ships here. They're not coming here. So all this about how we can deal with sulphur fuels, etc., that's not happening in the port of Vancouver. In fact, what's happening is that outfits like Evergreen send these little ships – dirty little ships. They can come to Vancouver, just like you can export coal through the port of Vancouver when the U.S. turns it down, and I get the feeling that these dirty ships are going to keep on coming to Vancouver. Ships that apparently, at night, switch to the dirtiest fuel possible, because we the public can't see them.
- A: *Cliff Stewart*: The requirement to use low sulphur fuel is not a function of the size or origin of the ship. Every ship that comes into the emissions control area, anywhere within 200 nautical miles of the North American coast, is required to use that fuel.
- Q: *Mary Taitt*: And who is going out and checking?
- A: *Cliff Stewart*: That's a Coast Guard function and they do check randomly from time to time.
- Q: *Mary Taitt*: How often? What do they find?
- A: *Cliff Stewart*: I don't know. I'm not part of the Coast Guard so I can't answer that question.
- C: *Mary Taitt*: Well, I talk to longshoremen who are actually there.
- Q: *Heather King*: I've been around to senior levels of government asking questions about where we are in terms of the international standard: What's the process; where are we on that timeline? And I received this email back just before arriving here. This is from Transport Canada from one of those senior levels of office saying "The International Maritime Organization (IMO) is currently waiting on the International Organization for Standardization, and the International Electrotechnical Commission, via the Working Group on Standardization of the onshore power supply for ships at berth to finalize before deciding. Unfortunately we don't really know how close they are to this." So you were saying that they have actually decided though, that there is an international standard?
- A: *Cliff Stewart*: We are comfortable that there is, I'm not sure whether the IEC has actually accepted as the standard yet; but we are, and the shipping industry is comfortable that the standard is now *de facto* because the ships are equipping with it.

C: *Heather King*: Their point, and I don't want to be confrontational here, but their point is that the hold-up at Deltaport is money. That's what they say here, "It's not always fiscally responsible to put in shore power if none of the client ships have the ability to use it. We would not want to impose unrealistic costs on private entities." I think they're meaning both the port and the shipping lines that come to the port. Some ships also use other technology. One port that had shore power actually backed out of using it due to expense and availability of other technology. So, I'd just like your comments on that. I'm just trying to understand, I'm not making accusations.

A: *Cliff Stewart*: I'm not in a position to comment on an email that I haven't read from somebody that I don't know. I can just tell you that the work that we have done has indicated to us, and you mentioned having seen the OSC report, that by about 2016 they expect, based on the trends that they have seen, that about half of the fleet calling at Vancouver will be shore power equipped. Our objective is to be in a position to begin to allow those ships to plug in. It would be great if we see more demand for shore power plugs in the first couple of years, and if we have plugs available then that will enable us to move quickly to make additional plug-ins available, particularly at Deltaport and Centerm.

Q: *Heather King*: And what are they talking about when they hint at the other technologies?

A: *Cliff Stewart*: Again, I can't speak to it because I have not seen the email and don't know what it is referring to.

Q: *Heather King*: Ok, and I have a question about cargo handling equipment, the cranes and the forklifts and other equipment at Deltaport. What powers those? Is that electric, or diesel?

A: *Cliff Stewart*: There are electric cranes, there are diesel horizontal transport trucks, tractors and trailers. There is a whole range of equipment.

Q: *Margaret Meggy*: I have been trying to brainstorm if there is a short-term fix to some of this. I know on your website it says that ships at anchor in English Bay are required to minimize light and noise by minimizing use of generators. I assume that means they do turn off their generators and run on battery power throughout the night. Why can't ships at dock do the same? Any battery should be able to carry the ship for several hours.

A: *Cliff Stewart*: The ships that go to anchor in English Bay as a general rule are bulk-type vessels, so the electric power that's required there is simply to operate their housekeeping facilities, to run the lights for the crew quarters. The generators that are operating on a container ship at dock at Deltaport are actually required to run, as the primary electrical load is the refrigerated containers that are plugged in on the ship. So it's probably several orders of magnitude difference in the amount of power that's required. That's why shore power is attractive for container ships, because there is such a large amount of power that's required, and there is a significant reduction obviously in the emissions if you can shut off the generator.

Q: *Margaret Meggy*: I can understand that, but there must be battery power that must be able to run for a number of hours. How would I find out? It seems any ship should be able to run off battery power.

C: *Peter Holt*: If I could, I'm an ex-mariner, and there are a number of things to consider. There's the domestics, they have to use power winches, there's also safety equipment, fire pumps and things like that in case of an emergency that legally have to be kept going. The battery power that would be required for that would be enormous because of the current that would be required, and the distribution around the ship. I don't know of any ship anywhere in this area of trade that would

even have 5 percent doing anything on battery power, apart from navigation signals and things like that.

Ecosystem productivity and environmental mitigation concepts

Kyle Robertson gave an overview of ecosystem productivity and discussed the studies Port Metro Vancouver has undertaken to determine project-related effects on ecosystem productivity, coastal geomorphology, southern resident killer whales and coastal birds. Port Metro Vancouver has used an ecosystem model to understand effects on individual species and interactions between species within the system (pages 14 – 16 of the Discussion Guide).

Kyle Robertson gave an overview of habitat mitigation concepts and discussed the rationale for each of the proposed onsite habitat concepts (pages 18 – 21 of the Discussion Guide).

Q: *Margaret Meggy:* What is your plan to mitigate the erosion on Tsawwassen Beach?

A: *Kyle Robertson:* Our project is looking at the geomorphological changes and we're looking at how that might result as part of the terminal project.

C: *Judy Kirk:* So if there were effects would you be proposing mitigation?

A: *Kyle Robertson:* Yes exactly, if there were effects we would be proposing mitigation.

Q: *Margaret Meggy:* When will you publish the effects?

A: *Kyle Robertson:* This is all going to be captured in the Environmental Impact Statement in early 2015.

Q: *Margaret Meggy:* And what is your baseline?

A: *Kyle Robertson:* Again, our baseline is capturing the existing conditions, but in the case of coastal geomorphology it's a dynamic environment, so we discuss the trends that have happened in the past and what will be happening in the future.

Q: *Margaret Meggy:* So the baseline will be 2014, is that correct?

A: *Kyle Robertson:* 2013, I believe, for the coastal geomorphology study.

Q: *Anne Murray:* For the Third Berth expansion you did some habitat creation, I understand, along the causeway. What have been the results of that? Where can I view the assessment of whether that has been successful or not?

A: *Kyle Robertson:* Some has been successful, others have not. There is an adaptive management program that does capture those results. We are learning from some of those experiences and we are interested in feedback as well. That is available on the website but I don't have it on hand.

Q: *Anne Murray:* Could we have a link to that part of the website? I've been trying to find it but there is an awful lot of material on the website.

C: *Judy Kirk:* Cindy is that something you could find?

A: *Cindy McCarthy:* Yes.

Q: *Anne Murray:* I would specifically like to see that. Just to follow up on the same point, is that an area the public can visit to view for themselves? Because I get the impression that we're not allowed on the causeway anymore.

- A: *Cliff Stewart*: There are a couple places where you can park safely on the causeway. It is a public highway.
- Q: *Anne Murray*: Most habitat enhancement efforts and creating new habitat of this type around the Lower Mainland have been a very dubious success, thinking of the habitat creation on the ferry terminal, which was meant to be eelgrass and it's turned out to be salt marsh, various ones on the river and in Tsawwassen. They are well-known to people that have been studying them for years. So, what confidence do you have in being able to put mudflat, for instance, out there in the deeper water where you are putting your proposed terminal, and then eelgrass bed out there? Mother Nature might have other ideas.
- A: *Kyle Robertson*: Each of these proposals would undertake their own feasibility and effectiveness studies. I should note that where you mention the mudflat out there, where it looks like deeper water, it is really only about one metre. It's at the edge of a bench that really drops off precipitously as you get to the terminal edge, but at that level it's really not very deep. Our experts are indicating that this is feasible, and again it's conceptual at this stage and we'll continue to assess.
- Q: *Anne Murray*: Do you mind me asking who your experts are?
- A: *Kyle Robertson*: Hemmera is one of our lead consultants that's helping us in identifying these. They're a consultancy firm in Vancouver.
- Q: *Anne Murray*: And they were the same ones that did the other project?
- A: *Kyle Robertson*: They worked on Deltaport. I wasn't involved so can't speak specifically on the mitigation component of it, but they were leading some of that.
- C: *Judy Kirk*: Mary did you have a question?
- C: *Mary Taitt*: I'm just speechless.
- Q: *Jeremy McCall*: Just another question about the consultants, was Northwest Hydraulics involved in that? They are a very reputable firm.
- A: *Kyle Robertson*: Yes.
- C: *Cliff Stewart*: Just as a matter of interest, if you look on page 18, you'll notice that the upper left corner of the terminal is rounded now. If you go back and look at previous diagrams you will have noticed that corner of the terminal was square. That was a result of some of the work that Northwest Hydraulic Consultants did. One of the things they noted when they did their flow models was that rounding that corner would significantly improve the flow and hence reduce the potential for negative impacts on flows in that area.
- C: *Jeremy McCall*: Looking at your line of proposed tidal marsh on page 18, I was on Iona causeway the other day at mid-tide, with not a very big westerly wind blowing, and there's no way you would have got tidal marsh growing on the west side of the Iona Jetty. This is a similar profile, probably more exposed than Iona, so I really question whether anything can grow on that side.
- C: *Kyle Robertson*: That's great feedback.
- Q: *Jeremy McCall*: I also wondered if in the geomorphology Technical Advisory Group, whether they discussed the possible concept of penetrating the causeway, either inland from the existing terminals or in the two pods. Was that one of the options, and was there a consensus on that?

- A: *Cliff Stewart*: Yes, it was. The consensus was that it would likely do significant damage to intercauseway because of the amount of flow and the velocity of flow that would occur. In fact, they looked both at doing it in the existing causeway and also in the area between the existing terminal and the new terminal. The consensus was that it would be bad for the geography and for the fish as well.
- C: *Kyle Robertson*: I would just note that there is a study on our website that talks about putting a breach in the causeway and what the potential impacts would be.
- C: *Jeremy McCall*: I would like to look at that. I think without it you're going to get much more scarring on the left side along the causeway, but I'll look at that study. My last point is on mitigation, and I think you mention somewhere in here about offsets, and there was a previous request for comments on some of the field studies and proposals that PMV has been working on. One of particular interest to me is in the North Arm of the Fraser around the Sea Island Conservation Area, where it's proposed to exchange meadow for tidal marsh. Nature Vancouver have been the stewards of that area for more than 10 years now, and we are totally opposed to changing very good bird habitat for questionable additional tidal marsh habitat, and I'm wondering if any notice is being taken of the kind of comments that were made with respect to that type of proposed mitigation measure.
- C: *Charlotte Olson*: I think Jeremy is referring to the proposed McDonald Tidal Marsh Project, which is part of our Habitat Enhancement Program.
- C: *Jeremy McCall*: That's a proposed offset, I presume. We call it dis-enhancement.
- A: *Charlotte Olson*: We did post a Consideration Memo online, to reflect all the feedback that was received during the public engagement period for the McDonald project. The Consideration Memo is available and outlines what we heard and the actions that the Port is taking based on that input. An email did go out to all participants that attended the McDonald engagement period, with that Consideration Memo.
- C: *Margaret Meggy*: I just want to comment on the offsets. I don't know much about it. As a resident of Tsawwassen Beach, you're destroying Tsawwassen Beach and doing whatever offsets you're doing somewhere else. I think you should look at what you're doing at Tsawwassen Beach first.
- C: *Judy Kirk*: Ok, any final comments before we wrap up?
- C: *Mary Taitt*: I'm absolutely distressed. I've been involved with what's going on at Roberts Bank for the last 30 years. Just to inform people here, in 1979 there was a federal environmental assessment review panel of six experts who worked for over two years reviewing what the port was up to at that time. What the port wanted to do was this massive development on Roberts Bank. The panel said no to large sections of that, including building these pods on the north side, expanding this ship turning basin because of this problem of erosion between the two causeways, and no to widening causeway. The Minister actually said full expansion of the port would present an unacceptable threat to the Roberts Bank ecosystem. So the panel concluded that significant environmental damage and risk would result from the proposal, recommending the expansion as proposed not be permitted. However, the port has now done this. This is what then resulted in the 1990s. Two of these pods – talk about forecasts – one of them was empty for 10 years, the other was empty for 15 years. So much for their estimation of need. Then they came along and had a grain proposal for this north pod. They came up with 26 recommendations for the panel that was appointed. Four members of that panel, the Port's own panel, and just to give you a specific, one of the things they said was: the panel believes that ongoing mortality of birds is unacceptable. Specifically in their

recommendation they said that partners on Roberts Bank develop and implement a strategy to phase out overhead power lines on the Roberts Bank causeway by the year 2002. These are two processes done by six experts independently, and then the panel's own committee which had four excellent people on it. All this work has been done about how incredibly important this Roberts bank ecosystem is. What would that panel have thought about this whole extra port out here? This ecosystem is internationally recognized. It's just unbelievable that we are even contemplating more development out there. Are all these new wires to take electricity out to the new development going to be underground?

C: *Judy Kirk:* I'll take Peter's comment first and then let Cliff wrap up with an answer to that.

C: *Peter Duffy:* I'd like to go back to page 18, and a quote that we will be constructing Terminal 2 on top of intertidal and subtidal habitats. Now there's no indication as to exactly where these habitats exist, and I would like to know that in order to make some valuation of harm. Secondly, in the grey down below, you indicate that you have been proactively building habitat since 1991. I would like to know where that is. Are you in fact going to build on some of your own work? Are these areas in Deltaport or are they throughout the Port Metro Vancouver region? You should have specifics here. I think we should know these specifics before we can come to a judgment.

C: *Judy Kirk:* Cliff, go ahead and then we are wrapping up. It's now 8:00.

A: *Cliff Stewart:* So, to the first question, the intertidal habitat is essentially the causeway, until you get almost out to the new proposed terminal, and the terminal itself is substantially subtidal. So it's a question of intertidal and subtidal areas.

C: *Judy Kirk:* Mary's question was are you going to bury power lines?

A: *Cliff Stewart:* So I think the question was are there new power lines? Our understanding is that there is not a requirement for new power lines, that the existing lines are sufficient to power both the existing and future terminal. As to whether or not there is a requirement to bury the power lines, that's something that is currently being reviewed as part of the study and will be commented on in the EIS, and I don't know at this point what the findings are going to be.

Judy Kirk wrapped up the meeting, thanked participants for their questions and comments and invited participants to complete the feedback form by October 10, 2014.

The record notes that the meeting ended at 8:03pm.