PUBLIC HEARING

WHITES POINT QUARRY AND MARINE TERMINAL PROJECT

JOINT REVIEW PANEL

V O L U M E 2

HELD BEFORE:	Dr. Robert Fournier (Chair) Dr. Jill Grant (Member) Dr. Gunter Muecke (Member)
PLACE HEARD:	Digby, Nova Scotia
DATE HEARD:	Monday, June 18, 2007
PRESENTERS:	Bilcon of Nova Scotia Mr. Uwe Wittkugel

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Per: Hélène Boudreau-Laforge, CCR

--- Upon resuming on Monday, June 18, 2007, at 9:00 a.m.

THE CHAIRPERSON: I'd like to start by introducing all the panel members. On my left is Jill Grant who is a professional planner. On my right is Gunter Muecke who is an earth scientist. And my name is Robert Fournier, I'm an oceanographer by training and the Chairman of this particular Panel.

I have a couple of housekeeping matters that I should bring to your attention. First of all is that all presentations can be made in English or French, so that means that we have simultaneous translation, which also means that individuals who for some reason or another feel the acoustics in the room are not particularly good, they can get a set of headphones and listen to the presentation in English or French. Some people did this last week, on Saturday, and felt that it was helpful.

The schedule is being revised every day, and so if you have a schedule that is from Saturday, it probably is a bit out of date, so I would suggest that as a routine thing, if you're going to be here daily or even today, that you should go to the Secretariat and get a copy of the schedule. It is the most up-to-date version.

Just a couple of comments which I will repeat from our previous session, which is that we understand that this is an issue in which emotions run high within the community, and what we would like to do is to

support the view that this process should be fair and balanced.

It should be a civil process. It should have cooperation and courtesy built into it. The Panel takes this very seriously and if during the presentations or in the questioning period or in any aspect of the daylong session people become uncivil or discourteous, then we will act to change the rules of behaviour within in order to maximize the end product of this session, which is the transfer of information from the Proponents, from the Government, from the NGOs, from the public to us in order to allow us to make a decision, okay?

So we have laid out a set of rules by which we will operate, but we will be flexible on those rules if in fact it appears that the process in not working. I'm sure that will not happen, but it needs to be said unfortunately.

I think I should bring to your attention as well that we have now six undertakings. An undertaking is a request for information made in a previous session in which the person to whom the undertaking refers agrees to bring forward information at a specified time.

I'm going to read these and they will be available... Copies of this will be available from the Secretariat.

All of these are undertakings from the

Proponent to us, all of these with the exception of the first one are to be delivered to us by the 27th of June, 2007. The first one will be delivered to us on the 20th of June.

Undertaking number one is to provide a drawing of a cross-section of the marine terminal with an observation post identified.

Number two is to provide an updated version of the EIS, volume 3, map 2. So map 2 in volume 3 showing the revised 800-metre setback location, to provide an updated version of the EIS, volume 3, map 2a, the quarry property ownership.

Undertaking three is to provide volume calculations of quarriable stone inside and outside the current 800-metre setback distance with and without Whites Cove Road transecting the property.

Undertaking four is to describe the worst case scenario of settling ponds outflow, channel flow rates and effects on downstream vegetated channel.

Undertaking five is to identify the dimensions of the grid required to define upper flow/middle flow contact of basalt layers given a known topographical variation of 7 metres over 300 metres.

Number six, to provide a CV for everyone appearing on behalf of Bilcon whose CV is not included in appendix one of the EIS.

Those are requests made to the Proponent. They will all be delivered to us by the 27th, except for the 1st, which will be on the 20th.

Anybody who wants additional information, you can speak with the Secretariat, they will provide it to you.

Okay. That's the end of the housekeeping issues. Now the original schedule was for us to continue our questioning of the Proponent and then the Proponent would come forward with another presentation. We have altered that.

The Proponent will be up first, will make a presentation on environmental issues and then following that, we will pick up our questioning and proceed, and then towards the end of the day, we will in fact be entertaining questions from the public that can be directed through us to the Proponent, okay?

So that is the status of the situation at the moment. So we will now move to a presentation by Bilcon. Mr. Buxton?

Mr. PAUL BUXTON: Thank you Mr. Chair. Mr. Uwe Wittkugel will be making the presentation on behalf of Bilcon this morning. Thank you.

PRESENTATION BY UWE WITTKUGEL ON ENVIRONMENTAL ISSUES

MR. UWE WITTKUGEL: Good morning. Good morning members of the Panel, members of the government

agencies and members of the public.

My name is Uwe Wittkugel, I am an environmental planner with AMEC Earth and Environmental. I have got about 25 years of experience in environmental planning, specifically in environmental assessments.

I have been assisting Bilcon with the environmental assessment and I'm here today to give you a summary of the work that has been accomplished to date.

I must admit it's been quite a challenge to put the information that has been gathered over a five-year period and documented in over more than 5,000 pages, to bring all that into a one-hour presentation.

Inevitably, it has to be an overview, and I can only go into detail on a few key issues. Time is also a challenge. I hope or I will try to stay within the allotted one-hour time period.

If I go somewhat beyond it, I hope I can use some of our banked time from Saturday, where we ended about half an hour earlier.

I have organized the presentation in five parts. Following a few background and introductory notes, I will talk about the environmental assessment process itself, the various steps involved, principles, certain terminology.

I will then in part three talk about the existing environment, the description of it, and in part

four I will talk about the actual effects assessment and then finish with an overall conclusion drawn by the environmental assessment.

Environmental assessments are truly interdisciplinary team efforts, and I just want to acknowledge here the participation of a large number of professional, highly reputable consulting companies, mostly from Nova Scotia, and they are ranging from AMEC down to Jacques Whitford, JASCO Research Ltd to XY Geoinformatics Services.

Beyond that, there are also a large number of individuals who participated in this exercise, either working on their own or in affiliation with research institutes or universities.

Today, we have of course with us... Again, like on Saturday, you are familiar with Bilcon representatives, Paul Buxton, John Wall and Josephine Lowry.

As for experts today, we have assembled here John Amirault, who is representing Engineering malfunctions and accidents; George Alliston, our expert for terrestrial vertebrates and marine birds; David Kern, the expert for environmental planning issues; Ruth Newell, our expert botanist; John Walker, the expert for noise and air emissions; and myself with expertise in the environmental assessment process.

Now I encourage you today to ask questions that focus on the expertise assembled around the table here. There will be experts later on during the week.

There have been theme days established for marine environment, for the hydrogeological environment, for the socio-economic environment, and on those days of course, we will have our experts here that can represent those particular areas of expertise.

Let's start with the environmental assessment process. The environmental assessment as documented in the reports follow the guidance of the Nova Scotia Environmental Assessment Act, Canadian Environmental Assessment Act, but in particular the Provincial and Federal Joint Panel Agreement and the project-specific EIS guidelines that were generated and issued in March, 2005.

The key elements of the environmental assessment process involve the project description, followed by a description of the existing environment; the scoping exercise which determines the project-environment interactions; and the valued environmental components are also part of the typical environmental assessment process and has been followed by this environmental assessment of course as well.

Subsequently, there is an assessment of

effects, there is an establishment or development of mitigation measures that allow to either avoid the identified effects or perhaps minimize the adverse effects.

Residual effects, and they are significant, is another important component of that process. Residual effects refers to those effects that remain after the application of mitigation measures.

So the E.A. process looks at the effects, the mitigation, and then the residual effects and their significance.

The process also looks at the cumulative effect, what does this project perhaps cause in combination with other projects in the area.

It also looks at effects of the environment on the project, and it looks not only at regular operation modes, but also at malfunctions, accidents, and the potential consequences for the environment that may fall out of that.

And of course, every environmental assessment concludes with respect to the overall significance of the effects.

Now that listing of steps may lead to the perception that this is a very linear process, and that is absolutely not the case.

In fact, it's a series of feedback loops

and iterative processes where the engineers, together with the scientists and the planners, will continuously revisit the project and try to improve the project design, so the key elements in this iterative and feedback looped process are the initial project concept, the environmental setting and the final project.

So at the initial stages, we will be looking typically at interactions between the initial project and the environment. We will change the initial project again, look again, does this perhaps now interact with the environment?

We will also look at how does the environment perhaps interact with a project, just a project description, so that eventually there is something that comes close to a final project.

Even the final project will be subject to changes as monitoring results will perhaps indicate that there is a need for adjustments, which then will through a feedback loop become part of the final project.

At the end of the day, it's central to understand what are the adverse effects, and perhaps the beneficial effects of the project.

This is essential and a requirement of the Canadian Environmental Assessment Act, and also a requirement of the guidelines established for this Project.

It's not enough to just look at: "Are there changes occurring as a result of this project? Are they adverse? Are they beneficial?"

We also need to know at the end of the day: "Are these changes, are these adverse effects significant?"

The guidelines from the Environmental Assessment Agency determined a criteria that ought to be used to establish just that, the significance of the adverse effects.

The include: Magnitude, frequency duration, geographic extent, reversibility and the ecological context.

Magnitude, simply to give you an example, how large is perhaps the noise level? What noise levels will be generated by this Project?

Frequency, so how often will these noise levels be reached? What large of an area is affected by noise levels? Or dust levels, whatever issue we are looking at.

Are these effects that are reversible or are they irreversible and in what kind of ecological context do they occur? Is this a natural environment or perhaps a cultural environment or perhaps even a heavily disturbed industrial setting?

So those are considerations taken into

account in the determination of the significance.

And of course one other important component in the environmental assessment process is public consultation.

Transparency and consultation are an essential objective of the environmental assessment process, and Bilcon has undertaken a comprehensive effort to involve the public through issue scoping meetings, through public meetings, open-house events and meetings with individuals and stakeholders.

Of course, there also has been along the process an open-door policy. Everybody was invited and welcome to drop by the office and discuss whatever issues they felt needed to be discussed.

There was also an active outreach, there was a community survey, there were quality of life and attitude surveys. There was a newsletter that on a regular basis informed the public about the status of the project, current activities, upcoming events, et cetera.

And of course, e-mails, telephone, fax and letters were standard communication tools that everybody was invited to use.

It is not listed here, but I would like to bring it up because it was mentioned on Saturday, traditional knowledge was also part of the consultation process.

There was actually an active effort spent to go out, survey and interview people about their knowledge about the path as far as uses are concerned or perhaps features of the site that might be of interest to the Project.

That is documented and will also be discussed on the upcoming human environment session, and the expert who conducted these surveys will also be present. If there are further questions on that, it can be addressed during the human environment theme day.

Now with respect to the adequacy of the consultation program, I would like to draw attention to one comment that we received from Health Canada, and I'll read it to you:

> "Health Canada acknowledges the effort invested by the Proponent regarding the public information and consultation process as detailed in the EIS guidelines. Communication activities and information are well presented and easy to retrieve."

This is a comment from an agency that is very experienced in environmental assessments, and we are happy to have this positive comment and acknowledgement of our efforts.

Ecosystem approach, we talked about it

on Saturday. I just want to mention the process does recognize the interconnectedness, the complexity of the various components in the natural environment and has addressed them throughout the process.

Precautionary principle is another principle that has been applied in accordance with the guidelines that were issued.

Again, we talked about it on Saturday. It includes such things as planning for worst case scenarios, conservative model assumptions, avoidance strategies, et cetera.

I think that during the course of my presentation, examples will come up that will indicate where and how this precautionary principle has been applied.

So much about the environmental assessment itself, the steps involved and the terminology to some extent. Let's now look at the existing environment.

Obviously, at the beginning of the process, you have to understand the environment you're dealing with, the specifics of the site and the immediate surroundings.

With this slide, I would like to draw the attention to the comprehensiveness of the work that was undertaken.

There was a series of component studies, including terrestrial surveys and studies regarding

migratory birds, vegetation, mammals, herpetofauna, lepidoptora, odonata.

In the marine environment, we undertook surveys and studies that address the intertidal habitat and communities, near-shore, coastal habitat and communities, plankton communities, waterbirds, marine mammals, sediment transport, et cetera.

I'm not reading them all, but it's just to give you an idea of how complex and intense the inventory work actually was.

On the right side, we have hydrogeological investigations as well as air quality and noise related investigations.

For the socio-economic or human environment, the extent of surveys and investigations and studies were similarly complex and involved topics such as land use, transportation, land ownership, archaeology, the visual aesthetics, but also important or very important is the economic profile of the community, which is the employment situation, income situation and the business sectors represented into the community.

Human health and community wellness is another important consideration in the human environment. Resident attitudes and traditional knowledge, I mentioned it earlier already, of course they were also part of these studies.

So altogether, a very intense effort to understand the existing environment and to characterize the environmental conditions.

For those not familiar to where we are, we are in Digby. The Project site is located approximately halfway down Digby Neck.

The key features of the site, it's a 154-hectare site. The coast line stretches over about 2.6 kilometres. It's located on the Bay of Fundy side of the North Mountain.

The soils are very thin and overlaying in North Mountain basalt, and the highest point is about 90 metres above sea level.

The existing topography slopes towards the Bay of Fundy. There's a surface water divide east of the active quarry site or near the eastern property boundary, and it's important to note that they are only intermittent water courses on-site, the most defined one on the northern end and one of the southern end on the property.

Also identified through the surveys, there was one wetland classified as a coastal bog present on the site.

Here again is the location on Digby Neck within the extensive North Mountain basalt formation, a plan view of the site. The green area represents the future

environmental protection zone.

The key thing that I want to communicate is here, this line, which indicates the divide and the surface water flow, everything west of this line will flow towards the Bay of Fundy. Everything east of this line will flow into the Little River watershed.

Blue arrows indicate the general flow of the groundwater in this area. It's flowing away from the residence and the wells, towards the Bay of Fundy.

It is an item that will be discussed in more detail during the theme day on hydrogeology and drawn water issues.

Quickly, a cross-section is an exaggerated vertical scale, but what I want to communicate here is that the two watersheds, they divide between the Bay of Fundy watershed and the Little River watershed.

The quarry area, the active quarry area, will not intrude into the Little River watershed. All activities will take place within the Bay of Fundy watershed. Surface water will flow towards the Bay of Fundy.

Okay. Now let's take a look at the existing environment as far as biological features are concerned.

This is an air photo of the site. This bright blue pond is the sediment pond of the existing or

previous, historic quarry that had been established on this site.

What we see here is the typical vegetation which can be characterized as mostly coastal spruce-fir forest stands, roughly aging between 10 and 50 years.

Along the exposed coastline, there's growth which can be characterized as Krummholz. There's one fresh water wetland on-site that I mentioned earlier that is located up here, and it has been classified as a coastal bog.

As far as the Nova Scotia wetland Atlas is concerned, there are no unique or important fresh water wetlands at or near the sites, so the only one that has been identified is the one that we located through our work.

I'd like to point out these small headlands though here, which is an interesting feature as they typically support rare plant species.

Over all, there is a diversity of flora and fauna on this site, and certainly a diverse marine life off and near the coast of the site.

In general though, it is a site that has a very typical vegetation and habitat. It is very typical for the general area, and we would say that there are no unique, or specific features that are unique for this

location.

There are no features that you would not find in the general area as far as habitat and vegetation are concerned.

The only items to highlight perhaps as I said are these small headlands, but even the small headlands continue along the entire Digby Neck.

Plant species at risk now. There were no plant species identified on the site that are protected under the Federal Species at Risk Act, so no plant species with Federal Conservation status.

We do have three species though that have a conservation status as per the Nova Scotia general species ranking, and that is the Hemlock Parsley, the Mountain Sandwort and the Glaucous Rattlesnake Root.

Very interesting, the Glaucous Rattlesnake Root was labelled as a blue species, blue representing extirpated species.

Through our fieldwork, this species that was considered to have disappeared from the map in Nova Scotia has been rediscovered and therefore will have to be reclassified.

There is a photo on the right of that plant, and thanks to our expert, Ruth Newell, I can show you this plant. She took this photograph on the site and she is here to answer any question that you may have in particular

perhaps to these rare species.

I should maybe also mention this is a species or these three species are all appearing on these headlands that I have pointed out, and are going to be preserved in the environmental preservation zone that will surround the site.

Before I continue talking about species at risk, briefly here are the listings that were consulted in order to identify conservation status of species.

In accordance with Nova Scotia Natural Resources, we consulted four listings: The Federal Species at Risk List, as per the SARA, the Species at Risk Act; The COSEWIC listing, COSEWIC representing Committee on the Status on Endangered Wildlife in Canada; the Nova Scotia Endangered Species Act and the Nova Scotia General Species Ranks.

Terrestrial fauna at the site now. There are two mammals that have been identified as having a conservation status, the Little Brown Bat and the Northern Long-Eared Bat.

It is important to know both are not breeding on-site. They are using the site though for foraging purposes.

Land birds now. The site has no land birds, breeding land birds with conservation status identified. That is not quite true anymore. As of

yesterday evening, I know that there are two species that we surveyed, the Boreal Chickadee and also the Gray Jay that have over the course of the last five days or ten days been upgraded and are now also listed on the Nova Scotia Species Ranks as yellow-labelled species.

So we do now have breeding birds on the site that have a conservation status under the Nova Scotia Rank.

Odonata, Lepidoptera or in plain English damsel flies, dragon flies and butterflies, none have been identified on the site that have a conservation status.

I'd like to share with you another quote here from NSDNR, from their review comments, compliments for our study team that we are proud about:

> "The calibre of individual field investigators is very high and accordingly, we have high confidence in the quality of their results and recommendations."

Marine biota at risk. In the Bay of Fundy, there are a number of marine mammals. These are: the North Atlantic Right Whale; the harbour porpoise; the fin whale occasionally near the site; the blue whale occasionally near the site, and a whole list of marine fish that are considered species at risk.

The marine fish range from Atlantic Cod

all the way down to the Inner Bay of Fundy Salmon, Atlantic Whitefish and Striped Bass, all fish that have been identified on the Federal Species List as being federally protected.

Other species, there's a reptile in the Bay of Fundy, the Leatherback turtle, also protected under the Species at Risk Act (schedule 1).

Only one waterbird, a wintering waterbird has been identified through our intensive bird surveys as being at the site, but as indicated on the slide, it's a wintering bird and it's not federally protected, it's provincially protected.

Let's also have a look at the site characteristics from a socio-economic perspective. So far, I talked about the physical characteristics of the site, the biological characteristics of the site.

A quick note on the socio-economic characteristics. It's a vacant property. There has been a former pit on the property and it's formerly a licensed four-acre quarry site.

The site is accessible via Highway 217. The access to the shoreline is via the public road, the Whites Cove Road. The nearest village is Little River. The nearest residence not owned by Bilcon is about 350 metres from the active quarry, and there are about 24 active wells within the site vicinity.

I should point out there are no designated registered heritage properties on the site, and there's no significant archaeological features identified on the site as well.

We can state this as a result of our site investigations, as part of the inventory work.

Just a quick aerial view of the area from the Little River site being located in the background for those in the audience or amongst us who may not have been at the site.

That takes me to the next step in my presentation, the assessment of the actual effects.

I talked about the existing environment, now let's briefly shed some light on the Project Works and the activities.

The proposed Project was discussed in detail on Saturday, but for those amongst the audience who did not participate on Saturday, maybe a very quick synopsis here of what the project is all about.

We are distinguishing three phases, the construction phase, the operation phase and the decommissioning/abandonment phase.

For the construction phase, there will be site development clearing, clearing of the vegetation, there will be development of the infrastructure like the power supply, water supply, the water treatment features,

the access has to be established, the administration and processing units have to be built and the marine terminal will have to be built.

During the operation, we will be experiencing regularly the quarry face development, which involves blasting. Subsequently, there will be a processing of the rock, a stockpiling and then the loading of the rock onto vessels that will be docked at the marine terminal, and then from there on, there will be a marine transport also part of the Project activities.

During the operation phase, there will be incremental or ongoing site rehabilitation, and there will be a continuous water management of surface water as well as processed water.

Decommissioning and the abandonment phase involves the site decommissioning and the final site reclamation and associated monitoring.

Just one more slide on the Project Works and Activities. Again, this is to give you an idea of what this Project is all about. The green, dark green area again, the environmental preservation zone.

Within that 150-hectare area, the actual quarry will slowly move its way through the overall area, so it's important to understand that at no point in time the entire area will be covered by the entire project activities.

It will be always a small component of the site that will slowly move through the site, and as it moves through it, the areas that are quarried will be immediately reclaimed.

Valued environmental components now. So there is the Project in the environmental assessment and there is the environment. Both need to be assessed, what are the effects falling out of that.

The Environmental Assessment Act and also the guidelines ask for the establishment or VECs (valued environmental components).

These are issues or features of concern such as the air quality, and they are features typically or potentially affected by the Project, either directly or via pathways, and they are established to focus the environmental assessment work.

So rather than studying everything, we intend here to identify those valued environmental components that are of concern and that are also affected by the project, and to focus the work on those components.

They identified that in this exercise through public consultation, and I have a list here for you of what has been established as the valued environmental components in the context of this study.

We have biophysical VECs and we have socio-economic VECs.

Biophysical VECs range from climate geology, hydrogeology, surface geology and soils all the way down to the aquatic ecology, freshwater and marine.

There are a number of socio-economic VECs as well: Heritage resources, aboriginal land and resource use, transportation, economy, human health and wellness and socio-cultural environment.

It's important to bring this up because the term VEC or valued environmental component is another one of those technical environmental assessment terms that the Act and also the guidelines use, and I felt I should introduce that to you.

Key concerns now. So between the environment and the Project, the key concerns are interactions and pathways. There are direct interactions, for example the Project may and will result in the removal of habitat, a direct interaction.

But there are also interactions via pathways, such as groundwater which may function as a pathway to domestic wells.

The E.A. is concerned about receptors, any changes, perhaps who is at the receiving end of these changes, the ecological health or flora and fauna may be at the receiving end and there are aspects of the socio-economic environment at the receiving end or of the human health.

A very simplified diagram to explain the term of pathways. All I want to communicate is that this concept of pathway involves a source such as, in this picture, a car that generates exhaust fumes, and a receptor, which is a person that is breathing the air. In this case, the air functions as a pathway.

It's a typical consideration in environmental assessments.

The other example that is given here is there is a soil contamination here as a source, and the groundwater is functioning as a pathway to a receptor, in this case fish in an aquatic environment.

So that's just to explain the term of pathways.

Let's now look at the effects assessment, and I'm picking one key valued ecosystem component here, the air quality and noise.

We are dealing with a quarry, very different from complex industrial undertakings such as power plants or chemical plants.

This is a quarry and in terms of air quality and noise, it's actually fairly simple. They are dust emissions, there are greenhouse gas emissions and there are operation-related noise emissions.

There's fairly well understood, fairly limited emission sources.

In our analysis of the air quality and noise, we looked at the existing air quality, the existing noise levels. We looked at the potential emission sources associated with this undertaking.

We also looked at the guidelines and standards that may be out there, and we undertook a noise level modelling using the CadnaA model.

Not listed here is also the dust modeling, as part of the air quality. As I mentioned, dust is another concern. Dust has also been modeled through an application of the numeric model.

We looked at mitigation measures, what can be done to minimize and perhaps even avoid effects. And then as mentioned before, the significance of the effects is important to establish.

We looked at the environmental management, including such things as compliance monitoring and adaptive management.

On the right side of the slide, just an example, at the bottom the traditional way of screening which are uncovered, open facilities.

At the top, a computer generated drawing of the proposed Bilcon undertaking, which will be completely enclosed as was pointed out by Mr. Buxton on Saturday.

So this is the essential difference

between the traditional approach and the modern state of the art engineering that Bilcon is proposing.

Now let's look at the thresholds for significance related to air quality and noise.

The Pit and Quarry Guidelines establish maximum levels for dust or the technical term, "total suspended particulates", that is at or beyond the property boundary.

The maximum level on an annual mean basis is 70 micrograms per cubic metre. On a 24-hour period basis, it's 120 micrograms per cubic metre.

As far as sound levels are concerned, the regulator established a range between 65 dBA and 55 dBA, depending on the time of the day.

This is related to noise associated with the regular operation.

Noise and vibration related to the blasting aspect of the project has a different set of criteria, and that's 128 dBA measured within seven metres of the nearest structure and 12.5 millimetre per second peak particle velocity at the nearest structure.

So those are threshold numbers for significance. We are saying: "If these levels are exceeded, we would be faced with a significant adverse effect.

Now let's for a minute look at what

mitigation measures are available and what mitigation measures are suggested as pointed out in our presentation on Saturday.

For dust and noise, the use of electric power will be maximized and the conveyor system, stationary equipment and chip loader will all operate based on electric power.

There will be marine transport, so there will be no exhaust intensive truck hauls through residential areas.

There will be paved access roads from Highway 217 into the quarry, which will minimize the generation of dust.

There will be, as mentioned before, enclosures for the processing equipment, which also includes the crusher.

There will be minimal direct rock/steel contact, which is the most important aspect in the noise generation, in the quarry operation. This will be achieved through lined steel surfaces throughout the equipment.

There will be a hooded conveyor system, and there will be the use of dust suppressants such as water, in order to minimize the dust generation during regular operation.

As pointed out a couple of times, there was a perimeter zone which will be forested and vegetated

which will provide additional noise abetment and dust abetment features.

There will be no blasting... In accordance with the guidelines, no blasting on Sunday or statutory holidays, and there will also be no blasting between 6:00 in the evening and 8:00 in the morning, and the environmental management plan will define all that, all the restrictions that Bilcon is committed to.

The photograph on the right bottom is an example for what is proposed here, the completely enclosed crushing structure, but also hooded conveyor belts.

It's very, very important in terms of minimizing dust, but also noise effects.

Nevertheless, there will be compliance monitoring at the site. There will be particulate matter or dust monitoring. There will be noise and vibration monitoring related to the operation but also the blast-related noise.

These results, the monitoring results will of course be made available to the regulators, but also to the public and any other interested parties.

What kind of conclusions can we draw taking into account these mitigation measures?

Our predictions are that the noise levels related to the operation and the blasting will definitely remain within the guidelines.

This is based on the model that was run and it's also based on our experience with other quarry sites.

Dust levels, the same thing can be stated. The dust levels will remain within the guidelines, again based on similar quarry projects, but also modelling exercises and also our experience of the effectiveness and efficiency of the monitoring and mitigation measures.

So we conclude for the effects on the air quality and noise that the effects will not be significant. They will be within provincial guidelines, they are considered to be localized and will be very infrequent in the sense that blasting noise will only occur once every one or two weeks.

Then a quote here from the comments that we received on our environmental assessment, this time from NSDEL:

> "We are satisfied that the mitigation measures proposed in the EIS for air quality issues are adequate."

Now not on the slide, but nevertheless a comment that I would like to share with you, it's something I picked up from the registry yesterday, and it's from the presentation that Health Canada will make, and it also relates to air quality and noise.

Their commentary on the work that has

been accomplished so far and our responses to the information requests that were filed is as follows. Health Canada is saying, and I am quoting here:

> "Health Canada has no further comments on this issue. Health Canada finds that this project component as described in the Environmental Impact Statement is protective of human health provided all applicable mitigative measures are undertaken."

So we take this as a very strong support for our environmental assessments and our conclusion.

Greenhouse gases I mentioned under the air quality and noise. Noise and dust is one issue, the other issue is greenhouse gases.

We look into this in our key considerations. One of the on-site sources as I mentioned before is combustion engines, and they will be minimal. So the on-site sources for greenhouse gas emissions are actually minimal.

What is also important to note is that there is no legislation or standards for industry in place at this point in time.

The Kyoto protocol applies to states only. This is also explicitly mentioned in the comment of Foreign Affairs Department that says:

"There are no implications under the Kyoto protocol for this project."

Nevertheless, as a good corporate citizen, Bilcon does take greenhouse gas issues seriously and is committed to a number of measures to minimize greenhouse gas generation by this Project.

We think that the incremental site reclamation will create immediately carbon sinks as we go along. The chipping and also the reuse of the wood fibres from the land clearing and the reuse also of this in the land reclamation will also avoid the combustion of wood fibres.

And as I said, there's a commitment to energy conservation. There's a commitment to use of alternative energy sources, biodiesel just as an example, and there's a commitment to continuous exploration of new technologies and evolving policies regarding the climate change and the greenhouse gas emissions.

And definitely a commitment is that should future guidelines be established that do relate to the industry, Bilcon will adjust its operation to comply with those standards.

This would be a typical example for adaptive management. New regulations come in, and there will be an assessment and an adjustment to the operation to make sure that the new guidelines are adhered to.

So we conclude for greenhouse gases that the effects, the adverse effects that this Project may have, are not significant.

Let me move on to another important valued environmental component, the terrestrial environment.

What effects does the Project potentially have on the terrestrial environment?

Key concerns are the species at risk, the flora, the fauna and the on-site wetland.

Again, thanks to Ruth Newell, we have a photograph of the Mountain sandwort, another one of those three plant species identified on-site.

In our analysis, in the key considerations, we looked at the existing conditions. As mentioned earlier, the surveys and studies undertaken involve vegetation communities, habitat surveys, bird surveys, vegetation flora inventories, inventories and studies of mammals, herpetofauna, arthropods (butterflies, damselflies and dragonflies).

We looked at the interactions with the Project. We asked ourselves: "Which habitats will be removed? Are the habitats that are removed also habitats for the plant species at risk?"

We identified that all plant species at risk will actually remain within the preservation zone.

They are predominantly on those somewhat more open headlands, which will be included in the preservation zone.

And we looked at what kind of disturbance may be caused by the Project. Are there any habitat impairments anticipated, perhaps through the alteration of the drainage? And we looked at the direct potential loss of species through the clearing of the Project of the quarry site.

We also looked at: "Do any of these activities perhaps contribute to the threat factors identified in the recovery plans that may exist for the one or the other specie?"

We looked at the conservation status, Federal and Provincial, mitigation measures and the site rehabilitation that may minimize or avoid the effects of the species.

Again, we looked into the environmental management, including the monitoring and adaptive management that is available to avoid or minimize those potential adverse effects.

Coming again to the question of significance, for species at risk, we defined that the threshold for significance is the long-term sustainability of the species at risk population.

So in other words, we are seeing a significant effect, a significant adverse effect that exists

where the long-term sustainability of the specie at risk population is jeopardized as a result of the magnitude, the geographic extent and the frequency of the effect, and perhaps the effect being irreversible.

For wetlands, the same thing has been established. We consider an effect, an adverse effect to be significant if the long-term sustainability of the on-site wetland is jeopardized as a result of the magnitude, geographic extent, frequency of the effect and the factor that the effect may be irreversible.

Mitigation measures now. I mentioned it, there's the environmental preservation zone. There's also suggesting species-specific mitigation plans that may take into account specific habitat management requirements that may be needed.

There's wetland and pond creation included in the Project design. There's the incremental site reclamation and there's the forest management and habitat management on-site and off-site.

Paul Buxton explains the forest management has already taken place off-site. It has started already in order to enhance habitat availability and habitat diversity beyond the site boundaries.

And there is the monitoring effort that will look at species at risk potential for the invasive species spreading on the site and the habitat rehabilitation

and the effectiveness of this habitat rehabilitation and the success of it.

So taking those mitigation measures into account, what can we conclude?

We conclude that the adverse effects are not significant. There may be effects, they may be adverse, but we do not consider them significant.

For the plant species at risk, we can say that all plant species at risk are found within the protective environmental zone, and therefore the sustainability of the population is not a factor.

As far as the mammal species at risk are concerned, the two bats I mentioned earlier, again we don't think that the sustainability of the population of these bats is affected.

They're only using the site for foraging. There's plenty of replacement habitat around the Project. We even think that by establishing the wetlands, the ponds, we may even increase foraging habitat for these bats that live off insects, and which may be attracted and propagated in association with our ponds.

So the habitat conditions for the bats are likely not to deteriorate, in fact they may improve.

So we conclude that the effects are not significant for bats either.

For the on-site wetland, the

sustainability of the wetland is also not affected. If at all, effects will be small scale, very localized and temporary and certainly reversible.

There is a potential in this context, and I would like to mention it, but there is even a potential for a net gain for wetlands as I said, through the creation of additional wetland and the site reclamation which will likely benefit some of the species already on-site.

A quote from the review comments again as far as this conclusion is concerned, which is supported by Nova Scotia Department of Natural Resources:

> "The authors and Proponent are to be commended for the rigour applied to the examination of these issues, in particular their consideration of rare species and species potentially at risk."

Another valued ecosystem component is the marine environment.

Now there is a huge number of issues or concerns that are associated with the marine environment, and that's why the Panel scheduled a specific theme day to discuss the marine environment. It's upcoming and it will be this Wednesday.

I have to focus here on a couple of

issues, and I picked the key concerns here, the blasting effects and the potential effects of marine transport related to ship/whale collisions.

Let's look at blasting. We know from literature research that the potential effects of blasting in this context could be for whales auditory damage, it could cause a behaviour change, and it could also have a masking effect, which basically represents an interference with their communication.

For waterbirds, fish and lobster, they also indicate blasting could have adverse health effects, or at least it could cause a change in behaviour.

What are the regulatory requirements? The DFO guidelines for the use of explosives in or near Canadian fishery waters clearly states that no explosives should knowingly be detonated within 500 metres of any marine mammal.

It also establishes a maximum pressure level of 100 kilopascal in the swim bladder of fish and it also establishes a vibration maximum of 30 millimetre per second in spawning areas.

The Pit and Quarry Guidelines in this context do not help. They don't make those established thresholds for marine environment.

So for us, regulatory requirements of key concern here are those maximum pressure level and

maximum vibration levels.

To understand what this Project may cause, we ran a model, a numeral model, a CONWEP model, and we're asking ourselves: "What are the anticipated pressure levels from the proposed blasting activities?"

The result of the model is or the model predicts a 25 kilopascal pressure level in the nearest water column. In other words, only one quarter of what the guideline is asking us for.

Mitigation measures have been developed. They include setback distances from the detonation point and include such items as...

In the blasting protocol, it will be established that there will be no blasting at low tide, it will be at least within three hours or further away from the low-tide point.

As a precautionary measure, we are suggesting a 170-metre setback for waterbirds. We will be adhering to the 500-metre for marine mammals, but we will be extending the required setback distance by a factor of three during the period of May and September when the Inner Bay of Fundy Salmon migration takes place.

This is a precautionary measure and will not only benefit the salmon, but of course all the other fish species that I listed earlier.

For the marine mammals at risk, another

precautionary mitigative measure that has been established here, we will actually be extending the minimum distance that the guidelines ask for by a factor of five. So there will be a setback distance of 2,500 metres for marine mammals.

A few other mitigative measures that are suggested, we will be looking for detection and deterring devices as there are some out there, but they are not ready yet to be applied.

But in consultation with DFO, as soon as they are considered to be sufficiently reliable, Bilcon will apply those kinds of devices.

There will be a training of marine observers who will have to ensure that these setback distances will actually be adhered to, and there will be a consultation with DFO on the model verification and the finalization of the safety zones.

So the zones that I was discussing earlier, based on our model predictions, monitoring will have to verify that these predictions indeed are correct and if any adjustments are required in consultation with DFO, they will result in adjusted setback distances.

Monitoring. I just jumped ahead of myself here. As I said, it will take place on the water. The sound levels will be monitored on a regular basis. This is for the model verification.

That clearly represents a precautionary principle that we want to apply here. We are not solely relying on this model.

The underwater background noise, together with the vessel noise, will also be monitored, another precautionary principle.

Prior to blasting, the presence of waterbirds, mammals, marine mammals at risk, will be monitored within the determined setback distances.

This will be achieved through observations from the boat, from the ship loader, but it will also include monitoring of advisories issued by Fundy traffic and perhaps information, if made available, from the tour boat operators.

So the conclusion for marine environment and blasting is that the residual adverse effects are not significant.

The rationale behind that is the sound pressure levels are definitely within the prescribed guidelines. The setback distances will be met or even exceeded as I outlined.

The blasting events are very infrequent and will happen only every second week, which means... And the activity is also considered a very localized effect.

Now this conclusion is supported by a commentary from the Department of Fisheries and Ocean that

was received as feedback to our environmental assessment. And I quote from DFO that:

> "It is unlikely that blasting would result in physical effects on marine mammals, endangered or otherwise, beyond 500 metres."

As I said, we are establishing a setback distance that is five times as large, at least as far as the marine mammals at risk are concerned.

And another important comment in this context:

> "Since the model parameters were selected fairly conservatively and in light of the fact that the model would appear to overestimate the theoretical pressure, there seems to be minimal cause for concern in terms of direct harm to fish."

This quote also addresses the conservatism that has been built into the model. So I mentioned the precautionary principle as far as the dimensions of the setback distances are concerned.

A precautionary approach has also been built into the model, which is built on a series of highly conservative assumptions and that's confirmed here in the comment from the Department of Fisheries and Ocean.

The second big concern related to our marine environment is ship/whale strikes.

As far as the effects of this project are concerned, there is a 6 per cent increase of rule vessel traffic.

The picture in the bottom right indicates roughly the kind of vessel that will be used. These larger vessels that are tied to the transport separation system that's in place in the Bay of Fundy, they have to report to Fundy traffic, and there are 800 craft vessels currently travelling through this traffic system.

Therefore, the additional Bilcon vessel transport will amount to a 6 per cent increase of these rule vessels.

That does represent a possible or a potential for a ship/whale strike and would contribute to the threat of the North Atlantic Right Whale.

There are though mitigation measures in place. This site has been selected and the route of the vessel has been selected in a way that the navigation will take place outside of the North Atlantic Right Whale Conservation Area.

The vessel will also travel at a reduced speed, less than 12 knots. Typical vessel/whale accidents happen at speeds higher than 14 knots.

There's also the possibility for course

adjustments. If any reports are received or observations are made, this will be communicated to the captain who, within his safety limits, perhaps will be able to adjust the course or reduce the speed even further.

And this is just to illustrate what I said. There is a transportation separation system in place that requires every rule vessel to report to Fundy traffic and to follow these prescribed or defined transportation rules.

The Bilcon vessel will follow this route, and then at a point roughly here, will go along a clearly defined prescribed route on the shortest way to the site itself, and will follow a similar route on its way out.

From this point on, the speed will be continuously going down from 12 knots to near 5 or 1 knot, close to the terminal, when it comes to berthing the boat at the Project site.

Now this yellow boundary indicates the North Atlantic Right Whale Conservation Area. So then keep in mind there are 800 vessels currently travelling on an annual basis through that conservation area.

Bilcon has selected this site and a route that ensures that this conservation area is respected and will not be transected by the Bilcon vessels, and the vessel speed has been reduced to stay below speed levels in which collisions are typical to occur.

Then the question is: "What is a significant effect for whale species at risk?" We also defined here that the long-term sustainability of the population would have to be jeopardized as a result of the magnitude, the geographic extent and the frequency of the effect. The effect would have to be irreversible.

What can we conclude with respect to ship/whale strikes? We conclude that the adverse residual effects, in other words those effects after the application of the mitigation measures, are not significant.

The rationale behind that is that the sustainability of the whale population is not jeopardized by this project.

The ship strikes are considered highly unlikely. The vessel transport will be very infrequent and the ship will travel at a reduced speed.

This conclusion too is supported by the Department of Fisheries and Ocean, and I read their comment on the environmental assessment:

"The conclusions provided in the EIS regarding collision risk with the Right Whales are generally correct. The increased ship traffic due to proposed activity and the proposed route will result in an increase in the probability of vessel/whale interaction, but the

increase will not be substantial."

And so this is the rationale behind our conclusion that the effects are not considered significant.

I'm moving now on to the last of the valued environment components, the socio-economic environment. And I'll discuss some of the effects on the socio-economic environment.

A large number of valued environmental components have been identified. They include heritage resources, marine and land archaeology, heritage properties... I'm just picking a few topics here. There's aesthetics.

What's very important here, economy of course. And there is the fishery, the tourism, the land value.

Under the Human Health and Wellness and Socio-Cultural Environment, there are issues related to drinking water quality, marine contaminants, land contaminants, any particular contaminants that you could have potentially in country foods.

A large number of issues, and therefore again a theme day has been set aside. I can only touch on the surface.

Exactly in a week from today, we will have a human environment expert here and other experts on contaminants in the environment and risk assessments.

We will be able to dive into much more detail. I can only stay at the surface and give you some key information.

Key concerns are, and I used the word earlier, the pathways. There's the air quality, there's the noise and vibration and there's the water quality in the context of the human environment.

What do these pathways do to the health effects, also perhaps what do these pathways do to the labour market and the economy, or what are the direct effects on labour markets and economy.

Let's look at health first, key considerations. To draw a conclusion, there's the question: "What are the predicted effects levels for these pathways?" Air quality, noise, groundwater and surface water quality, terrestrial and marine biota.

For all these predicted effects, we concluded that they will stay where applicable within government standards and guidelines.

Nevertheless, further mitigation as suggested, this includes comprehensive monitoring, community involvement through the Community Liaison Committee, and the adaptive management approach.

So we conclude that for human health, the residual adverse effects are not significant. Again, these are the residual adverse effects, meaning after

application of all mitigative measures related to air quality, groundwater, surface water, marine environment, et cetera, we conclude the effects are not significant.

Labour and economy now. The key considerations here is we needed to understand the economic profile of the region and of the local community.

We also looked at the economic profile of the quarry itself, how many jobs are generated, what is the payroll, what are the tax contributions, et cetera.

We also looked at the provincial economic policies and ran an economic impact model, a numeric input/output model which identified the potential for beneficial effects related to labour markets and the economy.

Mitigation in this case to minimize the effects is not required, but it would be good to perhaps enhance the beneficial effect, so here we are talking about enhancement measures.

Bilcon is committed to a hiring and procurement policy that favours the local market. It is also committed to promote female workforce within its operation.

It has been identified that female workers have been particularly disadvantaged by recent developments in the local labour market.

Bilcon is also committed to a training

policy as an enhancement measure to ensure that the local labour market can be used in terms of staffing the operation.

So for labour and economy, we conclude that there are no significant adverse effects. We can conclude that there are actually likely beneficial economic effects.

Generally, this is supported by the mineral policy for the province of Nova Scotia. I'll cite from that policy:

> "The Government of Nova Scotia recognizes mineral exploration and mining as a key sector contributing to jobs, wealth and a high quality of life for Nova Scotians."

That's exactly what we are proposing here, an operation that can do that, contribute to jobs, wealth and a high quality of life in the area.

I mentioned at the beginning of my presentation that I have to stay at the surface, I have to summarize. I cannot go into detail, and I cannot address every individual valued environmental component that was assessed.

So this is just to serve as a quick overview of what other items were addressed and other conclusions that have been drawn.

We assessed the effects on water quality, fresh water, marine. We assessed the effects on groundwater and domestic wells near the Project site.

We assessed the effects on physical oceanography, the effects on freshwater fish habitat, the archaeology, transportation and the visual aesthetics.

We established and identified a whole series of mitigation measures, all related to a sensitive project design and an operation and we tied into the operation a monitoring program and an adaptive management system so that we can, for all those factors, also conclude that the residual adverse effects are not found to be significant.

They are generally considerably small scale, localized short-term or infrequent, and for the most part reversible.

So aside from these direct effects and effects via pathways from the Project on the environment, there are a number of other considerations that the effects assessment looked into.

We didn't just look at the Project and the receiving environment, we also asked ourselves: "Does perhaps the existing environment have an effect on the Project?"

For example storm surges, climate change, earthquakes, are those factors that could affect the

Project and are they maybe consequences for our valued environmental components?

We also stopped at just looking at regular operations. We also asked ourselves what are the potential accidents and malfunctions that are associated with this operation, and are there consequences for the marine environment and the terrestrial environment?

Thinking about things like grounding of the vessel, fuel spills, on-land fuel spills within the marine environment, what are the consequences?

We also did not just look at the Project in isolation. This is a bit in line of the ecosystem approach.

Nothing exists in isolation. Everything is connected with everything else, so we looked at other projects in the area and what are the potential effects or cumulative effects between our project and future planned and reasonably foreseeable projects such as the LNG project proposed in the U.S. or the Canaport proposal from Irving in Saint John.

Huge area, so I cannot go into much detail, but let me say this, the mitigative measures related to the effects of the environment on the Project, the mitigative measures related to the malfunctions and accidents and the cumulative effects include such things as the detailed design that will be based on the anticipated

environmental conditions.

It will include mitigative measures that include emergency-response plans and spill-prevention plans, and it includes for the cumulative effects all the mitigative measures that I explained to you earlier in the context of our direct effect.

The conclusion for these three evaluations is that no significant residual adverse effects are likely to occur.

So again, you realize that "significance" is a term that I keep using. As I mentioned, at the end of the day, the environmental assessment is supposed to determine exactly that, are the effects going to be significant or not.

As far as the malfunctions and the accidents are concerned, there's a supportive comment here from the NSDEL - Pollution and Prevention Branch, and I'm reading it to you:

> "Overall, the Proponent's plan appears to have anticipated and designed adequate mitigative measures to address most potential concerns related to areas within the P2 mandate."

Okay. What is the P2 mandate? It is related to the responsibilities for hazardous substances, environmental emergencies and pollution.

So we feel that the mitigative measures that we have developed, obviously we were on the right track here and we have the support of the NSDEL for our suggestions.

This takes me to the last component of my presentation, the summary and the conclusion of the environmental assessment.

Let me review. We have a project proposal that represents a state of the art modern operation. It includes extensive environmental management and protection features. I mentioned several times for example the enclosures that will be used.

The project site. The project site has some previous disturbances. There is a pit and quarry activity on the site and part of the forest cover has been clear cut.

The vegetation on the site and the habitat is very typical for the region, these kinds of habitats extending way beyond the project site.

There's terrestrial habitat of concern, but that terrestrial habitat of concern is all contained within the preservation zone.

There's a North Atlantic Right Whale Conservation Area, but the project site and the navigation associated with the transport component will take place outside of this conservation area.

The effects assessment that has been undertaken is based on a very extensive baseline study. This is probably one of the best understood quarries in Nova Scotia.

There have been comprehensive analysis, including direct effects, pathways, cumulative effects and we've done extensive modelling, very importantly, based on very conservative model assumptions.

There's been an extensive set of mitigation and monitoring established which takes the precautionary principle into account.

So we conclude that there are effects, there are adverse effects, but the Project is not likely to cause significant residual adverse effects.

All effects that are predicted would stay, where applicable, within regulatory guidelines and standards.

The residual adverse effects are generally small scale, localized, infrequent and for the most part reversible.

The environmental assessment also identified beneficial effects. The beneficial effects are related to the socio-economic environment, and it involves such things as new employment and training opportunities, contribution to the tax base, a diversification of the local economy and future development opportunities once the

Project is coming to an end.

Also, we see beneficial effects related to the terrestrial environment. There is a potential for new terrestrial wetland and forest habitat development not only on-site, but also beyond the site, on Bilcon-owned properties.

Bilcon is committed to a comprehensive set of mitigation measures, many of them I mentioned before. I will run through it here again.

There is noise reduction, dust control, water recycling, incremental reclamation, fish habitat compensation, environmental preservation zones, setback distances, the reduced vessel speed and the environmental management plan.

Bilcon is also committed to a comprehensive monetary program involving such things as noise level monitoring at the property boundary, noise level monitoring in the underwater environment, monitoring of dust levels, monitoring of water discharge quality.

Also, on-site water wells will be monitored as far as quality and quantity is concerned. Presence of mammals and waterbirds will be monitored. Plant species at risk and also the potential or the actual propagation of invasive specifies will be monitored.

We don't want invasive species to interfere with our habitat development objectives.

Bilcon is also committed to an adaptive management approach, which is reflected in a specific management structure and the frequent and immediate review of project performance as monitoring results come in.

Bilcon is committed to a continued public involvement which will happen through the Community Liaison Committee, and is also committed to running a complaint record and also implementing an expeditious response mechanism.

Bilcon is also committed to compensation policies. Should, nevertheless, despite all the mitigation, problems arise around domestic water supply or problems with fishing gear, Bilcon is committed to a compensation in both of those areas.

The Environmental Management Plan will assure that all these things happen. It's a very important plan and will establish rules and responsibilities and will establish the monitoring plans. It will establish the environmental inspections and the audits, who does what, when, and how frequent, et cetera.

It will also establish the contingency and emergency response plans and the training and education that will have to take place on an ongoing basis. And it will also, very important factor, establish the communication and the reporting, the reporting of monitoring results and the reporting of environmental performance.

With this, I would like to complete my presentation. We think that the step forward from here is towards sustainable economic development.

Once the environmental assessment is approved, we could move on into the next stage, the detailed design and engineering phase.

We could move into the implementation of additional studies and follow-up activities and apply for permits and approvals and, once those have been received, the tendering process can be initiated. People can be hired and the Project can move into the realization phase.

All that will take place with ongoing public consultation and, in five years... in Year 5, the first step towards reclamation could be undertaken. Thank you very much.

Mr. PAUL BUXTON: Thank you, Mr. Wittkugel. Mr. Chair, that concludes our presentation on effects assessment.

THE CHAIRPERSON: Thank you, Mr. Wittkugel.

This is a natural place for us to break. I suggest we take 15 minutes, and then resume following that.

--- Recess at 10:45 a.m.

--- Upon resuming at 10:52 a.m.

THE CHAIRPERSON: Ladies and gentlemen, we'd like to resume the session.

EXAMINATION BY THE PANEL - Ms. JILL GRANT

Ms. JILL GRANT: I'd like to begin by making a few clarifications, if we might, just so that we have a very clear idea of what the project is so that we understand its effects.

There are a couple of...just a couple of little differences in the presentation from what is in some of the documents and we would just like to get those cleared up, if we could.

The first was about the speed of the ship leaving the designated lanes. I notice in the presentation that it indicated the maximum speed of 12 knots, but in the material that was received in response to the Information Requests, in some places it says a maximum speed of 10 knots outside of the lanes, in some places a maximum speed of 12 knots.

So can you just clarify, is 12 knots the

definitive amount that is the maximum speed?

Mr. PAUL BUXTON: Yes, and thank you. Our commitment is to a speed of less than 12 knots. We understand in talking to various shippers that they have looked at the plans sent to them with respect to the route and the distance off the shipping lanes, and it's their view that, in fact, they would be less than 12 knots.

They've got to get down to 0 knots in a fairly short period of time, and we understand from them that they would almost certainly be less than that, and some have said, we think, 10 knots, some have said 9 knots.

But we are committing to a speed of less than 12 knots, and that would be in a contract with the shipper because our literature search leads us to believe that the incidence of mortality or serious injury to whales occurs at speeds of greater than 14 knots, so we want to make sure that we are well below that level.

Ms. JILL GRANT: Thank you.

The next clarification is about the list of commitments that was presented. It had two elements of compensation that were presented on the list around wells and... But one of the items that was in the material received indicated a commitment to compensate for property values.

Has that commitment been withdrawn, or is that still part of the proposed project?

Mr. PAUL BUXTON: No. That commitment is still in place and should have been, perhaps, included in that. It is certainly clearly indicated as a commitment in the document.

Ms. JILL GRANT: Thank you.

The third item of clarification is about the outflow. The other day I asked you in the session about the outflow structure that could be used to stop flow, and you responded that it was not in any way, shape or form to stop the flow going out.

However, in the supplemental material that we received in response to our Information Request from February 27th, on page 1112 of the first supplemental package that we received, it says:

> "The control mechanism at the outlet structure will ensure that the discharges can be stopped in case of any malfunctioning in the ponds."

Can you please clarify which of those answers is the intended project?

Mr. PAUL BUXTON: I'm not quite sure what that was intended to convey. Certainly if there were some

minor malfunction in the pond system between the ponds, perhaps one could stop the water temporarily.

The control structure would be a concrete structure, a Weir type structure, in fact, so that measurements could be taken and that we can take samples from the same place each time so that we have consistency, but it would have no real mechanism to hold up the water flow for any significant period of time.

Ms. JILL GRANT: Thank you. And one final clarification about the Environmental Protection or Preservation Zone.

There was a suggestion just made that all the rare plants would be included in the environmental preservation zone, but my recollection from the documents is that there was one plant, skunk cabbage or something, that was in the forest area that will be lost to the mining activity. Is that correct?

Mr. PAUL BUXTON: That is correct. One finding of skunk cabbage was found on the site, and I'm not quite sure of its status. I'm not an expert as to precisely what the status of the skunk cabbage is, but I'm sure that if you would like that reviewed, Ruth Newell would be happy to clarify the status of the skunk cabbage.

Would you, would you like me to ask her that?

Ms. JILL GRANT: No. I was just trying

to determine whether the suggestion that all of the rare plants were in the environmental preservation zone, whether in fact that was correct or not.

Mr. PAUL BUXTON: I think perhaps it lies in the definition of "rare", and I'm not sure that I can speak to that.

EXAMINATION BY THE PANEL - THE CHAIRPERSON

THE CHAIRPERSON: Mr. Buxton, I'd like to talk a little bit about scientific sampling, or the sampling approach that has been used. This is of some interest to us.

It was referred to earlier in Mr. Wittkugel's presentation, and the scientific sampling approach or the sampling approach which is referred to as the scientific approach is important because it produces information or data, and then that data, as you well know, is used in a number of different ways.

Some of the ways that the data has been used that you and your colleagues have collected have been to establish VECs to create baselines. I presume they're used in defining the pathways that exist in the ecosystem approach, but the ones that are mostly of interest to me are long-term monitoring.

I think that long-term monitoring makes... is addressed using some presumptions and as well as adaptive management, which you mentioned again this morning

and which, as I said last time, you mention at least 140 times in the EIS and various places.

So adaptive management, long-term monitoring are two things which are of considerable importance, and you have stressed them repeatedly. And they are based, to some extent, on the quality of the data that you have. That is, you have to have a sound baseline in order to make comparisons down the road.

You might say that that baseline information is a kind of lynchpin.

I would like to read something to you. This appears in Volume 4 of the EIS, and it's 6.7, and it's just one paragraph. It says:

> "The overall approach to preparation of the Environmental Assessment Impact Statement is science based and uses scientific methods of investigation. The scientific research procedure included literature research and, most importantly, involved original on-site research. On-site research followed acceptable scientific methods of investigation and, in some cases, modelling of various environmental components. Research was also conducted through public consultation meetings,

traditional community knowledge interviews, community surveys and community open- house meetings. Public involvement has been conducted by Bilcon and others during the past four years of the environmental assessment process."

There are two elements in that paragraph that I would like to deal with. One is, I would like to have you clarify for me, you or your colleagues, clarify for me what the scientific method of investigation is.

What are "accepted scientific methods"? Can you define those for me?

Mr. PAUL BUXTON: I pass that question, first of all, perhaps, to Mr. Wittkugel, and then I'll confer with Mr. Kern and see if he can add further clarification.

Mr. UWE WITTKUGEL: I would think that that is certainly duveck(ph) specific or duveck (ph) dependent. There are certain ways of undertaking vegetation analysis for example. There's certain accepted, scientifically accepted ways of identifying rare species.

For example, when it comes to the rare species, we follow the prescribed approach or the approach prescribed by the Nova Scotia Department of Natural Resources, which starts at a 100 kilometre radius and slowly

moves into a smaller scale.

Those are what we would think scientifically and professionally accepted methods. And each discipline, I would think, has a different approach.

Toward noise and air quality, the measurements taken around the site are again based on other principles that don't apply to, perhaps, other valued eco assessment components. So we could go through each one of them, but in general I would think the standard question is repeatable.

Is someone there that's going out doing the same exercise and arriving at the same results? Is it in line with the existing guidelines and specifications? That's the kind of standard the environmental assessment would tend to achieve.

THE CHAIRPERSON: Thank you, Mr. Wittkugel. Could I hear from Mr. Kerns, what he has to say?

Mr. DAVID KERN: I think I would follow what Mr. Wittkugel had to say in that each discipline would have their own set of scientific methods and standards that they would follow that are acceptable within their profession.

THE CHAIRPERSON: Is there anyone else with an opinion?

Mr. PAUL BUXTON: Excuse me. Perhaps... Would it shed any light if you asked a specific element and

perhaps extrapolated from that?

THE CHAIRPERSON: What I'm addressing is the way in which data was collected and the statement within the EIS that it was collected according to scientific methods or the generally accepted format of science.

Has anyone in the group heard of the "scientific method"? The "scientific method", which is the accepted method whereby scientific research is carried out?

It's a well accepted, well agreed upon, widely used and generally it defines the way in which science is done. It involves observation, which you have done, analysis, hypothesis, testing, additional hypotheses, and a great deal of replication.

There is a well defined process which, as far as I can tell, doesn't warrant the paragraph that has been used over here because there hasn't been a scientific approach except in the sense of a rigorous observation.

Now, I'm not trying to say this to mince words or to...or to back you into a corner. What I'm saying is that a cornerstone to the process that you're involved in is the gathering of data of a certain level of respectability, a certain acceptable level which we would call the baseline level.

That baseline level, it would subsequently be used to monitor. It's the baseline against which monitoring is done. And in addition, adaptive

management depends on baselines that are rigorously prescribed.

Now in your paragraph, you argue that that is what you've done, but neither one of the two individuals has given me what I consider to be an acceptable response.

Now, when you look at some of the data, for example, that has been collected, the floral survey, the faunal survey, the odonata survey, the coastal sediments, the benzoic sediments, the various photographs that have been taken, and you can even, if you wish, include some of the mammal surveys, all of these have been done by people who are competent, but they've done it in a relatively short window of time.

For example, if you go out and collect benzo and you collect 10 samples and the grab brings back 4 or 5 samples, then what you have, in effect, is 4 or 5 samples taken on one day. That's not replication. That doesn't lead to anything more than a spot sample.

It can be good data, but the question then becomes, is it adequate? Is it sufficient, in fact, to make comparisons with or is it sufficient to monitor against?

Well, scientific colleagues would say no. Now, the regulatory agencies might say: "Yes, it is an acceptable minimal level", but you are arguing in the EIS

that you're attempting a higher standard. You're suggesting, in fact, that adaptive management is the process that you will be using, and I'm saying adaptive management requires a different set of standards.

So it seems to me that the... First of all, I believe that the paragraph which has been written here is not appropriate given the standards against which you're setting yourself. It may be acceptable within other standards.

Now the second part of that paragraph, I would like to raise the subject of public involvement, which we raised on Saturday.

Now it seems to me that we ended on Saturday with the view that public involvement was less than it could be. It seems to me, if I recollect exactly, it was something to the effect that: "We have an open door policy. We encourage people to come", but it doesn't necessarily engage the community to the full extent, perhaps, that CEAA would like.

I'd like to know where the public consultation, the traditional community knowledge and so forth is in your surveys. Can you point to specific cases where the knowledge about tides and currents and formal surveys and all the rest of it is?

Mr. PAUL BUXTON: Yes. I'm not quite sure that I would agree that that's where we left off

yesterday.

THE CHAIRPERSON: Well, could you redefine where we are, then, with regard to public involvement?

Mr. PAUL BUXTON: Well, I think that my statement was on Saturday that we felt that we had done a very thorough public consultation process.

I can give you a specific example, and it concerns, for example, botanical surveys. We engaged Ruth Newell, who is well known in her field, to carry out the surveys. Nonetheless, a local person wrote to us and thought that there may be another rare plant on the site. And we encouraged her to come to the site and look for the plant.

In fact, we gave her a very small consulting contract to come onto the site and look for that plant. And she carried out a small research project, investigated the site, and completed a report to us indicating that she had not found the plant on-site.

So I think that wherever we have been able to engage the public, people who have shown specific interest in elements of the site, we have certainly welcomed them onto the site. We've welcomed their knowledge. We've used their knowledge throughout the process.

Mr. Wittkugel has another comment to add to that, if you wouldn't mind, Mr. Chair.

THE CHAIRPERSON: Yes, please.

Mr. UWE WITTKUGEL: Yeah. I also... I would like to add that perhaps your interpretation, yeah, is incomplete or incorrect in the sense of the nature of the public consultation as was undertaken.

I would say that, for the most part, it was an active public consultation that reached out to the community, went way beyond what you just stated, that there was just a passive, open door policy. That was just one minor component of it.

There was a series of meetings with adequate notification. There was outreach in terms of approaching interest groups, and there were meetings together with the interest groups.

There was also a Community Liaison Committee in place. There were newsletters. Those are all indications for an active attempt, at least, to involve the community.

It's all been documented in your report, and the dates of notification, et cetera, can all be accessed. The surveys that I've mentioned and their presentation and also the traditional knowledge survey are examples for an active consultation and attempt to involve actively the community rather than just sitting back and saying: "The door is open. Please tell us what you want to do."

The project went way beyond that, and I would say in terms of the effort spent it is absolutely adequate and in line with what the environmental assessment process typically requires.

THE CHAIRPERSON: It would seems to me that some...an area that would be conducive to public involvement in your project would be in the area of impact of the elements on the coast given that ship is an important part of this, the history of storms in the area, the seasonality of various kinds of effects, things like wind, tide and currents and distribution of mammals and so forth.

You have interaction, public involvement in all those areas?

Mr. UWE WITTKUGEL: As far as I know, there have been a number of meetings with fishermen that involved, in particular, aspects of navigation and concerns of interference as far as traffic patterns is concerned and patterns of where nets and traps are laid out.

Those were aspects where the Proponent actively attempted to obtain information from the public.

As far as information on the oceanographic data is concerned, the literature is based, oceanographic literature, on the Bay of Fundy characteristics, makes use of thousands of reports from ships, and is direct data from the 1800s up to nowadays that were compiled and basically built up today what the

knowledge base is for the Bay of Fundy.

That is what Bilcon is using in its characterization of the existing environment, which I think is an excellent example of use of traditional knowledge and knowledge that has been collectively assembled over a period of about 100 years.

THE CHAIRPERSON: So is it... It's correct to say, then, that you're comfortable with the degree of traditional knowledge, local knowledge, that you've drawn into this process?

Mr. PAUL BUXTON: I think I...perhaps I could answer that one. And perhaps just to extend Mr. Wittkugel's comments, we have had a series of probably six or seven meetings with a sea urchin fisherman, for example, who fished directly off that coast with respect to the bottom, to tides, to waves, to currents, and current is important to sea urchin fishermen who dive for the sea urchins.

We have a series of discussions with another fisherman, who fished in the area until he retired about 10 years ago, who has been into the office on a number of occasions.

I personally have had discussions with a pilot who was the Bay of Fundy pilot in this area for, I think, just... The father before him was the pilot. He took over, I believe, in about 1950, and I think he was

still active four or five years ago, so perhaps had 45 years' pilotage experience in the area, brought every ship in during that period of time.

He also happened to be the MLA for Digby for a significant period of time.

I can perhaps give you another example where we have tried to use community knowledge in an investigation of the flora and fauna in the area over perhaps a more extended period of time.

We engaged a local lobster fisherman to go out on his boat and, using his knowledge in the identification of marine mammals and waterfowl... And he went to the same route, I believe, eight times. Maybe I could check that.

He made 10 trips over the course of the summer on the same route to try to get some baseline and background using his knowledge.

He was certainly... He was not only a lobster fisherman, but also a whale watch operator, and so he was able to help us with the specific areas where whale watch tours tend to go and congregate over the course of the whale-watch season.

So over a period of five years, we really think that we have had a very thorough background. I would say that some people did not want to consult with us on any level, did not want to bring their views to us, did

not want us to in any way participate in the consultation process with them. There's somewhat little we can do about that.

The Tourism Association, which I believe represents Digby Neck, was written to, I should think, three, four, five times. We have documented records of that. And on all occasions, they refused to consult with us.

Nonetheless, we have consulted with specific tour operators on the Neck. We went down to Brier Island Lodge and consulted with the operators there, with the cottage development at Centreville.

We have had considerable ongoing discussions with them as to how they feel that it would affect the industry and, in fact, I think they're making a presentation to you on the 26th. So I think that we have put in a significant amount of outreach consultation.

THE CHAIRPERSON: Is it your view that the level of information that you have right now is adequate for the delineation of the ecosystem approach, that it's adequate for monitoring, it's adequate for adaptive management? That's your belief?

Mr. PAUL BUXTON: That is what I'm advised, but I will direct that question to Mr. Wittkugel as an expert in the field and have him respond to that.

Mr. UWE WITTKUGEL: The answer is yes.

In my experience with environmental assessments, I can say that this project certainly exhibits a level of detail that is very high.

I've just recently been involved in another project, the Guysborough LNG tanker project, where a much more complex project is proposed involving a power plant, a chemical plant, LNG tanker terminal, and the level of information available on that project is much smaller than for this quarry site, which I think is a much easier, understandable project.

So in my experience over 24 years of environmental assessments with all sorts of infrastructure projects from power plants to waste management projects to transmission corridors, et cetera, I can say this project has a surprisingly high level of detail for what is proposed.

And is it adequate? I would say, yes, definitely from an environmental assessment perspective. What do we want to achieve here? We want to be able to say with reasonable certainty: "Do these activities that are proposed have an adverse effect? If yes, can these effects credibly be controlled within levels that are prescribed by government standards?"

And I would say we definitely feel very comfortable with the mitigation measures and the knowledge of the existing environment that exactly that can be

achieved.

At the end of the day, this project can be managed and controlled within prescribed government standards and that, to me, is the measuring stick of whether the inventory has been adequate or not.

THE CHAIRPERSON: Does that confidence extend to adaptive management as well?

Mr. UWE WITTKUGEL: The adaptive management, to me, is a tool to deal with the remaining uncertainty that may be out there.

Mr. GUNTER MUECKE: Maybe to come back to the use of traditional knowledge and the Panel's concern here, you have just said or explained to us that you have accumulated a substantial amount of ecological information through public consultation.

I guess our concern arises from the fact that we have found it very difficult to identify where that contribution appears in the Environmental Impact Statement. It seems to be... Well, it seems to be almost hidden. Where should I look for it?

Mr. PAUL BUXTON: I think one of the places to look for it is the 57 individual interviews which are documented in one of the reference documents. I can't think of the number of the reference document at the moment, but there were 57 individual interviews.

They were precised, certainly, because

many of the people who were interviewed did not want their names divulged. But nonetheless, we have detailed information from 57 specific interviews, and that is contained in one of the reference documents.

Mr. GUNTER MUECKE: I will certainly have another look at that, and particularly with respect to ecological information, so I may come back to that.

Following that line of questioning, maybe I can take you to some specifics here, specific instances.

And just to set the context, the fines that the operation is going to produce from the washing process are to be used for reclamation, for soil generation. And if that is done, then their chemistry is of considerable interest and, in particular, the fact that the North Mountain basalts tend to have an elevated copper content.

To characterize the copper content, you provided us with six analyses in which the range of values is from 27 milligrams per kilogram to 230 milligrams per kilogram. That is a considerable range. The result of that, of course, is if you take an average, you get about 100 milligrams per kilogram with a standard deviation of 75.

Now, that makes the average rather uncertain. Can you provide me with a measure of the

precision of that average that is a standard statistical practice? In other words, if I took another six samples from the cores, what is the likelihood that I would come up with the same average, or how much could that average deviate from the average that you have produced?

Could you respond to that?

Mr. PAUL BUXTON: I can't personally respond to it. That is not my field. However, that issue, I think, was addressed in one of the IRs by our Mr. Schupner. He is not here today, but he will be here.

I think he's scheduled for Monday because we saw this as an issue that would come up under socio-economic under the health aspect, and we have scheduled him to be here on that day. And he has answered all the questions specific to the effect of copper on the environment or with respect to health aspects.

And also, there was a very specific question in the comments and which we responded to which dealt with the adequacy of the number of results that we had produced.

It would be, I think... I could read what he said, but I think if you had follow-up questions it would be more appropriate if he were here to answer the follow-up questions.

Mr. GUNTER MUECKE: Okay. I'll keep that in mind. I've obviously read his...the comments to our

response, and the reason I'm bringing this up because I find the response inadequate. So we'll get back to that.

But in terms of the fines, which is the residue from the crushing and screening operations, what percentage of the rock volume ends up as fines that have to be disposed of?

Mr. PAUL BUXTON: We are assuming that the fines from the wash operation will be about 3 to 4 per cent of the total volume.

Mr. GUNTER MUECKE: Well, when I read the CLC minutes, it was 7 per cent.

Mr. PAUL BUXTON: That may have been before we did further crushing samples to determine... We would certainly hope it was not 7 per cent because, although that material is used for site reclamation and so has some value, we now believe that it would be less than that.

Mr. GUNTER MUECKE: Well, I made a site visit to Glensander, which is a very similar operation to yours in terms of the screening, crushing operations. And the figure there I was given was 15 per cent, so I have a series of numbers here. Three to four, you're telling me. Prior to that it was seven. It now is 15 per cent.

Can you provide me either with references so I can resolve this discrepancy, or could you provide us with the tests that have been done that lead you to believe that 3 to 4 per cent is the amount of fines that

will be produced?

Mr. PAUL BUXTON: I think it really depends here what you're referring to as "fines" and what your other operation is producing.

What would be referred to as "fines" at other operations we may very well refer to as "grits" which, in fact, we will be stockpiling and shipping because we use that fraction in the manufacture of concrete block.

So what we're referring to is the very fine powder material, if you like, which will be pumped up out of the high rate thickener up into the sediment area. We do anticipate using the grits as a product.

Mr. GUNTER MUECKE: Okay. And I'd like to be a bit more specific, okay, because what are you referring to when you refer to "grits"? Down to which grain size?

Mr. PAUL BUXTON: I'm going to ask Mr. Wall, who would be the Operations Manager, to talk about the sizes of aggregates that will be produced.

Mr. JOHN WALL: The fines will be 100 per cent minus 200... No, excuse me. 100 per cent minus 140 mesh, 95 per cent minus 200 mesh.

Mr. GUNTER MUECKE: Thank you for that. Just a second. Okay. So in terms of stockpiling this material, we have material here which is larger than minus 140 mesh size, right?

Mr. JOHN WALL: We're planning to produce five sizes: inch by half, half by three-eighths, three-eighths by quarter, then quarter by eighth, and sand. Anything that does not fall into the C-33 gradation of sand - that's ASTMC-33 - will be rejected, and that will 100 per cent minus 140, 95 per cent minus 200 mesh.

Mr. GUNTER MUECKE: Coming back to the percentage of fines, we seem to have a bit of a problem here. Could I ask you for an undertaking to provide us with either evidence or reference material to substantiate the value of 3 to 4 per cent?

Mr. PAUL BUXTON: Yes.

Mr. GUNTER MUECKE: Yeah, and if you take the value of 3 to 4 per cent, it's fairly easy to calculate the amount of fines that will eventually accumulate over the 50-year lifetime of the quarry, and my question is what percentage of that will be used for reclamation and also what percentage will have to be left on-site as a storage pile?

Mr. PAUL BUXTON: We would anticipate that it would all be used in the reclamation process.

Mr. GUNTER MUECKE: I am a quantitative type of person. The amount that you're going to generate is very substantial, even at three to four per cent. You also have stripped the property of the till cover and the soil cover, and you are not reclaiming the total area of the

quarry.

I really would like to see some quantities involved over the lifetime, because I find it hard to reconcile that all the sediment that has been disposed - I'll call it the fines, just for simplicity - that all the fines could possibly be used for that purpose.

So perhaps you could, again, in the form of a... Provide us with some quantitative numbers, okay, that reassure me that this is the case; that you can actually use all of that material.

Mr. PAUL BUXTON: Yes, we'll provide that information.

Mr. GUNTER MUECKE: Now, switching over to another track here, looking at the terrestrial fauna surveys, these were carried out for four days in June one year, and I guess I would like to have some indication how this would cover species that may only be at the site during particular times of year, and how this fits into the ecosystem approach where we have the temporal dimension to deal with. I think I mentioned that on Saturday.

And how is a... Four days is basically a point in time, in the context of 50 years, certainly, and how does sampling four days in one month, one year, constitute the... How does it reflect the ecosystem approach?

Mr. PAUL BUXTON: Could you perhaps be

more specific? I'm sorry, I missed a little bit of that, and I didn't catch the particular survey that you were referencing that was four days.

Mr. GUNTER MUECKE: The terrestrial fauna survey.

Mr. PAUL BUXTON: Thank you. Mr. Alliston will answer that question, thank you.

Mr. GEORGE ALLISTON: The surveys were carried out for terrestrial fauna on a two-year basis. They were carried out for four days in 2002, another two days in 2004. We were looking... Of course, the approach that we had taken was to try and define what the valued environmental components would be in the fauna and go to the site at a time when we might find these.

Several of these, well many of these species were bird species, so we went at a time when birds would be there, and breeding. There's no indication of migratory mammal species using the property other than that. So it was with this in mind, trying to identify VECs, that we went and spent out time at the property during the months of June 2002, 2004.

We relied on other information, say for migratory birds, there has been migratory bird studies going on, on Brier Island, for over 25 years. We attempted to take advantage of that information, knowing that land birds would migrate that were at Brier Island, would follow the

Digby Neck and would go through that part of, if not necessarily the property itself, the areas adjacent to the property. So we attempted to use information for migratory birds from information that already existed.

Similarly with, and this is getting into the marine environment, but we also used information on winter use of the adjacent areas by water fowl, as was collected by surveys conducted by the Department of Natural Resources over a period of - from 1992 to 2000.

So it was a combination of both our own fieldwork and information collected by other agencies that we attempted to put together and get a grasp on the fauna using the property.

Mr. GUNTER MUECKE: Maybe I'm under the wrong impression here on one point. You say there were in fact two years of surveying. My understanding from the documents is that nesting birds were surveyed twice, but in terms of amphibians, mammals and so on, it occurred only once. Correct me on that, if I'm wrong.

Mr. GEORGE ALLISTON: That's correct. The second survey was primarily directed at breeding birds, although we did, on a casual basis, observe other species. But its main function was to document breeding birds.

Mr. GUNTER MUECKE: In terms of migratory birds and their use of the property as staging and so on, it's based on extrapolation from Brier Island, is that

right?

Mr. GEORGE ALLISTON: Yes. The species that would pass through there is based on extrapolation from what has been observed on Brier Island, and of course just a comparison of the habitat that exists there.

Mr. GUNTER MUECKE: Is the habitat identical on Brier Island?

Mr. GEORGE ALLISTON: Not identical. I think there is a little more diversity on Brier Island than there is at this particular site, but the same elements occur on Brier Island that occur at the site.

Mr. GUNTER MUECKE: Many thanks.

THE CHAIRPERSON: I'd like to take us in a slightly different direction now. I'd like to ask you with regard to your definition of "significance", as in significant adverse environmental effects.

You state categorically in the EIS that you define "significance" as those items which are regional or greater in their impact. Could you lead us through the thinking as to how you arrived at that conclusion?

Mr. PAUL BUXTON: Thank you, Mr. Chairman. I'm going to ask Mr. Wittkugel to respond to that question.

Mr. UWE WITTKUGEL: Yes, that's correct. The geographic extent of the impact, or the adverse effect of the environmental change, is one of the criteria that the

guidelines applies in establishing significance.

So for every valued environmental component, it's again a question of what is a large area that is affected, what is a small area that is affected.

For noise and dust, for example, we know that guidelines apply to anything beyond the project site boundary. Others, for bats for example, mammals on-site, the question is what will be a large geographic extent affected.

We know that there is plenty of foraging habitat in the surrounding area, so what's in this case the magnitude in terms of the geographic extent of the effect is really limited to the footprint of the actual project itself, because it may take potential foraging habit out of the [inaudible - loud noise].

So any extent of the effect has to be discussed for each individual value to ecosystem component separately.

THE CHAIRPERSON: The statement in the EIS is categorical. It simply says it can't be significant unless it's regional or broader. Does that mean that there is no place, there is no situation, where local... that anything could be significant if it were local?

Mr. CARLOS JOHANSEN: Well for example, rare plants, if you have only one individual or only one

single population within your site boundaries, or within the zone of influence of your project, that could be a very significant effect for that specific population on the site, but also in terms of its implications on regional and even provincial and maybe even national level, depending on what conservation status that the plant has.

THE CHAIRPERSON: You are aware that the size of the study area has an adverse effect on significance?

MR. CARLOS JOHANSEN: The study area also I think depends on the valued ecosystem component. The whales, for example, we took the whole Bay of Fundy into account, what whales are here, because they were migrating through the entire bay. The inner Bay Fundy salmon, another example, although highly unlikely to be near our project site, nevertheless it was taken into account and shows that the study area in this case was much larger.

THE CHAIRPERSON: Thank you. Jill?

Ms. JILL GRANT: We have a series of questions around the endangered plants and the environmental preservation zone that I'd like to have some clarification on. I wonder if you could briefly clarify the function and purpose of the environmental preservation zone?

In some places it's talked about as a buffer, and in others as a conservation, its primary focus being conservation. So I'd like to have some clarification

on that, please.

Mr. PAUL BUXTON: Yes, thank you. Mr. Kern will speak to that question.

Mr. DAVID KERN: The intent of the environmental preservation zone is to provide a buffer, and it would be considered a multi-purpose zone. It may function for aesthetic purposes, it may function as a continuation of wildlife and plant species. It contains the primary habitats for the species at risk that we've identified on the project site. It will be managed from a forestry habitat systems approach.

Ms. JILL GRANT: Thank you. Can you clarify why 30 metres?

Mr. DAVID KERN: I'm sorry, I didn't catch the question.

Ms. JILL GRANT: Why 30 metres? Why is 30 metres used as the size of the zone, in many places?

Mr. DAVID KERN: The 30-metre dimension is basically that prescribed by the Nova Scotia Department of Environment in their pit inquiry guidelines as a minimum. In many cases, along the coastal zone, in the coastal bog area, in the Glaucous Rattlesnake route area, in the Sandwort area, this buffer is much larger than the 30 metres, and it also... The size of the environmental

preservation zone varies with drainage patterns, especially in the coastal bog area.

So this was a minimum that was identified in the Pit and Quarry guidelines that we used, and we expanded it when we encountered steep terrain and sensitive habitats and other unusual features on the site.

Ms. JILL GRANT: What are the perceived risks to the environmental preservation zone from activities in the Project, especially I mean if we could start with the construction phase, and then move on.

Mr. PAUL BUXTON: I'm sorry, I didn't quite get that question.

Ms. JILL GRANT: What are the perceived risks to the environmental preservation zone, starting with the construction activities? What are the kinds of threats or effects that the project would have on the preservation zone?

Mr. PAUL BUXTON: Thank you. Mr. Kern will address that.

Mr. DAVID KERN: You alluded to a potential effect, on Saturday, of the conveyor for the ship loader transecting the environmental preservation zone.

The intent there is that the conveyor would be elevated, and in that particular area it's mostly coastal plain, so we would not be cutting through a forested environmental preservation zone in that area. We would be

going over top of the coastal plain.

The footings for that particular conveyor would be approximately 35 metres apart, so we have a good opportunity to span and not directly impact that environmental preservation zone in the ship loading conveyor area.

There will be an access road that would come through the environmental preservation area, whether it's the existing Whites Cove Road or a new access road to the quarry compound area. The overall intent of the preservation zone is to maintain it without any influences that would disturb the integrity of it.

Ms. JILL GRANT: With 65 to 80 people on the site during the construction activity, that's the number of workers that are anticipated, what measures would be taken to protect the environmental preservation zone from inadvertent trampling or other activities?

Mr. PAUL BUXTON: I think I can address that one. It will be addressed, along with other issues, such as the possibility of finding archaeological remains, et cetera, through training programs.

People will be clearly advised, trained, as to what they can and cannot do on the site, what they do if they find something. So it will be addressed with very thorough training programs.

Ms. JILL GRANT: Thank you. Obviously

the activities on the site are going to significantly alter the drainage, and some of these endangered plants may be in areas where they currently get a fair bit of overland drainage. Some of the watershed is going to be affected.

So what are the anticipated effects of the change in drainage patterns on these plants?

Mr. PAUL BUXTON: Yes, Mr. Kern will address that question. Thank you.

Mr. DAVID KERN: We are in the process of coordinating the protection of the endangered plant species with the Nova Scotia Department of Natural Resources. They are suggesting, based especially where the Sandwort is located, that it is mostly on a coastal plain, that to define a watershed for that particular area would be an exercise that would be done as soon as possible, certainly before any quarry or any activity in that area would take place.

So during this time period, we would be identifying, through intensive site monitoring, thresholds that may exist for the Glaucous Rattlesnake route and the Sandwort populations that exist on the site.

At this point in time, we cannot say with certainty how much a disruption of a surrounding area would be on the particular plant populations.

Ms. JILL GRANT: And what about the effects of fugitive dust? Even the best conditions, some

dust will escape, or during construction there may be dust generated by construction activities. So what are the anticipated effects of dust on these plants?

Mr. PAUL BUXTON: I can speak to the control, and you are right that during construction, probably an 18-month period, there's more chance of fugitive dust than there is during the operational phase.

Certainly, we would make every attempt to keep all the roads dampened down, any area where dust is being created dampened down with water trucks, sprays, et cetera. But I will turn to my colleagues and see if they can answer the second part of your question, perhaps, and that is what could the effect be.

Mr. UWE WITTKUGEL: Perhaps first a very generic response. If any effect would occur, it would be very temporary. I mean, that is something that would be washed off the leaf surface. Or if it has any effect in terms of reduced productivity by the plant, it would be very, very temporary and could not be considered a significant effect.

We had similar questions like that in context of other projects, environmental management or waste management projects, where there is typically a huge amount of dust. And there are literature sources out there that study the effects of dust effects in the vicinity of cement plants which have tremendous dust, and I can tell you that

the levels are so incredibly high before you would arrive at measurable, observable effects on plant life that I am absolutely certain that we are not even near any of those levels.

So I would think it's an effect that is, first of all, temporary, and secondly, it would take place at a level that is probably not even measurable or observable.

Ms. JILL GRANT: What about the anticipated effects of wind? We know that when areas are cut, there's a potential for a great deal of wind damage, and especially, for example, on the road that's going to be left if that ends up in elevated position. There may be significant problems there.

So what effects do you anticipate from wind damage once these buffer zones are created?

Mr. PAUL BUXTON: Mr. Kern will answer that question. Thank you.

Mr. DAVID KERN: It's quite interesting that you ask that question, because we just received a comment from I believe Natural Resources Canada concerning that, and the width of the buffer zones.

Regarding the Whites Cove Road, we believe that the total buffer remaining in trees would act to dissipate the wind, rather than a very narrow buffer of just the 30 metres.

So in total, the buffer zone on the Whites Cove Road, if it is a 66-foot right-of-way as we are led to believe it may be by the Nova Scotia Department of Transportation, and we add 30 metres on either side of that, we're into a wider buffer zone than just a narrow strip of 30 metres.

So there will be some blow-down, yes. And there is actually, as you've seen on the site, a considerable amount of blow-down and dead trees at the present time. That will continue.

Ms. JILL GRANT: My last question is one about the ecosystem approach, again. With the number of potential stresses on these endangered...on the zones that contain endangered species, how likely is it that these have a chance of being able to survive and thrive in a sustainable way? That's a combination of dust and wind, water, changes to the water regime, potential for trampling and so on.

Mr. PAUL BUXTON: Ruth Newell will speak to that. Thank you.

Ms. RUTH NEWELL: I'm not sure I can answer with a great deal of certainty, but these are plants, most of these are plants occurring in very exposed habitats, and a lot of stresses are on them already, and they are probably all ready to cope with some stress or perhaps extra stress.

And I think, through the monitoring and with the environmental protection zone, they do stand a fairly good chance. I'm not sure if there...

Ms. JILL GRANT: Thank you.

Mr. PAUL BUXTON: Mr. Wittkugel would like to add to that, if he may.

Mr. UWE WITTKUGEL: Just maybe from my perspective, one other stress factor is, as you mentioned, trampling, and there's perhaps... There is perhaps dust.

Dust, as we said, is a very temporary stressor and at a level that it does not affect, measurable or observably, the plant life.

As far as trampling is concerned, I don't see any reason why any of the workers on-site should walk through that preservation zone.

As Paul Buxton outlined, there will be an operational plan. There will be training in place. There is no foreseeable reason why walkers would, on a regular basis, walk into the preservation zone. So from my perspective, the stress level that is added onto the plant species is basically zero.

Ms. JILL GRANT: One final question on this. If the monitoring on this shows that the plants are suffering, the numbers declining, the health of them or so on, what actions will be taken?

Mr. DAVID KERN: I know we've mentioned

adaptive management several times. If the monitoring starts to show some degradation in the populations, we would identify what that particular degradation was, and then we would take... Our first choice would be to take an adaptive management procedure to try to correct that. If it's a simple thing to do, it may be achieved easily.

If it's a more severe thing that is happening... And as Ruth has mentioned, the plant communities along the coast there are extremely stressed, whether it be with salt spray or other, and they have survived there.

And only certain types of plants are surviving there. So we believe that there's a good chance that these rare plants will continue to survive with the appropriate setbacks with the quarry operation in place.

Ms. JILL GRANT: The Project, though, is introducing different kinds of stress than what the plants are currently exposed to, so there's still a question about

what that adaptive management approach might result in, in terms of action.

So if you could give an example of an action that might result, that would be helpful.

Mr. DAVID KERN: I guess one action could be supplemental water washing foliage during a heavy...if there was a dust accident or whatever it may be called. There could be barriers erected, for that matter; structural measures taken to protect the plants.

One of the things is that prevailing winds are, most of the time, from the coastal area, and these tend to provide a natural buffering, you might say, of the plant communities by having things blown away from the plants, rather than towards the plants.

So I think there are several structural and operational type measures that could be implemented, if we identify specific causes of any decline in the populations.

Mr. GUNTER MUECKE: Very briefly, to get back to the rationale of the 30 metres for the preservation zone. You explained to us that this is the minimum requirement by the **Pit and Quarry Act** for Nova Scotia.

Now correct me here, but my understanding is that that width of buffer, the intention is to apply it to streams and lakes inland. How appropriate is the 30 metres in a coastal environment, along a coastal

strip?

Mr. PAUL BUXTON: Mr. Kern will address that question. Mr. DAVID KERN: Along the coastal zone of the Bay of Fundy, the buffer strip has, as I said, in many cases been expanded to be greater than that, especially in the area of the Sandwort populations of plants, and in the coastal bog area, and also in the headland where the Glaucous Rattlesnake route exists.

We believe, based on the present visual observations of the coastal zone, that this buffer seems to be adequate from the high tide line. That is a very stressed environment to begin with, and not... When you go back 50 metres from the ordinary high tide line, there isn't much existing there in the way of plant material. It is very limited types of plants growing there, and very hardy plants growing there.

And we will be monitoring the preservation zone and managing it, and if corrective actions are necessary, we would then take a look at how we can improve the situation.

I have no literature to say that a 30-metre buffer zone along the coastal zone is adequate or inadequate. In a coastal salt marsh, it may be a totally different situation than on an exposed basalt rock face along the Bay of Fundy coast.

Mr. GUNTER MUECKE: Okay. I accept, and

I understood from before, you know, that this coastal strip, in terms of the buffer zone, varies in width. Okay? That's accepted.

But there are considerable stretches where it is, at the present time, 30 metres, and I... It would be very interesting to see some support in the literature from other jurisdictions that 30 metres is adequate.

And I'll just put to you that in Spain, for coastal quarries, and this is small quarries, not super-quarries, the buffer zone prescribed by law is of 200 metres.

THE CHAIRPERSON: Ladies and gentlemen, I think we've reached the end of this session.

Mr. PAUL BUXTON: Mr. Chairman, sorry to interrupt. I wonder if I could do two things, because it may save time later.

One, I would like to make a comment on the skunk cabbage, since it was raised, and secondly, Dr. Muecke raised an issue with respect to copper and sampling, and perhaps I could deal with that one now, very quickly. It may be satisfactory, it may be not. Then Mr. Wittkugel will make a comment on the skunk cabbage. Would that be...?

THE CHAIRPERSON: Please, go ahead.

Mr. PAUL BUXTON: I read from the Natural Resources Canada's submission to the panel on the

[inaudible] geo-chemistry of waste rocks, and this is by the NRCAN reviewer of the Can-Met (ph) Mining and Mineral Sciences Laboratories.

NRCAN review and conclusions:

"Upon reviewing the responses of Bilcon of Nova Scotia Corporation and its consultants to the question raised by the Joint Review Panel, and other authorities on the Whites Point Quarry and Marine Terminal Project at Digby Neck, Nova Scotia, it is apparent that the slightly elevated level of copper in the basalt to be processed, its leachability and potential impact on the local biota have become a matter of concern for the proposed project. The following remarks address a couple of key issues on the topic, based on NRCAN's expertise in this area."

One, and I think this addresses Dr. Muecke's question:

"(1) Although the amount of geo-chemical data presented in the EIS is admittedly sparse, it is doubtful if more data would be necessary to determine if the leachability of the waste rock is a

potential concern. In the first place, a high copper concentration in basalt does not necessarily correlate with its leachability.

Generally speaking, the form, such as sparingly soluble sulphides or readily soluble weathering products in which copper occurs in the basalt, has more influence on its leachability than its concentration.

This is clearly demonstrated by the results of the four samples subjected to the leach test. Moreover, the leach procedure involved the application of acidic acid to bring the leach pH down to a value of 4.9. Such a low pH will not be readily realized in a marine environment, and the test results can thus be considered as highly conservative.

NRCAN would tend to agree with the project Proponent that monthly monitoring of the dissolved copper in the water of the sediment ponds would better determine the mobilization of the contained copper in the basalt than more

laboratory testing."

And perhaps I'll pass to Mr. Wittkugel to address the skunk cabbage question.

Mr. UWE WITTKUGEL: The question was whether the presentation was correct by stating that all plant species that I identified as rare are actually located within the preservation zone.

That statement is correct. When we take into account that rarity that the environmental assessment is taking into account, it's based on full lists, and that's the Federal Species at Risk List, the COSEWIC List, the Nova Scotia Endangered Species List, and the Nova Scotia General Species Ranks.

The last one, as far as the ranking of blue, red and yellow is concerned, the skunk cabbage is labelled green and therefore has not been taken into account, as per the guidelines by the Natural Resource Department.

THE CHAIRPERSON: Okay. If there's nothing else, then we'll break now and be back at ten minutes after one.

--- Recess at 12:00 p.m.

--- Upon resuming at 1:12 p.m.

THE CHAIRPERSON: Ladies and gentlemen, we're about to resume.

For the first order of business, Mr.

Buxton, during this morning session you agreed, or the dialogue resulted in three undertakings. The first was the percentage of fines in the original basalt and the analytical evidence to support that. The second one was the numbers that show the total volume of fines generated over the life of the project, and the third was to provide a measure of the precision of the average copper content based on six samples.

There's nothing you have to do, but what I need for all three is a date. I need to append a date to each of these, so what do you think is a reasonable date that we can expect these back?

--- Pause

And it doesn't have to be the same date for all of them.

Mr. PAUL BUXTON: Mr. Chair, we think Tuesday for all three.

THE CHAIRPERSON: Tuesday?

Mr. PAUL BUXTON: For all three questions.

Ms. JOSEPHINE LOWRY: Not tomorrow.

THE CHAIRPERSON: Okay. Thank you.

Mr. PAUL BUXTON: Not tomorrow, but the next...

THE CHAIRPERSON: Yes, of course. Thank you. So that would be... What's today? 16, 17, 18, 25th. Okay. Thank you. Okay, we'll continue with questioning,

and Dr. Muecke will go to the next one.

Mr. GUNTER MUECKE: Mr. Buxton, could I take you to greenhouse gases? In the guidelines, we asked Bilcon to give us an accounting of greenhouse gases generated during the operations. I'm talking about the accounting procedure, not... And that request specifically included transportation, both terrestrial and marine. When can we expect that information?

Mr. PAUL BUXTON: I think that we did include, did we not, estimates for transportation on land?

Mr. GUNTER MUECKE: It's the marine portion I'm really interested in.

Mr. PAUL BUXTON: We can respond with an answer for the ship on Tuesday.

Mr. GUNTER MUECKE: We take that as an undertaking then?

Mr. PAUL BUXTON: Yes.

Mr. JOHN WALL: Yes.

Mr. GUNTER MUECKE: Thank you.

Ms. JILL GRANT: I have a few questions around the wetlands on the site. The first one is about the coastal bog. Can you please give us some clarification about the change in drainage that will occur in the watershed to the bog?

Mr. PAUL BUXTON: Yes, thank you. I'm going to ask Mr. Kern to answer that question.

Mr. DAVID KERN: During a first phase of construction, a temporary rock storage area will be constructed within the watershed of the coastal bog, above the coastal bog, which would also contain sediment pond number five, after the temporary rock has been shipped.

During the time that the site preparation goes on for the temporary rock storage area, water from the upper part of the watershed will be transferred to go through the coastal bog.

The coastal bog is a typical sloping of bog. It is not a concave-type bog, so water runs by gradient through the bog. We would be monitoring the flow pre-project condition, seasonally, to determine the amount of flow that will sustain the bog.

My personal observations are that water does not flow in the bog in August and September, but certainly there is flow at other times of the year.

Ms. JILL GRANT: Am I right in understanding that the current conditions of the bog, as outlined in the assessment, suggests that it takes unconfined drainage, so it's just collecting drainage off of the slopes around it, and that the proposal is to change the nature of the water going into that to a point source?

Mr. DAVID KERN: Not in totality. The... A good portion of the bog, around the bog itself will still have a watershed feeding the bog. A point source would come

in where a drainageway flows into the bog at the present time.

Ms. JILL GRANT: My reading of the assessment seemed to suggest that there wasn't actually a stream where it's shown on the maps, but is that not correct; that there was no point source of a stream feeding in found in the ground survey?

Mr. DAVID KERN: There was a explanation of the stream that was shown on the topographic mapping as flowing into the coastal bog.

The site investigations that we did found that that stream was actually flowing out of an upper watershed pond off the quarry site, so that stream, as far as our site investigations go, is not existent. There are just small drainageways coming down the side of that particular watershed feeding the bog, and there's quite a few of those.

Ms. JILL GRANT: And can you clarify what effect it has to put a fairly substantial amount of water going in from a pipe into that bog, as a product of the change in the drainage of the watershed?

Mr. DAVID KERN: For the first few years, as I mentioned, we're going to establish a baseline flow, and that would be the type of flow we would maintain, similar to what is occurring there naturally through the period of disruption of the watershed of the bog.

Ms. JILL GRANT: You are maintaining the volume, but the pattern will substantially differ, am I right?

Mr. DAVID KERN: The point discharge that you refer to from the pipe that would feed upper watershed water into the bog is in a deep crevice that is an existing drainage pattern, so you can't consider that point source, but it is a confined source, where the water is flowing into the bog now.

Ms. JILL GRANT: So the original assessment that said it was an unconfined drainage was not correct? You just said it was---

Mr. DAVID KERN: There...

Ms. GRANT: ---confined.

Mr. DAVID KERN: Without walking out on the site there, it's a little hard to explain this. There is portions of the watershed of the bog that is unconfined, and then there are other drainageways that are more confined that also feed the watershed of the bog.

Ms. JILL GRANT: Thank you. Thank you. My next question has to do with the nature of the disruption. I see in the assessment that it says there's a temporary disruption to the watershed that feeds into the bog, but in reading the assessment and the description of the project, it seems that there's about 14 years before the watershed for the bog is reclaimed. Is that correct?

Mr. DAVID KERN: I would have to go back and verify the actual time-frame between, or of disruption of the bog. I do not believe it's 14 years. I believe that the construction of sediment pond five and the reclamation of that area would be done within the first five years of the project.

Ms. JILL GRANT: I'll go back and check my notes to see where I have that, then.

What effect do you anticipate that construction and the disruption of that drainage to have on the plants in the bog ecosystem?

Mr. DAVID KERN: As I mentioned, the water flowing through the bog is an intermittent flow of water, and the bog does dry up, and in spring and fall, the bog flows with more water flow through it.

Our intent, again, is to monitor and get some hard data on what the flows may be that we can maintain water flowing into the bog.

The effect... Are you going to answer that or not?

UNIDENTIFIED MALE: No.

Mr. DAVID KERN: Most of the bog is a shrub-tree bog. I don't know whether you walked down there when you were on the site or not, but it's a woody-type bog growth there, and we have some tidal influence into the bog at the lower end, from the Bay of Fundy, on extreme high

tides.

I guess that's kind of the best explanation I can give you, at this point in time, until we do more baseline work.

We were asked to consider doing sections through the bog. I believe we responded in saying that if, after we've given you the initial description of the bog character, and we have the plant community inventory of the bog in Ruth Newell's reports, that if you wanted us to do the cross-sections and cores in the bog, that we would do additional work at that point in time.

Ms. JILL GRANT: Thank you. The constructed wetland that's part of the project is described as being kind of the polishing final stage in the release of water into the Bay of Fundy.

During the first two years of the project, will that constructed wetland be functioning quickly enough to be operating during the construction phase?

Mr. DAVID KERN: As I know you're familiar with constructed wetlands; that most of the time, it takes a few years, if not more, depending on the type of wetland it is, for it to become mature enough to really function from a polishing standpoint.

The intent of this constructed wetland was not really in the traditional sense of a polishing facility. It was more to create habitat to accommodate another

retention of flow before it hit the Bay of Fundy.

Ms. JILL GRANT: So during the construction phase, there won't be any of that kind of mitigating effect possible?

Mr. DAVID KERN: Well, the constructed wetland, along with the associated sediment retention ponds, are one of the first orders of construction, so it will be providing a function, at that point in time, prior to construction. As far as maturing, it will not be a mature bog, at that point in time, no, but it will still have the check dams and everything in it that will provide a functional use of the constructed wetland.

Ms. JILL GRANT: When the project is operating and the water is being stored in the ponds to maintain the volumes necessary for the wash function, there's going to be a fair bit of variability in terms of the flow through this constructed wetland, so what effects would you anticipate if we have a dry summer, and there's no... Will water be in this constructed wetland, or not?

Mr. DAVID KERN: Our vision of the constructed wetland is the same as the coastal bog. It would be the same type of bog wetland, same type of plant growth in it, and we would see at some points, at the dry times, that this constructed wetland would dry, have no flow through it similar to the coastal bog.

Ms. JILL GRANT: You don't... Do you see

any time when large volumes might be needed to be released for storm events, that this constructed wetland would be disrupted by the high volumes of flow?

Mr. DAVID KERN: That particular question was asked on Saturday and at infrequent times, when we have a 100-year storm, or a back-to-back heavy rainfall storm, hurricanes or whatever, the sediment ponds may be drawn down prior to this storm event, and there would be releases of water going out from sediment pond one through the constructed wetland.

The velocities of these flows have not been calculated.

Ms. JILL GRANT: I'm just wondering whether you have any anticipated problem maintaining the habitat.

Mr. DAVID KERN: The constructed wetland is designed with rock check dams in it. I'm sure that if we get strong enough flows, there will be some scouring of the constructed wetland, just like there would be with runoff coming down through the coastal bog, so I guess if we have a 100-year storm, it's going to, or could potentially affect the constructed wetland the way it would affect the natural coastal bog area.

Mr. GUNTER MUECKE: I have a bit of a disconnect in my mind in terms of timelines here.

You just told us that during the construction phase, the amount of flow that you will channel

through the bog will be adjusted seasonally, and that the data as to what volumes are involved will have to be determined.

Now if I look at the timelines here, construct... The constructed... If the process is approved, construction starts this autumn, and stockpiling and disruption of the flow into the bog will occur at that time.

How can you obtain the data on the volume of flow on a seasonal basis if you're already in the construction phase?

Mr. DAVID KERN: We anticipate a seasonal, year-seasonal gathering of the flow data, before that area is into a site preparation phase, so the answer to your question, more specifically, we would want one year of seasonal data on the flows.

Mr. GUNTER MUECKE: Okay. Then my next question is during the first year of construction phase, the 30-metre platform will be constructed. It generates waste rock which has to be... Or it generates rock, fragmented rock, which has to be stored somewhere.

Now I got the impression that the area of the sediment pond one would be the initial storage area for that material which... And that would impinge on the flow into the bog. Am I... Am I of the wrong impression here or...

Mr. DAVID KERN: The first order of work, or the environmental control structures, which would include sediment ponds one, two, three and four, and the water coming off of the plant area site preparation which would produce the rock which would go into the temporary rock storage area would all be channelled into sediment pond four during that construction phase.

Mr. GUNTER MUECKE: And that construction phase would last through the first year? In other words, there will be no waste rock generated during the first year? Is that what you're saying?

Mr. PAUL BUXTON: That could be, but there... It doesn't need to go in that particular area. It will have to go in that area eventually, but it wouldn't all need to go into that area. It could go on the top of the hill, for example.

Mr. GUNTER MUECKE: Okay. Well, maybe that's the answer I was looking for, but... Because that wasn't indicated in the EIS, that's why I'm confused about the timelines here.

Mr. DAVID KERN: Maybe I could add something to that, but that particular use of rock from that area will be used for a lot of other construction activities, roads, compound area of construction, site prep, for those things.

Mr. GUNTER MUECKE: Maybe I could continue,

then, and we have some questions about blasting, and this concerns the blast sizes and the blast frequency.

Mr. Buxton, there will be a test blast which has been proposed, and which involves two and a half tons of explosive. Is that accurate?

Mr. PAUL BUXTON: I'm not sure. I'd have to look that up. We have proposed test blasts which would be fully monitored to test the CONWEP model, but without it in front of me, I can't give you numbers.

Mr. GUNTER MUECKE: Well, maybe you could confirm that for me, because that is the number I've picked up from your documentation, which may or may not be right.

Could you provide us... When can you provide us with that information?

Mr. PAUL BUXTON: What I perhaps could say is that unless your questions are generic and something that I can answer, we do have a blasting engineer coming as an expert who, in fact, will be, or would be the engineer charged with designing every blast that will take place on the site, and he is scheduled to be here Thursday and Friday.

Ms. JILL GRANT: It's Wednesday.

Mr. PAUL BUXTON: I'm sorry, Wednesday. And I think if you had specific and very technical questions with respect to blasting, that would perhaps be more appropriate. I could talk about general things, but not

about specifics.

Mr. GUNTER MUECKE: Okay. Sorry, you're saying you would like me to defer any questions regarding to blast frequency, blast sizes until that time?

Mr. PAUL BUXTON: Unless they're general questions. I think we did... We certainly have made the statement that we would anticipate average blasting frequency of perhaps once a week during construction, and in the order of once every two weeks during operations.

That's a sort of a general sort of standard, but I think if you wanted to get into blast design, I think it would be more appropriate when our expert is here.

Mr. GUNTER MUECKE: Yeah. My questions are quantity of, in the sense of how much explosives will be used relative to the amount of material you propose to produce.

Mr. PAUL BUXTON: Yes, I think it would be appropriate, then, to perhaps ask those questions of our blasting expert.

Mr. GUNTER MUECKE: Certainly, but how about concerns regarding the conditions, climatic conditions under which blasting will occur during the operational phase?

In the documentation we've had, there have been a number of exclusions mentioned:

"No blasting under fog conditions. No blasting under overcast conditions. No blasting during thermal inversions. No blasting [inaudible] precipitation."

Now all of these, fog, overcast, precipitation, are parameters that have...that are variable. You can... In terms of fog conditions, you can have fog that you don't see your nose. You can have fog which is two kilometres offshore. Precipitation can be a slight mist, or it can be a downpour. So each of these has different grades involved, right?

And so then we see statements about:

"No blasting occurring under these conditions."

Clearly there have to be the cut-offs or limits. Would you like to expand upon that?

Mr. PAUL BUXTON: (Pause, conferring with colleagues) Yes, I think with respect to the thermal inversions, information apparently is available I believe from Environment Canada, and I think we do have a section on that in the document.

I'm not so sure that there are, in fact, some parameters that one can devise on-site, but we are advised that quarries in Nova Scotia, in fact, make contact with Environment Canada, who make a sort of determination as

to whether there is a thermal inversion in place, and we would intend to follow that kind of practice.

With respect to fog conditions, I think the primary consideration with respect to fog is in the periods of time when there may be marine mammals, and specifically endangered marine mammals in the area, then that would be the criteria.

If we did not have the visibility to determine whether they were there or not, in accordance with the setback levels that we established this morning, then we would not blast.

I think there was some concern expressed in the IRs over the time of fog, the length of periods of fog.

In the Bay of Fundy it does get foggy, particularly about this time of year, and how would we manage blasting at this time of year when we have fog conditions, or perhaps temperature inversions, or some other impediment?

And the reality is that the type of blasting material that is used today can, in fact, be put into the blast holes and left there for a significant period of time, so we only need a fairly short interval of clear conditions, or non-thermal inversion conditions, et cetera, in order to be able to set off the blast.

We have said that we will certainly

attempt to set off the blasts at time periods during the day, when they would be less disturbing to people, and I think we used 11:00 to 4:00, but certainly we don't see that as a major impediment.

In other words, the blast can be ready to go. As soon as the fog lifts, basically we're ready to blast. We don't have to pack the holes, and make all the arrangements.

Mr. GUNTER MUECKE: Which leaves two parameters that I asked about, which are overcast and precipitation.

Overcast, in terms of when it comes to blasting, obviously the reflection of the noise will change... The reflection of the blast wave, okay, has the potential of increasing noise levels in neighbouring areas, so I guess what I'm interested in is what are considered to be overcast conditions just depends obviously on the level of the ceiling, and the per cent cloud cover and so on, and you know, if one specifies overcast, I think it's reasonable to ask what degree of overcast; what elevations?

And the same for precipitation. What do you consider... When is the cut-off?

Mr. PAUL BUXTON: I specifically remember reading the cloud cover conditions in the document, but it is a fairly massive document, and I think we'd like to respond to that after our blasting expert gets here. We=ll

discuss it with him, and then we'll give you an undertaking to provide your answer to that question.

Mr. GUNTER MUECKE: Okay. I take that as a commitment to that date.

Mr. PAUL BUXTON: Yes.

Mr. GUNTER MUECKE: Thank you.

THE CHAIRPERSON: I don't think, Mr. Buxton, that we'll record that as an undertaking, but rather as a notation that when your expert is here, we'll resume, we'll bring the question back up.

Mr. PAUL BUXTON: Yes.

Mr. GUNTER MUECKE: Thank you.

Ms. JILL GRANT: Just one other question about blasting. Do you intend to restrict blasting if fishing boats are in the offshore of the project?

Mr. PAUL BUXTON: Are you... I guess I... Are you asking this from the perspective of flyrock perhaps? Yes.

Your flyrock is really a function of bad blast design. We would be very disturbed if, on any blast at any time, there would be significant flyrock, and certainly no flyrock that would reach the water.

I think that we would, and typically one of the warnings of a blast is a horn... That's one of the warning signals. We have said that we will not only advise fishers by dedicated telephone line or when a ship comes in,

but we would also, on the dedicated telephone line, indicate our intended blast time.

As we just discussed, that may vary with fog conditions, et cetera, but we would certainly know an anticipated blast time.

I think if a boat was very close inshore, within a couple of hundred feet, I think we would certainly make contact with that boat before we let off a blast. Absolutely.

Ms. JILL GRANT: So that will be part of the protocol given to the blaster?

Mr. PAUL BUXTON: I'm sorry. I didn't hear the question.

Ms. JILL GRANT: Will that be part of the protocol given to the blaster that it won't proceed if there's a boat close inshore? Is that what you are saying here?

Mr. PAUL BUXTON: Well if you recall, on a blast, in any event, we do have an observer who is required to, for example, look for water birds within 170 metres, and mammals within 500 metres, endangered species, 2,500 metres, et cetera, so yes, he would certainly be well aware if there was a boat inshore, and that could certainly be made part of our protocol to advise a vessel if we thought that he was getting into some sort of danger zone.

But as I've said, flyrock is really a

thing of the past if blasting is done properly.

Mr. GUNTER MUECKE: I guess I'd like to extend that to the bulk carrier that comes in and loads. Will blast... That's a 12-hour period, I believe, approximately. Is blasting excluded from that time-frame?

Mr. PAUL BUXTON: I would think, in general terms, we would. I can't... Because we would need some of the people to assist in the loading operation, I would say that we would go into a temporary slowdown, if not shutdown of the processing operation for that 12-hour period, and I don't think that we would be conducting blasting at that time. That would just simply overload our workforce.

Mr. GUNTER MUECKE: Thank you.

THE CHAIRPERSON: Mr. Buxton, I have a question that's linked to blasting. It's more of a residual effect.

It is the plan to use ammonia nitrate fuel oil as the explosive? Is that correct?

Mr. PAUL BUXTON: That is correct.

THE CHAIRPERSON: We've tried to make some calculations based on the total amount that will be used over a 50-year period, and it's difficult because the numbers you use presumably, because it hasn't settled down yet, but the numbers that you used in the EIS vary quite a bit.

But anyways, over 50 years, one estimate

places the total amount of explosives used at 30,000 tons. That breaks down to about 600 tons a year, or 50 tons a month, meaning every second week you'd be shooting off 25,000, 25 tons that is. And that strikes me as a bit high, so for the sake...

I've got a calculation here. For the sake of being more conservative, I've cut that in half to 25 tons a month, meaning about 12 per shot, which seems to fall within the range of what you have been discussing in the EIS.

Now what I'm getting at is that if you shoot off 12 tons of ammonia nitrate fuel oil explosive, then one of the by-products of that explosive is ammonia, because you're starting with ammonia nitrate and fuel oil mixed here, which we all know is widely used.

But ammonium is a by-product and it has been estimated by DFO that a bout of each shot is unexploded and left behind, so that you're producing about two percent of all the explosive material as a by-product that is then dispersed on the site.

My calculations using 25 tons a month works out to 500 kilograms. Now these numbers are... I don't want to debate the numbers, because the starting point is unclear to me. I don't know exactly how much you would use, but for the sake of argument, 500 kilograms, about 1,000 pounds.

Now what interests us is the fact that you use this amount of explosive. You explode it, and so a residue is left behind. The residue is spread all over the site on the rocks, in the rocks, and around the rocks, and of course the rocks are being moved, so they're subject to weathering.

And in the weathering process, it seems to me that there are two considerations which I didn't hear mentioned this morning as environmental impact. One is that ammonium is a highly toxic substance. It... I mean, if you spread ammonium nitrate on your plants in your garden, and you do it a little too enthusiastically, you'll kill them, even though if you do it modestly, you enhance their growth. So it's a toxic substance.

The second thing is that it's a very, very significant nutrient, and in the marine environment, it is... Which is nutrient-limited, and it's nitrogen-limited, ammonium is one of the things that if you wanted to create a bloom in the marine environment, you'd spread ammonium around, and it would just take off very quickly.

Now what this is leading up to is the fact that all of this explosive capacity which is used to dislodge the rocks and feed them into the process of creating aggregate is going to produce a residual material. That residual material will be subject to weathering, and it will be moving over the site.

I would be interested in knowing what measures have been taken to address this.

Mr. PAUL BUXTON: I think the question did come up in one of the IRs, and we suddenly responded to that question, and I think it was perhaps more generalized than your question, which is specific in terms of volume.

We have consulted our blasting expert on that, and he... We provided a response in the IRs. In general terms, and I... And again, I think that this is a question that I would like our blasting expert to answer. This is a very, very specific technical question.

Our information is from him that with new blasting techniques and more sophisticated blasting techniques, that the amount of residue that is left is extremely small. I mean, it is a very small quantity.

If the blast is conducted properly, that it is designed properly, it is exploded properly, that the amount of residue should be extremely small, and we're not even talking two percent or one percent; we're talking hundredths of one percent.

Now that is not my field of expertise, and I don't think I have an expert with me today that can specifically discuss that in a knowledgeable manner, but yes, we are aware of the issue, and we have discussed it with our expert, and I would perhaps ask that we get into the perhaps more calculative mode when he is here.

THE CHAIRPERSON: I would... Rather than deferring it, I'd like to pursue this for a minute.

First of all, the authority that we're using is a regulatory agency that says two percent, so if it's less than that, the regulatory agency, to my knowledge, is unaware of it.

So for the sake of argument, let's say it is two percent. It could even be one percent for that matter, but still it's a significant amount of material, and it's really not a blasting subject, it's an environmental subject.

It's a material on the land that needs to be dealt with, so the blaster may be expert in drilling holes, packing holes, exploding holes, and developing a blasting design, but this is really an environmental issue here.

It's an issue that needs to be... To make the... We need to understand that as a by-product of some activity, therein lies an environmental problem. So do you have any suggestions that you or your colleagues might suggest as solutions to this problem?

Mr. PAUL BUXTON: Well, I think first of all, if there is a very small amount... And this is what I'm led to believe, that it is a very small amount of material that comes out. All the runoff from the site, so anything that picks or were to pick up ammonium off the site

would go into the pond system.

So, in other words, it does not get discharged into the Bay of Fundy initially. This gives us a chance, and I think we have said quite specifically in the EIS that we will be monitoring the water in the pond system, or any water that goes out into the Bay of Fundy so that if, in fact, this is a problem, we can identify. We would know what it is and exactly what the quantities are.

But, you know, this is... The same material is used as a standard blasting material in virtually every quarry today, and it is managed today. So I don't think there's any sense at all that we're saying there isn't any issue; we're not going to monitor; we are not going to acknowledge that very minor trace amounts might be there. We will be able to monitor that in the flow of water in the settling ponds, and if it has significance, to deal with it.

THE CHAIRPERSON: Let me paint you a hypothetical scenario.

The blasting goes on at two-week intervals, and let's say that even if the percentage is wrong, which... Well, we stand to be corrected, but let's... Some amount of residue is being developed and spread, or is present on land; it ends up in your sediment ponds; your sediment ponds will fill to some point, and then they will begin to overflow.

You will have to manage them by overflowing them, which means that because the ammonium is in a dissolved state, it's not going to sediment out.

That means that each and every two weeks, there will be something additive. So over a period of a year, there will be 20-some, or 25 explosions, and that material will be accumulating, so the ponds will be rising not only in water, but in concentration of ammonia. You will have to release that water at some point; otherwise the berms surrounding the ponds will overflow.

Also we heard just a few minutes ago from Mr. Kerns that occasionally, when a hurricane passes through, or a major storm occurs or something, you will have to release water in large concentrations. You'll have to bring the level of the sediment ponds down.

In the ocean, the amount of ammonium that it takes to generate significant biological change is on the order of micrograms, which is parts per billion. If you suddenly release large volumes of water, 10,000 litres or 20,000 litres or so, and very high concentrations of ammonium, it can't help but have an impact on the local environment, perhaps as a toxic agent, or perhaps as a bloom stimulating agent that will generate dramatic changes in the flora of the ocean.

So that's the hypothetical scenario. Well, we can wait until your blasting expert comes back, but

it's a major concern I think, because of the blasting process. Did you have anything to say?

Mr. PAUL BUXTON: Yes. I don't want to leave you with the impression that this has not been considered. We have discussed this item, but I think I would prefer to have experts here to speak to that issue.

We have a blasting expert coming, and we also have Mr. Schupner coming who can deal with risk assessment as with the copper.

Ms. JILL GRANT: Just one follow-up on that. If, as you indicate, there is evidence that indicates contemporary methods do not generate as much ammonium residue, can you please provide the studies that confirm that science so that we have a better understanding? The documentation we have now that doesn't give us very much detail on that. Thank you.

Mr. PAUL BUXTON: Yes, I'll provide those to you.

Ms. JILL GRANT: Just following up with that, another question around residual effects, and that is around the long term.

I think the presentation this morning suggested that there were no long-term residual negative effects, but I recall in one of the documents provided that there was a suggestion that the... there was a long-term negative effect, and that is the loss of jobs at the end of

the project. So can you comment on whether you're defining the loss of jobs in the decommissioning phase as an adverse environmental effect?

Mr. PAUL BUXTON: The loss of jobs at the end of the project is not considered an effect of the project. There are no jobs now. If the project creates some, that's a beneficial effect at the end of the lifetime of the project, those jobs will be terminated and we'll be back to baseline, basically, so that is not considered an effect, neither beneficial nor in an adverse sense at the end of the project.

THE CHAIRPERSON: Mr. Buxton, could we have a date for this undertaking, the document that suggests that residuals from AMFO Explosions are 2 percent or less, or the modern assessment?

Mr. PAUL BUXTON: If you could just give us a second, I think...

THE CHAIRPERSON: Sure.

Mr. PAUL BUXTON: We have one of them up on the screen, and we might be able to provide it to you right away.

THE CHAIRPERSON: Okay.

--- Short pause

Mr. PAUL BUXTON: Our blasting expert will be here Wednesday, Thursday, Friday. Since Wednesday is generally marine and I think might be a very tight day,

perhaps we could say Thursday.

THE CHAIRPERSON: Thursday this week.

Mr. PAUL BUXTON: Yes, that is right.

THE CHAIRPERSON: 21st of June. Okay. Thank you very much. Gunter?

Mr. GUNTER MUECKE: Mr. Buxton, I have a couple of questions about the economics of the operation. First of all, could you perhaps confirm the numbers that I have before I proceed?

You have told us that the production rate will be 2 million tons of aggregate per year and that the operating costs will be 20 million dollars per year. Is that correct?

Mr. PAUL BUXTON: Yes, those are generally correct figures.

Mr. GUNTER MUECKE: Okay. And does that 20 million dollars of operating cost include the amortization of the loading structures and all the equipment on-site?

Mr. PAUL BUXTON: Yes, it would. It would account for typical accounting adjustments such as amortization, yes.

Mr. GUNTER MUECKE: Okay. If I go back to the CLC meetings of 2002, there's a quotation on the going price of basalt aggregate in the U.S., in New Jersey, and it's quoted as $6.50 per ton.

Now, if I do quick back of the envelope

calculations here, that would mean that the operating costs are $20 million and that the product fetches $13.5 million. Would you like to comment on the viability of an operation which is losing $7 million per year?

Mr. PAUL BUXTON: I think probably $6.50 a ton was probably freight on board the quarry, and was certainly not delivered to where it's going to be used. And secondly, I would refer you generally to what has happened with commodity prices in the last five years.

For example, five years ago copper was selling for about 62 cents a pound. It has risen to fairly close to 3.90 a pound. The price of nickel has quintupled in the last five years. Zinc has quadrupled, so there has been a very, very dramatic change in the price of all commodities in the past four or five years.

My estimate at the moment is that probably freight on board in New Jersey right now for coarse aggregate could be well over $12.00 a ton, and that's before transportation.

Mr. GUNTER MUECKE: Could you confirm that? I mean, this is something which I'm quite interested in, that...what the current price actually is.

Mr. PAUL BUXTON: Current price at what point in its production? At its...

Mr. GUNTER MUECKE: In [inaudible].

Mr. PAUL BUXTON: But, you know, I...

sorry. I keep forgetting to turn my microphone off.

We can give you the production price at a specific quarry, but if you have to move that 50 or 60 miles, it's now double. For 100 miles, it would be triple the cost. So I think we need to be very specific about what price it is you're asking for.

Mr. GUNTER MUECKE: The production cost at the quarry.

Mr. PAUL BUXTON: Sorry. The simple production cost, thank you. We'll provide that.

THE CHAIRPERSON: On what date?

Mr. PAUL BUXTON: Friday of this week?

THE CHAIRPERSON: Okay. We have reached the end of our questions for today, and I'm thinking that this would be a natural time to take a break. But before we do, I just wanted to let you know what the rest of the day is.

We are intending now to open up the microphone to registered participants, and they can then interact... Obviously, the questions, as I've said before, are directed to the Panel, but the questions, of course, can relate to the presentations that have been heard up until now.

We took a show of hands earlier today, and we have 12 groups or individuals who have expressed an interest in saying something, and because we have a limited

amount of time and we have 12 groups, the process that we're going to follow is as follows.

The reason for this process is that some of these groups or individuals have multiple questions, so it's possible that a single group could be wanting to speak, to verbalize 10 or 12 questions.

What we're going to do is allow one question, one follow-up, and then we're going to ask that group to step aside and let the next group take over. And then we'll go through a complete cycle, probably go through it a second time, and then we'll see where we're going at that point.

In other words, there are some groups or individuals who have only one question to ask. There are some who have multiple. In order to make certain that all get an opportunity, we're going to go through it in a cyclic form: one question, one follow-up, step aside, let the next person. And as people no longer have questions to ask, they will drop out of that cycle and the cycle will, in fact, speed up.

So for the moment, that's what we're intending. If that's not workable or if there are some serious problems that emerge, we can change it, but for the moment, that seems to be appropriate.

The first group that would come up to... up to the microphone when we return from the break would be

the Atlantic Canada Chapter of the Sierra Club of Canada, followed by the Native Council of Nova Scotia, followed by Ashraf Mahtab.

Next would be the Institute for Applied Sciences, then Judith Peach, then Clean Annapolis River Project, the Partnership for the Sustainable Development of Digby Neck and Island Society, Don Mullin, Cheryl Denton, Marilyn Stanton, Sister Barbara, and Bob Morsches. Okay?

So we're going to break for 15 minutes. Let's say 2:30 even, we will come back and start this process.

--- Recess at 2:12 p.m.

--- Upon resuming at 2:32 p.m.

THE CHAIRPERSON: Ladies and gentlemen, we would like to resume, please. Okay.

We have one item of business that we would like to conclude before we turn to the questions.

Ms. JILL GRANT: Just a couple of other questions on the rare species. We understand that Ms. Newell will only be here today, so we just want to make sure we've got these on the record.

I wonder if you could comment on the rare and the species thought to have been extirpated in Nova Scotia, what that ecological value of those plants are in the broader sense.

Mr. PAUL BUXTON: I'd like to ask Ruth

Newell to answer that question.

Ms. RUTH NEWELL: The Glaucous Rattlesnake root was first recorded from that area from Sandy Cove and from Whale Cove about 50 or probably 60 years ago. It was documented from those two areas.

And since that time, as far as I know, it hasn't been seen or reported, so it was considered under the Nova Scotia General Status of Species to be extirpated or gone from Nova Scotia.

Though it was located during the survey in 2002 on the headland southwest of the Cove, Whites Cove, it's a discrete population of about 200 plants, reproductive... reproducing, sorry.

It is restricted more or less to the headland and maybe just below the headland on the rocks or in crevices, rock crevices below the headland.

Is there other information? Where can I go from there?

Ms. JILL GRANT: Well, perhaps you might comment on the social value of those populations as well.

Ms. RUTH NEWELL: I don't... On the social value?

Ms. JILL GRANT: The value of them to the community as a whole, the province as a whole. What...

Ms. RUTH NEWELL: Well, it's the only area in Nova Scotia where it occurs, so it's... I suppose it's

important in that sense, and significant.

Ms. JILL GRANT: And is it your view that this... The plant was thought or these plants were thought to be rare or extirpated because they aren't well studied, there's not enough studies to locate them, or because they don't exist?

Ms. RUTH NEWELL: Yes. Probably there haven't been that many people recently looking along that section of the coastline. And it is possible that further botanical work or surveys may locate other populations elsewhere along Digby Neck. Yeah.

THE CHAIRPERSON: You put the rarity value in the context of Nova Scotia. Would you like to expand that for the Maritimes? I just want to get a feeling of the rarity value of that particular species.

Ms. RUTH NEWELL: It is considered rare in New Brunswick and rare in Maine. And I can't remember, I can't remember precisely about Newfoundland, but further west in Canada, it is not considered at risk.

THE CHAIRPERSON: Thank you Ms. Newell. Okay. We now turn to... As I said, we're turning to the section of the day for registered participants who will be asking questions of the presenter. Let me just make a couple of comments before I call the first individual forward.

When an individual comes to the

microphone, I would appreciate it if they would state their name and affiliation, and if the name is Smith, obviously it isn't necessary to spell it, but if you think that it needs to be spelled, please do.

It's for the benefit of the transcription so we get the accurate representation of the name and the affiliation.

After you finished asking your questions, please turn the microphone off. There's a conflict between these microphones, you've probably noticed. So if two or several of them are on at the same time, it defeats the purpose. So ask the question, turn the microphone off.

Also, I'd ask you all... To give you some kind of rules in which to follow, I ask you all to be courteous, to try and keep the material that you're going to ask relatively new, that is try not to repeat the same thing. If we have five speakers all say the same thing, I'm not sure it's valuable.

Try not to be repetitious, that is within your own presentation, not to go into a kind of endless loop. Try to make it clear. Please be civil, and make it relevant to the mandate of this particular panel. In other words, we want to hear things relative to our mandate.

If those various conditions are violated, I might have to ask the individual to step down. I would prefer not to do that, but keep it in mind.

Okay. So, as I said, we're going into individuals who have one question, one follow-up. I'll ask them then to sit down unless, of course, we had something to say. And then the second person will come up, and then the loop will repeat again.

So the first presenter will be Atlantic Canada Chapter of the Sierra Club of Canada, please.

Mr. MARK DITTRICK: Thank you. My name is Mark Dittrich. I'm with the Atlantic Canada Chapter of Sierra Club of Canada. The name is spelled D-i-t-t-r-i-c-k.

THE CHAIRPERSON: Thank you.

Mr. MARK DITTRICK: And the question I have for the Proponent has to do with adaptive management and its application in the concept and its use with respect to the North Atlantic Right Whale.

And it's more something of a two-parter, and I wonder if I could just ask a question and then do a little follow-up with that.

I would like to have the Proponent describe their use of the concept of adaptive management with respect to their potential impact on the North Atlantic Right Whale.

THE CHAIRPERSON: Mr. Buxton, I think it's going to be two parts, so the first part you've just been asked.

Mr. PAUL BUXTON: Mr. Wittkugel will

respond.

Mr. UWE WITTKUGEL: First, adaptive management, we briefly discussed it on Saturday. It's an approach, management approach, that accommodates uncertainty with respect to the effectiveness of mitigation measures.

We have a number of mitigation measures in place like the setback distance, the speed reduction, et cetera. I also pointed out a number of other potential mitigation measures in my presentation, such as deterrent devices, application of such techniques.

And I think I also mentioned that we will be in close contact with DFO and discussing with them whether there are any new findings out there that would suggest that perhaps the operation should be adjusted, and this could relate, then, to further speed reductions, could relate to change in the course of the approach. It could also relate to the setback distances.

Those things will be, obviously, then evaluated and addressed in consultation with DFO and would result in a change of the operation. And that's what we consider adaptive management.

Mr. MARK DITTRICK: My next question for the Proponent is if they are aware of a document, the Canadian Wildlife Services "Environmental Best Practices Guide for Wildlife at Risk in Canada" and their

recommendations, if they're aware of that document and if they used that document when they... within their EIS, used adaptive management as a mitigating approach to the potential harm to the Right Whale.

Mr. UWE WITTKUGEL: Yes, I'm aware of that document. I don't recall now any specific definition or requirements or suggestions for adaptive management that are different from what we are suggesting.

Mr. MARK DITTRICK: If you could ask them... I have a point, a quote from that document, which says:

> "Adaptive management is not a solution where harm may be irreversible. It can be applied only in cases where harm is reversible since it implies that mid-course corrections should be made as required."

And also, a little earlier in that document, it says:

> "Where there is a threat of serious or irreversible harm, significant adverse effects to wildlife at risk or a threat of significant reduction or loss of biological diversity..."

Which I'll indicate should be a case in

point with respect to the Right Whale:

> "...where any harm or loss of one individual of that species is irreversible and could cause the demise of the species."

That in this case I would submit these recommendations would advise not to be using the advisory... that principle with respect to the Right Whale and that, in this case, it's not applicable.

THE CHAIRPERSON: Thank you, Mr. Dittrick. You'll step down now?

Mr. MARK DITTRICK: Okay.

THE CHAIRPERSON: So the next individual is from the Native Council of Nova Scotia. I think that's Roger Hunka.

Mr. ROGER HUNKA: Good afternoon, Mr. Chair, and members of the Secretariat, and Proponent. It's Hunka, H-u-n-k-a, and it's with the Native Council of Nova Scotia.

Preliminary to my question, it's a point on procedures. I understood from the hearing that there would be opening comments from yourself and the Proponent, and there wasn't any opportunity to have opening comments from the interveners or participants.

I don't question the approach. However, it does, in some respects, disadvantage, I believe, a

Proponent. Or not a Proponent, but an intervener from raising other issues that both yourselves and the Proponent raised outside the EAs. Having said that, I will follow your procedure.

The Proponent, in their opening, indicated that they had approached the Nova Scotia Department of Natural Resources for an application back in the early days of 2003, and at that point in time, they were given some instructions.

I am wondering what those instructions were and primarily what points did they provide to the Proponent as to the policy, consultation, Aboriginal peoples, Aboriginal rights, and accommodation?

Mr. PAUL BUXTON: I'm afraid I didn't quite understand the question, Mr. Chairman. Could I ask what implication you're referring to, to the Nova Scotia Department of Environment and Labour in 2003?

Mr. ROGER HUNKA: No. Nova Scotia Department of Natural Resources, when you went to apply for an application. In your opening, you had indicated that they had provided you a set of instructions on how to proceed, and that was followed up with a question by a committee member as to a Community Liaison Committee question.

Mr. PAUL BUXTON: What I can state is that in very early 2003, I think January the 6th, 2003, a meeting

of all interested parties was held, both federal and provincial, after the CEAA was triggered.

And it was determined that we would go into a comprehensive study process, and we opened lines of communication with CEAA at that point and were communicating with CEAA with respect to project descriptions and procedures, et cetera, until we were put into a panel in June of 2003.

I'm sure that does answer your question, but I'm not quite sure what you're referring to.

Mr. ROGER HUNKA: Well, if I may, in your opening when you were presenting for an hour or so, you had indicated that the Nova Scotia Department of Natural Resources, on your application, had provided you with some instructions.

And I was just questioning what those instructions would have been, but obviously you don't have... You don't know what they are.

A supplementary question. In the CEAA... May I, Mr. Chair? You followed the procedure from 2002 onwards, so you would have been aware that the Native Council of Nova Scotia did provide guidance to the both Nova Scotia and the Federal Government on the composition or the content of what should be included in the guidance document for an environmental assessment?

You're aware of that, are you, that

correspondence and those questions?

Mr. PAUL BUXTON: We are certainly aware that there was, yes, an exchange. And certainly in the long intervening period, I think it was probably 16 months before the draft guidelines were issued, I'm sure there was some sort of contact. But what that was, we were not made aware of.

But certainly, following the issuance of the draft guidelines and that the panel was empanelled, scoping sessions were held in, if I get my dates right, January '05, and certainly the issue of discussions, et cetera and consultations with First Nations was raised and it appeared again in the final guidelines.

But I'm a little puzzled with instructions we may have received from Nova Scotia Natural Resources. I have no idea what those might be.

THE CHAIRPERSON: I think that'll have to do it for the moment. I think you've received the answer to your question.

Before you go Mr. Hunka, the question you raised at the beginning about opening statement and so forth, you're a registered participant. Is it not possible for you, as a registered participant, to raise the issues that are of a concern to you when you make a presentation?

Mr. ROGER HUNKA: Oh, yes. It... Yes, it will be, Mr. Chair but I just thought that in order...

Since you were making openings, the Proponent was making openings, it ought to just fall because there's a few questions that were raised that you won't hear until two weeks from now.

THE CHAIRPERSON: All right. Thank you very much.

Individual number three is Ashraf Mahtab.

Mr. ASHRAF MAHTAB: Thank you, Mr. Chair. My last name is spelled M-a-h-t-a-b. I'm a resident of Sandy Cove, and I have a question about one of the illustrations which was projected by Mr. Wittkugel that had to do with a statement from the Department, Provincial Department, about the economic benefits of mineral exploitation.

Now, I just wanted to point out that the definition of minerals does not include basalt. It was removed from the definition about 10 years ago, and therefore, everybody should understand that basalt is not a mineral and there is no royalty attached to exploitation of basalt. Thank you.

THE CHAIRPERSON: That's all you wish to offer?

Mr. ASHRAF MAHTAB: That's all. Thank you.

THE CHAIRPERSON: Thank you. Okay.

Next we have the Institute for Applied Sciences, Thomas Sacks.

Mr. THOMAS SACKS: I have no questions at this point.

THE CHAIRPERSON: Okay. Mr. Sacks is passing. The next one is Judith Peach.

Ms. JUDITH PEACH: Judith Peach, P-e-a-c-h. I'm a local resident, Waterford.

And it appeared from the presentation made on Saturday that a lot of the adaptive management during the operation phase of the project would maybe be initiated by the quarry manager. I'm wondering what experience does Mr. Wall have in quarry management, and specifically in managing a quarry in a marine environment and with a marine terminal.

Mr. PAUL BUXTON: I'll direct to the first half of that question, perhaps.

Yes, the statement is made in the EIS quite clearly that Mr. Wall, as the operations manager, will be in overall charge of the operation of this facility, but it also does state quite clearly that there will be other qualified people on-site, certainly a head of safety... occupational health and safety and the environment responsible for monitoring, reporting and all that sort of thing.

You did ask specifically what qualifications and experience Mr. Wall had, so I'll pass that question to him.

Mr. JOHN WALL: I operated a quarry on the

Hudson River floating barges for New York City.

Ms. JUDITH PEACH: Well, what... how does the size of that quarry compare with the proposed quarry?

Mr. JOHN WALL: That quarry did a million, two a year. We're proposing to do two here.

THE CHAIRPERSON: Okay. Next we have the Clean Annapolis River Project, Andy Sharp.

PRESENTATION BY CLEAN ANNAPOLIS RIVER PROJECT

Mr. ANDY SHARP: Yes. My name is Andy Sharp with Clean Annapolis River Project.

My question. In the revised project description, Section 7, the Proponent indicates that the marine terminal will not be removed at the end of the project's 50-year lifespan. On page 162 of the same document, the Proponent writes:

> "If no agreement has been entered into with a community group or developer, then the marine terminal facility will be removed as part of the decommissioning plan."

Can the Proponent please clarify whether or not the marine terminal will be removed at the end of the project's life?

Mr. PAUL BUXTON: Yes, Mr. Chair and speaker. What we would intend to do is to discuss with local interest groups whether they might be prepared,

whether they would want the facility, whether they have any use for the facility. And if that is the case, then we would enter into some sort of arrangement with respect to management of the facility.

If we find that, in fact, no one is interested in the facility, it has no value at the end of the day, then we will remove it.

It would appear that there is some interest, even at these early days, in the use of the facility. We have been approached in the last week by an organization to see whether we would have interest in the joint use, the sharing of that facility, and we've indicated that we are very willing to discuss that and we intend to sit down with that group at the end of these hearings.

So I can't predict what would happen 50 years from now, but it seems to me that there may be interest at that time. And if there is interest, I think we would sooner... obviously the loading terminal, the loader, ship loader, would come down and be taken away, but the... there may be value in the facility itself.

And if a group is prepared to take it over and abide by the rules which are then in place, then we would certainly consider that.

Mr. ANDY SHARP: Supplemental, please.

Well, there seems to be some degree of ambiguity, two very different conditions. The terminal may

be removed if no user can be found, or it may remain if a user can be found. So there's a number of questions that go with each of these options.

For example, if the terminal is to be removed, it would be useful, perhaps, if the Proponent would be describing at these hearings how this would be accomplished and the environmental impacts associated with the removal as required by the guidelines.

And secondly, if the terminal is going to be remaining in place, it would be useful, I believe, or my question would be what financial and legal arrangements the Proponent will be putting in place to ensure the safety and security of that terminal indefinitely.

So I guess, based on the Proponent's response, there are two supplemental questions there for these two options. I can come back and ask another one, or I can... we can break them in half or deal with them both now.

Mr. PAUL BUXTON: Mr. Chair, I think as far as the first one is concerned, we would be prepared to offer a statement by next Monday detailing how the facility would be removed at the end of the day.

The second one is much more difficult to answer because I just don't know what the regime would be in place at that time and what rules need to be followed, who, in fact, would be the appropriate authority at that time.

But certainly Bilcon would not enter into an arrangement unless it met all the conditions of the authorities for the transfer of legal liabilities and all the other things that go with such transfers.

So if those arrangements could not be made we'd have to remove the terminal, but I have reason to believe that there could be significant interest in a joint use of that facility, perhaps even in its early years of use.

Ms. JILL GRANT: Can I?

Mr. GUNTER MUECKE: Mr. Buxton, you brought up something totally new, and that is a sharing of the loading facility.

What time frame are we talking about here? Is that in the lifetime of the quarry? And secondly, what sort of usage would that sharing involve?

Mr. PAUL BUXTON: We've not discussed at any time the sharing of the loading facility. I think we've made it very clear in the EIS and all our responses that the loading facility will never be shared.

We will not take product from any other part of Digby Neck or Nova Scotia or any other substance or material and share the ship loader. But we do have a marine facility there, and it does have some... could have some joint uses.

I think until they went a little further,

I'm not so sure that we should even be discussing something as speculative as that. At the present time, we have no plans to share any use of the marine terminal or any part of it, but there could be uses, joint uses, which may be of benefit to the community.

And if that is the case, then we would certainly want to sit down with the appropriate parties and discuss whether it's viable, whether it's doable, whether it meets all the regulations of government and so on.

We would certainly look at that kind of joint use of the terminal, but not of the loading facility. There will be no joint use of the loading facility.

Mr. GUNTER MUECKE: Okay. I understand that. Not the loading facility, but the marine facility.

So could you specify exactly which parts of the marine facility are... what are we talking about, the docking facility, shoreline facilities? I'm puzzled.

Mr. PAUL BUXTON: We're talking about the facility which is there, which is basically the three dolphins and the support pile structure to get out to the quadrant loader and the dolphins.

Clearly there may be some joint benefit for fishermen in that facility. There might be, there might be other joint uses which I can't speculate on at the present time, but it is possible and we have been approached by people who think that there may be some value in it for

community use.

Ms. JILL GRANT: Another follow-up.

Can you tell us what the intended design life is of the marine terminal?

Mr. PAUL BUXTON: The intended design life is for 50 years. Usually in these cases one adds a fairly significant factor to that, and I would say that certainly the main features, which are the piles and the pile camps forming the dolphins, would be certainly designed for well over 100 years of anticipated use.

THE CHAIRPERSON: Thank you, Mr. Sharp.

Next we have the Partnership for the Sustainable Development of Digby Neck and Island Society.

Mr. KEMP STANTON: My name is Kemp Stanton, K-e-m-p, and I have a question about the preservation zone.

My understanding of it, while reading it, was that it's to be 30 metres from the high water mark. Is that correct?

Mr. PAUL BUXTON: I'll ask Mr. Kern to address that question, please.

Mr. DAVID KERN: It's a minimum of 30 metres from the high water line.

Mr. KEMPT STANTON: My supplement question is, if it's to be 30 metres from the high water mark, that means it's the level at which the water is when it's high water on a calm day. But most plants don't start to grow

until back at least 30 metres because of the tide surge kills them all, so what are you planning to preserve in that 30 metres?

Mr. DAVID KERN: It'd be 30 metres of the width of the existing land.

THE CHAIRPERSON: Could you repeat that, please?

Mr. DAVID KERN: We're intending to preserve a width of a minimum of 30 metres from the high tide line.

THE CHAIRPERSON: I have a question, then.

Based on what Mr. Stanton just said, nothing grows in that zone, so he's asking if you're going to preserve it and it's going to be a buffer zone, it's going to be a buffer zone without anything growing in it.

You understood that question?

Mr. DAVID KERN: Yes, I do.

THE CHAIRPERSON: Okay.

Mr. DAVID KERN: And if there's nothing growing in it, we won't be planting anything in it. We'll be keeping that as a shoreline, 30 metres of shoreline between the high tide line and that 30 metre zone.

THE CHAIRPERSON: Thank you.

Next we have Don Mullin.

Mr. DON MULLIN: Thank you, Mr. Chair. My name is Mullin, M-u-l-l-i-n, as there is another common

spelling of that.

This... I'll read this quickly because it's a rather lengthy question, but it's, this morning you identified criteria you considered in determining the significance of an environmental effect as magnitude, frequency duration, geographical extent, reversibility and ecological context, yet for wetland species... wetlands and species at risk effects as well as socio-economic effects and others, the ecological context does not appear to have been considered in evaluating the significance of the environmental effect.

Could you tell me one or more environmental effects where the ecological context criteria was used?

Mr. PAUL BUXTON: Mr. Wittkugel will answer the question.

Mr. UWE WITTKUGEL: Sorry. Could you repeat the last part of your question?

Mr. DON MULLIN: Yes. I said could you tell me one or more environmental effects where the ecological context criteria was used?

Mr. UWE WITTKUGEL: Ecological context, as I mentioned this morning, yes, takes into consideration whether this is a pristine environment or whether this is a... perhaps an already disturbed environment, agricultural landscape, perhaps.

In the context of all our environmental assessment, that factored or played a role, for example, when it came to the assessment of the effects on habitat. And we had... I sketched out this morning that there are disturbances already on the site through the existing quarry, through the existing or the historic quarry and pit use, and those uses led to a somewhat disturbed environment.

There's also been clear cutting happening on the site, which means in this context we are no longer talking about an absolutely pristine environment. There has been disturbances that have consequences on the surface soil, on the vegetation habitat, and that was taken into account.

Mr. DON MULLIN: The current and supplementary. I think it's inappropriate to refer to an historical quarry. There was a pit, historically a pit. The quarry is only - if you want to call 2002 historic, I think that might be a stretch.

The second one is the ecological context in that what... I was simply wondering what other because you failed to mention ecological context when you discussed the criteria for determining those significant environmental effects. That's all.

THE CHAIRPERSON: Thank you, Mr. Mullin.

Now we turn to Cheryl Denton.

UNIDENTIFIED MALE OFF MIKE: She was at a

funeral, but it's already been asked, so I think she could be passed.

THE CHAIRPERSON: Alright. Thank you.

That brings us to Marilyn Stanton.

Ms. MARILYN STANTON: I'd like to pass at this time. Thank you.

THE CHAIRPERSON: Thank you, Ms. Stanton. Sister Barbara?

SISTER BARBARA: Thank you, Mr. Chair. And my question has to do with blasting.

I was just wondering, this morning they were mentioned about monitoring the wells. I live in Rossway, which is maybe 30 kilometres from Little River, and I was just wondering will Bilcon pay for any damages caused to foundations of private homes caused by blasting and, if so, will they provide this in writing?

Mr. PAUL BUXTON: Bilcon is required or would typically be required, and I'm sure this will be the case, to carry out investigations on foundations which would... could be seen at risk prior to any blasting taking place.

This is certainly in the guidelines and certainly, to some extent, it's also for the protection of the Proponent so that if somebody later alleged that a blast had damaged their building, we would have before examination by a third party to determine the state of a foundation.

You are introducing a scale here which I'm not sure that I, that I think would be appropriate. Thirty kilometres from the source of a blast of this magnitude, it is frankly inconceivable that there could be any damage.

We are required to produce a velocity, a ground velocity, via blast not exceeding a specific level, 13 millimetres per second, 7 metres from any foundation. The CONWEP model which we have, which admittedly has not yet been tested empirically, indicates that we will be well below that threshold for buildings in the 800 metre mark. Okay?

So 30 kilometres, I don't think there would have ever been a circumstance where any building could be demonstrated to have been damaged 30 kilometres away by a blast of the magnitude that we're producing.

THE CHAIRPERSON: You have no supplementary questions?

SISTER BARBARA: No.

THE CHAIRPERSON: Thank you.

Just for clarity, Mr. Buxton, perhaps you could indicate the distance from the quarry involved in the pre-blast survey of homes.

Mr. PAUL BUXTON: That would be specified to us rather than us making that determination. This would be the sort of issue that would be clarified in an industrial approval under the Nova Scotia Department of

Environment and Labour, so they would lay out and specify to us precisely what they would require us to do in terms of pre-blast surveys.

That would go for wells as well as buildings, and that will be laid out and, of course, we must follow that to the letter.

THE CHAIRPERSON: Bob Morsches.

Mr. BOB MORSCHES: Mr. Chairman, my name is Bob Morsches, spelled M-o-r-s as in Sam-c-h-e-s as in Sam. I am a summer resident and have a home in East Sandy Cove.

During this morning's session, the environmental planner, Mr. Uwe, I don't know his last name, was addressing the environmental assessment effects, and he stated that the rock crushers were not enclosed. After blasting every week or biweekly, there will be rock crushing that is not enclosed.

How often... this is the question. How often and what is the duration of each of his rock crushers, which I think are probably three of them, are... will they be operating with the rock from that last blast?

According to the United States National Park Service, a rock crusher, a single rock crusher smaller than the one that Mr. Buxton showed last Saturday, puts out approximately 180 DBAs to an extent of 500 metres. So the question is about the... how many times, what is the duration, how many rock crushers will be used after each

blast.

Mr. PAUL BUXTON: Mr. Chairman, I think... I had thought that we had made it clear on Saturday and again this morning, and apparently not, that the rock crushers, in fact, will be enclosed and there will be no rock crushed on the site by a crusher which is not enclosed during the operational phase.

I think we showed a conceptual drawing of the crusher enclosed. All the screens will be enclosed, and the conveyor will be enclosed.

So I'm not sure whether you would like to pursue your question, but I can assure you that that's... that that is the intent and it is quite specifically set out in the presentations that we've made.

Mr. BOB MORSCHES: Please forgive me for my question because, according to the statement by the environmental planner, he said they would not be enclosed, and that's the reason I asked the question. Thank you.

THE CHAIRPERSON: Thank you, Mr. Morsches.

Okay. We're going to start another cycle now. Sierra Club of Canada?

Mr. BRUNO MARCOCCHIO: Thank you, Mr. Chair. My name is Bruno Marcocchio. The last name is M-a-r-c-o-c-c-h-i-o.

I'd like to address some questions to the Proponent about their greenhouse gas response and their

response to the Information Request to provide a compensation plan which would negate the emissions from the project during the construction and operation phases.

THE CHAIRPERSON: Mr. Marcocchio, one question, one follow-up, and the cycle you can come back again and ask the other one.

Mr. BRUNO MARCOCCHIO: Yes, I understand.

THE CHAIRPERSON: Yeah.

Mr. PAUL BUXTON: I think I'd like the question repeated, Mr. Chair.

Mr. BRUNO MARCOCCHIO: There wasn't a question yet. I was just in a preamble, and I'm just... I'll continue. I'll proceed now with my question.

In your response, it's page... it's document EIS Volume 3, 9.1, you outline your greenhouse gas emissions at approximately 82,000 tons of CO_2. And I'm somewhat confused by the fact that you characterize those emissions as not meeting the Federal Government's requirement for being a large emitter.

Can you please explain that, since the... Environment Canada's average annual emissions of 8 kilotons per establishment would qualify as a large final emitter?

Mr. PAUL BUXTON: Perhaps we'd take that under advisement. My expert seems to think that that is not in effect, but we'll look at it and respond.

THE CHAIRPERSON: I think what he's saying

is he can't answer it right now for you, Mr. Marcocchio, and... but that it will get answered in... over the course of the meetings. If you wanted to ask another question, that would be okay.

Mr. MARCOCCHIO: Yes. So they will undertake to provide a response because I can provide documentation from another environmental assessment, if need be, that outlines those levels.

THE CHAIRPERSON: Let's put that down as an undertaking. When do you think that you would have that for us, Mr. Buxton?

Mr. PAUL BUXTON: Tuesday, next week.

THE CHAIRPERSON: Tuesday. Mr. Marcocchio, I would like... before you leave, perhaps you could go over to the Secretariat and write the question down so that we have it specifically as you're asking it. Then we'll forward it as an undertaking.

Mr. MARCOCCHIO: Yes.

THE CHAIRPERSON: Okay. Now you can ask...

Mr. MARCOCCHIO: Your... the response to this question, in short, if I may paraphrase it, is that you don't feel that you're obliged and you will only comply with regulations that the federal or Provincial Governments may impose.

I remind you that the Provincial Government has recently passed legislation committing to a

20 percent reduction over the last... over the next 13 years or so in the province of Nova Scotia, and that your attempts at minimizing by outlining your significant emissions that, as I've outlined, are those of a major emitter, will significantly increase the Provincial Government's CO_2 emissions at a time when they're committing to a 20 percent reduction.

You have not answered the question here. Could you now please answer it, put together a plan that would include buying carbon offsets to ensure that your emissions of CO_2 are responsible, provincially responsible, federally, most importantly, responsible to the community you're operating in?

Mr. PAUL BUXTON: I think, Mr. Chairman, we've made our position very clear, that when a set of rules and regulations is devised by either the federal or the provincial government which applies to industry, and specifically our industry, we would commit and, of course, must follow those rules and regulations, and we will do so.

It's simply not possible for us to guess at this time what those might be, so I think we'll simply stick to the same answer, and that is that when the rules and regulations come out and the standards come out which apply to our sector of the industry, we will comply in full.

THE CHAIRPERSON: Mr. Marcocchio, do you have a follow-up? No? No follow-up? Okay.

Native Council of Nova Scotia.

Mr. ROGER HUNKA: Yes, it's Mr. Hunka again. Just to... I have a series of questions that just follows up.

You ended with the term you knew something about First Nations. Do you know anything about the Aboriginal peoples of Nova Scotia, both on reserve and off reserve?

Mr. PAUL BUXTON: I'm not quite sure how to answer that, Mr. Chair. I have personal contact with people in First Nations. I work with people in First Nations. I have a... I think a reasonable grasp of the history.

I'm not quite sure where your question is going.

Mr. ROGER HUNKA: Okay. The question is going, do you know the distinction between Band Councils and Native Councils?

Mr. PAUL BUXTON: I certainly wouldn't want to define that. Perhaps you could enlighten me.

Mr. ROGER HUNKA: The Band Councils are creations of the Department of Indian and Northern Affairs and represent and work for the communities that are on **Indian Act** Reserves, and we have a Reserve in this area.

Native Councils are established by the communities and with the Department of Heritage, or now Heritage, and are democratic organized and represent

communities that continue to live on traditional ancestral homelands, not on Reserve, but on their traditional lands known as Mi'kmaq here in Nova Scotia.

Mr. PAUL BUXTON: Thank you.

Mr. ROGER HUNKA: And I raise that question, Mr. Chairman, because I want to know, did Bilcon or does Bilcon have a consultation process with the Aboriginal peoples of Nova Scotia?

Mr. PAUL BUXTON: No, we do not. We, I believe, have made a great attempt to consult for a period of five years with the local Band in Bear River. We've had very good communication on a personal level. We held an information meeting at the Reserve.

We have made continuous, numerous requests to consult with them. They have chosen... well, let me rephrase that. The same thing I would say, to some extent, with the Confederacy of Mainland Mi'kmaq, we have been in correspondence, both by e-mail and by mail, for five years with Mr. Cox.

The last determination that I was able to get was perhaps a year or more ago, and that a very specific Council, and I'm sorry, you'll probably have... you'll have to help me with the Mi'kmaq name, which was established in Truro. And again, I'm sorry that I can't remember the Executive Director's name, but a group that was set up quite specifically for consultation.

I spoke with the Director of that group on more than one occasion, who advised me that the... there would be no consultation with Bilcon or, indeed, any other company, that consultation would only take place with the Federal Government and it would only take place through this new group.

And if you just... I believe the group started with Croisiault(ph) something. You'll have to help me with it. But it is a new group in Truro which has been specifically put in place to consult.

And so I can say that we have made extensive attempts, if you like, to gather information. Call it consultation if you like. We have held information meetings at the Bear River Reserve. I have spoken to one of the Councils of the Bear River Reserve probably on at least a biweekly basis for the last four years.

But in terms of sitting down and formally consulting, we have not been able to do that. And I'm not quite sure how we can when we are advised that the Mi'kmaq people will not consult with anybody else but the Federal Government.

THE CHAIRPERSON: Follow-up?

Mr. ROGER HUNKA: Yes. I'll just follow up and... Mr. Buxton, this is why I raised the question earlier on, were you provided any instructions, because what was, indeed, happening is that you were focused on one group

alone, and that's the on-Reserve group, the 13 Band groups, and not the Native Council group. And the fault does not necessarily lie with you.

It lies with the government of Nova Scotia, Natural Resources, Federal Government, and the Nova Scotia Department of Environment and Labour. But most assuredly, the Native Council was on record. The panel does know of us being on record. You would have known that we do represent well over 9,000 Aboriginal peoples who live throughout traditional lands, as compared to the 7,000 on the 13 Reserves.

It's unfortunate, but you're caught in the middle of not really having a consultation process with one group, and another group that did want to have a consultation process is prepared to have a consultation process and will entertain a consultation process. I just leave that at that.

Mr. PAUL BUXTON: Mr. Chair, I can say that we would be delighted to meet with you, and we have actually, over the past year or so, had a number of discussions with I think perhaps your Membership, and I'm not quite sure yet whether they're properly accredited. I don't profess to understand the process, but they hold themselves the forgotten people of Digby County.

The Grand Chief and the Chief have been into my office on at least half a dozen occasions, and we've

exchanged views, and we're very pleased to do so. So all I can say is that we would be very pleased to meet with you at any time to discussion any issues or concerns that you have, and to try to accommodate those.

THE CHAIRPERSON: Thank you, Mr. Hunka. Ashraf Mahtab?

Mr. ASHRAF MAHTAB: I have a question about how much is actually the total wasted material which cannot be shipped. You have 2 million tonnes a year aggregate, and I'm just... My estimate is that 20 percent in addition to this 2 million will have to be blasted to produce that amount of aggregate. I have noticed the conversation which has gone on before.

In my estimate, the waste which cannot be shipped as aggregate will include, first of all, whatever is existing as fillings in the fractures, and the there will be the crushing and grinding and sealing, and that will produce this fine sand and some other material, and the grit which was mentioned, which will not be shipped.

So I just want to know if you agree with my estimate of 20 percent waste, which will not be shipped.

Mr. PAUL BUXTON: Mr. Chairman, I think in answer to a very similar question from Dr. Muecke this morning, that we did in fact enter into an undertaking to provide those detailed figures, and we will provide those figures on the date that we set. I can't remember what date

we set now, but we will undertake to provide them.

THE CHAIRPERSON: So it's forthcoming, in your answer, it's forthcoming, but not this afternoon. But soon.

Mr. ASHRAF MAHTAB: No, that's all right. I just wanted to make sure that that number, 20 percent, has to be refuted or else some other number has to be supplied so I can do my own calculation from my next calculation.

THE CHAIRPERSON: Thank you.

Mr. ASHRAF MAHTAB: Thank you, Mr. Chair.

THE CHAIRPERSON: Judith Peach?

Ms. JUDITH PEACH: I do have other questions, but I was asked to follow up on my first question again about the quarry manager's experience in this kind of operation.

When he was manager of the quarry on the Hudson River for New York City, it was part of his job, dealing with environmental issues, environmental impacts, resulting from that quarry.

Mr. PAUL BUXTON: Mr. Wall will answer that question.

THE CHAIRPERSON: Yes. Ms. Peach, you can ask another question, since you didn't ask a follow-up the first time.

Ms. JUDITH PEACH: Yes. So on another

subject, on Saturday Mr. Buxton said he'd have 400-plus job seekers at the office. Can he give me an estimate as to how many of those job seekers currently live on Digby Neck and Islands?

Mr. PAUL BUXTON: I know that we were running that figure. We were asked that question about 18 months ago, but no, I can't tell you what it is to date, and it would take a fairly thorough review because some of those applications have been on file for three years, and while we know that separate applications, we do know that a fair number of those people have already left for Alberta and parts west.

If you consider the information vital, I think that we - I'm not sure we could extract it in the time, Mr. Chair. But if it's considered vital to the process, we would make a stab at it.

THE CHAIRPERSON: It's your call, Ms. Peach.

Ms. JUDITH PEACH: Well, my concern is that possibly a lot of the people that would be working at the quarry live nearby, within driving distance, in Digby Town or other parts of Digby Municipality, which goes all the way to Weymouth, or up the Valley somewhere, and they would not be contributing to the school population if they're further toward Digby from Gulliver's Cove Road.

So any benefit you might get from the

employees to the local schools or fire departments, for instance, you know, if they stayed in their home community because they can commute, those benefits would not come to Digby Neck.

THE CHAIRPERSON: Are you asking for that information?

Ms. JUDITH PEACH: I would think he could give it to me in just very general terms, like 50 percent, 90 percent, 80 percent.

THE CHAIRPERSON: I think the answer is yes. We'll make that an undertaking, and you can deliver that for us when?

Mr. PAUL BUXTON: Our office staff is basically here, so it's somewhat difficult. But perhaps the end of next week. What I could say, and this may satisfy, I'm not sure, that we have basically stated in virtually all our meetings in the last two years that we would give priority to people living in the local area.

What do we mean by "local area"? Well, starting with Little River, and the on to one side of Tidville, the other side Mink Cove and Sandy Cove and East Ferry and so on. I'm not sure that we can fulfill all the positions from that area. Some of the positions require very specific qualifications. We can't pick up an electrician - or, I'm sorry, we can't pick up, you know, and 18-year-old and turn them into an electrician in six weeks.

They need to go through qualifying courses.

But those people that can be trained within the time element that we have that do not have the training, in the local area, we will train. I think I'm correct in saying that at the last job meeting that was held at the (Inaudible) House, you're saying 47, I think 43, 45 people were there. That meeting was held for people in the local area. Now, we do - we had all the names and addresses for those people. Whether they all came from Waterford to Freeport, I can't tell you, but I think that the majority of them did. Possibly there were one or two from Digby.

The first meeting that was held there was called by the young people of the Little River area, and we were asked to attend their meeting. We provided the forum. And I believe that there were 23 people at that meeting, young people, and I'm quite sure that those were from the immediate area.

They had heard that we were not going to hire locally and were concerned about that, and we responded to that by asking them to call the meeting. They called the meeting, we attended. And my own view is that if we can, if we can get them before they go to Alberta, we will hire virtually our full complement off of Digby Neck, apart from those that required extensive training.

THE CHAIRPERSON: We've made that an undertaking. I've set it for the 29th of June, which is the

Friday before we close the hearings, and if you're here, you'll get it then. If not, it will appear in the transcripts. Okay?

Next is the Clean Annapolis River Project.

Mr. ANDY SHARP: Yes, my question concerns the procedures for the docking and departure of ships from the marine terminal. The EIS, in Section 11, makes reference to:

> "Standard mooring buoys for the previously-described Panamax-sized vessels will be installed for the bow and stern lines."

No information was provided, though, on how these lines will be connected between the buoys and the ship. My question therefore is will a small boat or boats be available to tow and connect these lines when the ships arrive and then depart?

Mr. PAUL BUXTON: Yes.

Mr. ANDY SHARP: Would it be useful, therefore, to know where these boats will be docked? Will it be at the project site or elsewhere? How will they be on hand? How many? How many crew members?

Mr. PAUL BUXTON: I think, generally speaking, the work boat will be kept on-site, perhaps in the event of a predicted severe storm it might be taken to a safer place for a couple of days, but generally speaking it

will be moored on-site.

We would have people that we would train from our work force in the docking procedure, how to take the rope and take it out to the mooring buoys. They would be specifically trained to do that task. I suspect that they will not be additional employees. They will be employees taken from our work force but specifically trained to that task.

Mr. ANDY SHARP: Excuse me, Mr. Chair. I'm still not clear. Will the work boat be pulled up on shore, or be kept at anchor?

Mr. PAUL BUXTON: I would assume that it would be tied up to the facility. We have moorings we can tie up to back of the dolphins or to the piles. I'm not sure that we've gone into that much detail yet.

THE CHAIRPERSON: Thank you. The Partnership.

Ms. LISA MITCHELL: Thank you, Mr. Chair. My name is Lisa. I'm representing The Partnership.

My question is with regard to environmental audit and monitoring information. I believe it was said perhaps yesterday that environmental audit information and monitoring information would be transparent, and I'm interpreting that to mean that it would be made available to the public.

And I'm looking, I guess, for a little

elaboration on what they mean by "environmental audit", and how that would be made available to the public.

Mr. PAUL BUXTON: Mr. Wittkugel will answer the question. Thank you.

Mr. UWE WITTKUGEL: Yes. We distinguished between monitoring and auditing. The monitoring will address the effects monitoring and the compliance monitoring.

The auditing, what we mean by that is the very basically an internal corporate review of their own environmental performance, and that will be done either on a half-year basis or a yearly basis, and then will be made available to anyone who's interested in that.

The CLC, of course, but even the general public can access those documents or require those documents and that information will be released, and it will include general performance in the environmental sector, based on monitoring and perhaps also based on feedback received through the CLC.

Ms. LISA MITCHELL: A follow-up to that question would be, do any of the other Clayton companies engage in this kind of process whereby they release environmental audit information and monitoring information to the public?

Mr. PAUL BUXTON: I can't answer that question, Mr. Chair.

THE CHAIRPERSON: I don't think he's refusing; I don't think he has that knowledge. But I don't know how important it is that - well, I don't know. Did you want to request some sort of additional information? Like an undertaking in that area? And I don't know if that's even feasible, given that it is the Clayton company and not the Bilcon company.

Ms. LISA MITCHELL: Perhaps I could do a second part follow-up which might be beneficial. Has Bilcon of Nova Scotia considered obtaining a 14,001 certification for their facility as part of the environmental management program?

Mr. PAUL BUXTON: It has been discussed, Mr. Chair. I think we've been - perhaps had our focus on this process rather than a quality assurance and a quality control process later on.

It would certainly be my policy to recommend that and to drive that process forward.

THE CHAIRPERSON: Okay. Don Mullin.

Mr. DON MULLIN: Twice this morning you discussed cumulative effects; however, on both occasions you appeared to consider only other known or potential projects.

Would the Proponent explain what it considers a cumulative effect, and why it appears to use such a narrow definition?

Mr. PAUL BUXTON: Mr. Wittkugel will answer

that question.

Mr. UWE WITTKUGEL: The cumulative effects are defined by the Canadian Environmental Assessment Agency, and there's a guideline for practitioners that describes what are cumulative effects. Cumulative - and then we adhere to that definition and conduct a cumulative effects assessment that follows their definition, which is that you assess not only your own project, but also how your project, with other potential projects, may interact.

These other projects are future projects, reasonably foreseeable projects, and also perhaps existing and present projects. But it's clearly related to other projects.

Mr. DON MULLIN: But not exclusively. You said cumulative effects of your own project and other known or expected projects, and yet your consideration seems to be only of other known or potentially projected projects. That was my comment.

Mr. UWE WITTKUGEL: In our cumulative effects assessments, yes, we focused on other known projects, whether planned or reasonably foreseeable.

The other cumulative effects built into the direct effects assessment - for example, cumulative effects of noise-generating activities - we didn't - I think it described it. We used the very conservative model approach where we took various activities into account that

cumulatively contribute to the maximum worst-case noise level; in that sense, that were also cumulative effects assessed within our project, but we stuck in the cumulative effects assessment to the definition of the **Canadian Environmental Assessment Act** and Agency.

Mr. DON MULLIN: Not to split a hair, but additive effects cumulative effects may not be identical. That's only my comment. I have no opportunity for further question.

THE CHAIRPERSON: Sister Barbara? No? Bob Morsches?

Mr. BOB MORSCHES: Mr. Chairman, this concerns the briefing by Mr. Buxton last Saturday, if I may address that. It doesn't have much to do with the environment.

This concerns alternative sites for basalt quarries. Last year, the year before, Reykjavik, Iceland, was wanting people to come to take away the basalt which is, they have very active volcanoes up there, and a lot of basalt, and you want to ship it by sea, and therefore it would be a perfect area to use it, 'cause those people wanted to get rid of it.

An alternative site which is under consideration by NASA is to go ahead and explore Mars because it's full of basalt and there's - it doesn't hurt the environment or anything. They're thinking about having

large carriers do such a thing, and then bring it back to the United States, and they could drop it in lake water.

Now that's a couple alternatives, you know, that I've taken a look at. I realize that maybe that's far-fetched, but that's what I found out.

THE CHAIRPERSON: Was that in a form of a question, or was that - that's a comment, is it?

Mr. BOB MORSCHES: Well, I was wondering if those two alternatives were researched, because I know you haven't listed any alternatives sites.

THE CHAIRPERSON: I think the first one might have some merit. The other one is a trifle fanciful, think you not?

Mr. BOB MORSCHES: My discussion with NASA is that it's in a, not a detailed planning area, but it's a concept plan, Mr. Chairman.

THE CHAIRPERSON: Well, Mr. Buxton, I guess you're being asked about Iceland.

Mr. PAUL BUXTON: No, we did not consider Iceland, Mr. Chair. I do not profess to be an expert on shipping, but I would've thought that the shipping costs would have been excessive to Iceland, but I'll certainly draw that to the attention of my principals.

THE CHAIRPERSON: Okay.

Mr. BOB MORSCHES: Thank you very much.

THE CHAIRPERSON: Well, we've finished two

cycles of this now, and we will go to a third, but before we do, I just wanted to be sure that there isn't anyone else in the audience who's a registered participant who might, in fact, want to join this list. Raise your hand. No? Okay.

Let's start at the top again. Sierra Club.

Mr. MARK DITTRICK: Yes, Mark Dittrick again from Sierra Club. Are we doing just three cycles?

THE CHAIRPERSON: We...

Mr. MARK DITTRICK: Might we do a fourth?

THE CHAIRPERSON: It's entirely within the realm of possibility.

Mr. MARK DITTRICK: Okay. Then I'll ask a real quick one, and we'll get through this cycle fast, I hope.

I believe it was mentioned earlier that not explosives, in the project descriptions, that no explosives would be stored on-site. And if that's correct, my question is, if nothing is stored on-site, are they being stored off site in some way, and if that's not the case, how are they getting to the quarry site to be used? Are they coming by road or are they coming by sea?

Mr. PAUL BUXTON: There will be no explosives stored on the quarry site. There will be no explosives associated with this operation stored elsewhere. The ingredients for the explosive will be driven to the

site in purpose-designed vehicles, and the ingredients of the explosive will be prepared on-site and used immediately.

So there will be no finished product on-site or off-site.

Mr. MARK DITTRICK: But then I assume that there will be ammonium nitrate and gasoline, but not mixed together on the site; so that there will be explosives, but not put together in an explosive state to be used.

Mr. PAUL BUXTON: But that's generally correct, but they're not an explosive until they're made to be an explosive.

Mr. MARK DITTRICK: So in other words, this was semantic sort of thing. When you said that there'd be no explosives stored on-site, the components for the explosives will be stored on site?

Mr. PAUL BUXTON: There's no components of those explosives stored on site. The components are brought to the site in purpose vehicles. They are then mixed and used as an explosive for a specific blast. Neither ammonium nitrate or the fuel oil is stored on site. It's brought to the site for a specific blast.

THE CHAIRPERSON: Yes, and you said "gasoline", and I don't think you meant "gasoline". It's fuel oil.

Mr. MARK DITTRICK: Fuel oil. Fuel oil, right.

THE CHAIRPERSON: Yes. Native Council of Nova Scotia?

Mr. ROGER HUNKA: And appreciating that there isn't a consultation process and you're a bit disadvantaged. However, on the environmental side, having done or doing or following to do or proposing to do or having done an environmental assessment, the guidance documents specifically talked about and asked the Proponent to review land uses and resource uses, and then describe what those uses are. This is through possibly yourself or Mr. - got such an interesting last name I keep forgetting it.

Why haven't you, or even the Panel or anybody, asked what Aboriginal peoples' uses were for food, fishing? Why doesn't your EI even have any indication whatsoever about food uses, let alone traditional uses of resources along that area? Why is it totally absent? Aside from the fact that there's no consultation?

Mr. PAUL BUXTON: I don't believe that it is totally absent. One of the things that we did back in 2002, and continued right up until some little short time ago, was to attempt to have a traditional knowledge study carried out by people qualified to do this, and we rather thought that the only people qualified to do this were First Nations.

We made contact with the Confederacy of

Mainland Mi'kmaq, and initially there was an agreement, although a loose one, that they would carry out a traditional knowledge study, including food and all the other aspects of a traditional knowledge study, for us.

I can't tell you quite what went wrong with that, but in any event, that did not happen.

We then went to the equivalent of the Confederacy on Cape Breton Island, and you'll have to help me with that. I can't...

Mr. ROGER HUNKA: (Inaudible)

Mr. PAUL BUXTON: It was the group, in any event. And the group specifically, they advised, the group at Eskasoni also had people on staff capable of carrying out a traditional knowledge study. We did approach them, and they agreed that they would carry out a traditional knowledge study for us.

Again, my understanding is that then there was somewhat of a contretemps of a Cape Breton group coming on to mainland and doing a traditional study.

The net result of all of this is that we ourselves were unable to sponsor or produce a traditional knowledge study. However, all was not lost because the Confederacy of Mainland Mi'kmaq did, in fact, complete a traditional knowledge study which included food and the use of Digby Neck for hunting, and it was called Oositookum, and I can't remember the entire name of it - but I can give it

to you: "The Mi'kmaq use of Oositookum, Digby Neck, and Surrounding Waters, and the Mainland Shore of St. Mary's Bay."

That was submitted to the Panel by the Confederacy of Mainland Mi'kmaq, and in fact participant funding was received by the Confederacy of Mainland Mi'kmaq to produce that study.

So you're quite right, we did not do a traditional knowledge study. We regret that. We made every attempt to have one done. And in fact, it was done at a later time. We have communicated with the Confederacy of Mainland Mi'kmaq and said that we wish to communicate with them in future to assist, to co-operate, et cetera, in the future, and we hope that that can be - that that will fall into place.

We've made the same sort of offer to the Bear River First Nation, and as I said, I'm in constant communication with one of the councillors there. We have met with the group from Digby County calling themselves the Lost People, with the Grand Chief and the Chief. So yes, we have not done, we have not done a food study, a traditional knowledge study, because we were simply unable to hire somebody qualified to do it, and we felt that that should come from the First Nations.

Mr. ROGER HUNKA: As a supplementary to it, but the studies, even the one from the Confederacy, would

have indicated that there are uses of those resources, be they fish or animal life or plant life. I think they did. The last page of the reported indicated.

I'm asking why, then, didn't your consultant follow that up on what to do with that, how to mitigate or compensate for that? In other words, you'll have clam diggers, you'll have persons lobstering, you'll have persons fishing, or you'll have persons picking sweet grass or whatever are - it's quite a large coast, 1.6 miles of coast line that your property is on.

And you know that there are going to be Mi'kmaq persons occupying or going through that. So why - I know you don't have all the details, but at least it should've been somehow identified as a land use; that there are people using it.

Mr. PAUL BUXTON: I think we did make that point, and you know, it's it isn't quite six miles long.

Mr. ROGER HUNKA: No, 16.

Mr. PAUL BUXTON: 1.6, yes. And I think one would be hard pressed to dig clams there. But we take your point that there may be First Nations people gathering periwinkles. We've certainly made provision for them to get to the beach. You know, I don't think we wish to interfere in any way with traditional use of the land.

Clearly, there's going to be activities on the property which, you know, will restrict at certain

times. For example, when blasting is going on or in dangerous areas of the quarry. But for the balance of the land and on the adjacent land which we've acquired, I assume that traditional activities will continue.

Mr. ROGER HUNKA: Thank you.

THE CHAIRPERSON: Ashraf Mahtab?

Mr. ASHRAF MAHTAB: No more questions.

THE CHAIRPERSON: No more questions. Judith Peach?

Ms. JUDITH PEACH: Mr. Buxton stated that this project's a good fit for this area, and he - I believe he said on Saturday that if he brought a high-tech firm into the area you couldn't find enough personnel to man it, something to that effect.

I wonder how Mr. Buxton would characterize the labour force of this area? What kinds of jobs does he think we are suitable for?

Mr. PAUL BUXTON: I'm sure that I'm really qualified to answer that question. I've certainly lived here for a significant period of time, and over that time I've employed a significant number of people. Certainly well over a hundred people on the projects in Annapolis Royal; 300, I should think, at the Upper Clements Project. So I have a fairly good idea of the capabilities of this area.

One of the things that has happened to us

is that many of our qualified people have gone. Let me just give you an example of that. In the construction of the wooden roller coaster at the Upper Clements Park, there were about 120 carpenters working on that specific project alone. I don't think you could find 120 carpenters all the way from Shelburne around to Yarmouth, all the way down to Kentville now. They're gone.

If you want activity on your house, whether it's roofing or an extension, or in fact virtually any activity now, it is very difficult to arrange. Our skilled people are moving away, and I think we need to retain them in this area.

I don't think I was being terribly facetious when I said that, you know, you could not attract a 300-person high-tech company here. I don't think that we could find 300 people qualified in computer programming and that sort of thing in this area.

I think we have an adaptable people here, I think we have a trainable people here. All the projects that I've been associated with in this area I have built with local labour. I am the biggest booster of local labour in this area. And it would have been far easier for me to simply bring a contractor in to build some of those projects and stand back and let somebody else take the strain.

I have always considered the work force of this area to be absolutely first class, but we're losing

them. They're going from this area. So I'm not sure that I could - I'm not qualified to say, I don't have the statistics to say there are X carpenters and X plumbers and X people with this kind of education and training.

What I do say is that the people in this area are highly trainable and make extremely dedicated and loyal employees.

Ms. JUDITH PEACH: My observation is they're generally under-employed, that they're generally better-qualified than the jobs they're working in. And this project, for the people that will be employed from the local area, probably isn't going to be much of a challenge for them.

THE CHAIRPERSON: Thank you, Ms. Peach. Clean Annapolis River Project?

Mr. ANDY SHARP: Bilcon of Nova Scotia retained the services of Mr. Kenneth Neil to survey the project site for rare and endangered butterfly species. His report was included in last year's EIS.

In his report, Mr. Neil identified suitable habitat and/or breeding sites for three species of threatened butterflies, but he could not confirm the presence of these species due to the timing of his survey.

His principal recommendation was a follow-up survey be completed in 2006 to confirm the presence of these species. Did Bilcon of Nova Scotia complete the

follow-up butterfly survey in 2006, as recommended by Mr. Neil, and will it be added to the public record?

Mr. PAUL BUXTON: Dr. Alliston will answer that question, please. We do have that survey available.

Mr. GEORGE ALLISTON: That survey was completed by Ken Neil in August and September of 2006, and that should be on the record. The results of that were none of the species that he had identified as potential there were found. He did find adults of the Monarch butterfly, but there was no host plants for the larva of the Monarch butterfly. Last year happened to be an exceptional year for Monarch butterflies in the east, in general.

Mr. ANDY SHARP: From my examination of the comments of the EIS, the four volumes and also the website, I've been unable to locate that actual report.

THE CHAIRPERSON: I think they're trying to track it now.

Mr. PAUL BUXTON: We have the document here. We're just not quite sure where it went into the document, or into which - it probably was included as an attachment to one of the responses for specific information.

Mr. GUNTER MUECKE: Could it be made available?

Mr. PAUL BUXTON: Very much so.

Mr. GUNTER MUECKE: Could you make it available to the Panel, too, because we have not seen it.

Mr. PAUL BUXTON: We will email that immediately to the Panel manager.

THE CHAIRPERSON: Partnership? No? Yes?

Mr. KEMP STANTON: When you were talking earlier about the coastal bogs and the potential release of nutrients, I would like to know if a coastal bog which is characterized by it being nutrient deficient and nitrogen deficient could withstand the discharge of large amounts of nutrients and nitrogen into them, from the quarry site.

Mr. PAUL BUXTON: Mr. Chairman, we have been tasked with a undertaking to provide information on the levels of nitrogen might be produced, and I think it might be useful perhaps to use that information. This is sort of so general that I'm sure that we can comment on it. We don't know what type of information or what the levels are in the bog. Perhaps when we've given you the answer to that undertaking, if that's not satisfactory we could then follow it up with a specific answer to this question.

THE CHAIRPERSON: So Mr. Stanton, your question can't be answered right now, but there is a request in the process to bring an answer forward, so it'll be coming in the next week or so.

You can ask another question, if you like.

Mr. KEMP STANTON: Yes. You were talking, I forget what material you said come out of (inaudible), come out of the - well, if I'm correct, blasting residue is

rich in nitrogen, I don't know whether your request included nitrogen or not.

THE CHAIRPERSON: I'll answer. Ammonium is a nitrogen molecule, so that one half of the explosive is ammonium. The other - ammonium nitrate, both of those have nitrogen in it. The other side has fuel oil in it. So yes, the answer is yes. Alright? That takes us down to Bob Morsches. Oh, did I miss - sorry. Sorry, Mr. Morsches. I missed Don Mullin, here.

Mr. DON MULLIN: Real quick question. On what scientific basis do you make the conclusion that ship-whale collision is "highly unlikely", given the six percent increase in whale traffic, even with slightly reduced ship speed?

Mr. PAUL BUXTON: We make this on a, I think, coming from a number of aspects, and I would repeat again that the people that we would consider to be experts on this, DFO, have basically made that same statement. They believe that it's unlikely.

There is a significant amount of information available, and I'm sure that you have access to it. With respect to the number of strikes, the likelihood of strikes, and you know, it is interesting to note from some of this data, and I'm sure that you have access to it, is that for example the annual rate for entanglements is 1.0 in Canadian waters, and the ratio for vessel collisions, the

annual rate is 0.2 in Canadian waters.

And for example, from Moira Brown, who I think is considered to be one of the experts from the New England aquarium and Canadian Whale Institute, during the last 34 years, from 1970, 62 right whales deaths have been observed; 21 from ship strike with four right whale deaths in the Bay of Fundy attributed to ship strikes. So in the last 34 years, four right whale deaths in the Bay of Fundy have been attributed to ship strikes.

Now, if my mathematics is correct, if 21 from ship strikes, and there were 62 right whale deaths, then 41 would have come from net entanglements or other fishing gear entanglements. So I think there is a significant amount of information out there. There is also a report which we have not included because it's not peer reviewed and we don't know whether it is publishable data, and it gives some very good detail on the likelihood of ship strikes in various areas of the Bay of Fundy.

And certainly the route which we have from White's Point to the shipping lanes is in a zone which we interpret from this as being very, very low probability of ship strikes. And again, I think we have put mitigation measures in place, keeping to low speeds, not going through the North Atlantic right whale conservation area, et cetera.

THE CHAIRPERSON: Mr. Buxton, that was - when you said 1.0 entanglements, that was an annual rate,

was it?

Mr. PAUL BUXTON: Yes, it was, Mr. Chairman.

THE CHAIRPERSON: Bob Morsches now.

Mr. BOB MORSCHES: Doctor, I promise not to mention Mars anymore. Mr. Buxton on Saturday mentioned the fact that there would be - there were between 45 and 50 quarries that were over four hectare.

I was wondering if the Proponent could provide us a list and the size of those 45 to 50 quarries, and are there any quarries that are of 150 hectares in size?

Mr. PAUL BUXTON: Yes, we will attempt to do that. We acquired this information from I believe Nova Scotia Department of Environment and Labour, and used it in our presentation. Whether they have that in list format I can't answer you right now, but if you would like that list, we will attempt to get it for you.

Mr. MORSCHES: Thank you, sir. I appreciate it.

THE CHAIRPERSON: Maybe - that's an undertaking, a list of the 45 to 50 quarries in Nova Scotia that are in excess of four hectares, and if there are any that are 150 hectares in size.

Mr. MORSCHES: Thank you, doctor.

THE CHAIRPERSON: Thank you. So when could we have that by?

Mr. PAUL BUXTON: That will be a function of when we can get that information from the Government. Perhaps we should set it fairly late in the process.

THE CHAIRPERSON: The 29th, perhaps?

Mr. PAUL BUXTON: Thank you.

THE CHAIRPERSON: Okay. We're back starting the cycle again. Sierra Club.

Mr. MARK DITTRICK: Mark Dittrick speaking for Sierra Club again. If you'd permit me, I'd like to add a little clarification on that, the statement that was just made about ship strikes and right whales, and I'd like to indicate that in the last three - within a period of three years, three necropsies were performed on female right whales, all of which died from ship strikes within a 60-mile radius in the Bay of Fundy.

The first one was necropsied in October of '03 at Kilaudin(ph), not far from here. The second was necropsied in July of 2006 on Campobello Island, and the third was necropsied in September of 2006 at Kelly Cove, near Yarmouth. So we had three right whale fatalities by ship strike within a three-year period in the vicinity of the Bay of Fundy recently.

So the statistics that you quoted certainly aren't up to date, I would say.

Another clarification, if you'd permit me to do this, is that in the case of...

THE CHAIRPERSON: Is this leading to a question is it?

Mr. MARK DITTRICK: Well, yeah. I mean, if they'd like to, if he'd like to comment on that, my little clarification on that.

THE CHAIRPERSON: Okay, continue.

Mr. MARK DITTRICK: But I have another issue that I spoke to before, which was explosives, and I just wanted to inform the Panel that in the issue of liquefied natural gas tankers going to proposed terminals in Passamaquoddy Bay in Maine, the Proponents of those terminals has pointed out that the ships going to the Bayside quarry, which carry ammonium nitrate, are carrying hazardous cargo, and that they are using that to say that the Canadian Government, which is now denying passage of L&G tankers in the future through Passamaquoddy Bay, are doing so because, in part, that they are carrying what is considered hazardous cargo.

So I think I'd like to find out about the nature of ammonium nitrate, since companies proposing to ship L&G to Passamaquoddy Bay are making the point that ammonium nitrate shipped to Bayside is hazardous.

So I just - and if you have a comment on that, I wouldn't mind hearing it.

Mr. PAUL BUXTON: Just on the first issue, I thought that I had read this out correctly, but perhaps I

didn't. The Moira Brown study, which was published in March 2005, said during the last 34 years, from 1970, so it was statistics to 2004. It did not clearly talk about any ship strikes in the last two years.

On your second point, we are unaware of any - we do not think that ammonium is shipped to Bayside by ship. We'd be very surprised to hear that, although we have no certain knowledge, and if you have any clear information on that with some sort of reference, I'd be pleased to see it.

Mr. MARK DITTRICK: I would think that Fundy Cargo may have something to say about what the cargos are going to Bayside. They might be aware of that.

I do have a question, though, and my question has to do again with greenhouse gasses, and I would hope that this might lead to an undertaking. I've read the mitigation portions of the Proponent's discussion of greenhouse gasses, and I've heard about planting trees and composting and such.

But I haven't read any numbers or heard anything about to what extent the 80,000-plus greenhouse gas emissions will be mitigated by the efforts, by the mitigation efforts. Is it 90 percent of the greenhouse gasses mitigated of that 80,000? Is it 5 percent? Is it 2 percent?

And away from percents for a minute, what

amounts would be mitigated by the various mitigation efforts? I'd like to see something, a little number crunching there, and I'd like to see the actual numbers of the offsets creates by the various efforts.

Mr. PAUL BUXTON: I think I can give you the answer immediately, and the answer has already been stated; that we acknowledge that we are creating greenhouse gasses, and when the Government of Canada brings in rules and regulations and specifics we will comply with them, both to the spirit and the letter of the law.

Mr. MARK DITTRICK: I submit that since you have already described the mitigation efforts that the mitigation efforts in themselves carry a certain amount of mitigation for the greenhouse gasses that you're asserting you will be creating. And I don't see how this is connected with rules and regulations from Environment Canada about greenhouse gasses, and that you will then have to - I assume that you will just then have to come up with new and better mitigation efforts.

I would like to see some numbers for exactly what you think, you assume, you will now be mitigating or offsetting at this point.

Mr. PAUL BUXTON: Mr. Chairman, we cannot predict what the Government regulations will be in the future, and when those are passed by the House and they become regulations and there are stipulations attached to

them, we will comply with them in their entirety.

Mr. MARK DITTRICK: I believe I heard earlier on some reference, or in the PowerPoint, that the Kyoto commitments did not apply to this project, and that they didn't exert any pressure on you, and that I don't see how regulations now in this case has any effect, either.

I'm still puzzled as to why we can't find out from all of the efforts that you say you're going to take to offset carbon, how much carbon you think those will offset, if it's 0.1 percent of all of the carbon from the - it certainly is insignificant. I think we're using the words "significant" and "insignificant".

Are your carbon offsets significant, or are they insignificant? And if they are significant, can you give us a ballpark figure about how much you're offsetting the carbon, and if they're insignificant, can you tell us what percent that is? I don't think that's an unreasonable question.

THE CHAIRPERSON: Mr. Dietrich, okay, I think you've had a comment and you've had a question and you've had a follow-up, I think. I think we're all...

Mr. MARK DITTRICK: My concern is if we are possibly having an undertaking having to do with carbon already, is there a possibility of having some effort made by the Proponent to come up with some numbers for these mitigation efforts, or should they just simply be vague

assertions that they will somehow, you know, help the matter?

THE CHAIRPERSON: Okay, one final comment from Bilcon.

Mr. PAUL BUXTON: I think we've made our position clear, Mr. Chair. At the present time, there is no requirement for large emitters in Canada to prepare or comply with a specific number when that number is devised by the Government that we, and I'm sure that all other industries, like industries, will comply and will be required to comply.

THE CHAIRPERSON: I think you have your answer, Mr. Dittrick. Oh, sorry, Gunter.

Mr. GUNTER MUECKE: I would like to follow that up slightly here. I think what I was hearing is that in the document that we have provided to us you have indicated some voluntary measures to offset greenhouse gases. Is that correct?

Mr. PAUL BUXTON: That is correct.

Mr. GUNTER MUECKE: And what you have been asked to do here is to assign some values to that. I don't think that has anything to do with regulations. Simply provide some numbers of the offset that this would produce; that the voluntary efforts you put in would produce.

It is not uncommon now for industrial enterprises to indicate what level of voluntary carbon

reduction they are contemplating.

Mr. PAUL BUXTON: Yes, I think we made those commitments as good corporate citizens. There is a reasonable alternative to hand. Clearly, burning is not the best solution, and we have advantages in using that product later on for reclamation.

But I don't think the calculation of that would be of any great significance. I suppose it can be calculated, if you would like that calculation done, but I don't think that we were attempting to say, well, this is worth three tonnes, and using Tier Three emissions standards is worth ten tonnes. I think we were just simply making the statement that we wish to be a good corporate citizen by using state-of-the-art equipment, the latest engine emission standards, et cetera.

I don't think we really intended for that to be totted up in terms of tonnage.

Mr. GUNTER MUECKE: Okay.

THE CHAIRPERSON: Native Council of Nova Scotia?

Mr. ROGER HUNKA: Thank you. I'll start with a follow-up from my friend Michael from the Confederacy. This is to do with the consultation, and I know that you've had a lot of communications with different persons.

The Council that you indicated you had

consultations with or discussions with, do you know who that was at Bear River?

Mr. PAUL BUXTON: Sorry, Mr. Chair. The Councillor?

Mr. ROGER HUNKA: you had indicated you had thought you were talking with a Councillor a few times. Do you know who that was at Bear River?

Mr. PAUL BUXTON: Well, certainly I know who it was, Mr. Chair.

Mr. ROGER HUNKA: Could you share that with me? Or privately, then?

Mr. PAUL BUXTON: I will share it with you privately.

Mr. ROGER HUNKA: Alright. Thank you. On the matter of our question as to employment, is Bilcon, as a corporate citizen, are they considering employment of disadvantaged groups, building that into their employment? I know it's small, it's 34, but training and that... Are you considering that?

Mr. PAUL BUXTON: The answer to that is yes, and I'm not sure I want to get into a definition of disadvantaged groups, because I'm simply not qualified to speak on that subject. But I can tell you that when we held the information session at the Bear River First Nation, I think that 90 percent of the questions, after a brief presentation, were on jobs, and we indicated these were

mostly from young people, that we would be very prepared to take them on and give them sufficient training.

This is, in fact, one of the elements that I've been discussing with the particular Councillor.

Mr. ROGER HUNKA: Alright, thank you. Mr. Chair, a much more general question possibly to consider, to be fair to both the Panel, the Secretariat, the Proponent, this wide subject of Aboriginal peoples, consultation, employment, traditional uses, and so forth, I ask this question to the Panel as well as to the Proponent.

Would the Proponent and the Panel be prepared to consider having the Proponent enter into some sort of a protocol arrangement as a condition of approval that they would work with one or two of the Aboriginal (inaudible) groups as far as things such as ongoing discussions throughout project term, consultations, if you have it, employment, training, use of lands, and so forth.

Would that be something that the Proponent and the Panel would consider as helpful and valuable, rather than do this piecemeal?

Mr. PAUL BUXTON: Mr. Chair, I think we were very pleased to have discussions with Native groups. I think one of the things that concerns us with respect to a condition is that there are always two sides to this issue. I believe that we have been willing to consult, to discuss, to sit down with any Native group over the past five years.

It just simply didn't make any headway, because we were told very specifically that we could not consult with Native groups.

So I would say I would certainly give an undertaking that, and I think we have in the document on several occasions, that we would be pleased to consult with your group, with the Bear River First Nation, with any other First Nation group.

But we are fearful in being told to consult and make an agreement with a group that does not want to consult with us. So there has to be two sides to this equation. We can only consult with and discuss with a group who is prepared to sit down with us.

We are prepared to discuss specific issues like employment from specific groups, whether it's from the Digby group or from the Bear River First Nation. Absolutely. But we need some assurance that this is a two-sided discussion; that there is somebody for us to discuss is with and then, after having made a commitment, the other side simply goes away and says, "We're not going to consult".

THE CHAIRPERSON: As far as the Panel goes, we will just take it under advisement, like we do all the other information that we receive here.

Mr. ROGER HUNKA: Okay.

THE CHAIRPERSON: In other words, I'm not

going to give you a decision on the spur of the moment.

Mr. ROGER HUNKA: Alright, thank you.

THE CHAIRPERSON: You're welcome. Judith Peach?

Ms. JUDITH PEACH: Well, I can't remember if it was today or Saturday, but I believe Mr. Buxton said that the power lines would need to be upgraded to the site, and that local residents should be pleased by that.

THE CHAIRPERSON: Mm-hm.

Ms. JUDITH PEACH: I just want to note that I think our power is remarkably reliable, and last winter we had a week of northeast winds and the ferry didn't run for I think four or five days, our power didn't flicker.

So I'm wondering, what is the nature of the upgrades, and who is going to pay for it, and I may have missed in the EIS, but what is the projected requirement for electricity at this height? Like, how many kilowatt hours or whatever they measure it in?

Mr. PAUL BUXTON: Maybe I'll answer the questions backwards. We do have a calculation of kilowatt hours there just somewhere in the document that we will try and find for you that has been done. That would I think tend to give you the level of upgrade that we require.

What we did was to engage an electrical engineer who made contact with Nova Scotia Power Inc. indicating our total power requirement. Nova Scotia Power

came back with a cost estimate of what it would cost to upgrade that line, to supply it and other users on Digby Neck.

And the third part of your question I believe was who would pay for it, and Bilcon would have to pay 100 percent of that cost. And I may say that I don't live on the Neck so I can't comment, but somebody was talking to me the other day in Sandy Cove with respect to the issue of a pump station in connection with an on-site sewage disposal system, and they indicated to me that they did not want, in any way, shape or form, a pump station, because their power was so unreliable that they didn't want to be without power when they had guests.

So you may be right, there may be areas on the neck that get perfectly good service. There may be others that are not getting good service. I can't speak to that. But certainly I would've thought that the upgrading of the line would have been an overall advantage.

Ms. JUDITH PEACH: How, like what would be the upgrade? Would it be running new wires, new poles, a sub-station? What kind of thing would be required?

Mr. PAUL BUXTON: Generally speaking, new wires. Yes, I don't - there would certainly be a sub-station and transformer bases, et cetera, on site.

Ms. JUDITH PEACH: And also, had the electrical, the use of electricity been figured into the

greenhouse gas calculations?

Mr. PAUL BUXTON: That's where that came from. That's where that tonnage came from.

THE CHAIRPERSON: Thank you, Ms. Peach. Clean Annapolis River?

Mr. ANDY SHARP: The Proponent has indicated that ships speeds will be kept below 10 to 12 knots to minimize the likelihood of whale strikes.

It's my understanding, though, that ship manoeuvrability and steerage is reduced with ship speed. What is the minimum safe ship operating speed, given the tides and the winds that are typical of this area of the Bay of Fundy?

Mr. PAUL BUXTON: I can't answer that, Mr. Chairman. All I can say is that a ship's Master makes the decision as to whether an approach is safe or not. We would have absolutely no say in it whatsoever. If we wanted a ship to come in because stock piles were loaded and the ship captain said no, that would be the end of it.

I think that they know precisely what the manoeuvrability of their ships is. They're certainly well aware of the wind action and the current action. They go into Saint John all the time in dense fog. These are very qualified people.

And I can't answer that question for you. I'm sorry.

Mr. ANDY SHARP: My question relates to the overall safety of large ship movements and docking where the ship will have to be brought to a speed of zero at an exposed marine terminal.

I guess we believe it would be useful for this hearing to have a bit more information on this approach speed of the ship and the effects that will have on manoeuvrability, particularly close to shore.

THE CHAIRPERSON: I believe we have an individual from Transport Canada here tomorrow, and I think that you could probably direct that question to them. The Partnership?

Mr. KEMP STANTON: Yes. I would like to know whether the Proponent has considered that this area is, in different ways, but always, a spawning area. Because certain species of fish spawn there, shellfish spawn there, and lobsters carry their eggs on their body for long periods of time.

And how would they deal with making sure that they didn't interfere with a reproduction cycle of the animals that were reproducing in the area?

Mr. PAUL BUXTON: Mr. Chairman, I wonder whether this question could be deferred until Wednesday, when we have marine specialists here who could, I think, answer that question. We don't have the appropriate experts

here today to answer it.

THE CHAIRPERSON: What do you say, Mr. Stanton? Is it worth waiting until Wednesday when basically we have a theme session on Wednesday, which is marine, and subjects such as this might more appropriately fit into that environment.

Mr. KEMP STANTON: It would be all right, but I just wondered if they had - you know, I have seen nothing that indicates they had much idea. There's nothing in their EIS that has any idea of what goes on in that particular area, and I don't think that there's been any survey or any scientist that has gone to that particular part of the shore and done his research.

So I don't know how to put that in a question, but I don't know whether their expert will just give me generalities about the whole Bay or particulars about the area.

THE CHAIRPERSON: I don't know either. We'll just, I guess we'll just have to bring that up again. Con Mullin?

Mr. DON MULLIN: I'll save my question, because it's marine environment related, and could be more properly addressed by the other experts.

THE CHAIRPERSON: Thank you. Bob Morsches?

Mr. BOB MORSCHES: I investigated, doctor,

about the use of a ship, and during turbulent times, I think it's a sea state of eight or above, a ship must require, the size of that ship that they're proposing, to have a tug assisting it when it comes into the quarry or into the docking area.

I just was wondering whether the Proponent had investigated that. And certain times you require two tugs.

Mr. PAUL BUXTON: We have discussed this issue, Mr. Chair, with potential shippers. We're not quite in the same sort of situation as, for example, Hantsport is, where a ship has got to be berthed, virtually instantaneously loaded for three hours, and got out of there on the tide.

We don't have that sort of criticality. We can wait for better weather conditions. But it will depend upon the shipper, and it's certainly within the realm of possibility.

Mr. BOB MORSCHES: Thank you, doctor. I was just wondering about that, because when a ship comes in it depends on the way the wind is blowing, because the ship has to go into the wind and not follow the wind.

And I notice their inward/outward bound thing was always going the same direction, but it really should, the direction or whatever, should be dual rather

than one direction.

THE CHAIRPERSON: Thank you, Mr. Morsches. We're going to wrap this up now, except for one thing, and that is, is there anybody in the audience who wants to ask any questions, a single question I suppose, who is not pre-registered? That is, an individual who has been excluded from the round up until now? Any takers? There are none.

Okay, then we conclude this session at this point. Thank you all.

--- Whereupon the matter was adjourned at 4:43 p.m. to resume on Tuesday, June 19, 2007, at 9:00 a.m.