

NOVA SCOTIA ENVIRONMENTAL ASSESSMENT BOARD
KELTIC PETROCHEMICAL AND LIQUEFIED NATURAL GAS FACILITY
NOVEMBER 2006

HEARD BEFORE: Dr. Tony Blouin, Chair
Dr. Ray Cranston, Member
Ms. Penny Henneberry, Member

PLACE HEARD: Claymore Inn
136 Church Street
Antigonish, Nova Scotia

DATE HEARD: Friday, November 24, 2006

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Mr. Kevin Dunn
Mr. Derek Owen
Mr. Rob Schonk
Mr. Glenn Longert
Ms. Janet Blackadar

INTERVENORS: Ecology Action Centre:
- Ms. Jennifer Graham
Mr. Jerry Webb
Guysborough Regional Development Authority:
- Mr. Gordon MacDonald
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THE CHAIR - OPENING REMARKS

Good morning, folks. I think we'll get underway. It's 9 o'clock. Thanks very much for coming out. I'm glad some people were able to make it here in the rain. This is a continuation of the public hearings under the provincial environmental assessment process for the proposed Keltic Petrochemicals facility. My name is Tony Blouin, I'm the chair of the Nova Scotia Environmental Assessment Board. On my left is Penny Henneberry, a member of the Board, and also Ray Cranston, a member of the Board. So, the three of us are the hearing panel for these hearings. On my right is Jim Gordon, who's the Assessment Board administrator, and also Mark Rieksts, who is the Assessment Board's legal advisor. At this point I'd just note if anybody has cell phones, pagers, that sort of thing, please turn them off. The panel members are volunteers, so we are not employees of the provincial environment department. We report only to the Minister of Environment. Following the hearings, our role is to prepare a report to the minister on what we've heard at the hearings and also incorporating all of the written information we've received from the public, from our

intervenor and from the proponent. The point of the environmental assessment process is to look at the impacts of a project to determine what the impacts are going to be on the -- both the biological and physical environment as well as on social and economic factors that are important in the area. There is also a federal environmental assessment process which applies to the Keltic project. Under the federal process they have determined that no public hearings are required, so this is strictly a provincial hearing. The two processes are coordinated as much as possible and the information requirements are similar, so there will be a federal report produced and it will be released by the federal authorities for public review. But at the end each minister, federal and provincial, has to make their own separate decision on what happens with the project. The public hearings don't necessarily follow the same kinds of rules of evidence as a court of law would but we do have procedures that are laid out in the regulations. So, for instance, people giving substantial testimony to the panel have to be sworn in prior to doing that, so that would be the formal intervenors that we have registered for today. It also

applies to the proponent, but we have sworn in that group at the beginning of the hearing so that still applies for them. For members of the audience, if you just want to get up at a microphone to make a statement or ask a question it doesn't apply to you, so you would not have to be sworn in for that. We do have transcripts at this point, I believe, from the Monday and Tuesday sessions, and those are available on the side table for viewing. The proceedings are tape-recorded, so we are producing a full transcript at the end for all of the sessions. At this point we have Monday and Tuesday's in draft form. There are a number of other documents there for viewing as well, the original assessment report that Keltic prepared. Prior to the hearings the panel submitted a list of questions to Keltic and we also provided questions that the public had written in to us, so Keltic has provided answers to those questions and they are available in binders at the side there again for viewing. There are some handouts there as well that you can take away with you. There's the schedule of hearings, there's, I think, copies of the regulations and perhaps copies of some of the presentations for today. So, as I

mentioned, they're informal hearings. The basic principle is that everybody has an equal right to appear and voice their opinions, so we would expect everybody to respect that right; in other words, no interruptions when someone is speaking. The order of presentations is set out in the regulations, so we start with a brief summary presentation by the proponent. At the beginning of the hearings in each location they did a more substantial presentation on the project, but we're not going to require them to repeat that every day. So, for each of these sessions that we're going through now we'll just have a brief introduction from them, about 10 minutes, following my comments here. After that we have formal intervenors, these are people who have registered with us and have sent in written material. We have today, I believe, one formal intervenor and one informal. The informal intervenors are registered with us but have not provided their presentations in writing in advance. So, we'll do the two intervenors' presentations and then at the end we'll have, I think, ample time for an open forum. This is where anyone who wishes can get up at a microphone, can make a statement, voice an

opinion, raise a concern or ask a question that they didn't have a chance to. After the proponent's presentation and then after each of the intervenor's presentations there will be time for you to ask particular questions for that presenter on their presentation. If you have a comment or a concern, I'd ask you to save those for later. If you want to make a statement, we'll do that during the open forum segment. When you do come to a microphone, if you would please identify yourself by name and just let us know the area that you live in -- that's for the record -- and whenever you come to a microphone please start by giving your name, again just so the transcriber will know who's speaking and can get that on the record. So, we're going to start with a presentation, a summary of the project from the proponent, Keltic.

KELTIC PETROCHEMICALS INC. PANEL

MR. SHAWN DUNCAN, (Previously Sworn)

MR. KEVIN DUNN, (Previously Sworn)

MR. DEREK OWEN, (Previously Sworn)

MR. ROB SCHONK, (Previously Sworn)

MR. GLENN LONGERT, (Previously Sworn)

MS. JANET BLACKADAR, (Previously Sworn)

KELTIC PETROCHEMICALS INC. - PRESENTATION

MR. DUNCAN

Thank you, Mr. Chair, panel members, members of the audience. My name is Shawn Duncan, I'm from AMEC Earth and Environmental. We assisted Keltic with the preparation of the environmental impact assessment, or the EIA. We'll give you a brief overview of the project as well as EIAs, or generally how we conduct EIAs, as well as some of the findings and a summary of those conclusion in the environmental impact assessment, as well as a summary of the kind of permits and approvals that still may be required by this project moving forward. As indicated, we're here to talk about the Keltic project. And what exactly is the Keltic project? It has two main components. First of all, there's a liquid natural gas, or LNG, component to the project. LNG will be brought into a marine terminal that will be constructed, off-loaded and then regasified, in other words turned back into natural gas. Associated with this project, with the LNG component, is an integrated petrochemical complex.

That facility will then take the liquids from the natural gas, primarily the ethane from the natural gas both that's being brought ashore as well as the natural gas that currently exists at the Sable facility, and turn that into base product for the production of plastics. The Keltic project is located in Goldboro, adjacent to the Sable facilities. As mentioned, it has two main components, but there are some other facilities associated with those. Specifically, on the petrochemical side, there is a marginal wharf that will be required to be built. This will be for the loading and off-loading of products from the facility. There will also be a marine terminal for the LNG facilities for the off-loading of liquid natural gas, or LNG. As well, there will be a power requirement for the facilities. As opposed to taking the power from Nova Scotia Power, there is a proposal to construct a cogeneration facility that will be powered by the natural gas. As well, there is a requirement for fresh water for the processing and this fresh water will be taken from Meadow Lake. There will be a pipeline and a water intake at Meadow Lake, but also for the water requirements there will be a dam, an impoundment,

constructed there that will raise Meadow Lake by an additional 2 metres. So, the question has come up a couple of times, why would we place these facilities in this location, in Goldboro. First of all, Nova Scotia in general is well located with respect to proximity to LNG supply basins, specifically in Moscow, in the Middle East, in Europe. Shipping distances to Nova Scotia are days shorter than they would be to other similar facilities located in places such as Maryland or in the Gulf of Mexico. Also, we have a means of getting the product to market from this location. We're well situated for markets in North America, both Canada and the United States. Another feature of the site is the existing natural gas infrastructure. As mentioned, the liquids are also going to be coming from the Sable gas that's currently there and those facilities. As well, the natural gas pipeline, Maritimes and Northeast, will be used as a transportation mechanism for the remaining gas, to take the gas to local markets here in Nova Scotia and New Brunswick as well as the Northeast US. In addition, when the Sable plan was developed the Municipality of Guysborough set aside this land, a large portion of

land around the site, to be developed or set aside as the Goldboro Industrial Park, they zoned this area for heavy industrial uses primarily to attract the kind of projects that are being proposed here today. So, that is -- was the intended use of that location by the municipality. In addition, there exists corridors and plans to bring additional offshore resources to markets. This would be the landfall location for those resources. For example, the Deep Panuke project, which just filed its environmental impact assessment last week or the week before, they'll be bringing their gas ashore in this location as well. In addition, Goldboro offers an ice-free deep harbour for the LNG ships to bring LNG in as well as for products to be shipped to market. So, what is an environmental impact assessment, or an EIA? An EIA is essentially a planning tool, it's used to determine how a project will affect the people, the environment and the economy. EIAs are used by decision-makers to determine what the effects of the project -- if they can proceed, if they need additional mitigation or measures to be implemented or if additional permits or approvals are required. EIAs are also used to refine the project

design. In other words, if a project as designed has unacceptable environmental effects or does not meet regulatory standards, through the EIA process this would be identified and the project would be redefined to ensure those standards and regulatory limits are met. EIAs are generally done through some sort of regulatory mechanism. As mentioned by the chair, this is the provincial environmental assessment process under the Nova Scotia Environment Act. The project is designated as a Class 2 undertaking and it was registered with the province on January 12, 2005. The province then developed the terms of reference, which is essentially a roadmap for the proponent as well as the people working for them to determine what kind of issues need to be addressed in the environmental assessment. This EIA is then subject to a review by an Environmental Assessment Board, who is represented here today by the panel, and as part of this process public hearings are undertaken to ensure that there is public input into the process. Also mentioned by the chair, there is a federal environmental assessment process that's currently underway. It's a separate process but it's continuing in parallel. This is administered

under the Canadian Environmental Assessment Act. The requirement for this is a couple of reasons. It has been indicated to us that there will be federal approvals required for the project, specifically by Fisheries and Oceans Canada and Transport Canada. Both those agencies have indicated that federal approvals would be required and, as such, a federal environmental assessment would be required as well. As part of this process a number of agencies have also declared themselves as expert authorities. That would include Environment Canada, Natural Resources Canada and Health Canada. These agencies would be part of this review process, the federal EA document. This document is called a comprehensive study report. It's essentially another type of EIA. That will be submitted to the federal agencies for review, and as mentioned this is going on in a parallel fashion to the provincial process. So, what are the major elements of an environmental impact assessment? First of all, we need to assemble environmental baseline information through surveys, through literature searches to determine the type of environment that the project is being proposed to be developed in. We then conduct what's called

issue scoping. We go through a process where we identify a number of environmental issues. This can be done through -- again through literature searches, through the environmental surveys that were conducted, but also through consultation with the public, with stakeholders, with First Nations and with government agencies. We also look at the effects of the environment on the project, things such as waves, winds, tides. Those kind of issues would have an impact on how the project is designed and those, of course, need to be evaluated as well. Once we've assembled a long list of issues that have been identified, we then need to focus the environmental assessment into those that are relevant to the project. Those issues, specific issues, are called valued environmental components, or VECs. These VECs are essentially the backbone or the components of an EIA where all the assessment is conducted, and for each of these VECs we need to establish the temporal and spatial boundaries. In other words, for temporal boundaries are there certain species that only exist at a certain time of year there, so we need to determine what time of year could these species be interacted by

the project. For spatial boundaries we would evaluate things differently depending on the VEC that we're assessing. For example, if you're looking at something like terrestrial habitat, you would evaluate the removal of that habitat by the footprint, but for things like air emissions you would look at a much larger area, you would look at a regional airshed perspective, so you would need to look a little bit broader afield than you would -- than the footprint. After establishing these boundaries, we then conduct an assessment of the potential effects of the project on those VECs and then we go through a process of determining the significance of those effects. The effects can both be negative, or adverse, or they can be positive effects. Then we need to determine if those effects are considered to be significant or are they minor or non-significant effects. We then apply mitigation to those significant effects, and mitigation could include things such as design changes, as mentioned, but it could be -- it could include things such as response planning or other means or mechanisms to minimize the environmental effects of the project. After application of mitigation, we then evaluate to

determine are there any remaining effects from the project. These are called residual effects. We would then evaluate those residual effects to determine if any of those residual effects are again significant. Cumulative effects are also assessed. Cumulative effects are essentially how projects can interact. If there's an output or an emission from our project that is being proposed, if there's an adjacent project or another project, would emissions or outputs from that project add to those ones to make it an unacceptable condition. So, as you can imagine, there are a number of VECs or issues that were identified for this project, and we don't have time to go through them all today but I'd like to just go through a couple of examples to show you the kind of analysis that was done as part of the EIA as well as some of the conclusions reached. First of all, we would evaluate the effects on fish habitat for various components of the project. An example here is the Meadow Lake impoundment. As mentioned, there would be a dam put in, a dam structure, which would raise the level of Meadow Lake. This would obviously have some significant changes to the aquatic habitat in that area. Through our

evaluation we have determined that there would be some loss of fish habitat but also some benefits to fish habitat as well, but generally it was determined that these effects can be mitigated through implementation of control measures with regards to sedimentation and erosion as well as offsetting compensation that may be required for loss of fish habitat. So, with these mitigation measures it was determined that there would be not a -- there would not be a significant effect on fish habitat. With respect to effects on archaeological resources, an example here is the Red Head cemetery. There was an area identified that had -- previously had grave sites for African-Nova Scotians located there. Prior to the project arriving these grave sites were removed and placed in proper burial locations, but as a result we identified this area as having high potential for archaeological resources. The area was evaluated by an archaeologist, no human remains or archaeological resources were found, but it still remains as what we consider an area of high potential, so we would implement specific construction means and measures during the project development to ensure that those resources -- if any resources are

encountered they're not negatively impacted and they're handled in an appropriate fashion.

THE CHAIR

Excuse me, Shawn, I'm just going to give you about a two-minute warning, please.

MR. DUNCAN

Okay. Effects on terrestrial habitat, again a similar process, we evaluate the potential removal of that habitat and have determined that that would not be a significant change. As well as transportation, we looked at the effects of operation and construction on the transportation infrastructure, and through consultation with Nova Scotia Transportation and Public Works there will be further evaluation required and potentially upgrades to the project -- to the road infrastructure. A couple of other issues that were further evaluated associated with positive effects of the economic spinoffs from the project, wages as well as support services was determined to be a significant effect, a significant positive effect, as well as the visual characteristics of the site. There are a number of -- the site will not look how it looks today, so there will be changes to the site, but through

mitigation and through offsetting benefits of the project we determined this to be a non-significant effect. As mentioned, there are a number of other regulatory approvals, both provincial and federal, that will be required as the project moves ahead. As further design details are known, these will be submitted to these agencies for review. Also, the TERMPOL process administers and reviews things such as operational ship safety and shipping route safety. These issues again are reviewed by a number of federal agencies during additional review and permitting processes. And municipal bylaws would also apply to the project. In conclusion, the EIA has determined that all potential negative effects can be successfully managed with appropriate mitigation or compensation measures, the project will create employment through the creation of jobs through construction and operation. These numbers are fairly significant and will enhance personal income in both the local area as well as in the local regional area. The project is in compliance with the planned industrial uses of this location, the site has been zoned heavy industrial and will be -- this is the kind of industry that is

contemplated for here. The project can be constructed and operated in a safe manner, and this has been demonstrated at other sites around the world, and these industries, petrochemical and the LNG, are some of the most highly-regulated industries in the world. There are a number of standards, both national and international, that would apply to the construction and operation of these facilities. As well, there will be additional regulatory approvals and permits required. Additional information would have to be submitted to those agencies for review and approval as the project proceeds. That's the end of the presentation, and we're available for questions.

THE CHAIR

Good. Thank you very much. So, as I indicated, after each presenter we do have time for questions. So, at this point if anyone has questions that they'd like to ask of Keltic regarding the project or the presentation? Any questions for Keltic? I just want to make sure that I give time for anyone who may want to come up.

--- (No response)

THE CHAIR

Okay. All right. I wanted to make note of -- there is a change in the schedule for the day today. Originally we had the Guysborough Regional Development Authority scheduled for the morning. Due to circumstances beyond their control they've asked if they can be rescheduled for the afternoon session today, so we've done that. And to make adjustments then, we have rescheduled the Ecology Action Centre who was to make a presentation in the afternoon. They've agreed kindly to come this morning and make their presentation this morning. So, I'm going to ask Jennifer Graham if she would come up and make that presentation, please.

MR. GORDON

You have a choice to promise to tell the truth by affirmation or you may swear by the Bible. Which do you prefer?

MS. GRAHAM

Affirmation.

MS. JENNIFER GRAHAM, (Affirmed)

THE CHAIR

Okay. So, we have about, as I said, 20 minutes for each presentation if possible, and please go ahead.

ECOLOGY ACTION CENTRE - PRESENTATION

MS. GRAHAM

Good morning, Mr. Chair, members of the panel. My name is Jennifer Graham and I'm the coastal coordinator at the Ecology Action Centre. I'm going to do a little brief overview of why the Ecology Action Centre has gotten involved in this environmental assessment process. I'm going to talk today about the value of Nova Scotia's coast and some of the threats facing our valued coastlines, I'm going to talk about the need for integrated coastal planning and I'm going to raise a few specific questions about the impacts of this proposed project on Nova Scotia's coast and marine systems. Ecology Action Centre, we are Nova Scotia's oldest and most active environmental organization. We are a provincial organization, and that means we represent over 1,000 members including members who live in Guysborough and Antigonish Counties. Our role is to give a voice to environmental concerns, and we often speak on behalf of residents of areas that cannot come to these hearings or aren't comfortable speaking in these hearings. So, we aren't speaking only from the perspective of those living in Halifax, we are speaking

on behalf of the public and our constituency is Nova Scotia's environment and the residents of Nova Scotia's communities. And just as a point of interest, the first issues that the Ecology Action Centre addressed 35 years ago were issues such as recycling, composting, energy conservation that were considered anti-development, rather radical and to be too expensive to implement. Thirty-five years later they've become mainstream, extremely essential for the economic well-being and ecological well-being of our province, and, in fact, groundbreaking. So, throughout this hearing we've done -- so I'm here on behalf of the coastal issues committee because the interest we bring to this is sustainable coastal communities and good coastal planning for Nova Scotia. We are concerned of habitat lost on the coast and we are very concerned with good coastal planning. EAC applied for funding from the Canadian Environmental Assessment Agency to participate in these hearings in order to provide opportunities for public participation in the process. Our role has been to review the project documents and ask questions about the environmental impact and the overall social, cultural, economic direction this project will take us

in, to provide information to the public, to encourage public participation in the process. Nova Scotia, we are a coastal province, we have over 7,000 kilometres of saltwater coast, and when we talk about coast we're talking about a whole bunch of different coastal ecosystems from salt marshes to barrier beaches to mud flats. And we're talking about coastal systems where the impacts of projects such as Keltic are felt far inland up into watersheds and they're felt far into the marine environment. Coasts are a transition zone between the land and the sea. As such, they're difficult to define exactly but they are extremely important biologically. Coasts have a lot of ecological values, which I'll talk about a little bit, and they have a great deal of economic -- they bring a great deal of economic benefit. They're also a cultural asset, a heritage asset, and our traditional coasts are really a built asset. A lot of our traditional infrastructure from harbours and wharves, lighthouses, fishing communities, provides a lot of benefits and services to residents of coastal communities and is also one of the reasons why people come to visit this province. So, some of the

ecological values of the coast, habitat for species that have a lot of commercial importance, such as species caught in our traditional ground fishery such as nursery grounds for lobsters and other valuable species, but also for recreational fisheries and for many terrestrial creatures and shore birds as well. Coasts are buffer zones, they protect human settlements against the impact of flooding, sea level rise, they minimize the impacts of erosion. Coasts, especially wetlands, offer water filtration services, recharge groundwater and protect water quality. They're the basis for our inshore fishery and they're also one of our best potential future assets for economic development, including ecotourism. I wish I could provide you with a cost breakdown of how much services such as buffer zones, water filtration, storm protection gives us. I wish I could break down those numbers for the coastline of Guysborough County area. However, I can't do that because that kind of flow cost accounting hasn't been done, and it hasn't been done by the proponent in assessing the potential impacts of this project. I did pull down a couple of numbers that talk about economic value to the coast in general.

\$1.27 billion dollars is Nova Scotia's tourism revenue and we know from exit surveys done by the Tourism Industry Association of Nova Scotia that 95 percent of visitors to Nova Scotia come for natural coastal areas, to visit Maritime -- see Maritime culture and other more natural coastal experiences. We know that 60 percent of Nova Scotians live within 30 kilometres of the coast and that about 85 percent of our hotel and tourism industry are also located in walking distance of the coast. We know that in 2002 there was \$744 million dollars' worth of fish landed in Nova Scotia and the value of our fishery is actually only increasing. That may not have to do with overall size of landings but the value of these landings is going up. I wanted to reiterate that coasts are dynamic systems and that there are many ways of defining it. This is one by the economic -- or the environmental agency in Britain. They recommended looking at coasts as an interactive zone, which is the entire zone where human impacts will influence the coast, and that can go quite far inshore to the watersheds and the stream heads and can go quite far out to sea, the dynamic zone, which is the zone where erosional processes,

storm surges and floodings are going to have the most impact, and the hazard zone where, as human beings, we really shouldn't actually be building settlements or large scale developments because we will lose this property and we will lose -- and potentially lose or damage life. So, since coasts are such dynamic systems and they naturally change and evolve, projects such as a proposed LNG facility should be looking not only at the full impact of this facility up and down the coast and inland and at sea but also at the natural coastal processes that create a very dynamic and unstable coastline and what impact that's going to have -- a project like this is going to have on those processes, or, to turn it around, what impact these natural processes, such as erosion, sedimentation, shifts in coastline, are going to have on any infrastructure built for this project. I just want to reiterate again that when we're talking of coasts we are talking of an interconnected system inland, to the wetlands and watersheds of this area and out to the marine ecosystem that will be affected both in terms of habitat, species, food, shelter and currents. Sometimes it's hard to define where the impacts of such projects are

going to be. And we were hoping that the environmental -- the comprehensive report in the preliminary Environmental Assessment statement would look at coasts as dynamic, integrated, interconnected systems and do a full impact statement on how -- what will happen at this site will have impacts further up and down the coast. Nova Scotia's coast are under a lot of pressure. In many parts they're under pressure by coastal development for residential development because a lot of people love living by the coast. Rural areas of Nova Scotia, our coasts are under threats by proposed heavy industrial projects. They -- and these are new industries and new activities and their full impacts haven't been assessed. Our coasts and our productive coastal waters are threatened by increased pollution, both from the sea and from land. And what's really happening is these natural coastal processes that allow coastal landforms to replenish themselves and protect us are being disrupted. And this is leading to a loss of resiliency in the coast. Our coastal systems aren't as well able to protect us against erosion, floods because we're not leaving enough natural undisturbed systems in place. And one

of the biggest threats to the coast is that our coasts are protected by a real regulatory and jurisdictional mish-mash. There's a lot of provincial agencies that have a role on the coast. There's a lot of federal ones. There's a lot of municipal but there's nobody working together to have an overall coastal policy or overall coastal perspective on Nova Scotia's coasts. And as a result, because no one's giving an overview of the threats to our coast and the loss of habitat, we are altering and losing valuable coastal habitat including habitat for many species at risk. We're undermining our own fisheries in other productive coastal industries. We are increasing the rates of erosions, sedimentation and pollution. We're changing the vegetation cover. We're ruining the water quality on which -- both fresh water and coastal on which both our quality of life and our marine industries depend. We're changing land prices, we're changing settlement patterns in communities. And mostly we're neglecting the cumulative impacts of this kind of project. While we may be discussing the impacts of one particular proposed project in Guysborough County, we're failing to look at what we're doing all over the coasts.

Ninety-five percent of Nova Scotia's coastal lands are in private hands. Five percent is public lands. It's an awful lot -- or an awful little coastal lands left that isn't vulnerable to being developed. Separate slide on climate change impacts. Nova Scotia's been identified as being extremely vulnerable to the impacts of climate change especially sea level rise. Most experts conservatively predict that Nova Scotia's sea levels are going to rise by 70 centimetres in the next 100 years. Along with the accelerated sea level rise you're going to have increased frequency and intensity of extreme weather events such as storm surges, such as storms and coastal flooding. We're going to accelerate the rate of coastal erosion. And sea ice and the effect that it has on navigation, on structures, on scouring the bottom is also going to change in ways we can't predict. Just as a number showing kind of the economic costs of the way we're treating the coast, the Nova Scotia standing committee on economic development noted that in 2003 there was twenty-seven million dollars in coastal damage in Nova Scotia. And that's not covered by insurance so that seems like coastal flooding and damage to coastal infrastructure.

Globally this number is rising and it's predicted to rise for Nova Scotia. As well -- and most of this cost is actually going to be borne by Nova Scotia municipalities because Nova Scotia's municipalities are the ones that are liable for repairing the damage done by poorly planned development. So in response for this, the Ecology Action Centre and many others around the Province feel that the Province needs to look at integrated coastal planning. The planning that looks at the coast as a whole, that looks at the interconnections between inland marine and coastal areas. That considers all the potential values and uses of the coast including heavy industries and figure that would have put them where they're going to do the least disruption of natural coastal processes, the least amount of impact and cumulative impact. And that approaches coastal development in a proactive way rather than reacting one by one on a piecemeal basis, to project after project. So in light of this, one of the questions we have about this project is, is this type of large industrial development the best use of valuable assets, valuable coastal assets of Guysborough County? And why hasn't the environmental assessment

process done a full analysis of all the values that this coast has, both natural, ecological, social or cultural and compared that against the losses. We are very concerned about the wetlands that will be altered and disrupted by this project. The tentative or rather vague description says that about 124 hectares of wetlands will be altered or lost. This is habitat. This is also pretty key to water filtration, ground water recharge, pollution control, all sorts of things. Wetlands are one of the most productive ecosystems on earth. Nova Scotia just passed a new wetlands designation policy. And in this policy they clearly state that whenever possible any loss or disruption of wetland habitat should be avoided. And it's not clear to me what steps the Proponent has taken to actually avoid constructing any part of their facilities on wetlands. Wetlands are so important that full compensation aspiring to restore the wet -- the loss of wetlands function of an equal value or even exceeding value lost hadn't -- is required as part of this wetlands designation policy. And we'd like to see how the Proponent proposes to mitigate and compensate for these loss values. We'd like to see detailed plans

that outline the values, the area and the types of functions of the particular wetlands in the study area and how they will be compensated for. We are concerned with the dam on the Isaac River. We're concerned from a systems perspective. Not only for the Atlantic Salmon but for other commercial and recreational species, for the hydrological cycle. We're concerned about impacts on water quality, drought, flooding cycles, upstream and downstream erosion. We're concerned about the marginal wharf which is very, again, not -- the specifications aren't fully included within the Environmental Assessment Statement. But we are concerned about its impact on fish habitat and on overall shoreline stability and shoreline erosion. The coastal dynamics of it all. As well as on the many species including shore birds and endangered terns that depend on that whole area for feeding, foraging and habitat. And probably most importantly, we are very concerned about how this project will be impacted by projected sea level rise, increased erosion, increased risk of flooding and all the changes brought about by coastal -- brought about by climate change in Nova Scotia. But we're also concerned about how this

project will contribute to the impacts of climate change. We wonder how a large marginal wharf structure is going to increase the rates of coastal erosion and what impact that's going to have on existing coastal features and heritage assets including Red Head Cemetery. So in light of all of this, the Ecology Action Centre strongly feels that our coasts have too high a value and the cost of poorly regulated and poorly planned development is too high to allow this type of project to proceed. Instead we would like to see municipalities adopt municipal planning strategies that look at the best uses, short and long-term of the coastal assets and we'd like to see the Province support these municipal funding strategies and adopt an integrated coastal policy for Nova Scotia. Thank you.

THE CHAIR

Okay, good. Thank you. At this point are there any questions for Ms. Graham on the Ecology Action Centres presentation? Yes, please.

ECOLOGY ACTION CENTRE - QUESTIONED

MR. CHISHOLM

My name is Ben Chisholm. I'm from Antigonish. I'd like to look after the environment too. I'm not anti-

environment. I'm pro-people though. And out of the seven thousand miles of coastline, there must be some way that a few miles of it can be set aside so that the people can make a living in the area. To say that this is unplanned and poorly regulated, the project's been in this process for two and a half -- almost two and a half years now. So I mean, you can't really say that it's unplanned and the previous speaker indicated that it's one of the most highly regulated industries in the world.

THE CHAIR

Sir, just to remind you this is -- the questions, specific questions that you wanted to ask. I mean if you want a statement that's fine but that's a later part of the hearing, please.

MR. CHISHOLM

Okay. Is there an inshore fishery other than lobsters in the area?

MS. GRAHAM

Well, let's kind of address the earlier comment. I definitely can understand the appeal of a project that promises concrete jobs in an area that's been this hard hit by loss of fisheries jobs. And it's not a -- I

understand why it's not a popular position to question such development. I think from an overall, what's best for the future of Nova Scotia, it's going to have to be balancing people and environment. We don't deny that. Is there an inshore fishery in that area aside from lobster, I think is probably a question of how one counts and assesses what is a fishery and what parts of it are impacted. Has there been inshore fishery there? Yes, there's was a grounds fishery. At one time that area also had tuna licenses. It was very close to winter migrating areas for herring. How much of that fishery is still active, how many boats are fishing out of where, who's getting what portion of the resources of that area, I'm not in a position to answer.

MR. CHISHOLM

Okay, thank you.

THE CHAIR

Okay. Thanks. Any other questions? Okay. Thank you very much. Our second intervenor this morning is Mr. Jerry Webb. Is Mr. Webb here? Okay, please come forward.

MR. JERRY WEBB, (Affirmed)

MR. JERRY WEBB - PRESENTATION

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MR. WEBB

I'm not going to take up very much time but I would like to mention a couple of things. First of all as a business person I would -- been following this very closely and I have found that Keltic has been the only creditable source of in the last 35 years that kept its momentum to put an industry in our area. We have a hundred projects that have come and gone. And in respect to everybody's testimony we've heard that there's -- the ecology should be addressed and this should be addressed and that should be addressed and we've given issues of fear for these hundred and some projects. There's been wood chip plants, there's been storage in caverns from home oil which would be 25 years ago. And always there's been some fear base that hasn't been established in facts in respect to the ecology that there's seven thousand miles of coastline and there's tuna licenses but we don't know how far the tuna licenses are and we don't know that -- and somebody has to say it, that maybe a project of this type would draw tuna. Certainly we had in Santa Barbara which is a place in California where they had an oil spill and it was terrible but within a few years

the shrimp had grown by three or four times and the fishermen were getting, I think it was a hundred and seventy-five dollars a pound for their shrimp for a good period of time so it isn't necessary that projects are good or bad. It's that at some point we have to get up above the talk and say that there's going to be, hopefully LNG plants somewhere. And we have them now and people aren't dying enmasse but I'm sure there's problems with plants. Nobody has said that we've got to get together and see how we can solve this. Somebody has to say look, we all have good points but we've got to get it done. Our biggest problem right now is time. In other words, the value of plants or the chances that they will provide employment for somebody is going to happen but it doesn't necessarily have to happen here. And in due respect to say United States or we have, we'll say Goldboro, I don't think we're going to be harmed although we could be. See there's always that fear factor again. So I've asked you to come up above this and have a look. Keltic have a tremendous background. They have a tremendous background in what they have done so far. I think 35 years ago, 40 years ago the pulp mills put enough

sulphuric acid and other effluent out into the oceans in such mass that probably that was more pollution than we have in all of the Maritimes. Everything. I mean you got to really think that the gains and do to yourself or the people that have ecology we have come ahead almost immeasurably, maybe a hundred thousand times ahead. And yet we have that constant pressure on us all the time that the ecology is going to go, the ecology is going to go. And I respect it but I think that there comes a point where we also need to feed our children. We have to have ecology for the little children that need to grow. We have a few vacant homes in Antigonish now. We have our children are prisoners of working out west. They want to live here and the parents or some of you people -- of course, I'm 67 years old now so that's a different story but if I needed to sell my home for some money, I don't think it's going to sell. And if things get worse, it's going to be over. In other words we're living off the -- a little effluent from Western Canada. Anyway, I'm carrying on here a little long but what I want to say is I've read and I've accepted what everybody said about this but I want to say to the Chairman and the

MR. JERRY WEBB - PRESENTATION

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Committee, I wholeheartedly am behind Keltic. I think it's a fine project. Thank you.

THE CHAIR

Okay. Thank you. Any questions for Mr. Webb on his presentation. Seeing no questions. Okay, thank you very much. So we do have a good amount of time for the open forum segment so at this point if anyone has a statement, a question, wants to voice a concern, this would be the appropriate time. Come forward please everyone. Sure if you like.

OPEN FORUM

THE CHAIR

So do you have a -- I see notes there. Do you have presentation you want to make?

MR. SEGAL

I do.

THE CHAIR

Okay.

MR. SEGAL

So with your permission I'd like to read through it. It's not real long.

THE CHAIR

Not real. Can we take maybe ten minutes perhaps to do

that.

MR. SEGAL

Pardon me?

THE CHAIR

Could we maybe take ten minutes. Would that be reasonable to do that.

MR. SEGAL

I think so.

THE CHAIR

Okay. Please

MR. SEGAL

I also have printed copies for you if you wanted to take them into evidence afterwards.

THE CHAIR

Okay, we can accept printed copies as part of the public record, yes.

MR. SEGAL

Okay, thank you.

THE CHAIR

Okay. Thank you.

MR. SEGAL

Good morning and thank you very much for allowing me to speak this morning. My name is Brian Segal. I'm the

President and Chief Executive Officer of the Antigonish Area Partnership. I'm in the open forum today because unfortunately due to the timing of our Board meetings I was not able to secure and to confirm my appearance as an intervenor. However, I have put together some notes and I'd like to share them with you. And if you have any questions, I'd be delighted to take them afterwards and I'll be as brief as possible, Mr. Chair.

THE CHAIR

Thank you.

MR. SEGAL

I think I'm going to have to switch to the 58 year old glasses because even though I'm a bit younger than Jerry Webb I'm not that much younger. The Antigonish Area Partnership is a public/private partnership composed of 54 investors from businesses, NGO's and the public sector. It's based in Antigonish. It covers the entire area. We also have investors from Pictou, Inverness and Halifax Counties. Of our total number of investors, 47 are private businesses. The remaining seven are municipalities. Both of our municipalities, two Chambers of Commerce here in the Strait and some NGO's including the Federation of Agriculture as well

as St. F.X. University in the area. The Partnership's mission is to promote and to foster real sustained economic growth in our region. Our key strategy is to employ market intelligence, data and analysis, in order to assist our investors and our community to make informed responsible decisions leading to economic prosperity. The purpose of our appearance here today is to present relevant information about the economic benefits of the Keltic Petrochemicals project in Goldboro. And in so doing we aim to provide context for your Panel's deliberations. Based on balanced statistical evidence, facts and analysis, and information from acknowledged experts in the field. Our presentation addresses significant long-term benefits to the economy and to the environment. We wish to emphasize that we view the environment from a holistic perspective which recognizes that the kind of economic context in which people live has a relationship to the natural environment and which recognizes that where we find people living and working we find economic activity and thus various effects embodying various impacts. Change is normal. This presentation touches four main areas, demographics,

economic benefits, potential spin-offs and adherence to due process. We've chosen these topics because they are important considerations when weighing any major industrial project. We have not chosen to directly address the technicalities of the environmental science related to this process for the obvious reasons that (a), the Proponents have authored a comprehensive document outlining their plans and compliances and (b) it is the task of the panel and of the experts in the field to render informed opinion as to the Proponent's success in meeting the standards. At the same time, our Board wishes to emphasize that as in our previous letter of support to the Board -- this Board on this project, our position is based on a sound environmental compliance standard and good practices throughout the project. I'd like now to touch on demographics. Based on data obtained from Nova Scotia Community Council and Statistics Canada, we have developed a comparative table showing the current state of age cohorts in the five counties region most likely to be affected directly or indirectly by such a major industrial development. As the table shows and it's in my notes here the population of this area, most notably

Guysborough County is aging. We're talking about around a hundred and six thousand people. As the age cohorts also show the next generation is not large enough to replace those on the cusp of retirement, even if they all remained in the area. Moreover, population shifts and declines confirm that both a decreasing birth rate and an increasing emigration rate contribute to negative population bomb that will, if unchecked, further and profoundly devastate many communities in Eastern Nova Scotia. A major initiative such as Keltic Petrochemicals proposes -- as they propose will create well-paying skilled jobs that will be a major force in the attraction and retention of workers and their families. Considering the number of permanent jobs proposed the increase in residents will be considerable with their economic effect significant. I'm not going to read the whole table for you but I'm going to just summarize some of the findings. The trends are reinforced by the size and type of households in the region. It's all foot-noted, by the way, Mr. Chair. The vast majority of people who live in this region live in single family dwellings, about 72 percent. The vast majority of those households in the region have

three or fewer residents. In fact the average number people of per household in the region is about 2.5. In Guysborough County, the area most likely to achieve direct benefits from the project, currently household density is below average at 2.3. There's a typo in here. With household densities clearly demonstrate that along with many other communities in Nova Scotia the region is facing significant population challenges which will have huge impacts on the tax base and therefore on such public responsibilities as health care, education and social services. Somebody has to pay for it all. Mitigation of these trends through economic development is the obvious strategy and an important consideration if we value the human element in any given environment. Furthermore, established population trends underscore the need for meaningful economic development in these communities. From 1991 to 2001 the counties in question experienced the following population changes: Guysborough County, minus 16.2 percent. Antigonish County -- the only bright light by the way -- plus 1.8. Pictou County, minus 5.4. Richmond County, minus 9.2. Inverness County, minus 7.8. With the Antigonish County

population basically stable the surrounding counties showed a steady de-population. In the cases of Pictou and Inverness Counties, despite the fact that they have significant industrial activity. Clearly the amount of activity and resulting opportunities must increase if they counties are to continue to be able to maintain services at the current levels, especially if they're aging citizens. Current projections indicate that between 2006 and 2031 the following population changes will occur assuming no major changes in the current characteristics of these counties: Guysborough County, minus 27.1 percent; Antigonish County, minus 6.4 percent; Pictou County, minus 9.7 percent; Richmond county, minus 21.3 percent; Inverness County, minus 12.9 percent. When I shared these with one of our investors the other day, he said, "Why the hell did I rebuild my business." Clearly these trends reinforce the urgency of reinvigorating the population base of these communities. Without economic activity characters by meaningful, well paying employment for an increasing well educated skilled core of young people, the chances of rebalancing this trend are slim. I'd now like to turn briefly to economic issues. Direct

and indirect benefits from the project. Wages. Current estimates put the annual gross payroll at about forty-two million dollars. This is based on an estimate of six thousand six hundred FTE jobs averaging about seventy thousand dollars. And I just want to make a quick note that we looked into this very carefully. The problem that we're all going to face here is that right now it's sellers market for skilled labour. That means that Keltic is going to have to pay top wages for anybody they hire because they're paying top wages all over the world. And these are people with highly transportable skills. And I'm sure Ben Chisholm could tell you all about that because his guys and girls are over the world working wherever the money's the best. We did an estimate of the net benefits of this salary package. For the average seventy thousand dollar a year employee considering -- and we took the top level of taxation so we're not thinking about their kids or whatever they're going to end up paying out twenty-one thousand seven hundred and ninety-eight dollars and seventy cents in total deductions. That's going to leave them with forty-eight thousand two hundred and one dollars in net

income which translates by the way to twenty-eight million two hundred and ninety thousand seven hundred and eighty dollars in new income flowing out of that project per year. Assuming savings of about ten percent which we all hope people do, although most of us can't, that leaves about twenty-six million dollars in disposable income in circulation. Until the spending activity actually commences, we can't know what the leakage will be and how much will remain in the area but we do have estimates. One way or another there will be a large amount of new money flowing into the community from these wages alone. Construction period. The Proponent estimates their construction period will require thirty-three million hours and employ between three thousand and thirty-five hundred people. We did a comprehensive survey using the Statistics Canada and Service Canada average wage rates for this area and for the Strait area, not for Calgary. And our estimation came up with a gross pay package for the construction phase of eight hundred and twenty-five million dollars, not including benefits and that filters out to a disposable income of five hundred and eleven million dollars over a 36 period. That's a

pretty good package. In terms of procurements, Keltic says in their presentations they will procure approximately sixty-two million dollars locally. As noted or below and I'll tell you about this in a minute, once you apply a multiplier to these it has a huge effect on the economy. Well, a little bit about multipliers. I have to tell you, my older brother's an economist, and we had a two hour debate on the phone about multipliers the other day. The definition of an economist is a person who, upon seeing something working in practice, can't help but wonder if it will work in theory.

THE CHAIR

Mr. Segal, I'll just point out, you're about 10 minutes now ---

MR. SEGAL

Okay. I just have a few more notes here.

THE CHAIR

That's fine.

MR. SEGAL

And I'll breeze through this. The multiplier -- in order to come up with a multiplier, we accessed a study done at St. F.X. on the impact of the university on the

local community. And it was a very good study, and it was done by a group of economists at St. F.X. Their local multiplier is 1.8. The local multipliers we found floating around out there, there was one we found from a study that was done for the National Research Council for similar industries was 2.8. We decided to use the more conservative multiplier. And I won't go through all the math here, but when you take the wages -- the annual wages, the annual procurements, slump them together, apply the multiplier, you're looking at between \$125 and \$150 million dollars in total economic activity. Other benefits. Housing construction. If even half of the people that come here are new, they're going to have to build or renovate and buy houses. That's going to create a lot of activity in the housing market. Of course, every time you buy a house, you buy carpets, furniture, kettles, and all sorts of other stuff. In terms of infrastructure services, there definitely will be impacts both ways. More people means more services needed. It depends how it's done. The denser it is, the more efficient it is. The more spread out it is, the less efficient it is. But there will definitely be impacts to services. Something very

important to remember about Keltic is that it is a co-located industry in itself. Somebody said to me the other day, "Why not just build it in Saudi Arabia?" The wonderful thing about Keltic Petrochemicals is that the gas will be here, and so, locating a plant beside the gas, which is the only reason you'd build it in Saudi Arabia, is a no-brainer. So, it makes total sense. Co-location also means the possibility of other industries taking advantage of the infrastructure Keltic creates, including cogeneration. And a word about cogeneration -- and I'm almost done, Mr. Chair. The kind of cogeneration and power plant that Keltic proposes using gas, is the cleanest fossil fuel method of producing electricity and heat. So, automatically, by them not having to buy their power from Nova Scotia Power, that means that a whole bunch of coal generated power, which, unfortunately, right now, because of the age and the style of Nova Scotia Power's plants, is not exactly clean, is going to be mitigated, and I think that's a tremendous benefit to our ecology. They're also going to be developing a port, which I think is good for the area. The other thing is that Eastern Nova Scotia is on the cusp of some very major

potential, through economic development, including a super port, other opportunities of the Strait. Having this industry here as an anchor will help put the entire region on the map, and will create a magnetic force for employment in the area. And one last thing I want to touch on, because it's going to get raised at one point or another, is safety. In 2004, I had my executive assistant do a comprehensive search of worldwide safety records of LNG plants. We didn't do petrochemicals. During that time period, we came up with 18 incidents. The total death rate from those 18 incidents was two hundred and -- I'm sorry, was 195 fatalities, 299 injuries. The only large fatality one occurred in 1944, in Cleveland, Ohio. The last incident occurred last year, with no injuries. To give you a sense of comparison, we're always told that it's safer to fly than it's safer to walk down the street. In half the amount of time, in the 19 years between 1986 and 2005, in the U.S. alone, among scheduled air carriers, the total death rate was 2,221, which is roughly 20 times more dangerous than an LNG plant. That's why numbers are useful, because they do put things in perspective. And finally, and to wrap up, I

want to congratulate the Panel on their due process. As somebody who tried to do a little bit of schedule adjusting, and was told very well that I couldn't, I respect that, and I think it's a good sign that this is going to be a well-respected process through the entire hearing, and to the -- through their report. I just want to conclude on a couple of thoughts. The environment is something for all of us. Humans share it with animals. But the difference is that humans are an evolving species. We have the ability to innovate and create. We can synthesize, using resources. It's how we do it that's important. Knowing who's involved in this project; knowing their current record of remediation of various kinds of sites they've been involved with; having gone through, not the entire 1,300 pages, but certainly the Charles Dickensian length Executive Summary of the 1,300 pages, it is a very comprehensive document. I think this is a wonderful project for our region. I congratulate the proponents, and I hope that the Panel will look favourably upon this project, as a way to help rejuvenate, and to save the depopulation of this region. Thank you very much.

THE CHAIR

Thank you. If anyone has any questions for Mr. Segal, that would be fine. At this point, are there any other questions, comments? Anyone in the audience wishes to raise an issue? I do have one question that I wanted to just follow up with Keltic. And this is my deficiency, not yours. But I had asked you a previous session about the present flow of Sable Gas in the Maritimes & Northeast pipeline. And the number, I believe, I was given was the capacity of the line is 600, but the flow is 400. Looking at my notes, I didn't -- I'm not sure I got the correct unit for those numbers. Is 400 -- is that million cubic feet per day, or billion?

MR. DUNCAN

That would be million. That's correct.

THE CHAIR

Million with an M?

MR. DUNCAN

Yes, correct.

THE CHAIR

Okay, thank you. And any other questions from the Panel or the audience? Sure.

MS. GAGNON

It just wouldn't be the same if I didn't come up at the mike. Chantal Gagnon. Actually, today is different. I'm not asking a question or pointing on anything. I sort of want to tell a story, in light of everything that's been told today. I actually took a week off in October, if anybody can believe that, and I went to Florida. And I was sludging in the Everglades, and we spotted a snail. And being French, I thought, "Yay, dinner." But the guide was very happy at the fact that we found this snail. And I think, if my memory serves, it's an apple snail. And the particular thing about this snail is that it reproduces only a certain -- on grass, on a certain type of grass, at a certain level with the water in the Everglades, as you go -- either ends up flooded for most of the time, or then dry. And that snail -- seeing that snail was a huge sign that the -- there was hope, because that snail is threatened. And even more is the hawk, whose beak is made specifically to catch that snail, and eat that snail. And that hawk is endangered. It hasn't been seen around for awhile. So, the sight of that snail, the guide was going on, and it was like a big treasure,

because they could see this -- that as a hope that maybe the hawk species will be able to come back. Now, the reason I'm saying this is because once upon a time, the Everglades was over half of Florida. And this snail and the hawk were just common, everyday animals in a common, everyday habitat, that just lived there. But throughout the years, development after development after development in the Everglades changed the ecosystem, drains the wetlands to the point that today, it's something to be joyous about, to see one little snail. And it's a very -- lots of money going on. And right now in the Everglades, there a 99 year moratorium for no development. Absolutely no development past the current existing borders where they are, because of how endangered all these ecosystems are in the Everglades. Well, nobody would have thought that when they started developing years ago, because there was so much of it. It was so common, we just had it everywhere. And now it is. So, in light of what we've heard today, I think it's important to realize, just because some habitat in Canada seems common, seems like we have a lot of it, because we're not doing a proper policy for planning and development, and because we are doing piecemeal

development throughout Nova Scotia's coast and habitat, one day, with all that development, it might be that we're going to just be so happy to see a muskrat. You know, that there's a lot of habitat in the area that Keltic wants to develop. There's a lot of biodiversity. It's a very healthy ecosystem, from what has been revealed. And it would be really bad, one day, if we just had to have that same joy that that lady had about the snail. So, I think when we're considering habitat and development, I think it's important to realize that one day, if we're not careful, we are going to have endangered species like that. Thanks.

THE CHAIR

Okay. Thank you. Anything else from the audience? Any other questions, comments? If I could, then, maybe if I could just follow up on the question that I just asked regarding the gas flow. So, the current gas flow in the Sable pipeline is 400 million cubic feet per day?

MR. DUNCAN

Yeah. And I should clarify. I mean, Maritimes Northeast would be able to provide -- and I think there

are numbers that are, actually, maintained on the Canadian Nova Scotia Offshore Petroleum Board web site about the gas volumes from the Sable project. So, they do have -- they track those numbers very regularly, and report those. They're publicly available. So, I'm just giving you a general idea of what the, you know ---

THE CHAIR

That's fine.

MR. DUNCAN

Yeah.

THE CHAIR

I was only interested in general numbers. I -- the reason I'm getting into this, is I was just curious how the LNG contribution that you propose to bring in, compares to the present flow in the lines.

MR. DUNCAN

Yeah.

THE CHAIR

So, obviously, you're talking about a billion cubic feet per day, over twice the current amount. And that just leads me to ask, I think you had mentioned that you felt the capacity of the Maritimes Northeast

pipeline was 600 million?

MR. DUNCAN

Yeah, and I can probably speak to this a little bit. It's -- and, I guess, maybe more out of the fact that I was a participant, or helped Maritimes Northeast, with previous assessments on the expansion of their system for the Deep Panuke project. Generally, on pipelines, there is -- the current design, as it exists, does have capacity to 600. Pipelines, in general, on those types of facilities, are very easily expandable through a number of design changes. They can add compression to the line, compression -- compressor stations. They can add sections of pipeline called -- and they call that looping. They'll put a certain number of kilometres of pipeline adjacent to the existing one. Or, if there's a need, they can twin the entire line through the existing right of way that currently is in place. When we evaluated the capacity of the Maritimes Northeast system -- and realize that I'm just speaking from experience on another project, we evaluated the capacity requirements for Deep Panuke, and I believe it was the same sort of volumes we're talking about here. Maritimes Northeast evaluated, and went through an

environmental assessment process, for the addition of four compressor stations. These four compressor stations, two in Nova Scotia, two in New Brunswick, were designed and assessed for -- to handle that additional capacity. They went through the NEB process, and the Federal process, to evaluate these stations, and they were approved for construction. And, as we all know, Deep Panuke did not come on stream in the same time frame we expected it to. So, currently, there are plans in place, and approvals in hand, to construct those compressor stations, to add the capacity to the Maritimes Northeast system. So -- and in our -- and in the proponent's discussion with Maritimes Northeast, these are the types of things that they'd be talking about. What kind of gas volumes would be -- are they expecting to transfer to markets? They would have to sign agreements with Maritimes Northeast to take that gas, to transport it. Then Maritimes Northeast would have to design their system to accommodate that gas. So, I'm just -- just as a way of a bit of background, kind of explain how they go about evaluating their capacity, and how they redesign it, to accommodate customers such as Maple LNG.

THE CHAIR

Right. Okay. Thanks. And, yeah, that obviously was where I was going. If you just do the simple math, it looks like your introduced gas is going to exceed the present capacity, but okay, thanks for that.

MR. DUNCAN

Okay.

THE CHAIR

I had another question. This -- regarding some of the questions that we had previously submitted to you, and we have received your answers, and I just wanted to follow up on a couple of them. And I'm referring here to a question you had numbered EAB91. It's on page 95 of your responses. And it has to do with -- you had mentioned in the report the no net loss policy for wetlands. And I think that may be a reference to the Provincial Wetland Policy that we heard mentioned today. And you have, in your answer, made reference to Federal and Provincial guidance on minimizing impacts to wetlands, and that you would adhere to those. I'm just wondering -- and this is, again, an issue that I think was mentioned earlier on today. With a no net loss policy, is the intent that if a wetland is

disrupted or infilled, will there be compensation in terms of creation of replacement wetland area? Is that the intent?

MR. DUNCAN

The intent of the policy is such that, if there's any impact -- and this is not necessarily with infilling of wetlands, but even work adjacent to wetlands have the potential to affect them, through sedimentation issues, or effects on water quality, or hydrology. So, all -- even if you're not infilling a wetland, you need to assess the effects of adjacent works as well, and those can potentially affect wetlands. So, again, the objective would be to evaluate current conditions, look at -- through monitoring, determine if there are impacts to the wetlands. And obviously, they're very obvious, if they -- if you're infilling them, you already know. You don't need to monitor that. But the objective is -- again, is to develop, in consultation with Department of Environment and Natural Resources, an appropriate compensation plan to offset those losses of wetlands. And these can be done in a number of ways. We've developed wetland compensation plans for other projects, in consultation with these agencies.

They could include creation of wetlands, enhancement of the existing wetlands. They could include interpretive centres or educational initiatives. So, there's a wide variety of compensation measures that the Department would help us identify, that would be appropriate for the type of effects that we're discussing here. So, we would need to have that level discussion. And, generally, that level discussion happens on a community level, too. The communities where these wetlands occur generally have some input or some ideas of how they would like to have these habitat losses compensated, within their region. So ---

THE CHAIR

Okay, that helped. And I think my basic question was that the policy that's referred to, in fact, is a Provincial policy, it's not a Keltic policy?

MR. DUNCAN

That's correct, yes.

THE CHAIR

Okay, thanks. Again, I'd invite anyone in the audience, if you have questions or comments, please come to the microphone and identify yourself.

MS. GRAHAM

Jennifer Graham, Ecology Action Centre. I just wanted to make a few more comments about the wetlands, and wetlands compensation. As the proponent has indicated, Canadian wetlands are protected, or governed, by a number of different Acts and legislation. Federally, we have the Canadian Wetlands Policy. It applies not only to Federally owned lands, it also applies to projects or developments that are funded, in any part, by Federal funds. The Canadian Wetland Protection Policy has within it guidelines of no loss of wetlands function. So, that means, they don't -- we'll get back to that. It has in it a mitigative sequence. So, it's a three set sequence where, first and foremost, the priority is to avoid damage or loss of wetlands. And as the proponent indicated, that can include direct loss to infilling. It can also include damage done by adjacent land uses. Secondly, it's mitigation, so the -- using construction practices, or practices throughout the implementation of a project, that minimize the damage to wetlands. So, that could include specifying erosion control mechanisms to stop construction debris from falling into wetlands. It could include using big tired vehicles when travelling

through certain areas. I mean, there's a number of mitigation measures. And lastly, as a last desired -- as a last desired outcome, you would have compensation. The reason that it's clearly indicated that there's a three step process is because you can't really replace lost or damaged wetlands, and it's really hard to figure out what you're replacing, the area lost, or the actual functions, hydrological habitat, water filtration. Most of the Provincial legislation protecting wetlands has mirrored this sequence. So, the new Nova Scotia Wetlands Designation Policy, which is part of the Environment Act, has adopted the same mitigative sequence, which again, emphasizes avoidance mitigation and compensation. And the mitigative sequence specified Provincially in Nova Scotia is actually under the implementing guidelines, rather than in the policy itself. So, I guess what I want to relate out of this is that one of the reasons compensation is such a problematic issue -- and this is an issue that the people who are in charge of implementing this will readily admit to, and also put in their own internal reviews of how well their policies work -- is we're talking about compensating

areas and function. There are many, many different options for compensation, as the proponent mentioned, from enhancement, to creating new wetlands, to cooperating to build interpretive signage. There's an awful lot that is ambiguous about who monitors what's compensated for what. It's strongly encouraged that like for like be replaced. So, looking very carefully at the composition types and makeup of different wetlands in an area so that what's built is equivalent, it's also strongly encouraged that the wetlands be restored in the same area that they're being lost. So that wetlands disrupted or altered in Guysborough County should be replaced, ideally, in the same watershed. Which seemed a little tricky, in this situation, given how -- what a big impact this project will have on a particular watershed. So, like for like, area for area, size for size, and monitoring of the effectiveness of these projects is a clear requirement under the new Provincial policy. So, that is one of the reasons why we're concerned about detailed plans is, we aren't quite clear what the proponent is proposing, in terms of compensation for what area for what place, what types of wetlands. And

we think that's important, to be laid out front, so that it's -- can be part of the overall cost benefit analysis of this project.

THE CHAIR

Okay. Thank you. I did want to follow up on another of the questions we had submitted previously, and the answer that we received here. This is numbered EAB121, and it's page 128. And the question had to do with the -- what are the possible changes to marine circulation patterns, tides and currents that would result from the Marginal Wharf? The response, basically, was that the Marginal Wharf does not occupy a large enough portion of the entrance to Isaac's Harbour to alter current patterns, other than immediately around the wharf. I'm not an oceanographer, but I -- you know, just observing your maps, it appears to me that you're occupying approximately half of the entrance to Isaac's Harbour, in rough terms. So, I was just wondering if you could provide the basis for your statement that it doesn't occupy a large enough area to have an impact.

MR. DUNCAN

I guess the answer here, and perhaps someone will provide me with additional details, but essentially,

the basis of the response is associated with the relatively shallow area where the wharf would be -- is occupying, or proposed to be developed. Recognizing that there are deeper waters adjacent to that in other areas, but the -- and that's where most of the currents would occur. Based on -- and also based on the currents that exist in that area, and we generally determined that there wouldn't be -- likely would not be a significant effect on those current patterns. Obviously, there would be some localized change, right around the wharf itself. I guess the caveat to that, or the follow up to that, of course, is that the final wharf configuration, to do any sort of current modelling, we would want to use the final wharf configuration. We've presented, at this point, as a preliminary drawing, which would be probably the most or the -- the most conservative extent to that wharf. We expect, even through some of the design discussions we've had, that that wharf -- those wharf dimensions will actually decrease. What we don't want to do is conduct any modelling until we finalize that wharf configuration, as well as get input from Transport Canada, through the Navigable Waters Protection people,

in terms of the construction materials to be used, and the design of the wharf. Those still need to be approved by Transport Canada. And all those configurations and design and construction materials all have to be approved through -- reviewed and approved through Transport Canada. So, those kind of details, of course, are going to be required, to conduct any sort of modelling in that area.

THE CHAIR

Okay. And then, so I understand, the implication is that modelling will be done, but at that time?

MR. DUNCAN

That's correct, yes.

THE CHAIR

Okay. Thanks. Yes?

MS. GAGNON

Chantal. Could I clarify? Does that mean the modelling and the impact information will be available in the Comprehensive Study Report that is due sometime soon, that will be going to DFO and Transport Canada for review?

MR. DUNCAN

I don't think, necessarily, that those modelling

results should be part of the CSR. They would be part of an application and follow up work to be done with -- for approvals under Transport Canada. Again, this goes to more detail design issues. And that's associated more with some of the permitting and approvals that would be required. So, we're not anticipating to have that modelling done as part of the CSR itself, but we would, again, probably, you know, state the same conclusions, that detailed modelling would have to be submitted for review, to Transport Canada.

MS. GAGNON

Okay. Would there be more information, then, on the impacts of the wharf and the LNG terminal on that area than was in the Environmental Assessment Report, though, in the Comprehensive Study, given that -- their mandate under the Environmental Assessment to look at the Marine Wharf Terminal, and all that?

MR. DUNCAN

Well, I guess I would -- on a preliminary basis, or a preliminary response, I would say that there is sufficient information in the EIA, as it currently exists, to evaluate potential effects on the marine environment. There's certainly -- and -- but

understanding that DFO and Transport Canada do have scopes that address specifically the Marginal Wharf and the Marine Terminal. They've asked for some information, some detail. We're taking their comments through the Federal process, and providing them with responses to those questions. And that would -- those responses will include -- will be included as part of the Federal review process.

MS. GAGNON

Okay.

THE CHAIR

Okay. Thank you. Yes?

MS. GRAHAM

Jennifer Graham. This is probably a question about the Federal Environmental Assessment process, because now I've gotten a little confused. It seems to me that ---

THE CHAIR

Okay. We can get into this a little bit, but bear in mind, that's not within the scope of the Provincial process, and it's not part of our mandate.

MS. GAGNON

All right. Sure. Maybe you can help answer it, because -- if the -- thanks. If the specifications for

the wharf and its design are still in the preliminary phase, and this is exactly what's likely to trigger environmental requirements under Nav -- Transport Canada Navigational Waters, how do we know enough about the impacts of this project to know whether or not a public review process is part of the Federal assessment processes required?

THE CHAIR

Well, the degree of public process under the Federal process is, you know, a matter of Federal decision and jurisdiction. They have decided that public hearings will not be required, so that decision has been made at the Federal level. But there will still be public process, in the sense that the documents are made public for review, but that -- as I say, that's outside the mandate of the Nova Scotia Board. We don't have any control over that.

MS. GRAHAM

All right. And then, this may be a follow up question about the dimension of the wharf itself, and I'm not an oceanographer either, but it seems to me that -- from what I do know of ocean processes, that shallow water is actually where you have most impacts from human made

structures. Because that has more impact on where waves break on shore, it also would be where you'd have most impact on overall quality of habitat, because in shallow waters and coastal estuarine systems, the quality of light passage that can be -- and photosynthesis, is usually affected by things like wharfs and docks. So, I guess I'm curious as to where the comment that the depth of the water means that it will have lower impact comes from, and what's the basis for that assertion?

MR. DUNCAN

I guess, just to clarify, maybe, my response. We -- the response was meant to, I guess, respond -- we were responding to a question about current patterns. You're quite correct. In shallow waters, you do get a lot of transference of energy, wave energy, tidal energy, in those shallow areas. That's not to indicate that -- and that was not the indication of the response. We were talking, I guess, specific, of current situations. But for -- to address situations such as wave energy and tidal energies, where they do have potential impacts in shallow areas, there are design standards, and design materials, to ensure -- to

protect against erosion issues, and to ensure those structures can be built in those areas. They are high energy areas, you're quite right. And we need to evaluate those. The -- wharves are built around Nova Scotia, and they are built, you know, to proper design specifications, with standards and review by agencies such as DFO and Transport Canada. Again, we still need to apply for specific permits to those agencies, but I fully expect that a design can be appropriate -- a wharf can be properly designed and constructed to accommodate those types of wave and current energies that we're talking about. So, that will be discussed, in consultation with Transport Canada DFO. Just to speak a little bit on the wharf design as well. The wharf, as projected right now, or proposed, is, as we said, a conservative approach. We probably, you know, over-represented the size of it, to be conservative. The last thing we want to do is design something that's too small, and then -- assess the effects of something that's too small, and then have to go back and assess it because we've decided to increase the size of it. In all likelihood, the size of that wharf would probably decrease from what -- what's currently shown.

And just -- maybe just for information purposes on the Federal review process as well, Transport Canada, through the Nav Waters Protection Act, does provide input for public review and comment. Those plans and their process is -- they advertise, and submit those for public review. So, there is provision under that Navigable Waters process for public input and comment, as well.

THE CHAIR

Okay. Thank you. And again, I have one other follow up question on a previously submitted question. This is numbered EAB128, and it's on page 135, and the part I wanted to follow up on -- the question had included "Who is it within the project staff that will be responsible for monitoring programmes under the Environmental Protection Plan?" And you make reference to the Environmental Inspector who would be responsible for monitoring. And I'm just wondering, I wanted to clarify, whose employee would the Environmental Inspector be? Are you referring to a provincial employee or to a Keltic?

MR. DUNCAN

In this response, we're referring to a Keltic employee.

I don't think we'll suffer from a lack of inspectors out there, whether they're regulatory -- my experience with these types of projects, the contractors will bring their own inspection staff, the companies involved will have their inspection staff both environmental and construction, their agencies will have inspection staff there. So I'm expecting that we'll have good representation, but specifically this response is related to the company. It will have environmental management plans that will be applied to the project that will outline the kind of inspection and oversight that will be required during the construction operations. So we would have environmental staff on -- as part of the company to oversee these types of measures.

THE CHAIR

Thanks. Again, I want to provide any opportunity for anyone in the audience who wanted to make a statement, comment or ask a question. Nothing coming from the audience. There was one final thing that I did want to do essentially to get it on the record, I guess, but also to provide it to you and maybe ask you to confirm it, and I'm not necessarily expecting the answer to

this today but I'd just ask you to take this away. It's kind of -- what I've done is compiled a list -- in reviewing the documents, I've compiled a list of the plans or reports that have been mentioned as being required in your environmental assessment document, and that would be forthcoming at some later stage. So I just want to document these, and so I'm going to read the list out and it will take just a couple of minutes and I can provide it to you in writing, so I'm not going to expect you to write them down here, but what I wanted to have you do was just confirm if I've got the correct understanding that these are the reports and plans and documents that would be required and would subsequently be provided by Keltic, not to the Board because it would be, I think, subsequent to the assessment process, but to regulators. So the ones that I've noted are the Environmental Protection Plan -- I've got page references for these, I don't guarantee these are the first references, but these are where I noted them. So there's the Environmental Protection Plan for both the construction and operation phases, page 2-44, Environmental Health, Safety and Security Plan, also on 2-44, Spill Management Plan on

2-47, Emergency Response and Contingency Plan, 2-47, Waste Management Plan, 2-48, Water Management Plan, 2-59, Environmental Management Plan, 2-71, Environmental Compliance Monitoring Plan, 2-72, Environmental Effects Monitoring Plan, 2-72, Toxic and Hazardous Materials Management Plan, 2-153, Air Quality Modelling Report, 9-32, Erosion and Settlement Control Plan, 9-78, Storm Water Management Plan, 9-78, Environmental Management Plan, 9-97, Fishery Potential Effects Analysis, 9-102, Fish Habitat Compensation Plan, 9-111, Acid Generating Rock Management Plan, 9-124, Dust Control Programme, 9-142, Erosion Control Programme, 9-142, Worker Health and Safety Programme, 9-142, Traffic Circulation Study, 9-197, Traffic Infrastructure Study, 9-197, Environmental Management System, 10-1, Predicted Noise Level Modelling, 10-10, Watershed Protection Strategy, 10-15, Aquaculture Compensation Agreement, 10-24 and HAZOP Study, H-A-Z-O-P, 10-43. Now, that's the list I've noted, and I recognize -- I made note wherever there was a different title. Some of those may be duplicative. Some of them may refer to the same document, I'm not sure. So, as I indicated, I'll give you a written version of this before the end of the

hearings to take away, and I just ask if you would confirm that those are your understanding of the reports and plans that will be required.

MR. DUNCAN

Yeah, that sounds about right. We'll evaluate the list. As you said, there's probably some duplication or some variation on naming. We can correct that. As well a number of those plans that you discussed will form components of some other plans that were mentioned, so maybe we can indicate that, as well.

THE CHAIR

Yes, that would be good. Okay, thank you. Final call from the audience? Anyone who wants to raise an issue, make a statement or ask a question? Yes, please?

MS. MELISSA CHRISTIE

Okay. I'm Melissa Christie. I'm from Antigonish County. Sorry I get emotional. My boyfriend, Frankie, is out working in Fort McMurray. This total year I've seen him for three weeks. He really wants this project to come so he can go home and start a family with me. He's working nights in Fort McMurray, and when I was talking to him -- I talk to him once a week, and he just wanted me to let you all know it's really cold,

it's minus 29 up there. The three weeks I saw him, he bought me a ticket to go out to see him when he was off, and what I found really funny was on a Saturday night he said "Let's go to Scotia Farm." I said "What's Scotia Farm?" When I got there, so many people from Antigonish County were out there living all in this same farmhouse and going out, and they'd work for a couple of weeks and then come back and stay. I seen more people out in this little place called Spruce Grove than I kind of do on the streets of Antigonish. I seen more university students and people that I just don't know. I just wanted to make the comment that I'd really like this project to come so I can start a life, and Frankie just really wants to have a family in Antigonish. We grew up here. It's a great community to raise a family, so just bring Frankie home for me. Thanks.

THE CHAIR

Okay. Thank you very much. Any other comments from the audience? Yes, please?

MR. GARRETT SEARS

I'm not going to get quite so emotional but since we're allowed talking I thought I'd throw something in. I

was just down Manhattan last weekend, and I went on a couple of tours, and it struck me ---

THE CHAIR

I'm sorry, sir, you didn't identify yourself for the record.

MR. SEARS

Oh, my name is Garrett Sears, I'm president of Eastern GMC and I'm president of the Antigonish Auto Dealers Association. And what struck me on the tours is how the tour guides would always refer to how when they're rebuilding Ground Zero -- or building any projects in the Manhattan area, how the environment always figured in. And I think that what we should be concentrating here on is not the environment against Keltic or Nova Scotia government against Keltic, it's all of us working together to get a viable project, you know. Like between -- in our industry, between the customers dying, the customers moving away and the customers we piss off, you know, it's really a dynamic industry, and we need to gather everybody together here and come up with a project that will work, you know. We don't have to be pointing fingers or anything like that, you know. Like there's a lot of talk about the environment and

the car industry and there's a lot of misconception, you know. If you're in a traffic jam in Toronto or Calgary, the chances are the air coming out of your exhaust is cleaner than the air going into your car, you know, and we have a problem around here with -- there's more damage done around here with people burning wood than people driving cars. Our big problem in Canada with cars and the environment is the number of older cars we have on the highway, not the newer cars. But I -- you know, our area is in desperate need of a major project like this. I think the last time we had a traffic jam in Antigonish was during the construction of the Goldboro project. So I just wanted to have a little say, and thank you very much.

THE CHAIR

Okay. Thank you. And so final call, anyone from the audience? Yes, please.

MR. ALLAN STAPLETON

I guess my timing was just perfect, I just arrived here, I thought I'd be waiting all day. So thank you very much, I'll be very brief. My name is Allan Stapleton, and I represent the Construction Management Bureau Limited. The Construction Management Bureau is

a not-for-profit organization for -- it's unionized contractors and it was formed in 1972. The purpose of the Bureau, then and now, is to represent employers in collective bargaining with the trade unions in industrial and commercial sector of the industry. In 1976, the Bureau applied and was granted the status of accredited bargaining agent for all unionized employers in Nova Scotia, and since 1976 all contracts negotiated between the Bureau and the building trades have been the only valid construction contracts in the Province of Nova Scotia and bind all unionized contractors working in the accredited sector. As you heard yesterday from the Construction Association of Nova Scotia, the construction industry in Nova Scotia is expected to account for over 4 billion dollars of economic development this year -- economic activity, sorry, and the industry employs close to 30,000 individuals generating over a billion dollars in payrolls. The average construction wage is consistently higher than the average industrial wage, and the average wage rate for a unionized trades person in the province, including benefits, is in excess of thirty thousand -- thirty dollars (\$30) an hour. Also,

you may or may not -- the unions and the companies have spent millions and millions of dollars in training over the last number of years. We have it embedded in the collective agreements. They're the finest skilled tradespeople you're going to find anywhere in the country as far as I'm concerned. I'm a former contractor, by the way, for many years, so I can speak first hand to that, and, as a matter of fact, I did significant work at the Goldboro plant myself, and I can attest to the skills and the safety training and so on of the people there, just fine, fine tradespeople. This particular project offers significant employment opportunities for numbers of Nova Scotian tradespeople who might otherwise be required to leave the province or who have already left in search of employment either in Ontario or the western provinces. The retention of a solid core of skilled tradespeople in the province is vital to the continued prosperity of Nova Scotia and for the continued upkeep of improvement, end improvement of our infrastructure. In addition, the LNG petrochemical facility holds the promise of long term employment in an area of the province that desperately is in need of economic stimulus. The

required upgrading of infrastructure by way of roads and services to the Goldboro site would represent, I'm sure, a great -- a real asset to the people who live in the surrounding areas. I hope and trust that the Environmental Assessment Board will give appropriate consideration and weight to the economic benefits that the Keltic petrochemicals proposal can deliver to our province. Therefore, on behalf of the Construction Management Bureau, I want to offer our support for the Keltic petrochemicals proposal for an LNG petrochemical facility at Goldboro. Thank you very much.

THE CHAIR

Okay. Thank you. Anything else from the audience, questions, comments? No? Okay. I just remind anyone who has spoken, if you haven't already if you could just make sure that Carol, at the side here, has your name and particularly the correct spelling, just for the record, please. Okay. Thanks very much. So we will adjourn and we are back here this afternoon at 1:30. Thanks very much.

--- Upon adjourning at 10:46 a.m.

THE CHAIR - OPENING REMARKS

Ladies and gentlemen, it's 1:30, so we will get

underway again. Welcome. For those who haven't been here before, this is a continuation of the public hearings under the Nova Scotia Environmental Assessment process for the Keltic Petrochemicals project. I do want to note, starting off here, we do have a couple of changes to our agenda. If you have one from the side there, there have been two changes. One is that the Guysborough Regional Development Authority, who was going to present this morning, was unable to at that time, so we have scheduled them for this afternoon. And as part of that, we had also rescheduled the presentation by the Ecology Action Centre, which was originally for this afternoon. They've made that presentation this morning. So we've just interchanged those two. The other change is just a matter of the order of speakers. We have Dr. Elisabeth Bigras and Ms. Karin Cope. According to the regulations, the formal intervenors speak first, so in this case, it's -- Ms. Cope is the formal intervenor, so she will go before Dr. Bigras. Those are the only changes. So as I said, these are the public hearings under the Nova Scotia Environmental Assessment process. My name is Tony Blouin. I'm Chair of the Nova Scotia

Environmental Assessment Board. On my left is Penny Henneberry, a Member of the Board, and also Ray Cranston, Member of the Board. So the three of us are the panel for these hearings. On my right is Jim Gordon, who is the Administrator for the Assessment Board. And Mark Rieksts is not here, but he will be here. Mark is our legal advisor. The Members of the Panel are not provincial government employees, so we don't report to the Department. We report only directly to the Minister of Environment and Labour for Nova Scotia. Our role is to conduct the hearings, and following the hearings, we will prepare a report for the Minister. Our report makes recommendations. Essentially we can recommend that a project not go ahead or that it go ahead with conditions that we advise or that it go ahead without conditions just as it's been described in the Assessment Report submitted. And as I say, our role is advisory, so the final decision is made by the Minister of Environment and Labour. There is also a separate federal environmental assessment process. Under that process, the federal authorities have determined that public hearings are not required, so this is strictly a provincial hearing.

There is a federal assessment report required, and that's being prepared by Keltic and will be submitted to the federal authorities and will be eventually released for public review. The two processes are being coordinated as much as possible to avoid duplicating requirements, but at the end, each of the federal and provincial Ministers has to make their own separate decision. We have some handouts at the side table there. There's the original assessment report. Prior to the hearings, the panel submitted a number of questions to Keltic, and we also submitted questions we had received from the public. Keltic has responded to those in writing, so there are a couple of binders there for viewing with questions and answers. And there are also some handouts that you can take away, copies of the regulations, copies of some of the presentations, and our hearings schedule and agenda. So we've been in Guysborough on Monday, Sherbrooke on Tuesday, and throughout the week then, here in Antigonish. Public hearings don't follow the same formal rules as a Court of Law would, but we do have some procedural requirements that are set out in the regulations. Anyone who's giving substantial testimony

to the panel must first be sworn in, so that would apply to the Keltic group, and we have had them sworn in at the start of the hearing, so that still applies for them. For our intervenors who are going to come up and make presentations, it's required that they be sworn in. For audience members later on who want to just get up to a microphone and ask a question or voice a concern, it's not required for you to do that, so you don't need to be sworn in. We do have transcripts. We are recording all sessions, and there will be a full set of complete transcripts produced, and they will be available through the Department of Environment and Labour. I think at this point, we have Monday, Tuesday's and Wednesday's transcripts available in draft form for viewing. So they're at the side table there. You can have a look at them. Please don't take them away. They're just preliminary copies for viewing. The regulations do set out the procedures for the hearing. And the order of speakers will start out after my comments. We'll have Keltic do a brief introduction to their project. That will be just a brief overview description. Then we have our intervenors, and we have about 20 minutes allocated for

each of their presentations. After each presentation, the proponent and the intervenors, there will be time for questions. So if you have a particular question for that presenter, you can come forward and ask that question. And we'd ask you, at that point, after the presentations, just to confine yourself to questions. We will have an open forum session at the end, so if anyone wants to make a statement, has a concern or issue they want to voice, or ask additional questions, there will be time for that towards the end. Anyone coming to the microphone, we'd ask you please identify yourselves by name for the record, and just give us the area that you live in. And at some convenient point before you leave, if you could just at the side table talk to the people there and just give them their name -- your name, sorry, and make sure that we do have the correct spelling of your name. So the basic principle here that it's supposed to be a fair, open, non-confrontational hearing. Everyone has an equal right to appear and voice their views, and we would expect everyone, of course, to respect that right. So we wouldn't want any interruptions from the audience while someone's speaking. That's about it. So at this

point, I'm going to ask Keltic to come up and provide an introductory summary of the project.

KELTIC PETROCHEMICAL INC. PANEL - PRESENTATION

MR. DUNCAN

Thank you, Mr. Chairman, Panel Members, members of the audience. My name is Shawn Duncan. I'm with AMEC Earth & Environmental. We assisted Keltic with the preparation of the Environmental Impact Assessment. I want to give you a very brief overview of the project as well as the findings of the Environmental Assessment. Essentially the Keltic project -- briefly it has two main components. First of all, there's a liquid natural gas component or LNG. LNG will be brought ashore in Goldboro and re-gasified at the facilities, turned back into natural gas. It has a capacity of one billion cubic feet per day. Associated with that liquid natural gas facility is the petrochemical complex. That facility will be taking liquids from the gas as well as liquids from the existing Sable gas. Using those liquids is part of the processing, and producing a stock, a feed stock for plastic products. The Keltic project is located in Goldboro. It has -- associated with the two components

I mentioned are a number of other components. Specifically there is a marginal wharf to be constructed to be used for the storage and transport of materials for the petrochemical complex. There is a marine terminal for the offloading of the liquid natural gas. There is a power facility. Instead of taking power off the grid from Nova Scotia Power, natural gas will be used to generate power for the facility. As well, there's water requirements for the processing, and it will -- this water, fresh water will be taken from Meadow Lake. An impoundment and a water line will be constructed to take that water from that water body. A couple of questions have been raised about why we'd put a facility here. For starters, Nova Scotia in general is well placed with respect to global markets for LNG supply. Shipping distances from supply locations in Russia, the Middle East, Europe, Africa. Shipping days to Nova Scotia are days shorter than they would be to locations, say, in -- similar facilities, say, in Maryland or in the Gulf of Mexico. There is existing natural gas pipeline infrastructure as well as the Sable plant currently there at this location. As mentioned, the liquids from the Sable Gas plant will be

used in the process. As well, the transmission line that's currently in place will be used to take the excess gas and transmit that for sale here locally in Nova Scotia as well as New Brunswick and northeast U.S. The Goldboro Industrial Park was established by the Municipality during the time of the Sable development. It was zoned as heavy industrial, and the intent of this industrial park by the Municipality was to attract and to accommodate these types of industries and the development of these kind of industries in that location. In addition, this location is also a corridor for other offshore gas projects that would be coming on. Specifically the Deep Panuke project. This is the landfall proposed for this offshore resource, so this will be the location where this gas comes ashore as well. And in addition, Goldboro offers an ice-free deep harbour for the LNG ships to come in and unload their product, as well as for transport of materials to market. So I'll talk a little bit about what an Environmental Impact Assessment is, or an EIA. An EIA is essentially a planning tool. EIAs are used to determine how a project will affect people, the environment and the economy. It's used to help assist

-- or to assist decision makers in reviewing projects and determining what permits or information is required. As well, to refine project design. If through the Environmental Assessment process we determine that unacceptable environmental conditions exist or they can't meet standards, the project would have to be redesigned to ensure that those things are held. As mentioned by the Chair, this process -- or EIAs in general are conducted through a regulatory process. This one that we're currently engaged in is the provincial process under the Nova Scotia Environment Act. The project was designated as a Class 2 undertaking. It was registered as a project on July 12th, 2005. A terms of reference was developed by the Province, which is essentially a road map to help the proponent compile an Environmental Assessment. As well, it is subject to review by an Environmental Assessment Board, which is represented by a panel that we were just introduced to. As part of this process, public hearings are undertaken to ensure that there is input from the public, and this is part of the overall process. Also, as mentioned -- and we'll go through the details -- but there is a federal environmental

assessment process as well, triggered by approvals from DFO and Transport Canada. This essentially is currently in process in a parallel fashion. A Comprehensive Study Report, which is just another type of EIA, will be developed and submitted to these agencies for review. The major EIA elements -- generally the first step we do is to assemble environmental baseline information, trying to understand the kind of environment we're working in. We do this through field surveys and through data searches and literature searches. We then conduct what's called issue scoping. We go out and we gather information about what the -- what type of environmental issues we should be evaluating. We do this through consultation with First Nations, with the public, with regulators, with stakeholders. We then look at the effects of the environment on the project, features such as wind and waves, currents, can affect how a project should be designed. We need to understand how that would occur. We then identify what are called valued environmental components. These are really -- from the long list of issues that were identified through scoping, we then narrow the focus

onto those that are specifically relevant to the project. And that really is the focus of any Environmental Impact Assessment. For each of the VECs, or valued environmental components, we establish temporal and spacial boundaries, in essence, what time of year are these type of effects expected to occur and over what area. If you're looking at a footprint of a site, you obviously have to look at those boundaries. But if you're looking at something such as air emissions, you have to look at local air sheds and areas much larger than the footprint of the site itself. We then conduct the assessment of the potential impacts or effects from the project on the environment and then determine the level of significance. If there are adverse impacts or negative impacts, as well as positive impacts from the project, we then have to determine how significant are those effects. We then apply mitigation to those -- to those activities associated with the construction and operation, and these are essentially measures or means of ways of reducing the environmental effects from the project. After application of mitigation, we then look at are there any remaining effects. These are called

residual effects. And we then determine are these again adverse or positive effects, and what are the significance of these effects. We also look at the cumulative effects of other projects in the area, things that may be acting in addition to the project that may create a situation where the environmental effects from your project, combined with another one, may exceed certain regulatory standards or acceptability. Obviously we have a number of environmental components that we assess in the EIA, but I'll just go through a couple of examples, kind of our findings of how we assess these things. Specifically on effects on fish habitat, we looked at -- if we use the example of the Meadow Lake impoundment, this area, as we described, we'd have to raise the water level there about -- of about two metres. We looked at the potential impact of that on fish habitat and we determined that there would be both probably -- there would be both positive and negative effects from the project or from this component of the project, and then we assessed or determined that these effects would not be significant based on the mitigation applied as well as potential compensation measures for any lost fish

habitat. We looked at effects on archeological resources. Again, to use a specific example, the Red Head Cemetery. This area was the location of African Nova Scotian burial grounds. These -- human remains were -- through an initiative, an earlier initiative, were removed and placed in a proper location in a local cemetery. Regardless, we did recognize this as having elevated potential. We had archeological surveys conducted in this area. No human remains were found and no archeological resources were located. We still consider this area to be high potential for archeological resources, so we would take mitigations in situations where there's ground breaking to ensure there's an archeologist on site and that monitoring would take place in the event that these types of features are encountered. Effects on terrestrial habitat. If you look at the specific project footprint where the plant location will go, surveys were conducted there and we identified the types of habitat that do currently exist. And we understood that there would be loss of this habitat on the site. This was going to be unavoidable. But through our evaluation, we determined that the species that occur there and the

habitat that does exist is not what we call critical habitat. There is -- so there is an expectation that there is adjacent habitat or habitat in other areas that could accommodate these species that do occur. Effects on transportation. We found that there would be significant additional traffic volumes from the construction activities and well as the operational activities of the facility and determined that there may be upgrades required to the road or strengthening of culverts, additional signage. So we need to undertake an additional traffic study with Nova Scotia Transportation and Public Works to look at what those changes may be to accommodate the project. And we would undertake that work with Nova Scotia Transportation and Public Works prior to the project proceeding. A couple of residual effects that we still required to evaluate. Specifically under socio-economic, we looked at the -- we found that there was a very large positive benefit from the project in terms of the economy. We're expecting to see a significant increase in the financial situation with respect to jobs, with wages, with support services and the spinoffs created by that, as well as the taxation to

the local municipality. This is what we'd call major economic effect. We would consider this a significant effect. With respect to esthetics, I think we agreed that generally the characteristic -- the visual character of the site will change. That will be unavoidable. You can do things to mitigate that with respect to barriers and trying to minimize the visual impact, but that facility, that site will not look how it looks today. But when you balance that against the small number of receptors, the planned industrial zoning of this location, essentially the Municipality was going to develop this type of industry there, and the advantages of the project overall, we would consider the significance of this effect to be a medium effect.

THE CHAIR

Shawn, excuse me. I'm going to give you a two-minute warning again.

MR. DUNCAN

Thanks. As mentioned, as an overview, there are a number of other permits and approvals still required for the project, both under the provincial legislation and federal legislation. For a number -- as you can

see, for a number of components of the project, we still require it to go -- are required to go to regulators, submit detailed design information, apply to get these approvals prior to the construction and operation of them. Similarly under the federal process, there are still processes that are to be undertaken. For example, the TERMPOL process, this evaluates things such as operational ship safety, shipping route safety, and the construction and operation of a marine terminal. These are -- this process is evaluated and coordinated by Transport Canada and participation by DFO and Environment Canada as well. As well, there are municipal by-laws that govern the use of this site with respect to petrochemical or oil and gas facilities. The proponent would adhere to these. In conclusion, the Environmental Assessment has evaluated the type of issues that we described and have determined through mitigation and through other means of compensation that all potential negative effects can be successfully managed. The project will create employment, and through the employment and wages, as well as support services that would be required for the facilities, it

would enhance personal income both locally and in the region. The project is in compliance with the planned industrial uses of this location. In essence, the site has been set aside by the Municipality for exactly this type of development. The project can be constructed and operated in a safe manner, and this has been demonstrated in sites like this around the world. And the industries, both petrochemical as well as the LNG industry, are two of the most highly regulated industries in the world. As mentioned, also there are additional regulatory approvals and permits that are required for the project. As we proceed and more design details are provided, these will be provided to the regulatory agencies in application of these approvals and reviewed and approvals granted. That's the end of the overview. If there's any questions, we're available.

THE CHAIR

Okay. Thank you. Yes, so at this point, we do have time for questions if anyone has questions that they want to ask of Keltic regarding the project or the presentation. Any questions for Keltic? Okay. That being the case, we have four intervenors scheduled to

make presentations this afternoon. As indicated, we've adjusted our schedule a little bit. So the first presentation will be by the Guysborough Regional District Development Authority, Mr. Gordon MacDonald, if he's here.

MR. GORDON MacDONALD, (Sworn)

GUYSBOROUGH COUNTY REGIONAL DEVELOPMENT AGENCY -
PRESENTATION

MR. MacDONALD

Good afternoon, Mr. Chairman, Panel Members, proponent team, ladies and gentlemen. First of all, I would like to express my appreciation for the flexibility of the panel, and to the Ecology Action Centre as well for switching presentation times with me today to permit me to attend the memorial service this morning for the spouse of our Office Manager. So I appreciate that. I do have a 30-minute presentation here and a 20-minute time limit, so I'm going to try to move fairly quickly.

THE CHAIR

No, I'm sorry, I should have clarified. The RDA had requested 30 minutes, so that's okay.

MR. MacDONALD

So we're still good?

THE CHAIR

Yes.

MR. MacDONALD

All right. We won't have to drive quite so fast.

THE CHAIR

Okay.

MR. MacDONALD

Thank you. So first of all, just in terms of presentation topics, we're going to deal a little bit with the background on the GCRDA, delve a little bit into a study that we undertook called the Economic Outlook Study, industrial planning, Goldboro, a bit of its industrial history, a little bit of the evolution of the Keltic/Maple project from our perspective, some outstanding EA issues that we would like to have considered, and finally some conditions of approval. The GCRDA was first established in 1995. We are the lead Economic Development Agency for Guysborough County and we're funded by three levels of government, federal, provincial and municipal. So we have -- we have lots of bosses. We are governed by a volunteer Board of Directors, a representative of the geographic

area that we service. We also have representation from the African Canadian community and ex-officio representation from ACOA and Nova Scotia Department of Economic Development. The GCRDA operates under a five-year strategic plan. And this is developed with widespread participation and input from residents throughout Guysborough County. We also develop an annual work plan designed to achieve the objectives in our five-year strategic plan. Both our strategic plan and our annual work plan can be viewed on our website, which is connectwithourenergy.com. We have an Executive Director, Dan Gillis, and a Special Projects Manager, myself, managing staff focused in two strategic areas: community economic development and foreign direct investment. I manage our organization's efforts related to foreign direct investment. Operating in this manner, we take a balanced approach toward economic development, focusing on tourism, forestry, aquaculture, human resource development, minerals, renewable energy, port-related investment, and oil and gas, as well as working with non-profit groups and community organizations. Among the significant projects at various stages of their

development are the following. Obviously the Keltic/Maple project currently before this board. Melford Container Terminal. We've been advocating the potential for the 14,500-acre Melford Industrial Park as a location for a gateway container terminal to handle the ever-increasing flow of Asian goods seeking access to North American market, and are currently working with a group in this regard. EnCana's Deep Panuke project, also currently going through the regulatory process and slated to connect to the Maritimes & Northeast Pipeline system at Goldboro. We're working with the Municipality of the District of Saint Mary's to assess the potential for siting a call centre within the Municipality. We have a large aggregate business located within the Municipality of the District of Guysborough in the Strait of Canso, employing approximately 100 people, and are working with other interested investors and the Province of Nova Scotia to assess potential in this regard in other locations. It wouldn't surprise anybody that knows Guysborough County to know that we have outstanding wind resource in the County. It's among the best in Canada. We are working with multiple proponents at

multiple locations within the County. We believe that the project under consideration at this hearing will have a profound positive effect on the potential for wind energy in Guysborough County by upgrading the high-voltage electrical transmission infrastructure and thus making wind farm investment more attractive. Speaking of renewable energy and on a topic of direct relevance to the Keltic project, I should also note that we have two large manmade dams in the Municipality of the District of Guysborough -- one at Dickie's Brook, Cook's Cove, and the second at Melford, both generating electricity via hydro. Dickie's Brook is owned by Nova Scotia Power, and Neil Livingstone owns the hydro operation at Melford and sells electricity to Nova Scotia Power. In the spring of 2006, I developed terms of reference, and our Board, with the support of the Province of Nova Scotia, commissioned the Guysborough County Economic Outlook Study. This study was completed by Gardner Pinfold, one of the most reputable economic forecasting companies in Nova Scotia. The results, needless to say, are sobering. Starting from a population greater than 20,000 in the early 1900s, our population declined to 9,800 in the 2001 census.

We expect the 2005 census, which will be released shortly, to reveal a further decline to slightly over 8,000. Based on existing trends, we expect the -- or project the population to decline to 6,600 by 2016. It will surprise no one that the group that is disappearing most is represented in the 19 to 44 year old age group. The people that have children and contribute most to an economy. The labour force has continually declined. Sixteen percent between 1986 and 2001, despite the employment spike during the '97 to '99 Sable construction period. We project the current real unemployment rate at 33.3 percent. And that's based on the provincial average participation rate, which we are far -- far below. Household income is 15 to 20 percent below the provincial average. And one of the most shocking indicators is related to education. Student enrolment is down 57 percent since 1981. In 1970, there were 3,500 students in Guysborough County. In 2005, we had 1,200 students in Guysborough County schools. In 2010, we project enrolment of 1,000 students in all of the Guysborough County schools. In 1981, we had 18 schools in Guysborough County. Today we have five. It is clear based on the findings of

this study that the status quo is not an option and Guysborough County is at a critical stage in our history. We are at a stage, wherein the very services and institutions required for a community to exist, education, healthcare, retail services and recreational services and recreational services are imperiled. The only growth sector identified in our study was social services. The industrial planning portion was covered in another section of the -- by a previous intervenor with the municipality earlier this week so I will skip through the industrial planning portion. I've heard many people speak over the past week and read many letters of intervention regarding the quality of life in Guysborough County. Almost exclusively by people who do not live in Guysborough County. I can personally testify to the importance of this issue. My wife and I choose to live here and raise our family of four children. What will force me and others to leave will be the inevitable and imminent collapse of public services. Health care, education, recreation, retail services, etc. When this foundation collapses, all of a sudden, our quality of life is not so attractive. We cannot survive on serving seasonal residents that own

summer homes in Guysborough County. We know people mean well when they suggest that we should focus on sustainable economic development or one of my personal favorites yesterday was visiting this area is like stepping back in time. The reality is many of the sustainable economic development activities suggested will only grow in an area that has a diverse economy. We are now at a point where seniors are leaving because they are concerned about their future health care. And because they want to live closer to their grandchildren. That is their priority in terms of quality of life. I find the tone of many submissions extremely condescending and degrading when they suggest that local people that support this project are ill-informed or ignorant. Totally dismissing the possibility that perhaps local people may in fact, be more informed than they are given credit for. For heaven's sake yesterday Keltic was criticized for not communing their development plans to residents in Halifax. I've worked in Economic Development for 11 years and one of the most -- the real unique aspects of this vocation -- and you develop a thick skin -- but it's that everyone else thinks they know what you

should be doing. In this way, we are probably similar to a restaurant owner. Everyone with an opinion thinks they know how the restaurant should be run. As the community name would suggest, Goldboro has an extensive industrial history, dating back to the mid-1800's. This area was also a vibrant centre for fishing and shipping at a time when the ocean was our highway. I know this is a busy slide but I wanted to address one of the issues that has arisen this week as well. Why Goldboro? The GCRD recognized in 2003 that it was unlikely that the pace of development offshore was going to support the development of downstream industry in Goldboro. We did three things, independent from Keltic. We commissioned a study to determine the suitability of Isaac's Harbour. The results identified the best locations for marine facilities and concluded that the harbour was among the safest in Nova Scotia. And could accommodate vessels up to and beyond 50,000 deadweight tonne. Next we acquired a study completed by Mobil Oil in the 1980's for the venture project, the forerunner to the Sable project. This provided much more detailed information on the suitability of the harbour and we've provided a copy of this for the

Board. Finally, we assembled a site analysis for an LNG facility to bring in the necessary feed stock to support a petrochemical facility and began efforts to convince investors that this was an ideal site for such a facility. As I mentioned, we did this independent of Keltic and prior to Keltic's interest on the LNG side. So these are a number of the factors as you can see in these two slides that we looked at. And this is how we promoted Goldboro as a location. Our first contact with Keltic was in 1999. As noted by the Proponents, at that time we were looking at petrochemical facilities tapping into the ethane from the Sable gas stream and other anticipated developments off shore Nova Scotia. This is significant in that LNG was not part of the original concept. And has only emerged as an option for this project in the past three or four years. I say this is significant because many have questioned whether only the LNG component of the overall project will proceed. And it has even been suggested by some that the petrochemical component was simply a carrot that has been dangled in front of the community to gain acceptance for the LNG facility. WE have participated over the years in all open houses and

public consultations held in relation to the project. We have also visited numerous LNG facilities, including Everett, Mass., Freeport LNG in Quintana, Texas and El Paso facility in Savannah, Georgia. It's interesting to note that I took a taxi from my hotel in Savannah to El Paso's LNG facility about ten minutes away. My cab driver had been driving in the city for 30 plus years. And as we were nearing the plant he asked me what sort of facility was located at the site. Obviously it was not a real high profile development in a very busy harbour. We have also visited petrochemical facilities including Nova Chemicals in Joffre and numerous facilities in the Bay Town area of Texas. We are quite comfortable that these facilities can co-exist in our communities and our Board has been on record as supporting the development. We are pleased that many of the issues that we had identified have been covered by other intervenors and will not reiterate issues that have arisen earlier in the process this week. I will note our satisfaction with the intervention of the Nova Scotia Department of Environment and Labour, our residents and our communities will be most directly impacted by this development. And we do take comfort

in the recommendation from the Department representatives on Wednesday. It has been mentioned numerous times throughout this hearing that these facilities will utilize the latest technologies and operational procedures to achieve maximum efficiencies, safeguard the environment, local residents and employees working on site. In this regard we have particular interest in these areas, use of low noise burners, offsite disposal of tar, caustic material etc., instead of onsite incineration. We suggest that a draft table of contents for all plans, waste management, waste water management, environmental protection plan, etc., be made available for public review. We suggest and recommend a stakeholder meeting to communicate LNG vessel movement, docking process to include transit time and unloading time, baseline information for air quality, noise, marine, groundwater, surface water and surface water quality. We suggest a remodeling of risk assessment for thermal radiation and vapour dispersion zones, post feed after we have final engineering design and that should include risk assessment for ship grounding and collision. We suggest real time air quality monitoring

in surrounding communities and northeast of the plant downwind from summer southwest winds. We recommend that the Proponents commit to review technical feasibility of reducing water volumes through recycling with onsite water treatment. In relation to conditions of approval I'd like to express our previous experience in this regard related to the Sable offshore energy project. Many of the Proponent commitments at that time were not fulfilled in terms of the spirit and intent of those commitments. And unfortunately there were no punitive measures related to those Proponent commitments, particularly those of a socio-economic nature. An example of this would be the commitment that Goldboro would be the centre of operations and companies looking to deal with Sable would have to come to Goldboro to do business. Clearly this has changed and is no longer the case. In terms of conditions of approval, we suggest the following: That Keltic Petrochemicals and Maple LNG formalize a corporate giving policy that clearly demonstrates their willingness to be good corporate citizens. That recommendation No. 28 related to the 1997 Sable Joint Panel Review, what we refer to as the Goldboro By-pass

option be respected and recognized. That individuals that lose historical fishing grounds resulting from the construction of marine facilities in Goldboro be fairly compensated for that loss in advance of the construction of these facilities. We are not speaking of any compensation for losses resulting from project effects during construction or operations such as leaks and contamination. There is a separate process that covers that area but rather permanent loss of fishing grounds recognizing the nature of traditional fishers gentlemen's agreements in relation to fishing territory. If you lose territory you don't simply move somewhere else. That Maple LNG reaches a municipal tax agreement with the Municipality of the District of Guysborough consistent with existing Nova Scotia legislation. That Keltic Petrochemicals agrees to pay municipal property taxes as per existing Nova Scotia municipal taxation legislation. That Keltic Petrochemicals and Maple LNG agree to work with the residents of Guysborough County to provide and contribute toward training for both construction and operational components of the development. The GCRDA has facilitated training sessions such as seafarers training in partnership with

NSCC and the private sector and we look forward to being involved with the Proponents in this regard. That Keltic Petrochemicals and Maple LNG agree to participate in and contribute toward the completion of a Guysborough County skills inventory to assist in the preparation of the local labour force. The GCRDA is confident that that the Keltic Maple project will have a lasting positive impact on Guysborough County, this region and the Province of Nova Scotia. We recognize that Nova Scotia and Canada have among the most stringent and mature regulatory processes among developed nations of the world. We also recognize there has been extensive communications with the local community. And we expect that to continue. I have commented many times in the past seven years that I think there's a good book somewhere in my experience with this project. There would be some dark chapters dealing with the fact that senior politicians, bureaucrats and media have been seemingly disinterested and prone to think that this project is too big for Nova Scotia and too big for Guysborough County. This is a line of thinking that is beyond comprehension to me. Overall, though this would be a story of someone

with a vision and the persistence to pursue that dream to the end. There would be surprisingly few characters in this book given the magnitude of the theme. There would be one lead character that simply would not take no for an answer. And would not be distracted by the lack of belief in his vision. We are now nearing the conclusion of this book and the decision of this Board will play a major role in determining the final chapter. We ask that you consider our input and identify means of mitigation necessary to avoid unnecessary delay. On behalf of our Board, I think you for your attention.

THE CHAIR

Thanks very much, under 30 minutes.

MR. MACDONALD

Thank you.

THE CHAIR

So at this point if anyone has any questions for the RDA, any questions on the presentation. All right. Thank you very much.

DR. CRANSTON

Tony.

THE CHAIR

Oh, I'm sorry. One here.

GCRDA - QUESTIONED BY THE BOARD

DR. CRANSTON

Ray Cranston, the Assessment -- or Environmental Assessment Board. You mentioned a -- one of your conditions of approval would be a corporate giving policy. And I don't know if you were present when one of the questions was asked about compensation for health issues or there's -- in general people were concerned about damages or danger and so we asked a formal question and the answer that we got -- I'll just read the last paragraph -- this will be part of the public record but nobody else has probably seen this -- Keltic said:

"In our conclusion -- it's our conclusion that projects and its development will not result in damages to people which are compensatable by law whether they be health related or related to the interference with one's livelihood. Therefore no compensation plan for such damages has been established."

Does that fit with what your request of this corporate giving policy, is that -- is there any overlap and ---

MR. MACDONALD

Not -- I wouldn't say so, Dr. Cranston. What we're referring to, clearly, is I guess major corporations normally have a corporate giving or a corporate contributions policy. They have guidelines in terms of the type of activities that they support and that's what I refer to when I refer to the corporate giving policy.

THE CHAIR

Okay? Thank you. Any other questions for Mr. MacDonald. Yes, there's one here. Use the microphone please and we need you to identify yourself.

GCRDA - QUESTIONED BY THE PUBLIC

MS. COPE

My name is Karin Cope. I noticed a difference between something on the slide and something that you said. Forgive me, I'm partly a professional editor so I pay attention to these things. You asked for -- what you said was asking for monitoring of air quality of nearby residences and areas. What your slide said was "modelling." I'm asking this question because those are two very, very different things.

MR. MACDONALD

Yes. No. We're clearly referring to monitoring in that regard. That's what happens when you do this late at night.

THE CHAIR

Okay, thank you. That's it. Thank you very much. Our next presenter is Dr. Marike Finlay-de Monchy and I hope I have that correct.

DR. FINLAY-de MONCHY

You didn't do too bad on the name. Once somebody called and wanted to speak to Marke Finally deMonkey so

THE CHAIR

Okay.

DR. MARIKE FINLAY-deMONCHY, (Sworn)

DR. MARIKE FINLAY-de MONCHY - PRESENTATION

DR. FINLAY-de MONCHY

I would like to thank the Environmental Review Board for agreeing to have me come to speak today. And to also thank the participants for coming to listen and

THE CHAIR

I'm sorry. I may need you to get a little closer to the microphone. I'm not sure it can be heard.

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DR. FINLAY-de MONCHY

--- the Proponents as well. Sorry, each mike is different. Okay. Now is that good. No, still not good. There, how's that. No? Lean into it. Oh, okay.

THE CHAIR

Okay, sorry about that.

DR. FINLAY-de MONCHY

So I'd like to thank the participants as well as the Proponents for coming here to listen also to what I have to say today. I'm here speaking as a citizen of the Eastern Shore. However, I probably should warn you that I am the Deputy Leader of the Green Party of Nova Scotia and that I was a candidate in the last Provincial elections representing the Green Party for the riding of Guysborough/Sheet Harbour. I'd like to start by saying that I have experienced a chilly climate for anyone who wants to ask questions and have factual answers to hard questions about the impact of Keltic on the natural and social environment. I was a regular columnist for a local newspaper. When I submitted a column asking questions that column was refused to be printed. In fact, then I was given so

many restrictions on what I could write about as a columnist it was tantamount to firing me. When that column was published in the Herald, a letter was written back to the Herald about me which was full of errors and some personal insults. Then that letter was distributed to all the local newspapers without the original article accompanying it. Two of those local newspapers published my reply to that letter which tried to set some of the records straight and I want to thank those two local presses for that. I have been called a late-bloomer politician, a rich retired hypocritical environmentalist, a come-from-away who did not care about employment, who was nostalgically Americanized and who had no right to intervene in the discussion. So I'd first like to say that that's not really a climate for free and open discussion and dialogue about this issue. And I regret it and I will try on my part to be very respectful. I would like to say who I am, set the record straight here. I'm not old. I'm not retired. I'm not wealthy. I don't come from a bounty acquired in Central Canada. I'm not hypocritical. I'm not against employment. I have lived, worked, created employment and paid taxes on the

Eastern Shore since 1999. I work cobbling a living together as a writer, an editor, a telecommuter and a psychotherapist. Since moving here I have been involved in small business, journalistic, educational, voluntary planning policy and political endeavours to aid and abet development of small and intermediate sustainable business on the Shore and to better the education of youth in the Shore's schools. I have a dream. Martin Luther King didn't get anywhere by saying he had a grievance. I have a dream. I have a dream that is shared by many Nova Scotians and by many people on the Eastern Shore. I have a dream of the Eastern Shore becoming as prosperous and as sustainable in economy with jobs for all as is the Sunshine Coast or Salt Spring Island in British Columbia. I have a dream of people flocking to the Eastern Shore to live, work and vacation for the same reasons they flock to British Columbia. I have a dream that our legislators and our citizens will realize that maybe we are ahead and not behind the 8 ball when we look at what the genuine progress indicators of well-being are. Five hundred thousand dollar mortgage in Toronto may not be better than owning your own home here. When there's

carbon taxes which are sure to come we may be the ones who are better off. We may be the ones who have less carbon taxes to pay. The Eastern Shore is a unique place in the world. That doesn't make it backward. It's unique. It's one of the few remaining stretches of unpolluted maritime posts. I met a Japanese man the other day who told me that it was known for having the purest shellfish in the world. A Japanese man. It would be a huge and irreversible change to establish a heavy industry here. And it might compromise present day activities such as tourism, coastal fishing, heritage sites and healthy community-oriented lifestyles of its inhabitants. And it might impede future opportunities. It might impede them. Please don't understand me as saying I have reservations about Keltic so yeah I'm against jobs. This is not a question of jobs or no jobs. I have tabled a document to the Environmental Review Board that outlined a strategy for developing the Eastern Shore with low capital inputs to generate economically and environmentally sound and sustainable businesses and employment possibilities. This document was prepared for the last Premier, Mr. Hamm's summit on rural

development in Nova Scotia. And it garnered a good deal of notice and of approval there. I have written about these possible alternative developments in the Guysborough Journal over the past months and my columns have solicited a great deal of feedback. Some of it, quite a bit of it positive, not only negative. In these documents I have suggested that we, the citizens of the Eastern Shore request that governments at all levels encourage and support the following kinds of development: high-speed internet to allow for telecommuting and better access to educational and medical material on the internet for the Eastern Shore. Specifically branding the Shore for its tourism and its particular kind of nature. Making and publicising a bike trail along the Highway 7. Increasing the hiking trail network, converting the foundering Liscomb Lodge into a high-end, wage-reducing, health-restorative centre. Maintaining a healthy sustainable coastal fishery protected by proper control of destructive practises. Building on the heritage sites of Atlantic Canadians and Mi'kmaq settlements and sacred burial grounds. Encouraging cultural workers to settle here and work full-time by publicizing the reasonable real

estate rates and providing subsidies for them to settle, teach in the schools and found permanent cultural centres. I'd just like to say that it's a known economic fact that for every dollar given by governments to the culture sector, 17 dollars goes back into the community, it's a known fact. Establishing and publicizing mooring fields for yachters from around the world, and every harbour along the shore; establishing a few full service marinas along the shore; an aggressive recruitment of in migration, come from aways and come back from aways, baby boomers who want to scale down or semi-retire and start small and intermediate businesses. I'd also like to say that a recent study has come out saying that Nova Scotia needs to encourage the in migration of 10 to 12,000 people a year, starting now, and up to 30,000 people 10 or 12 years from now. You know, I don't know how to put this nicely, but if you keep calling us come from aways, and telling us we don't have a right to speak, it's going to be kind of hard to increase 10 to 30,000 people to come. I live here. I care about the future here. I have as much right as anyone else to enter into the democratic debate about how this place develops. And

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it's important that if we want to get 30,000 people to come to the province, that we have that attitude towards them, when we invite them to come here. It hurts when you come here and try and make something, and people call you a CFA, and say you don't have a right to speak. That hurts. Developing community owned and operated wind and solar energy projects. This shore is one of the prime locations in the country for wind power. Asking all levels of government to spearhead and support a wind power generator company for the shore; and aggressively fixing the education system in Guysborough, Sheet Harbour and Central Nova. I am a teacher. I was a teacher. And I know that our schools here rank at the bottom of provincial evaluation, and none near the top. Over 50 percent of our citizens need to have more literacy skills to flourish in this economy. It says that around 5 percent of our citizens have post secondary education. We have to keep our kids in schools, and then we have to encourage them to get skill sets, links to employment possibilities. Let's encourage the Nova Scotia Community College to set up branch campuses, and tele-education facilities, accessible to our

communities here. When Premier Hamm left office and declared that the biggest priority of his successor should be education, he knew what of he spoke. The biggest obstacle to community development and employment in Nova Scotia today is not that we don't want a polluting industry here, but rather, the need for more education of its work force. There is already, today, a shortage of skilled labour in Nova Scotia, and this shortage is expected to increase in the future, to the detriment of all business operations, and to the viability of the Province. The key word here is skilled. If we wish to do something for the youth of our communities, let's improve our education systems, and encourage them in every possible way to get an education, to acquire the skill sets necessary to live and work in the Province. Politicians, economists, educators and business leaders all concur with me about how crucial this is to a young person's future, and to the future of the Province. And I'd just like to say that the development specialist, Jane Jacobs, has said that it's -- all boats are floated with a rising tide. If we can rise the tide, then all the boats will float -- the boats

around it will float. I do not know how much money will flow from governments to Keltic, or already has, but I do know -- I do not know -- I truly do not know. But what I do know is that very little has flowed to this community for the above-listed purposes that I listed as sustainable intermediate and small development, and that this, despite many requests of its citizens, time and again. For example, citizens who wish to live and work in the new economy on the Eastern Shore have been begging for high speed internet, all to no avail, for years. Yes, indeed. What I put forward here is a very different vision for the future of this coast than the one proposed by the Keltic/Dutch/Russian consortium. I strongly urge the Review Board to carefully consider all the costs of Keltic, based on objective facts, not industry-generated reassurances. Is Keltic a sunset industry? Or is it a sunrise industry? I believe Nova Scotia deserves sunrise industries. Rather than approving a development that may change the face of the Eastern Shore forever, foreclosing upon the possibility of our becoming known as the best place in the world to live, where there is maximum well-being, according to genuine

progress indicators -- and I ask you to note the work of GPI Atlantic, but also Stats Canada, which now isn't just about GNP, but it also has an index of well being. Then I ask you to sponsor sunrise industries. Sunrise industries are economically and environmentally sustainable. We could have the wealth of British Columbia, if we play our cards right here, and make this shore as appealing as British Columbia. Think of the Eastern Shore as the forefront of our wind power energies, owned and operated locally. We could do this. Germany does, India does. Think of the Eastern Shore as the most beautiful nature that people from all over the world would want to visit and settle in. And there will be some major demographic shifts happening, once all the baby boomers start down scaling. There's going to be major demographic shifts. And those demographic shifts are going to come to places where people want to go to be well, for well being. Then think of the infrastructure development, the employment, and the profits that could arise from that. Profits that would go to our citizens. I wish to conclude with a few scientifically uncontested truths. These are truths that are -- there's been no contest of

them in scientifically refereed journals. Okay? The effects -- well, global warming, caused by greenhouse gases, does exist. That's a scientific fact, now. The effects of global warming could cause much of Nova Scotia to be under water, sooner rather than later. That's also a scientific fact. Peak oil is a reality. That's a scientific fact. There may not be a continued supply of LNG for this plant, down the road. Then what? Who will restore the site? Who will severance the workers? Plastics are known more and more to be carcinogenic. With -- people take tests of your flesh, and what they find when they take tests of your flesh is that there are many, many carcinogens in them. Canada is experiencing a cancer epidemic, caused, in part, by toxic environments. As the Environmental Review Board, it is your responsibility to review this project. It's your responsibility to the citizens of this area, of Nova Scotia, of Canada, and of the world. And to decide whether this is a cradle to grave industry, or if it is an environmentally economically sustainable industry, without considerable health risks to humans and other species. By cradle to grave, I mean one that is not sustainable, that does not imagine

that what we do on earth will not impact, or deter from our offsprings' capacity to have the same benefits from this earth, from this coast. Instead, I would ask you to assess whether this is a cradle to cradle industry. By cradle to cradle, McDonough, the author, means an industry that makes products that can be completely sustainable and upcycled into other products. And this, including the facilities that produce them. Cradle to cradle has been put to practice in industries around the world already. And, in fact, the Halifax Regional Development Agency is very seduced by the cradle to cradle concept. It has shown that we can live and produce following the model of the ever renewable, healthy cherry tree. The Environmental Review Board has within its mandate to recommend that this coast be developed, not cradle to grave, but cradle to cradle. I have come here today, to urge you to do so, for the sake of us all. Thank you very much.

THE CHAIR

Thank you very much. Okay. Are there any questions?

Yes, please?

DR. MARIKE FINLAY-de MONCHY - QUESTIONED BY THE PUBLIC

MR. CHISHOLM

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My name is Ben Chisholm. Since I disagree with everything you said, I'd like to know what your expertise is, on the shortage of labour? What do you base that on?

DR. FINLAY-de MONCHY

Actually, just yesterday, in the Herald, there was a study group that came out that said that, in fact, there was a shortage of skilled labour, and that we needed to bring in -- already to start bringing in 10 to 12,000, as of now. We only bring in 1,200 as of now. And that 12 years from now, we should start bringing in 30,000 people. So, in fact, I got that from the study group that was published in the Herald yesterday.

THE CHAIR

Sir? No, sorry. I can't have you speaking from the audience, because we're not going to get you on the microphone, please.

MR. NEGUS

She's -- I think she's wrong, because I believe that we've been taken in -- we have a Mexican program to bring people here, to harvest grapes, and apples and whatnot. And they bring in about 1,400 a year. And

these farmers have been crying to increase that to
between 3 and 5,000.

THE CHAIR

Okay. And could I get you to give your name, will you?
I don't have you ---

MR. NEGUS

Colin Negus.

THE CHAIR

Thank you.

MR. NEGUS

And that's short term employment, because they can't
find anybody here, because they're all out in Fort
McMurray, working.

THE CHAIR

Okay.

MR. CHISHOLM

I'll just finish off here. It'll only take a minute.
Okay.

MR. NEGUS

I don't agree with her either.

MR. CHISHOLM

I can't believe this kind of stuff is allowed to go on
here. Just look around the room here. There's a lot

138 DR. MARIKE FINLAY-de MONCHY - QUESTIONED BY THE PUBLIC

of people in the room here are unemployed, right? We just heard this morning how -- the excellent tradespeople we've got here. Like, there's a problem. You don't know what you're talking about on the ---

THE CHAIR

Sir, this is for questions, please, at this point.

MR. CHISHOLM

Okay. Sorry about that.

THE CHAIR

Okay. Thank you.

DR. FINLAY-de MONCHY

I'd just like to answer by saying that I have tried to list about 20 suggestions for development of the shore, that would create sustainable employment, and it would be to the detriment of no one else's right to live on the shore, and enjoy their property, or do their own work, as well. So that -- I have made many suggestions for that. If you wish, I can deposit the article that came out of the Herald yesterday, based on this study project, about the in migration and employment needs of the Province.

THE CHAIR

Okay.

DR. MARIKE FINLAY-de MONCHY - QUESTIONED BY THE PUBLIC 139

DR. FINLAY-de MONCHY

Okay.

THE CHAIR

Any other questions? All right. Thank you very much.

The next presenter is Dr. Karin Cope. And we apologize, we didn't have Doctor on your name, originally, on our agenda, but it's Dr. Karen Cope.

DR. COPE

Thank you. That's quite all right. Can you hear me?

Yes? Okay.

DR. KARIN COPE, (Sworn)

DR. KARIN COPE - PRESENTATION

DR. COPE

My name is Karin Cope. I am a permanent resident of the Eastern Shore since June, 1999, when I moved to Nova Scotia. Like many residents of the Shore, I patch together a living from a number of different sources, including commuting into Halifax while university terms are in session, in order to teach writing at the Nova Scotia College of Art and Design. Now, I want to emphasize that I am a part time contract worker. That means that I am frequently unemployed. There are sometimes not jobs for me. I have no benefits, and I

do not at all receive a salary commensurate with my qualifications. I get paid four thousand dollars (\$4,000) a course. That's it. So, I put together a living in all kinds of other ways. Partly by being an editor, and so on, and a lot of that is by drawing in contracts from all over the world. And it's not a big living. So, I want to say this, because I am not a stranger to the economic and employment difficulties that face many of us on this shore. I know that it is very difficult to put together a living, despite your best efforts, on this shore. I'm interested in the Keltic project, for several reasons. I guess the first is a highly personal story, and a set of associations. I first came to Nova Scotia by sea, as crew on a sailing vessel. I was learning how to sail. Indeed, I made the decision to move to Nova Scotia while anchored in Isaac's Harbour's narrow, deep inlet. This is the site where the Keltic terminal is proposed. We had drawn fresh water from a spring on the shore, and walked up and down the road, speaking to people. There were a few people, believe it or not. I was inspired to make my decision by the rural calm and traditional values, the deep sense of history that imbued the

place, and the fact that one could see the milky way on a clear night, which I didn't see until I was 19 years old, because I never lived anywhere where you could see it. We walked logging trails, and skirted abandoned gold mines. The land was clearly marked by its history as a resource extraction zone. But it was also clear that with a little help, it could recover a certain wildness. Isaac's Harbour seemed to me to be ripe with possibilities as a historical, semi-rural zone. Now, that's an impression, but for me there -- I have a strong personal connection to the place, because that's where, in some sense, I was seduced by Nova Scotia. And I can tell you if that LNG terminal was there, I never would have gone into that harbour, and I never would have seen it, and I may never have decided to come here. And I think that that was one of the best decisions in my life. So, that's my personal story. I want to -- so, Isaac's Harbour seemed to me to be ripe with possibilities. I never dreamed that within a few years, it could become a highly industrialized zone. I realize it's a little bit industrialized now. There are so few spaces left on earth that are not hugely industrialized, so few coastal zones as quiet as the

Eastern Shore. This is sometimes bad, this is sometimes good. I mean, many of us experience it as a down side, but since coming to live in Nova Scotia, I have come to believe that the underdevelopment industrialist speaking that prevails here, is our greatest natural and cultural asset. I don't think that we need to sit on that undevelopment forever. But in a few years, when we are obliged by law, as we soon will be, to reduce our greenhouse gas emissions and to restore industrial brown sites, spaces like the Eastern Shore will be prized precisely for their industrial underdevelopment, if they remain industrial undeveloped. I am -- and I don't mean humanly underdeveloped. I just think that we need to be very cautious about whether a heavy industry is going to solve the problems that we have. I'll talk more about that in a minute. I am concerned with -- that with Keltic, we're selling our valuable natural communal and historical capital, not to the highest bidder, but to, in fact, the lowest bidder. And I think in a few years that we will see that this is true. I believe, for reasons that I will explain, that if we agree to this project, we may well regret it, in a few years. So, my

second point is, then, my concerns that we, the citizens of Nova Scotia, and more particularly, of the Eastern Shore, are being sold a bill of goods, have been harshly criticized by proponents of Keltic, for raising questions that we should all be concerned to unfold. I, and others, have been portrayed as condescending urbanites, come from aways, thus, apparently without insider right to speak on the matter, although it impacts upon me every bit as much as any other residents. I, and others, who have dared to ask some questions, as individuals, have also been portrayed as well to do individuals, without any concern for the employment needs of local residents, or local youth. These accusations are not only unfounded and wrong-headed. I have taught, as much as I have been able, as someone who does not hold a diploma as a teacher, local youth. I have taught workshops, art shops -- workshops, writing workshops to local youth, and asked, many times, for more resources to be available. These accusations are not only unfounded and wrong-headed, as I hope the short details I gave about myself above suggested, they are expressly designed to silence any questions that might be asked

about this project and process. In fact, I have to say I was very reluctant to come here today to speak, because so many of the comments my speaking out thus far have elicited, have made me feel distinctly unwelcome. And here, I think I will probably be echoing a few things that Marike said. This is not a good sign in a province where, just this week, at a Nova Knowledge Conference, speakers suggested that Nova Scotia needs to cultivate, and rapidly increase, in migration if the basic work force needs are to continue to be adequately provided -- I'm sorry -- if the basic work force needs are to be met, and the social health and educational services of the Province are to continue to be adequately provided to its citizens. The presentation from the Guysborough Regional Development Association makes it very clear. If you don't have a citizen base, you don't have a tax base, you don't have services. This is something that faces not only Guysborough County, but all of Nova Scotia. And those figures for in migration, the 10s and 12,000s, the 30,000 in 10, 15 years hence, those are estimates for the entire Province of Nova Scotia. Those are permanent residents that are needed. Not

part time workers, not migrant workers, permanent, tax paying residents, who bring their families. And we're not looking at that at all. We're looking at net out migration. So, this is not -- this is not a good sign. Where we need -- I'm sorry. The reluctance to come here to speak, the feeling that my comments, as I come from away -- now, I've been here eight years, but as a come from away, are not welcome, is not a good sign, when so many people need to come. And it's not a good sign in a space where, in fact, the bulk of the workers hired to build and to maintain Keltic activities, will need to be, by Keltic's own admission and estimates, come from aways. Let me make this point more precisely. In the final July, 2006 Nova Scotia Environmental Impact Assessment document provided for Keltic Petrochemicals by AMEC Earth & Environment, who we just heard from at the beginning, Section 9.3.3.2, Employment, Guysborough County Area, states that:

"If the labour force age group in Guysborough County is to have a better chance to gain employment at the plant, local programs to upgrade basic education, if not available, will need to begin or be expanded, followed

quickly by skill specific training."

In other words, as things stand right now, local residents, who are looking to this installation to improve their employment prospects, will, in many cases, not be the beneficiaries of the jobs that Keltic will supply. As we all know, the Eastern Shore is the one part of Nova Scotia where there are no branches of the Nova Scotia Community College within realistic commuting distance. Residents wishing to pursue post secondary education of any sort must, for the most part, move elsewhere for the duration of their training. This is, perhaps, one reason why post secondary attainments in this region of Nova Scotia, that's the -- are lower than anywhere else in the Province, just 5 percent. I'm speaking of Guysborough -- the Guysborough Sheet Harbour Riding area, Guysborough County. Dropout rates are higher. None of the secondary schools on this shore are in the middle or top rankings of the Province, and most are near the bottom. Section 9.3 of Keltic's own commissioned Environmental Impact Statement, Impacts on Social Economic Environment, suggests that Keltic will not look to local residents to supply its work force.

Although 45.2 percent of the residents of Guysborough County are between the ages of 20 to 54, that's to say, of work force age, and local employment is, as we already heard, running in the -- officially at 22.9, maybe higher, Keltic's own assessment suggests that most workers, during the construction and commissioning phases of its project, would come from Antigonish County here. This Section, 9.3.1.3 of Keltic's Impact Statement goes on to say that:

"The relatively short time frame for peak construction activities mitigates against extensive training of the local labour force age group for construction activities."

In short, although the construction is projected to last for three years, this is too short a time frame within which to educate local residents. We may deduce, then, from Keltic's own employment impact comments, that despite popular opinion that Keltic will mean jobs for un and underemployed current Guysborough County residents, Keltic does not anticipate the majority of the jobs that it is bringing, whether short term, in the construction phase, or longer term, in the terminal or plant operations phase, will go to current

Guysborough County residents. I might add that nowhere does anyone speak of building, or improving, or importing educational upgrading facilities, or training centres, to the Goldboro area. So, we see no net benefit there. I was actually pleased to hear that that is called for, as one of the terms on which approval will be given. This strikes me as very, very important. We have to see some benefit here, or we won't see any benefit in this area. Let me say this loudly and clearly, then. I am not opposed to employment for Guysborough County residents. On the contrary. It would appear that the Keltic project itself does not count on increasing significantly, employment for contemporary Guysborough County residents. This should not be entirely surprising. I believe that 4Gas Maple, which is the Dutch Russian consortium that backs the Keltic enterprise, is interested in locating its LNG terminal in Isaac's Harbour, because the area is remote enough, and sparsely populated enough, that little organized opposition can be expected. Why go to the expense of building an entire facility from scratch, when other, already existing, facilities nearby, at Bear's Head,

are not being fully utilized for LNG capacity? We can't really be so gullible as to think that Russian and Dutch businessmen care about a few residents on the Eastern Shore of Nova Scotia. If they really cared, they'd ensure that educational benefits, and employment benefits, really came to the current residents of the Eastern Shore. According to their own report, however, they do not. 4Gas is planning four installations worldwide. This is -- 4Gas is the backer of Keltic. One is under way in Wales, a partnership with Malaysian giant Petronas, which, by the way, has one of the worst safety records in the business. One is planned for the Hoek van Holland, one is planned for an old oil storage site in Bordeaux, France, and, of course, this proposed Keltic site. As Dragon LNG, the one in Wales, is the only project under way, it might be instructive to look at local experience in Milford Haven and Pembrokeshire Wales. Lots of capital -- or, I'm sorry. Big tourist destination, lots of castles, already existing industrialization, and a fair amount of unemployment, but much more of an industrial centre than we have here. Media and town government reports in this part of Wales suggest that the promise of jobs for locals

has not been entirely borne out. No local politicians wanted to put obstacles in the way of apparent high paying employment, and so, nobody asked questions, until the project started getting under way. The local miracle has not emerged, however. Local residents, that is to say, the people who were there, who were most in need, have not been hired en masse. Moreover, large numbers of workers from elsewhere have put pressure on the local economy, housing and services, driving up costs, displacing longer term, poorer residents, and causing a great deal of concern about whether local infrastructure, including police and fire services, are at all adequate to their job. In fact, this is a concern. Where is the standing fire department that could deal with the unlikely, but still possible, outcome -- the fact of an accident at an LNG terminal or a chemical plant? Where is that going to be sited? Petronas Kerosene Facility in Wales had a fire last December, and it took 18 fire companies and many -- and a day and a half. 2,000 people had to be evacuated, and the industrial park there was completely destroyed. So, unlikely, but what if, right? Accidents do happen. That's the reason why this is the

most highly -- one of the most highly regulated industries in the world. It needs to be one of the most highly regulated industries in the world. It is a dangerous industry. Regulations are there to protect us, but they can't secure us entirely. So, why ever should we believe, particularly given Keltic's own assessments that similar displacements and economic hardships -- that displacements and economic hardships will not happen here like -- well, they haven't said they won't happen here like they are happening in Wales, but we can look at Wales. This is another 4Gas project, and why should we believe that these things will not happen in our communities to the existing residents. Are the benefits going to flow to you, to us? My third question or point, why are we assuming that the risks that the people to whom the gas is destined -- I'm sorry, why are we assuming the risks that the people to whom the gas is destined are apparently unwilling to assume? In Wales, as on the eastern shore, gas processed on site is not destined for the site but used elsewhere, in England in the case of Wales, and US here. I grew up in a poor mostly black neighbourhood. Hazardous materials were routed

through my neighbourhood because nobody else wanted them in their back yard, and there was not an effective organized opposition to those hazardous materials in the neighbourhood. A truck could park behind my house, and did, and release substances in the alley, and we could report it and nobody cared, nobody did anything because we were the people on whom those substances could be released, we were expendable. I don't know -- I don't know this but I'm just asking, is a similar thing going on here? If Keltic is not going to significantly change the employment picture for those of us who are here now, for historic and current Guysborough County residents, but saddle us with increased hazardous environmental and social risks, then we must conclude that we are expendable in some respect, convenient weigh stations for goods that are being shipped elsewhere. That's a concern I have. Finally, I want to talk about the timeframe of liquid natural gas. Nobody was talking about liquid natural gas in 1999 because liquid natural gas wasn't really on the horizon. Liquid natural gas is a concern for mostly gas hungry markets. At the moment that is Europe and the United States. It's an efficient way of

transporting huge volumes because they're shrunk down by super cooling to 1/600th of their size. So one tanker can ship the equivalent of 600 fully shipped tankers of gas. Now, this is a technology obviously that poses some risks. It requires a huge amount of power to super cool the gas in order to reduce it and to keep it at that level, because, as soon as -- and as soon as it expands it can be extremely volatile, particularly over water. It's much more risky over water actually than land, but in both cases it has certain risks if there are any leaks.

THE CHAIR

Dr. Cope, excuse me, I'm going to have to give you about a 2-minute warning for your time.

DR. COPE

Okay, and I'm nearly finished anyway. Competition with this site, if it is competition -- well, let me back up. I've read a number of assessments of the future of liquid natural gas, and Canaport, for example, the facility being proposed, actually being constructed in Saint John, New Brunswick, with the co-operation of Irving, that has been some concern as a competitor to the Keltic facility, has argued that its facility will

be more competitive, not only because it is closer to the US and cheaper to ship from there, also because Irving has secured a supply of gas and because they predict that 15 years from now there will be more facilities to process gas than there will be gas supply. So I ask you to consider this, are we building an extra fish plant here that a few years down the road we are not going to be using to full capacity? If Keltic goes forward, will there be a supply of gas? There is not a supplier yet for this project as far as I understand. I could be wrong. My understanding is that the problem in Bear's Head is that there is not a supply. In fact, there is a great contraction in the supply of gas, and if the Canaport estimates are correct, this is the third party estimates actually, the third party report, if those estimates are correct then, in some sense, what we are looking at is a massive industrial building project that will run out in 15, 20, 25 years at best. So we have 6,000 years of human habitation in the Isaac Harbour region and we're going to turn it into a brown zone for 10, 15, 20, 25 years at the outside? Are these great jobs for your kids? Are these great jobs for our kids? I don't

know, but I don't think so. Anyway, those are the things I worry about. I say them very forcefully. I could be wrong about things but these are the big questions that I believe we must be asking. Thank you very much for your attention, thank you everyone.

THE CHAIR

Thank you. Are there any questions for Dr. Cope?

DR. COPE - QUESTIONED

MR. DANNY BOYD

Good afternoon. My name is Danny Boyd, I don't know if I'm speaking loud or low because I've got infection in my ears, but anyway when you first talked and you said, and the lady before you said, that you were not given more or less your full rights to be able to ask questions and receive answers, I believe that is wrong from a lot of perspectives because people are entitled to that. I don't agree with maybe some of the things that you say. As far as if the place -- maybe it'll survive for 25 years, maybe it'll survive for 50 years, but things change over time, and you have different fuels that you need or we need as a race to survive with. And there could be danger there, there probably is, but if you have propane in your home, which a lot

156 DR. COPE - QUESTIONED

of us do, and it's not put together right, it could blow up.

DR. COPE

Absolutely.

THE CHAIR

Sir, I just need to know are you leading up to a question?

MR. BOYD

Well, I should have talked to the other lady because there was probably more questions I had there, but just on one of your points that there could be lots of work down in that area without this facility, what type of work and how long would it take for that to be economically viable?

DR. COPE

I think that even if a fraction of the investment, the capital investment -- and we have to ask where that's going to come from. Is that coming from the government or whatever, but there are government supports for the Keltic project. I think if even a fraction of those were invested in small and medium enterprises and in providing some infrastructure for those like cell service, high speed internet, upgradings to various

kinds of facilities in the area, I think if some of those -- training in the area -- if those things were provided we would see as many jobs minimally as we see with Keltic very quickly within five years or so, and maximally we would see many, many more.

MR. BOYD

Thank you.

THE CHAIR

Thanks. Any other questions?

MR. BEN CHISHOLM

Ben Chisholm. I'm not quite clear on how to ask the question. You're not allowed to say what you're asking about, right? How does that work?

THE CHAIR

Well no, it's just that following each speaker we've got time for specific questions. If you want to make a statement or voice an opinion, there certainly will be time for that but it's not right now, we'll do that later on. That's how it works.

MR. CHISHOLM

Would you change your opinion toward the job if you knew that Keltic is willing to deal with all the local unions who represent all the local tradespeople? .

158 DR. COPE - QUESTIONED

DR. COPE

I think that's a good thing. I think that that's very good, but I am not sure that a stated willingness to deal with -- a stated willingness to deal with the unions is not a promise of jobs.

MR. CHISHOLM

Would you change your opinion toward the job if you knew that we've got a pretty good record of doing our own work here?

DR. COPE

I absolutely believe that people have a very good record of doing their own work here. That's how everybody has survived on the eastern shore. I know that tradespeople are important and dependable. What I'd like to see is better support for tradespeople not just in one single industry, and that's what we need, we need a broad spectrum of things. I don't think this is the magic bullet that's going to cure our ills.

MR. CHISHOLM

Would you change your opinion toward the job if you knew that the trade school has been doing a good job of training new people that are getting ready for the project?

DR. COPE - QUESTIONED

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DR. COPE

I think that's great. Where is the trade school?

MR. CHISHOLM

There's one in -- they're all over the place, they're in Halifax, Sydney, Hawkesbury. They're all over the province.

DR. COPE

No, I know I asked that, I'm sorry, I ---

MR. CHISHOLM

There's thousands of schools ---

DR. COPE

No, there's a number -- there's trade schools all over but there's actually none right there in the community in Guysborough and Goldboro, right. It's not even really possible to commute there on a daily basis, right. That's why I'm asking.

MR. CHISHOLM

Well, if you're asking me the question, I can assure you that anybody that doesn't have the jam to get up and go to a trade school isn't going to get a job there, right. There's -- like there's a level you have to come up to, right.

DR. COPE

160 DR. COPE - QUESTIONED

Yeah, well the point is that right now as things stand people have to leave most -- the kind of core part of Guysborough County to go get any kind of trades training. That's a problem. And unless there's a specific plan in place to make it possible for people to be in Guysborough County and to place training there, then that's going to mean really that everybody goes away for training, which is pretty well what happens now.

MR. CHISHOLM

Going to Hawkesbury or Stellarton is not really going away, right.

DR. COPE

Well, it depends. It depends on where you are in Guysborough County. If you're on the far western edge, that's a pretty fair commute every day.

MR. CHISHOLM

So what type of skills do you have?

DR. COPE

I have a Ph.D. in Literature and Philosophy. I teach writing. I teach editing. I teach in an art school. A lot of what I teach is critical thinking skills, and I have written policy papers for government agencies on

DR. COPE - QUESTIONED

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a variety of issues. I have researched employment and education in Nova Scotia in particular. That's an area I spent a number of years researching.

MR. CHISHOLM

I'm not sure exactly how that would fit in in this job, but there's a job for everybody there. Would you be interested in joining one of the unions that represent your skill set and we'll get you a job with a pension, right, steady work, good money?

DR. COPE

Actually, I am a member of a union but that hasn't helped me so far.

MR. CHISHOLM

This is a different union.

DR. COPE

Well no, if, in fact, you are a university level teacher, there aren't particularly protections for you if you are a casual labourer.

MR. CHISHOLM

All I can say is ---

DR. COPE

Thank you, however. I appreciate that.

MR. CHISHOLM

162 DR. COPE - QUESTIONED

Like I said, there can be a job for everybody, and if you join the union local people go to work first and they're the last laid off. Thanks.

DR. COPE

Thank you.

THE CHAIR

Okay, thank you. Any other questions?

MR. DUNCAN

Mr. Chair, just one quick question and maybe just a quick statement.

THE CHAIR

Yes.

MR. DUNCAN

As representative of the proponent certainly we do support any sort of open forum in terms of public input, you know, both supporting and dissentive. This is what this process is about is to hear, you know, input from public -- members of the public and other stakeholders, so certainly we support any sort of input regardless of the position. But we have one quick question on -- you mentioned funding for the -- government funding for the project. I just want to know if you could clarify what you meant by the

DR. COPE - QUESTIONED

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government funding for Keltic.

DR. COPE

Oh, I didn't necessarily mean direct funding. I meant usually what happens in these cases is that there are various kinds of tax based incentives from the provincial government and so on. I don't know if there is anything there at all, but I know that Nova Scotia has many programmes to incentify the bringing of new businesses, and I think Keltic would probably be remiss if it didn't take advantage of those opportunities that the provincial government provides.

MR. DUNCAN

Okay. Thank you.

THE CHAIR

Any other questions?

MS. MARY DESMOND

I'm just wondering like I've heard you and the other lady here talk about what you could do, you know, like for schools, have training done, but it hasn't been done. So isn't it better to have some sort of employment down in your area where you get the economic spinoff plus it gives people in your area the initiative to go out and, you know, get education and

164 DR. COPE - QUESTIONED

get skill? I mean, can't the LNG instill the ideas that you had, you know, to preserve the rural area? Can it go side by side? You can still do what you want, your plans of, you know, developing, plus the other people who are looking for, you know, the LNG to come in, can't the two of them come together?

DR. COPE

Maybe in a limited way. That's -- what I'm concerned about is that an industry like Keltic would create -- if, in fact, it only has a 10-15-25 year timeline, it'll create basically a boom and bust, and so what we'll have is a short term boom and then a bust, and we won't have the environmental resources to repair what -- the brown site that's left or any of the damage that's left behind.

MS. DESMOND

But the spinoff that that is going to have is -- because people are going to come in from out of town, skilled workers and stuff like that. The spinoff that's going to happen, that could actually improve the situation even if they left after 25 years -- like it has happened out west, you know, the coal mines for example, you know, it booms, it goes down, it comes

DR. COPE - QUESTIONED

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back. So if you use the benefits that you're going to get from the economic development from the LNG then, keeping that forecast that you think that it's going to leave in, you know, a few years, or whatever, couldn't you use that to your benefit instead of, you know, saying that ---

DR. COPE

Well, if, in fact, what we developed were things that were sustainable, if what we're doing is developing a set of skills and industries that support an unsustainable industry and an unsustainable economy, no. So it's very much dependent on whether or not things that develop are sustainable.

MS. DESMOND

Because if you bring skilled workers in and their families and this and that, the number is going to go up, the population numbers are going to go up. The provincial government ---

DR. COPE

Yeah, but they don't stay if their employment isn't there.

MS. DESMOND

--- and the municipal government will see these numbers

166 DR. COPE - QUESTIONED

going up, so if you ask for a trade school down in Goldboro, you probably would get it more quickly than you would get it with the small population that you have now.

DR. COPE

Yeah, but I'll submit in the case of Sheet Harbour where there was a trade school, and where there were educational opportunities and a variety of employment opportunities 30 years ago, they don't exist now.

MS. DESMOND

Because the population is migrating out ---

DR. COPE

Yeah, and also because ---

THE CHAIR

Sorry, I'm just going to interject here. We can't have a debate directly between participants, okay. This is just for questions. Anyone who wants to make a statement, there'll be plenty of time, I guarantee. Thank you. Any other questions? Yes.

MS. ANNE SIMPSON

My name is Anne Simpson, and I have a question about you mentioned that it's more hazardous for the materials to be taken over the water. So I guess I

have concerns about materials, hazardous materials, being carried over the water. That's one thing. But I also have questions about hazardous materials going up these local roads that we all know are, you know, single-lane roads on their way ostensibly to Montreal. So I'm just curious about you mentioned that, if you could elaborate.

DR. COPE

Okay. I'll try, I can't answer the second question because I don't really know enough to answer that question, I'd have to defer that to someone who does, but in the case where there's a release of liquid natural gas where there is -- where that gas is released over water, it spreads out much more immediately and becomes potentially flammable much more quickly than on land where it follows the contour of the earth. So any accidental releases over water, if a ship ran up on a reef or what-have-you, if it's punctured, if in the fog passing through the narrow passage it's run into by something, those are much more risky, apparently, according to the scientific reports I've read on LNG than over land. So I'm talking specifically about what happens in the case of an

168 DR. COPE - QUESTIONED

accident, although in either case it's potentially extremely risky and quite deadly.

THE CHAIR

Okay. Thank you. Any further questions? All right. Thanks very much. We have one final presenter, then, Dr. Elizabeth Bigras.

DR. ELIZABETH BIGRAS, (Affirmed)

DR. BIGRAS - PRESENTATION

So I guess I should present myself, too, first. Basically I am from away. It seems to be a delicate word here in Nova Scotia but for me it's sort of quite easy to say. I am French from France, and I have been living my whole life and working in Quebec, in Montreal, as a psychiatrist, child psychiatrist and psychoanalyst, and I have retired six years ago. In fact, I want to say more than that because I have been -- I have come to Nova Scotia by the water and I have been completely seduced by the eastern shore, and so I have decided to retire here because of the beauty and the wilderness which I have been so much missing during my work in the cities. I must apologise, I am more French speaking than I am English speaking, and so,

well, there will be some little problems for my English here. I hope you will understand. I am also, I must apologise for that, a little deaf, so given all these things I want to say that why I was concerned by the Keltic project was specifically by health reasons, and the health reasons being mostly, of course, environmental, quality of the air. Health reasons I am concerned with are, of course, cancer, and also lung -- respiratory diseases. I think that everybody knows that there have been researches that have proven, for instance, that in the Sarnia industrial corridor where there is a huge pollution there is much more cancer than anywhere else. There also is being -- it has also been proven that in the cities where there is lots of pollution, like, for instance, Los Angeles, London, where you have that smog over the cities that stays a long, long time, there is great health concern for everybody, and for children especially. So this being given, what I would like to say, in fact quite shortly, is I would like to speak about awareness. Awareness is something quite difficult because, in fact, do we have to be in a storm to be aware of the storm? Of course, if we are in the storm we are completely aware of the

170 DR. ELIZABETH BIGRAS - PRESENTATION

storm, and we don't have really much possibility of doing anything but fighting immediately against that storm. The awareness I would like to speak about here is a little different, and it's about something that is not perceptible. It's just something that people say, that scientific people have been writing articles about, articles that nobody reads really that much but sometimes a little bit, but especially you read it and it's not over you. If there is a risk of cancer that is going to come with a polluting aspect of a project, well, that's not right for now, it's for 20 years from now or 10 years or something like that, and, of course, it especially will affect the children. So this awareness business, I don't know how we could become more aware of something that might happen, and the things that might happen is the pollution around the Keltic project, especially around the petrochemical facility going with the project. But I have been listening to Dr. Cope about the LNG and, of course, that is a huge problem, I'm not going to address that, but I would like to address the pollution that will happen. I don't know if anybody can tell me that the petrochemical facility can be constructed with no risk

of pollution, zero risk of pollution, or a very minimal risk of pollution. I haven't heard for now there exists anything like that. I think that we have to know that if there is a petrochemical project, petrochemical facility constructed, there is the risk of pollution, not only the risk, there is going to be pollution. I could speak for myself because I live just 50 miles from the site, and, of course, being -- if there were northerly winds or northeasterly winds, I would not be at all happy living where I am, and I am even thinking that if really this is going to be constructed I might as well try and find in this beautiful Nova Scotia another place where things would be -- where the risk wouldn't be as heavy. So how could I convey to you something more about awareness. Maybe anxiety would be another topic because when we are anxious it's like a red light, and then we try and see why we are anxious, and what to do about the anxiety. So one thing to do about the anxiety is to try and shift it off, take a pill. I know a lot about that. And I can tell you, not by taking pills myself -- I never take pills for anxiety -- but by telling all the patients I have had, "Please do not take pills. We

will do something with this anxiety." So that's the second thing to do with the anxiety. Because I think that anxiety can lead you to awareness, and we should really be able to look at the anxiety en face, as we say in French, in the face. So I would like to address all the people who are wondering if this project is a good project or who are absolutely sure it is a good project, everybody, to sort of try and think a little more about the risk of pollution -- not the risk -- the pollution that will come with it. No matter what is being said, that everything -- that things are going to be minimized, that the technology nowadays permits no pollution, I don't think it's possible. So I would really like for people to think more about -- because if people don't think about that, families who would come back just to have the job -- and mind you, I don't need a job now, but I completely understand that a lot of people who have gone away and who are in love with the country, with the province, with the county, want to come back, and they want to work. I completely understand that. But I think that they must be aware that part of this dream they have is a dream that lacks reality and that the reality they have to face -- and

they have to be aware of that reality -- is everything that comes with the -- with this project, which is called pollution. Finally, a very short thing that I have -- I wanted to tell you. Even if I'm not a Nova Scotian, I am now a Nova Scotian and I intend to stay so as much as possible because this is a place which should be kept -- which should retain something of the jewel it is. That's how I find Nova Scotia is. And so please just be aware and try and ask yourselves question of are there places where I might not be aware of something that is around this project. That's all I have to say. Thank you.

THE CHAIR

Okay. Thank you very much. Again, any questions for Dr. Bigras, the speaker?

DR. ELISABETH BIGRAS - QUESTIONED

MR. CHISHOLM

Would you be interested -- or would you think that if we ship -- if a lot of gas goes down to the U.S. -- and we're obviously downwind of North America's industrial heartland -- would you think that if all the -- we sent a lot of gas down there to displace dirtier fuels, that that would -- it would generate a positive effect here

174 DR. ELISABETH BIGRAS - QUESTIONED

in Nova Scotia as far as air quality?

DR. BIGRAS

Well, I appreciate the irony of your question because that's the one thing I didn't say, of course, is that there is pollution coming from the United States and even from Canada. I mean, we have pollution from the west and we have pollution from the south. So I know I'm not answering your question, but I would like to say why should we have pollution just right here. I must say I'm just feeling a little bit like the partridge and the hunter who comes -- who comes and who loves the partridge. I know the hunters. They love the game they are after. So I'm sorry, I probably haven't completely answered your question.

MR. CHISHOLM

I wouldn't want to be a partridge if you were the one

(Laughter)

DR. BIGRAS

I don't know if you're a hunter or not.

MR. CHISHOLM

Oh no, I'm not a hunter.

DR. BIGRAS

Oh, good.

MR. CHISHOLM

Would you be glad to know -- and the previous figures are here too -- would you be glad to know that it's not the fact that you're coming from away, it's that we just don't agree with your opinion. Right? You know, we don't care if you come from away. Right? It's just don't bring this type of opinion, right? Then you won't have any trouble.

DR. BIGRAS

I'm not going to answer this because this is not a question.

THE CHAIR

Yeah. Okay. I think ---

MR. CHISHOLM

Well, okay.

THE CHAIR

--- no, I think we're getting into a debate here.

MR. CHISHOLM

Okay.

THE CHAIR

Specific questions. We can have a discussion later.

MR. CHISHOLM

176 DR. ELISABETH BIGRAS - QUESTIONED

Okay. Would you agree that there might be a possibility that the Keltic project could have a positive effect on the air that you and I breathe here by reducing the dirtier fuels in the -- in the mid-west?

DR. BIGRAS

You know, I'm sorry, I don't think I will be able to answer your question. I am not -- it's -- I don't have enough knowledge about this pollution thing. I really would like to rely only on specialists. I have to rely on somebody, and I would really want to rely on the specialists, the engineers, who are working around this project and who will hopefully, if this project goes on, will reassure me. But just for the time being, I just -- I'm not quite reassured.

MR. CHISHOLM

That's okay. I -- I can't reassure you any more, so you know ---

THE CHAIR

Okay. Thank you. Any further questions? Okay. Thank you very much. So we have time now if anyone wants to make a statement or raise an issue or ask any further general questions. Yes, please.

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MR. MacPHERSON

Mr. Chairman, Board Members, ladies and gentlemen. I'm Jack MacPherson. I'm the Deputy Mayor of the Town of Antigonish, and I'm speaking on behalf of the Mayor and the Council of the Town. We welcome you to Antigonish and we hope you enjoy your stay here. The Town of Antigonish is the primary service, retail, government, education, health care centre for northeastern Nova Scotia. Guysborough County is a significant contributor to the economy activity in the Town of Antigonish. Although the population of Antigonish has been stable or slightly increasing over the last number of years, the population decline in Guysborough and adjacent counties do not paint a very bright picture for the Town of Antigonish. The Keltic project will go a long way to ensuring the continued economic vitality of our town. The Town is confident that our existing infrastructure has sufficient capacity to handle the increase in population and an economic activity expected from the proposed development. Along with providing water, sewer, electrical services within the town boundaries, the Town also provides water,

electricity, sewage treatment, to parts of the County of Antigonish that are in the fringe area of our boundaries. While there may be some strain placed on the residential rental market during construction, we believe there is sufficient capacity to handle this temporary increase in demand. Although our rental market has historically been fairly tight, a recent addition at St. Francis Xavier University of more than 200 resident rooms has eased the situation, for this is evident by the increased signs for rent and advertisements. Also, when the Sable project was under construction, many people in the area rented rooms to the workers so that the amount of available units increased during that period of increased demand. The temporary strain that may be experienced by our rental market is a small price to pay for the continuing benefits that we could realize by the project of this size. On a personal note, I've worked at Stora Enso for 30 years. This large industry gave me a good living in my own community. I did not have to go out west and contribute to their economy and come back here to retire. I love this area, so when we get a chance to keep our skilled tradespeople at home, I think we

should. And I think another benefit is that this project will give a good living to the people who are not skilled, who will become skilled on the job training that will contribute to our local economy, and the spinoffs will be fantastic. In conclusion, I can say that we believe there will be sufficient economic benefits to the residents and business in the Town of Antigonish and that the Mayor and Council support this project. Thank you for your time.

THE CHAIR

Okay. Thank you.

MR. FORAN

Mr. Chairman, thank you. My name is Steve Foran, and I represent Nova Scotia Community College. I'm joined with -- by Dave Freckelton, the Principal of our Pictou Campus in Stellarton. As the College's Director of the Energy Group, my role is one in connecting and aligning the broad capabilities of NSCC with the needs of industry and communities, specifically focused in the energy sector. We're pleased to be here to offer these comments on behalf of the College, which will limit in focus and scope to the socio-economic elements of the proposed development, and really focus more towards

training. NSCC -- it is vibrant post-secondary institution committed to building Nova Scotia's economy and quality of life through education and innovation. Under an umbrella of five academic schools, the College offers over 100 different programs that serve the labour market needs of our provincial economy. Through a province-wide network of 13 campuses and five community learning centres, NSCC each year serves over 9,000 fulltime students, and in addition, over 15,000 learners attend NSCC through customized offerings, part-time studies, apprenticeship training and on-line learning. NSCC began discussions with Keltic Petrochemicals in the year 2000, as they initiated their project. Throughout the ensuing six years, Keltic and the College have continued our dialogue, and over this time, NSCC has sought to understand the requirements of the project so that the College is able to provide the training required. We've done our best to do this, and although right now, we don't have a list of programs that say, "Keltic," for the most part, NSCC offers the full range of the programming that is required for the construction and operational phases of the project. In fact, most of the programs are

available at our Pictou Campus in Stellarton and our Strait Area Campus in Port Hawkesbury. The impact of 4,000 plus construction jobs will be a positive economic boost to the area and the broader Nova Scotia region. In addition, the hundreds of jobs that would be created that are required to operate the facility will provide a lasting benefit to local and regional businesses and communities. We believe that the proposed project will do more than stem concerns over out-migration, rather it will reverse the trend and draw people into the immediate and surrounding regions of Guysborough County. Keltic has committed to providing opportunities for the Nova Scotian labour force, and more importantly, they have committed to playing a role in developing the labour force by communicating labour opportunities and skill requirements and by supporting education and training. The end result is that more of those who would otherwise not have the opportunity to work on this project will. In addition, the project will provide much-needed on-the-job training for many apprentices who will come from, I hope, the local area and from other parts of our province. Let me conclude with some

facts about NSCC. And I share these as a reminder that within Nova Scotia, we have a college education and training system that's ready to respond to the needs of the project and the surrounding communities. Meeting the needs of learners -- we promote access to learning by promoting alternative pathways. Some examples include prior learning recognition and assessment, portfolio education, a special admissions process, and the services of our Students for Student Success. NSCC's School of Access is working to support the 33 percent of Nova Scotians who have not completed high school. The school focuses on high school diplomas for adults and bridging programs. Today it serves 2,400 students, which is an enrolment increase of 82 percent since the School of Access was formed in the year 2001. We're expanding our capacity to serve learners in new and innovative ways using on-line learning and alternate delivery. In fact, on-line learning was created to meet the needs of apprentices so that they could learn -- earn while they learn without having to travel great distances. For our students, the average age of the NSCC student is declining and now is 26.1 years. 8.8 percent of the students in the school in

trades and technology are female. This past year, there were 432 students with special needs, accounting for almost five percent of our student population. Two percent of our student population come from the First Nations community. Two percent come from the African Canadian community, and as for our graduates, 90 percent of our graduates are employed, and 81 percent within their field of study. Ninety-four percent of our graduates are living and working in Nova Scotia. And 79 percent of our graduates are still living in the county where they studied or in an adjacent county one year after graduation. We're pleased to offer our support for the proposed Keltic Petrochemical and the related industrial facilities and believe it deserves your positive consideration. Thank you.

THE CHAIR

Thank you.

MR. WATKINS

Mr. Chairman, Members of the Board, ladies and gentlemen, my name is Ken Watkins and I am the Executive Director of the Antigonish Region Development Authority. The Authority -- we recognize that the Antigonish RDA has been noted in the documentation and

we ask to make only a couple comments. We accept that our comments will not address the direct area as it relates to the environment. We comfortably pass discussion on this subject to others. We would like to address the social economic environment of a project of this magnitude. Over the past two years, we have closely followed this development, discussing the components with the individuals involved and discussing more importantly the potential positive and negative aspects of this project with members of our community. We believe that the community of Antigonish will benefit, and at the same time, the quality of life will not be lessened, but in fact will improve. Skilled workers who have left every community in this area to work in areas like Fort McMurray may have an opportunity to return and to contribute their skills to growing Nova Scotia. Almost every month we are contacted by people in Alberta and in other places across North America asking for comments, "How is the project improving? How is it moving along? Because I'm anxious because I would like to have an opportunity to come back home?" In summary, we support this initiative and encourage your process to establish the

necessary controls and monitoring procedures to allow it to happen. Thank you.

THE CHAIR

Okay. Thank you. Any further comments, issues, questions? Yes, please.

MS. GAGNON

Chantal Gagnon, Ecology Action Centre. All right. Getting you guys back in the game today. Got two questions. We heard earlier about this being a very windy area with lots of potential. So I was wondering -- and I think we've confirmed that the winds are blowing northwest or southwest, so I was wondering -- because I don't recall seeing this in the report -- if there was an accident at the petrochemical facility or a huge release of emissions and that kind of stuff, the wind would blow predominantly from the northwest, so it would go north -- southeast towards, I would think, Drum Head, Seal Harbour, Coddle's Harbour, that area, and to my knowledge, there's also -- that is close to the nesting area of the Roseate Tern, an endangered species. So I'm wondering -- I don't recall seeing this as having been assessed in the impacts, of what would be if there was a leak, how would that affect the

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downwind area. If it is, can you remind me which section? Or was it covered in detail? Because I don't remember seeing that.

THE CHAIR

Okay. I'll ask Keltic if they can provide that.

MR. DUNCAN

Yeah. Certainly. Just give me a moment and I'll see if I can find the right section of the report. I'll speak to air quality. I assume you're speaking on air quality issues, or just general accidental events?

MS. GAGNON

Well, more of a modelling or a study of what would be the effect. Air emission in general, but also -- mostly a spill or an accident, yeah.

MR. DUNCAN

Sure. If you refer to Section 9.21.4 of the EIA, we do talk about quantitative risk assessment.

MS. GAGNON

Yeah.

MR. DUNCAN

There has been some modelling conducted to look at potential accidental events, and we've modelled or tried to express visually what those extents of those

effects could be. As we've talked about a couple times already here, or a few times over the week, we're doing additional quantitative risk assessment through some of the federal review processes. We will be evaluating any potential upset conditions through that quantitative risk assessment, as well as doing additional modelling to evaluate those issues or those concerns. With respect to air quality, if you just give me one more minute specifically to deal with that. And just as a follow-up to that, Section 9.21, Malfunctions and Accident Events, does deal with a number of upset conditions and the modelling that was conducted for those events, both from the LNG facility as well as the petrochemical facility.

MS. GAGNON

If I remember, we haven't -- or the report hasn't concluded exactly what the impacts would be, though. That's what you're saying, the modelling to come will determine that.

MR. DUNCAN

Well there's been some preliminary risk assessment that's been done to look at risk contours and evaluate the outputs from those models. There will be

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additional risk assessment conducted as part of the detailed design. As we've indicated, there's a lot of design detail that's still required. We've done some preliminary modelling, some screening, and more will be required once we get those design details determined.

MS. GAGNON

Okay. So this might lead into my second question because it's also an air quality one, because again, from the report, I don't recall having seen this. Have the impacts calculated the combined effect of the air emissions with the fog, because this air is often foggy, and how that might create a localized smog condition for the people living in that area, sort of -- yeah, because that would tend to keep the particle matters, I think, closer to ---

MR. DUNCAN

Just give me a second to look at up again. And your specific concern or issue is in relation to air quality as it pertains to meteorological events like precipitation or fog and how that may ---

MS. GAGNON

Well, considering the fog of the area and the air emissions on a 24-hour basis which the site would

produce, would it create localized smog area, and how would that impact the health of the people living in that area? Because I'm sure ---

MR. DUNCAN

Yeah. We've done -- as I mentioned, we've done preliminary modelling for the emissions from the facility to evaluate the types of levels of emissions that would occur, and we've determined or we feel that those emissions will meet the regulatory standards that are typically required of these facilities. There will be additional modelling conducted, as mentioned. We need to have more design information before we can conduct this modelling. So speaking from experience, typically what would occur is we need -- we need specific information in terms of the types of pieces of equipment that will be on site. These pieces of equipment, we need specifications from the manufacturers and providers of these components. They have specific performance standards that have to go into the model. Those then get factored into the model as well as the source material that we need to -- we need to characterize that feed stock. We then refine the modelling that has been conducted to determine or

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evaluate which are the most relevant receptor locations. Then we would establish monitoring locations in those areas to make sure that we are meeting those standards, those regulatory permit limits and environmental standards that are required at those receptor locations. So there is additional modelling to be done once we go forward with detailed design, and as part of our operating permit or application for that, there will be limits set for emissions for these facilities.

MS. GAGNON

All right. So basically we don't know yet -- or it hasn't been determined yet if the air emissions combined with the local climate area would create that type of scenario. It's to be assessed and to be modelled.

MR. DUNCAN

There is more detail to be done on that, yes. Now, we've used the meteorological database in our modelling, and that's the database that we've used from various meteorological stations. We've used this data to input into the model that we've used right now. As I said, we need more detail, and that will be also

refined and evaluated further.

MS. GAGNON

Okay.

THE CHAIR

Okay. Thank you.

MS. SIMPSON

My name is Anne Simpson, and I am not representing any institution. I'm not representing any body. I'm just here as a concerned citizen. I'm a mother of two teenage children, and I am just concerned about this LNG plant going in. So I guess what I'm most interested in, and probably should know this by now because I've attended these hearings several times over the past couple of days, but -- is it Shawn -- is it --- yes?

MR. DUNCAN

Yes.

MS. SIMPSON

When you were giving your presentation, you were talking about the EIA. Is that correct?

MR. DUNCAN

That's correct.

MS. SIMPSON

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So that is the environmental assessment that was done. I'm not completely clear, but is that the -- was that the only environmental assessment that was done?

MR. DUNCAN

For this project? Yes. This is the provincial Environmental Impact Assessment for this project, and as mentioned, there's also another one that we're currently in the process of completing for the federal review process. It's called a Comprehensive Study Report, but it's essentially another Environmental Impact Assessment. Yes.

MS. SIMPSON

So I guess my -- I guess my question for everyone is this. I'm -- I guess what I understand here is that the assessment was done by Keltic, and yet am I to understand there has been no other assessment done? Is this the only one? So ---

THE CHAIR

Yeah, perhaps I could address that. Yeah, it's -- it's entirely standard in all assessment processes, provincial or in Canada, the federal process, that the work is undertaken by the proponent of a particular project. So in a sense, it is what you're saying, that

the only assessment that's been done to date is the one done by Keltic, but that is typical of all assessment processes. The work is done by the company or individual proposing the project.

MS. SIMPSON

Okay.

THE CHAIR

Now, as Keltic indicated, there is a second assessment process at the federal level that will produce another document. It would be probably somewhat similar to the provincial document, but it will address the federal requirements, whatever they are. And that document would also be available to the public. But again, it would be prepared by Keltic.

MS. SIMPSON

And just one more question and then a comment. Is it ever the case that there are subsequent assessments done by an arms-length body that has nothing to do with the company?

THE CHAIR

I don't know that I can answer that in general. I have worked in the field of environmental assessment and I'm not aware of anything like that in a formal sense.

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Certainly once the documents are public any group or organization can conduct their own review or their own studies on those topics and issues but typically once an assessment is concluded and a decision is reached at the Ministerial level, that would be the end of the process.

MS. SIMPSON

Okay, so then if I try to understand this process -- I have family members living in Hamilton, Ontario. And I guess it's similar to say Stelco or Defasco doing an environmental assessment on the area in which they are working, yes? So am I to conclude, then, that there is a certain amount of self-interest in this process of the company doing its own assessment?

THE CHAIR

Well, I can't make a statement about the self-interests of the company but I would say that, as I indicated that's -- typically, that is the process. The company prepares the report but then it is up to the reviewers, the regulators, the public, whoever examines that report to make an assessment of its accuracy and adequacy.

MS. SIMPSON

Okay, thank you very much.

THE CHAIR

All right.

MR. DUNCAN

Perhaps I could just expand on that a little bit, maybe.

THE CHAIR

Sure. Yes.

MR. DUNCAN

As you indicated there is the Provincial process and the Federal process still under way. What occurs is that a company or a Proponent like Keltic would hire a firm such as ourselves, Amec Earth and Environmental or another firm. We would carry out studies and evaluations of the potential effects of the project. Those are then reviewed by government agencies and comments are provided with respect to the adequacy as we mentioned of the work or the technical competency of the work. This is done again, through the Provincial Environmental Assessment process, through the Federal Environmental process but also there are a number of permits and applications still required that I referred to so typically what happens out of this process there

will be conditions to say you must apply for and get, for example, an industrial operating permit from the Department of Environment and Labour. We would then have to submit engineering details and further environmental information to them before they would approve those applications. Again, they would review them from a technical perspective, look at the engineering associated with them and the environmental considerations and the valuation that was conducted, review the competency and determine if those limits or that work is acceptable so there are as I tried to indicate earlier in our presentation there's still a number of reviews still required for the project so we would be proceeding with those as well.

THE CHAIR

Okay, thanks. Anything further? Any further comments, issues or questions that you wish to bring forward.

Okay, we have one from the Panel, please.

MS. HENNEBERRY

Penny Henneberry, Environmental Assessment Board. On page 13-2 of the report under Section 13.2 there is a section covering noise and light monitoring but this section only talks about noise monitoring. And I

believe there was a question in a previous session that there would be a commitment to monitor light. I just want to confirm that light monitoring would be part of the ongoing process during operation and construction.

MR. DUNCAN

I think the reference on the previous -- some of the previous submissions was related to light -- mitigation associated with light. I think we described the fact that we would recommend shaded light -- means of lighting and various types of different lighting, sodium paper, those types of low -- relatively low impact lighting, still keeping in mind the requirements for safety. At this point I don't believe we've recommended any additional monitoring for light. We have recommended monitoring for noise. And typically we would evaluate the potential -- monitor that, I guess, through communications with the community and if there's any complaints or issues raised through consultations or communications with the community, in sort of a complaint resolution or communication response mechanism. So there's no specific program designed or recommended for light monitoring at this point.

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THE CHAIR

Okay, thanks. Any further questions, comments from the audience or the panel?

MS. HENNEBERRY

Penny Henneberry. I had a question through the Environmental Assessment Board questions. It's page 167 and it says "Norville to answer" so ---

MS. BLACKADAR

Which number is the question?

MS. HENNEBERRY

It's regarding figure 8.1-11.

MS. BLACKADAR

But it's EAB question number?

MS. HENNEBERRY

It's -- the question is 159 on page 167 of the report.

MR. DUNCAN

You're right. That's probably not the right response. If that's -- my apologies. We will -- we'll respond to that question once I have a look at it and we'll have Norville provide the appropriate response.

MS. HENNEBERRY

There was something missing from the diagram so I was just ---

MS. BLACKADAR

From the figure, yeah.

MS. HENNEBERRY

That's right, so ---

MR. DUNCAN

And I don't know if the figure's in there but we will -- yeah, we'll make sure you get the right response to that.

THE CHAIR

Okay. Thank you. Maybe while Penny's looking here I should just let people know, I don't think I made mention of this this afternoon, she's referring to a binder -- prior to the hearings we submitted written questions to Keltic from the Panel and also from the public, things that we had had written in to us that people asked questions, we also submitted those. Keltic has provided written responses to those and the binder Penny has is available on the side table there for people to have a look at. So that's what she's referring to in this discussion.

MS. HENNEBERRY

I wanted to revisit a previous question regarding one of the by-products is coke and it's fed into the

radiant fire boxes. What types of emissions would be expected from the fire box and what's left behind and how is it removed? Like is it an ash, is it a tar, that sort of ---

MR. DUNCAN

I'll have Glenn Longert from Stone and Webster. He can speak to the process and that exact issue.

MR. LONGERT

Just to give you a bit of background around the operation of the ethylene furnaces, ethane is typically fed into these furnaces for approximately 45 days after which time the coils we're cracking, steam cracking the ethane to produce primarily ethylene but also some propylene and other hydrocarbons tend to fowl the coils over time and therefore we lose the cracking efficiency and we have to take the furnace off line and go through a decoking process. We are contemplating a steam/air decoking process which is typical of all ethane crackers but in this case rather than pushing this ball of coke from the inside of the tubes through a cyclone separator, and collecting it in -- as a solid waste we are going to be diverting that back into the online furnaces where it will be essentially completely

combusted so that the coke which is carbon will be converted to CO₂.

MS. HENNEBERRY

So it also comments in the report on page 2-100:

"Pyrolysis products from the furnace must be rapidly quenched to terminate pyrolysis reactions."

What happens if that doesn't take place?

MR. LONGERT

That's part of the normal process. You -- there's a -- if we didn't rapidly quench it, the cracking would continue and the product that we're striving to get would not be ethylene or propylene but rather could potentially crack it all the way to methane which is something that we don't desire. It's not of any use to our downstream plans.

THE CHAIR

Okay, thank you. Anything further from the audience. Yes, please.

MR. vanHEMERT

Good afternoon, Mr. Chair. My name is Les vanHemert. I'm from the Sherbrooke area. I've had the privilege to address you earlier this week. I just wanted to ask

a question about the light pollution and I didn't attend all sessions so perhaps I'm being a bit redundant but I'm very concerned about the amount of light that this project will generate and unless I'm mistaken I think the flare stack or the chimney for the flare will be several hundred feet high. And I'm concerned because I'm a resident along that part of the shore. I'm, I guess about 15 miles as the crow flies west of Goldboro. And I'd like to ask if I will be able to visibly see the light from this flare at a distance of 15 miles if the height of that flare is let's say 400 feet and the light from it shoots further into the night sky. And of course, my concern is also for all my neighbours closer to the plant than me and I'm wondering if, in Isaac's Harbour and Goldboro and Drumhead and Country Harbour and all those places if they're going to lose their dark nighttime forever. It might just be that a natural dark night will not be possible once that flare is burning. And I'd just like to ask about that or leave it with the panel.

THE CHAIR

Okay, I'll see if Keltic's able to address that now.

MR. DUNCAN

Specifically on the flare stack that you reference, yes it is quite high. The flaring from that stack is only for start up conditions and emergency situations that require flaring off. So we wouldn't have a constant flare from that stack.

MR. vanHEMERT

So how many hours in a week will that flare be used?

MR. DUNCAN

I think we talk about a duration during flaring of about 15 minutes or so, during where there's ---

MR. vanHEMERT

During the initial start up and never after that?

MR. DUNCAN

No, no. During -- there is -- we'll be flaring as part of the initial start up as the facility comes on line and as the systems are regulated and all your controls are established and calibrated. After that there will be what are termed upset conditions where for safety reasons we have to flare off material. I'm -- the duration is -- during those upset conditions is typically about 15 minutes to release those types of materials and flare them to the stack. Again, those are for safety reasons to ensure that there are no

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further upsets so you'd flare that off in a safe manner.

MR. vanHEMERT

So the light pollution that you referred to earlier was just the normal facilities lighting?

MR. DUNCAN

Lighting from the facilities, yes.

MR. vanHEMERT

Lighting for the facilities. And what do you think is the distance that light will spread out in the sky, horizontally and vertically, am I going to see that ten miles away?

MR. DUNCAN

Well, a lot of -- I'll get some help here, some folks as well, but certainly a lot of that will depend on, of course, distance as you said.

MR. vanHEMERT

Yes, assuming clear ---

MR. DUNCAN

Topography and sight lines, a whole bunch of stuff.

MR. vanHEMERT

Yes. I wonder if real estate values are going to be worth anything at all if a new buyer is going to see

light in the sky at night and say no this is not why I'm moving to the country. So I think property values are going to be affected by the light pollution is what I'm saying. And I have a personal concern about that as do my neighbours but I'll leave it at that.

THE CHAIR

Okay, thank you. Maybe for clarification if I could just follow up, you mentioned during normal operations upset conditions you might be flaring for 15 minutes. Can you estimate how often that would occur?

MS. BLACKADAR

Only in an upset condition?

THE CHAIR

I understand but ---

MS. BLACKADAR

So it's not -- you can't -- we don't want a flare.

MR. LONGERT

It's not predictable.

THE CHAIR

I understand it's not predictable but I'm assuming that there might be operating experience at similar facilities would indicate how often this typically would occur.

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MR. LONGERT

Maybe once a quarter, type of thing.

THE CHAIR

Okay. Thanks.

MS. FINLAY-deMONCHY

Yes, Marike Finlay-deMonchy. I was just wondering if the Environmental Review Board had considered any of the responses given in the United States to the question about why communities on the Eastern Seaboard do not want to have an LNG terminal on their coast. Also on the west coast, for instance, I believe there's a large website posted by Malibu, the community of Malibu which has a lot of detailed research and answers about why it is that they do not want an LNG site on their coast, in their community. And again, I don't have any answers to this. I just would like there to be some answers to that question about why it is so contested in the United States and if the Board could consider that question, why it has been so contested and what the answers to that question are. Thank you.

THE CHAIR

I can't really answer your question at this point and it wouldn't be proper for me to make any comment on the

Board's deliberations. All I can say I think at this point would be that we are aware of those types of issues. Yes.

MS. GRAHAM

Jennifer Graham, Ecology Action Centre. I've been very impressed with the presentations this afternoon with the passion and commitment that people brought and how much research and thought people have put into thinking about what kind of future they want for their communities in terms of rebuilding essential services for the survival of communities, health, education, transportation, networks. I'm from New Brunswick, so I'm a Maritimer. And I've seen a lot of the messes that have been left to us here in the region from some of the previous mega projects. We've got Sydney Tar Ponds, we've got Pictou Harbour, we've got Passamaquoddy Bay and we could list a number of messy, expensive leftovers that have been left to the coffers of the provinces and municipalities to deal with. It's also been really interesting hearing some of the discussions about why people are forced to leave this area for jobs. Jobs versus lack of skills and education. And all that comes to my head is that we've

done a pretty good job at pretty much wiping out the renewable industries in this province, the traditional ones, our fisheries, our forest industry and once again, we're left with a big bill of unemployment and destroyed ecosystems that can't support communities that weren't supportive of them. So understandably I'm a little -- I'm also eager to address employment concerns in the Maritimes and I'm suspicious and leery why will this be different than anything we've done in the past. So given that, I think my specific question is going to be about financial responsibility for remediation of any negative impacts. And I'm not talking about the ones that are talked about in the Environmental Assessment. I'm talking about kind of the worse case scenario, leakages, spills, the what if questions that we all hope won't happen. And I'm questioning this both for the duration of the project whether or not there's going to be a specific agreement between Keltic and who, the Municipality about if this project ends earlier than expected because of the changing market demand for LNG and it no longer becomes -- is feasible, will we still be holding this Proponent responsible for the cost and also I'm asking about the

decommissioning of this entire facility, either at the end of the projected lifestyle, lifespan of the project or if this projects ends earlier than predicted. So those are three questions about remediation in case of accidents, remediation and decommissioning at the expected end of the project and remediation and compensation for the project ending unexpectedly early. Thanks.

THE CHAIR

Okay. I think probably the only party here who can address any of that would probably be Keltic. I don't know if they have any information on ---

MR. DUNCAN

I'll start with, I guess, the decommissioning one first. The -- within the Environmental Assessment process we do address components of the project which would include construction, operations and decommissioning. Keeping in mind, though, that decommissioning -- that the activities associated with decommissioning will be very similar to the construction activities as they relate to you know, dust emissions or any sort of the emissions or activities or effects that we talked about with respect

to construction. We have -- but one of the difficulties we have is we don't expect these to be decommissioned for -- and even though we don't expect them to we would be still be required to meet the requirements of the environmental legislation at that time. That would include most likely going through an Environmental Assessment process for the decommissioning of that -- of those facilities. So -- and again it's difficult for us to predict what that environmental legislation or those standards will be at that time. But there is a commitment in the Environmental Assessment that decommissioning will be conducted to the regulatory standards required for those facilities at that time. So that's I guess in a broad way addressing the issue of decommissioning. The company will be responsible for that activity. With respect to, I guess, compensation, I guess for accidental events, we attempted to undertake or did undertake the -- a response to Mr. Cranston on this as well. And I think he read part of the response earlier and that was in relation to setting aside a bond or some sort of fund for that. And that's not a typical industry practice to do something like that. And so we

-- there is no bond or financial pool set aside for those types of accidental events. But certainly companies that are responsible for those events that result in damage to property would be responsible for the remediation and compensation associated with that loss.

MS. BLACKADAR

And I don't know if the Board has had the opportunity to put aside copies of the Response to Undertaking No. 1 or not but there has been a formal written response provided by the Proponent on that -- on Dr. Cranston's question.

THE CHAIR

Yes, we do have that and I believe it's also on the table if anyone wants to refer to it. Okay. Actually -- sorry, before I get to that, I just -- we were trying to follow up on, I think one component of the previous question had to do with an unexpected abandonment or shutdown of the facility, would there be anything that applies specifically to that sort of a situation.

MR. DUNCAN

I guess I attempted to respond to that in general with

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regards to decommissioning. The responsibilities for decommissioning facilities regardless if it's an unexpected event or just the facility has reached the end of its lifespan. I guess the same response would apply to both scenarios.

THE CHAIR

Okay.

MS. BLACKADAR

Any decommissioning event would very likely require an environmental assessment, whether it's planned as part of the end of the life of the project or whether it's for any other reason.

THE CHAIR

Okay. Thanks. Okay, sorry. go ahead.

DR. COPE

Karin Cope. I just want to follow up this question on the unexpected decommissionings. Suppose the bottom falls out of the LNG market. There's not sufficient supply which some people do predict, suppose this project forecloses substantially sooner than it expects and it doesn't recoup its investments, suppose the company goes bankrupt, what, then is the responsibility for decommissioning. Is there insurance or some kind

of bond? Is this an insurable industry? We've spoken to a few people who suggest that is very, very risky industry to insure.

THE CHAIR

I'll see if Keltic has a response there.

MR. DUNCAN

I'll speak generally first and perhaps someone else can add to it but -- and I'm speaking on behalf of Keltic and I'm not an economist here or anything like that but certainly the rationale for the project has done -- they've conducted a business model that does project ahead. I think it was a 20 year projection and we talk about economic sustainability. That is the minimum for the project to proceed. It has to have a life expectancy of a minimum of 20 years. There is full expectations that this type of facility would last much, much longer. When you look at these type of facilities around, they certainly last -- you see them still in production or still in operations much longer than 20 years. That's the full expectation. And in order for the project to proceed there would need to be long-term commitments on supply of product and I'm not sure if Derek you can speak to the supply issue

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associated with natural -- LNG but certainly of the requirements in this industry is to establish long-term supply on markets with supply or to the customers. That's part of the business model. And Derek, I'm not sure if you can expand on just general LNG supply issues. But perhaps he can.

DR. COPE

Can I just ask for clarification. Your first comment deals specifically with petrochemical plant, is that correct, the business model. The second one's about LNG.

MR. OWEN

Yes, the actual business models would apply to both. I mean, they are world-wide competitive energy industries which will have to be economically viable. So you do have business models that apply to both with the duration of the life of a project.

DR. COPE

I understand that. I mean every major business enterprise has business models. Unfortunately the business environment doesn't always follow the model and that's my question, is what about that possibility in this extremely volatile industry. The reason why I

asked about your response to LNG is that there is a longer track record in terms of intensive work for petrochemicals if I understand correctly than there is for the current intensive development of LNG.

MR. DUNCAN

Well, I think there -- keeping in mind, LNG is new to this area. It's not -- it's got a history and perhaps Derek you can speak a little bit in terms of the world wide market or our experience with LNG but we recognize that it is new here to Nova Scotia but these types of facilities have been in operation for decades and perhaps Derek you can speak to some of that experience in other facilities.

MR. OWEN

Yes, LNG has come about predominantly because it is the most cost-effective convenient safe way to move natural gas around the world. So in order to do that you will have an installation where the gas is located and found which converts the natural gas at that stage into LNG. And because -- you're quite right, you mentioned earlier in your presentation that's -- that is the most convenient way to transport it. It is then transported, so instead of you know just to give you a

picture, instead of let's say trying to transport gas from Algeria to Goldboro, obviously a pipeline is totally out of the question. So the transportation of LNG is the most convenient way to do that. And there are LNG facilities throughout the world as Shawn has said. This is a new project for this area. But there are world wide facilities available. Now with regard to the supply of LNG, I might as well cover this point while we have it, I think earlier in the sessions, the same question came up and it's probably -- I'm quite sure it's in the transcripts from earlier sessions, but I could briefly cover the LNG supply. You can quite appreciate that this project is in its early stages. So much so that in essence we really do not have a project as yet because we don't have it environmentally approved. Neither do we have full funding in place. Nor do we have various product either upstream products or downstream product contracts in place either. So it is in the very, very early stages. And with regard to Maple LNG and 4Gas, we are at the moment in discussion with various sources for LNG supply. One of the unique situations -- and I'm quite sure you've -- you have actually found this out because I think you've been in

to the website for 4Gas, from some of the questions you raised. 4Gas are unique. We're not like any other LNG suppliers. What 4Gas do in actual fact and Maple will do here is that we divert and we operate LNG terminals. That's the sole business of 4Gas. And that's why, as you quite rightly mentioned there are four 4Gas terminals in various stages of either construction or environmental review at this moment. Three in Europe and one here. What this enables 4Gas to do, is that 4Gas could then go to all the LNG various suppliers, right throughout the world, whether it is West Africa, or whether it is Russia, or whether it is Trinidad Tobago, whether it is the Middle East, and offer them a source to process their LNG. And, as I said, we are not -- we're still in the very, very early stages, and we're in discussions with various suppliers. And ultimately, before this project is fully approved, we will have some firm contracts in place.

DR. COPE

Thank you. I'm sorry if I wasn't here at earlier sessions. I was at work. I'm sorry. I still would like to say that my two questions stand. There has been no real answer to the what if, if there is a

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bankruptcy, who is responsible, or the question about insurance and whether, in fact, this is -- I mean, at what price is this an insurable industry.

THE CHAIR

Okay. So, I'll ask if there is any follow up or answer to those particular issues. Bankrupt -- what happens in the case of a bankruptcy, and is there insurance in place?

MR. DUNCAN

I guess the quick answer is, we don't have the answer here at the table. I mean, that would be a response that we would have to go back and provide follow up associated with that type of level of response. If that's helpful to the Board or -- we could certainly provide some written response to that, that describes, generally, how these mechanisms are put in place. As Mr. Owen -- Derek answered, you know, we -- this is an early stage. You'd expect -- and there would be an expectation that corporations would have policies in place, and mechanisms that address this issue. And I may be speaking out of turn here, but I suspect they don't exist right now. But we can speak to, generally, what the industry standard is for this type of

facility, and this type of industry.

THE CHAIR

Okay, thanks. So, if you could provide that follow up.

MR. DUNCAN

Sure.

THE CHAIR

I think we have a question here.

DR. CRANSTON

Just for the record, if you look at the questions there, this question was asked ahead of time:

"What is the decommissioning plan, if an owner or part or all of the project declares bankruptcy?"

And the response was:

"Keltic will follow industry standards for financial guarantees and/or bonding requirements for decommissioning."

So, that's on the record now.

MR. DUNCAN

Thanks. Dr. Cranston knows our responses better than we do, apparently.

THE CHAIR

Okay. Yes. So, I'll just ask if there was anything

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further you can provide to what you had already provided, would ---

MR. DUNCAN

I think we can give some examples, maybe, some typicals of what that would include.

DR. COPE

Yeah, that's what I wanted to know.

MR. DUNCAN

Sure.

DR. COPE

I wanted to know what is the industry standard.

MR. DUNCAN

Yeah, I think that's something that can be provided. There's probably people behind me and next to me are probably ready to ring my neck for committing to doing that, but that's okay.

MS. GRAHAM

I guess for the record, I was going to suggest you commit to doing more. One of the things, just for the record, I want to be clear that my questions -- I have no doubt that the facilities, as in physical structures, can last for 10, 25, 50, even 100 years. That's actually not my concern. You build them,

they're there. It's making a fundamental alteration in that community and on that ecosystem. And I have no doubt that they will remain. So, my question isn't about the life span of the facilities, per se. It's perhaps about the life span and the commitment of the conglomeration of interests that have come together, to put together this project. So, I do think, for the record, that questions of what happens in the event of bankruptcy or dissolution of the present business partners, can potentially have an impact on what will happen with the physical facility that Nova Scotia will be left to deal with. And while I am happy to hear that there's industry standards about decommissioning, and that undoubtedly, there will be legal responsibility for that aspect of the process, I -- since so many people have spoken of what high hopes they have for this project, I hope that the -- those investing in this project have an equally high commitment to making this be, not only the industry standard, but, if possible, above, in order to really help this region get the jump start it so eagerly awaits. But my initial question wasn't only about legal requirements for decommissioning. It was about

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industry standards, or commitment, or, practically speaking, money put aside to deal with remediation in case of accidents or other non-anticipated events. So, I appreciate that an answer has been submitted about the decommissioning plans. I know there's a written submission. I would ask for further clarification on the kind of emergency, what if, worst case scenario. And not only the measures, but where will the money come from, and who is going to be stuck with the bill. Thanks. Is that one that can be answered now, or just ---

THE CHAIR

Well, I'll ask them that. Is that something you can address?

MR. DUNCAN

I think that we -- as indicated, I think we've provided that response to a question earlier by Dr. Cranston, which I think responds to the same type of concern or issue raised, or question raised. So, I believe there is a written response from the proponent on that. As indicated, it's probably available there as well.

MS. GRAHAM

Okay, thank you.

MR. DUNCAN

Yeah. Just as a comment, too, maybe, on this is -- you know, economic development, or benefits to the project, you know, this -- obviously this project -- and we've talked a lot about the economic benefits, the positive effects from the project. But we also heard a lot from the local communities, such as the Regional Development Authorities, and others, who are taking steps to build on these benefits, and from the community colleges. So, again, I think there is a lot of -- we -- you know, we've identified where there are positive benefits in the project, but we're also seeing some pretty active community involvement, with respect to building on these, in terms of economic development. And certainly, from what I've heard, it sounds like there is a lot of plans in place to continue with that growth, and building on the benefits from the project.

THE CHAIR

Okay. Thanks. Ray, did you have anything further?

DR. CRANSTON

Yeah, just a short question about the term long term supply is used a lot. Can you give us, without giving away all your secrets, what are we talking about? Is

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this like a year or two, or is this 10 or 20 years?

What's a long term supply?

MR. DUNCAN

Yeah. Can you ---

MR. OWEN

The long term supply, or short term supply. As far as I'm aware, there are -- in terms of long term, there are 5 year, 10 year, 15 year type contracts. In terms of short term supply, that falls into a couple of categories. There are short term contracts, and there's also what we call spot contracts, where you have no firm contract in place.

THE CHAIR

Do you know which type of contract Keltic would be pursuing? Is it -- I'm not sure if it's fair to ask if it's ---

MR. OWEN

It's not something that I could -- it's not something that I could project, at this moment in time, or -- what I can say from historical background, Sable Gas supply into the United States is both spot and long term.

THE CHAIR

Okay. Thanks. Anything further from the audience?

MS. GAGNON

Chantal Gagnon, Ecology Action Centre. I'm going to do something I haven't done yet in the -- all days. I'm going to talk to both people. But, before I do that, all this money talk has gotten me wondering about something. In the West, with all the projects, we've heard sometimes estimates of how much money, and then saying, "Okay, it's going to cost more." Now, we've heard that Keltic is a \$4.5 billion dollar project, but we've also heard that all the designs having been finished, and that the designs need to be put in place, checked by industry to get permits, and to ensure proper environmental mitigation measures and, you know, ensuring safety and health. So, how do we know, or when will we know, or will there be an -- it was just mentioned that there's -- not all sources of funds have been secured yet. Is there a possibility of the cost, once the new designs and all that is considered, is more than what is expected right now by Keltic, and that that might cause a liquidity problem? Or is the \$4.5 billion has been estimated on, like, the most environmentally friendly design, the most health safe

designs, the most technology design to put in place to mitigate all the measures that Keltic has brought forward?

MR. DUNCAN

Yeah. We've got a couple of people that could provide -- probably provide more of a financial or an engineering evaluation or description of the cost estimate that was put together. But just as a preamble to that, as you can expect, there is a certain costing that has been done through the business model, and that is, the projected business, or the budget for the project overall. And it's a very step wise evolution or development, you know. You go from step to step, whereby if you get approvals in hand, and then they go for investment -- investors, obviously, there is more capital available. So, there is -- there is -- it's a bit of a step wise progression. More capital means, and then you go to your next stage of feed, which is your engineering design. And those will firm up those numbers. You know, this \$4 25 million dollars we've given, it's a lot of latitude. I mean, that cost envelope, we expect, would include a lot of issues associated with environmental controls, and would

likely capture all the refined or detail design that's still to be undertaken. So, we -- the next step under the detail design would be to firm up those cost estimates. And those cost estimates are, at this stage of a project, are kept fairly high, for that reason. There's no way of knowing, without doing all the detail design work, how firm the final costs will be, but we do expect it would fit within that envelope. I don't know if -- Derek, do you want ---

MR. OWEN

No, that's fine.

MR. DUNCAN

That's basically the -- I think the response at this point, yeah.

MS. GAGNON

Okay. So, I'm sure this is pennies compared to a \$4 or \$5 billion dollar industry, but all the habitat compensation plan, the wetland habitat compensation plan, all these will have to be created, will probably take, you know, many years of monitoring and all that, and it's just, I guess, a guarantee that, regardless of cost, that these mitigation measures, these compensation measures, because, I guess, they're asked

by regulation, that they will be carried through. You know, I guess I'm just looking for confirmation on that.

MR. DUNCAN

Absolutely. Any of the mitigation that we've talked about, and which would be included in any permits or recommendations from report, you know, approvals, anything like that, the project and the proponent is already committed to carrying out, ensuring these are conducted. Just as a general, maybe, point of interest, we look at -- when we look at capital and projects, you know, as a rule of thumb, we look at the capital investment of a project and we assign, typically, a percentage that, at the end of the day, what the environment costs are associated with that. And my experience -- and I'm no expert in this, but generally, my experience on large capital projects is that about 1 percent of -- 1 to 2 percent of those costs are spent on environmental issues, or environmental features. And I believe that number is actually increasing over the years. So, that's the kind of dollar figure you're probably talking about, with any sort of capital costs associated with an

infrastructure project.

MS. GAGNON

Okay. Now for something different. Hey, isn't that a Monty Python thing or something? Okay. This is outside what I usually do, and part of the reason is from all the talk that happened today, and with the Regional Authority Development, Mr. MacDonald and Karin being here. This is more based on my personal experience, I guess. Since June, I have been working on this project, looking at environmental, social, economics, all kind of things. And one thing that struck me from my very first trip in Guysborough County -- many things did, but one thing is me there, in the sense, young women being there. And with the numbers that were presented to the Panel regarding all the out migration and the rural population and all that -- and I'm not questioning these numbers per se -- the one thing I would have liked to see is a breakdown by gender. Because one of the things I know that is different from out migration from the -- or from the population in counties from the '70s to today is that that's 30 years. I'm not even 30 yet. And if I was back in the '80s at my age, I'd probably be married and

pregnant of my third child, and that's not the case today. In the '90s -- mid '90s, when I went to Hotel Management, our teachers told us that five years before, the class would have been 80 percent men, 20 percent women. As it was, it was 90 percent women, 10 percent men. You know, not a good place to find a boyfriend, but -- what it was is a reality of the switch in trades, in the switch where women are -- my generation, anyways, were more into school, getting higher education. I went into -- then I did a degree in International Politics. It was more 60 percent men, 40 percent women. Now I have a Masters Degree in Resource and Environmental Management from one of the oldest environmental management schools, or study school in Nova Scotia, and they have mostly been males -- men, up until the 21st Century, and now it's practically 98 percent women, 2 percent men. And so, what that comes to mean, what I realize in Guysborough County, is if we're sending our daughters out to school, and they're getting a higher education -- and I confirmed this, also, with a professor at the university who specializes in coastal rural communities in Nova Scotia -- is that the young women go off the

school, and they don't come back to the rural areas. Because the type of education they're getting is not finding employment in the rural areas. And even with me, I'm an Environmentalist, I love space, and I love, you know, Guysborough County for its -- all that it has. But for people like me, and for generations like me, there is nothing to go to, in that sense. And projects like Keltic don't bring employment for -- not that much, for women of that degree. And so, I guess what I wanted to sort of bring forth is that when you're looking at all these census numbers, looking at out migration, looking at unemployment situation, I think it's important to look how many women are part of that unemployment, how many women play a role of unpaid work in rural communities, and who are the ones that stay and that do work, and how are the daughters going to come back in these areas? And this is not based on statistics, because I didn't do the whole statistics analysis, but of all the young women my age that I've met in Guysborough County, Antigonish County, none of them were coming back, after they were doing their studies. They were all going to go to cities, or they were all going to go somewhere else. None of them were

looking to come back after their studies. And the only one I do know that came back, she's a paramedic. And it's because she has that paramedic training that she can stay here. So, I guess that's just something I wanted to bring forward, in the sense of when you're looking at all these census numbers, at least 50 percent of the population is women, and that does influence on the numbers. And I think that if you're going to look at all the situation, you need to look at that aspect, as well. So, I just thought I'd like to say that, because usually when we get good paying jobs, we do spend a lot of money, but not all of us do.

Thank you.

THE CHAIR

Okay. Thank you.

MR. MacDONALD

Hi. Gordon MacDonald, Guysborough. Just wanted to touch on the issue raised by Chantal. The Guysborough County Economic Outlook Study that I referenced, and most of the statistics and the information we derive from that, that study did deal with complete breakdown of the demographics. I know in our house, there is -- we have four children. Three of them are female, so

that's one that, obviously, very cognisant of. I should note, too, that -- and I think NSCC, Steve Foran, has left, but there are more and more women getting involved in non-traditional roles. We have done what we can to promote that as well. And in fact, this year, it was the -- a young lady from Indian Harbour Lake that won the provincial award. She was a welder. She won -- I forget what the scholarship was, but she won a scholarship that was sponsored by ExxonMobil, and she was this year's recipient.

THE CHAIR

Okay. Thank you. Anything further from the audience or the Panel? Questions, comments? Okay. Thank you very much. We have one final session scheduled for tomorrow afternoon at -- sorry, 1:00, from 1 to 4 tomorrow afternoon, here, same location. Thank you very much.

ADJOURNED TO SATURDAY, NOVEMBER 25, 2006 AT 1:00 P.M.

CERTIFICATE OF COURT REPORTERS

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Gwen Smith-Dockrill, CCR
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Ruth Bigio, CCR
Janine Seymour, CCR
Lorrie Boylen, CCR

Saturday, November 25, 2006 at Halifax, Nova Scotia