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## **Order of Appearances**

Procedural matters brought forward by the Chairperson 13432

### **Gitxaala Nation Panel 1**

Environmental Effects/Socio-Economic Effects (Risk Assessment Methodology)

Dr. Andrea Bigano                      Dr. Graciela Chichilnisky      Mr. Matt Hammond

Dr. Craig Candler                      Dr. Ginger Gibson

Introduction by Mr. Robert Janes for Gitxaala First Nation 12389

Examination by Mr. Richard Neufeld for Northern Gateway Pipelines 12441

Examination by Member Kenneth Bateman of the Joint Review Panel 13046

### **Gitga'at First Nation Panel 4**

Economic and Informed Decisions

Dr. Robin Gregory                      Dr. Chris Joseph

Examination by Mr. Bernie Roth for Northern Gateway Pipelines 13174

Examination by Member Hans Matthews of the Joint Review Panel 13884

### **Gitxaala Nation Panel 2**

Potential Impact on Aboriginal Rights and Interests/Engagement and Consultation

Chief Elmer Moody

Introduction by Mr. Robert Janes for Gitxaala First Nation 13939

Examination by Mr. Neufeld for Northern Gateway Pipelines 13943

## **Procedural matters brought forward by the Chairperson 13432**

### **Potential conditions to mitigate risks and effects of the project**

Sheila Leggett, the Chairperson of the Joint Review Panel (JRP), announced after the lunch break that “The Panel will be releasing potential conditions for comment this week. Releasing potential conditions prior to the close of the hearing is a standard step in the hearing process and is mandated by the courts. It does not mean -- and I want to emphasize this for everyone -- it does not mean that the Panel has made any decisions on whether or not to recommend approval of the Proposed Project. The potential conditions will be available to all parties ... for comment during the final written argument phase. Further details on the potential conditions and the process for commenting will be posted on the Panel’s website. [[Exhibit A346](#), [A346-5](#)] 13432

### **Introduction by Mr. Robert Janes for Gitxaala First Nation 12389**

## **Gitxaala Panel 1: Environmental Effects/Socio-Economic Effects**

Mr. Janes introduced the five witnesses for Gitxaala Panel 1.

Dr. Virginia Gibson is the author of "Northern Gateway Pipelines (NGP) Assessment of Effects on Gitxaala Nation Cultural Rights and Interests, Including Use and Occupancy" [[Exhibit D72-28-2](#)], and also a document entitled "Environmental Risk from Enbridge Gateway as an Impact to Gitxaala Nation Use of Lands, Waters and Resources for Traditional Purposes" [[Exhibit D72-28-3](#)]. Her CV is [Exhibit D72-28-5](#).

Dr. Craig Candler is a co-author of the same two reports. His CV is [Exhibit D72-28-4](#).

Mr. Matt Hammond is the author of "Expert Opinion on Petroleum Tanker Traffic and Accidents and Malfunctions in Browning Entrance and Principe Channel", with particular attention to Section 7.0. [[Exhibit D72-32-7](#), Adobe 19 to 27] His CV is at Adobe 50 to 52 in the same exhibit.

Dr. Andrea Bigano is the author of "Risk Aversion and Lay Risk Assessment in Oil Spill Accidents." [[Exhibit D72-30-2](#)] His CV is [Exhibit D72-30-3](#).

Dr. Graciela Chichilnisky prepared a report, [Exhibit D72-27-2](#), and her CV is [Exhibit D72-27-3](#).

## **Examination by Mr. Richard Neufeld for Northern Gateway Pipelines** 12441

Mr. Neufeld began by asking general questions about Dr. Bigano's Risk Aversion and Lay Risk Assessment in Oil Spill Accidents report, [Exhibit D72-30-2](#). 12446

### **Calculating externalities associated with extraction and transportation of oil**

Mr. Neufeld asked about two of Dr. Bigano's previous studies on oil imports in Europe, referred to at Adobe 8, in which he offers a framework for assessing risk. The papers seek to calculate the environmental and operational externalities of extracting and transporting crude oil. Dr. Bigano answered questions about the methodology and objectives of the papers. 12489

Mr. Neufeld interpreted Dr. Bigano's findings to imply that transportation of oil isn't the main concern for environmental policy, but that policies should focus on extraction and end use of oil. Dr. Bigano explained that there are other issues and perspectives captured in the paper, which his methodology addresses. Mr. Neufeld continued with detailed questions about the calculations and findings of Dr. Bigano's work, particularly around derivation of risk premiums. 12565

Dr. Candler pointed out that Dr. Bigano's work is based on a context of particular places, people and studies, whereas the current case of Kitkatla involves a very different community with different values and priorities. Discussion continued on how Dr. Bigano's methodology transfers to other cases. 12616

## **Risk perception**

Mr. Neufeld turned to questions for Dr. Candler and Dr. Gibson, from [Exhibit D72-28-3](#). He began by asking about the stated factors of risk perception: “familiarity with the activity, acceptability of the activity or technology, trust in regulators and perceived benefits of a project.” Dr. Gibson indicated that there are other factors influencing risk perception, such as externally imposed threats and technological hazards. 12626-12638

Dr. Gibson continued, “in the case of what’s being discussed today, an oil spill is an externally imposed and not voluntarily accepted risk that... is thrust upon them in the context of this decision...in which an externally derived and externally driven risk assessment has been performed with... no participation... for people to define their sense of the probabilities, their sense of the consequences and their sense of the significance of an oil spill on the things that they love and cherish and care most about” 126389-12639

## **Aboriginal engagement in risk assessment**

Mr. Neufeld asked if Dr. Gibson was aware that her clients had been invited to participate in the Quantitative Risk Assessment Working Group, which sought to scope the study, select experts and review draft stages of the report. Dr. Gibson spoke about the complexity of this type of consultation, noting, “it’s not enough to say that they were invited”. 12641-12655

Mr. Neufeld asked if Dr. Gibson was aware of NGP’s efforts to establish a multi-stakeholder process in the QRA to include community views and technical requirements. Dr. Gibson again stated the importance of understanding why some groups aren’t engaged, despite being invited to such groups. She spoke of her experience being involved in many risk assessments where the framing is established long before participants arrive, effectively excluding populations who are at risk, as they “cannot see their place in it”. 12657-12663

Mr. Neufeld pointed out that Dr. Gibson’s clients did in fact have a representative at the working group meetings. 12666

Returning to the report, Mr. Neufeld noted that perception of risk is itself an impact, and asked if the authors agreed that it is in the interest of organizations that oppose a project, to increase perceptions of risk in order to increase opposition based on that fear. Dr. Candler responded that individuals trying to understand risk draw on many sources of information and expertise, noting, “different individuals in different circumstances take very different things into account”. 12670-12677

Mr. Neufeld asked if that places importance upon accurate information being presented to communities who are at risk. Dr. Candler responded, “it’s tempting to believe that information is the problem and the solution. But in my experience...it’s not so much information, it’s capacity building”, mentioning appropriate engagement, understanding what people’s priorities, fears and concerns are, and what can be done about them. 12678-12681

Dr. Gibson added her thoughts, again speaking about the importance of community engagement and participation, which is different than an external-expert driven process, stating “communities bring vital information into a risk assessment that changes the questions scientists ask. It changes the consequences that scientists will observe and look at and it changes fundamentally, the outcomes and the probabilities that are understood. 12682-12684

### **First Nations capacity building and meaningful engagement**

Mr. Neufeld asked about capacity building in communities, inquiring if the witnesses were familiar with NGP’s programs for coastal communities for emergency response planning. Dr. Candler indicated, “capacity building can mean basic skills and training... it can also involve essentially shifting the locus of control in terms of decision making and... being able to make responsible—responsive management decisions”. 12688-12691

Mr. Neufeld spoke about the development of community response plans and asked whether they would address some of the witnesses concerns around community engagement and risk assessment. Dr. Gibson again spoke about communities needing to be engaged at the design phase of any program, in an effort to truly engage them, rather than being introduced to mitigation measures that have been created without their input. She gave examples of meaningful engagement, “intensive interviews, focus groups and engaged work through the risk assessment process in problem formulation, in the identification of consequences, in the use of—and the kind of information that’s generated to understand the risk”. 12692-12698

Dr. Gibson described a risk assessment she has been working on that took into consideration a traditional use study of the local First Nation, which ultimately changed the focus and direction of protection and mitigation efforts, which were designed by the community, and “don’t look like the kinds of risk assessment measures that a western scientist or an engineer might bring forward”. 12699-12705

Dr. Candler added, “There’s risk assessments that go on all the time in communities. Where’s the wind coming from; where is it safe for me to get clams for my family”. 12706-12708

Mr. Neufeld spoke about NGP’s intentions to involve Coastal Nations in the preparation of geographic response plans and environmental sensitivity atlases, asking if that is an example of what the witnesses are suggesting. Dr. Candler indicated that the commitments are very vague, and don’t give him confidence in meaningful mitigation and implementation measures. Dr. Gibson spoke about the necessity of trust in the process, indicating, “as an expert reviewing this... we don’t see the right information being built so that that capacity is there to respond... given the status of the information that has been collected, we do not believe the right valued components have been identified. We do not believe the accurate consequences have been depicted”. 12710-12730

Dr. Candler spoke about the absence of meaningful and appropriate information, “the human health risk assessment took—rather than actually doing work with the community

or relying on reliable alternate sources... seems to have relied upon a study that was done in the late 1980s” which he indicated did not give a very reasonable view. Discussion continued on the subject. 12731-12760

Mr. Neufeld directed questions at Dr. Chichilnisky regarding details of her research approach, her understanding of the intention of the project, and the interests of First Nations in the area, with regards to her report, [Exhibit D72-27-2](#). 12767

Dr. Chichilinsky was asked to explain the distinction between catastrophe and disaster in her report. She responded, “I sympathize with your desire to get the terminology totally straight but the key issue here is that there are catastrophic events at stake and the methodology that I have seen in all the risk assessment reports that...the proponent has provided...are simply not adequate for those types of risks. Mr. Neufeld continued with questions around the concept of catastrophic risk, Dr. Chichilinsky commented, “I think we’re talking about the livelihood and the potential extinction of an entire culture”, and elaborated on her thoughts. 12838-12857

### **The importance of natural resource exports to the Canadian economy**

Mr. Neufeld indicated that neither he nor the witness were in the position to debate the potential distinction of cultures. He asked if Dr. Chichilinsky was aware “that natural resource exports are extremely important to the Canadian economy”. She provided her opinion, “as an expert, the human resources in Canada are the best, the most important and the critical wealth of the nation far ahead from the natural resources”. 12859-12863

Mr. Neufeld persisted, “are you aware of the importance of the natural resources exports to the Canadian economy?” The witness responded, “If you mean that currently there is a lot of emphasis on natural resource exports, you would be right. But if you are asking me, as you perhaps should, as an economist, should natural resources be an important component of the Canadian economy to the extent that they are now, I may have a different answer.” 12865-12867

Discussion turned to the importance of the USA as an oil market for Canadian oil. Mr. Neufeld asked if the witness agreed that the loss of this market for the Canadian economy is an example of a catastrophic risk. Dr. Chichilinsky answered, “absolutely not... in fact, it could be beneficial for the Canadian economy under certain circumstances”. She continued with a description of the dangers of specializing in resource exports, often referred to as the “natural resources curve”, stating “it has very serious consequences on the exporting nation, consequences that I wouldn’t want for Canada.” Similar discussion continued. 12869-12881

### **Assessment of accidents under the *Canadian Environmental Assessment Act***

Mr. Neufeld established Mr. Hammond’s expertise and his work on [Exhibit D72-32-7](#). Discussion ensued around methods under the CEAA, and the flexibility it allows for assessing effects of accidents and malfunctions. Mr. Neufeld also questioned the witness about his understanding of the scope of NGP’s QRA and ERA. 12905

Mr. Neufeld continued with questions about Mr. Hammond's work, and the theory and methodology used in risk assessment within EIAs in general. Mr. Hammond stated that he felt NGP's DNV did not "fully consider the consequences, which is—I think the fundamental flaw in the overarching methodology that this risk assessment took". 12957-12960

### **NGP's risk assessment**

Quoting from Mr. Hammond's evidence, Mr. Neufeld suggested that the DNV "*focuses efforts on risk reduction measures and emergency response planning in the case of accidents*", as the evidence stated some risk assessment principles do. Mr. Hammond responded that NGP's risk assessment "did not include all of the consequences that needed to be addressed. So when you're applying risk treatment to develop your contingency measures...they need to be focused on a complete risk assessment. Otherwise, you're developing something that's focused on just the likelihood scenario and without the full understanding of what all the sensitivities are in this particular area." 12961-12964

Turning to Adobe 5 of [Exhibit B3-37](#), Mr. Neufeld asked if the table shows all the steps taken to look at consequences "in some detail". Dr. Gibson interjected, commenting on the information gaps in the report in question, which she saw as being: 1, gaps on the questions and impacts of fear, which, she stated, can't be assigned mitigation measures, and 2, the effects on governance of having external choices imposed on a Nation, limiting the Nation's ability to influence outcomes and affecting its culture and social structure. 12967-12980

[Note, before Dr. Gibson described her description of the second factor, Mr. Neufeld questioned if "people being frightened by their experts" would be an example of the first factor she spoke about. Mr. Janes asked that Dr. Gibson to be allowed to finish, Mr. Neufeld expressed an interest in hearing from Mr. Hammond instead, and The Chairperson called upon Dr. Gibson to finish her statement. 12971-12978]

Mr. Neufeld again asked Mr. Hammond for his opinion on the wide range of consequences provided in the exhibit. Mr. Hammond answered, "it did include consideration of consequences... But it did not integrate the understanding of those consequences with the understanding of the likelihood or probability of those effects to occur". He continued with comments around the difference between the methodology in the exhibit, and that of the semi-quantitative risk assessment in [Exhibit B69-6](#). 12983-12995

Discussion continued around concerns of methodology in the risk assessment, and comparison to other methods, particularly those related to the EIA process in Western Australia, as referred to in Mr. Hammond's work. 12998

### **Examination by Member Kenneth Bateman of the Joint Review Panel** 13046

### **How to engage communities that are not engaged?**

Mr. Bateman noted the model outlined by the witnesses, and asked, “what do you do when a particular community is not prepared to be engaged?” Dr. Gibson explained that such a scenario could be the result of technical language excluding a community, or of a community not trusting a process because of a legacy of exclusion, or of a lack of financial capacity, and spoke about the need to identify the reasons, and find solutions to them. 13046-13052

Mr. Bateman asked if the witnesses had experiences with communities who weren't engaged, and then steps were taken to address it, and solutions were found. Dr. Candler spoke about the limited ability of a proponent to deal with complex historical factors and the responsibility of the Crown to ensure appropriate and meaningful inclusion of Aboriginal knowledge. He commented on the things that proponents can do, such as providing adequate time and respect. He stated, “you have to have mechanisms to resolve that history and come to a new place. That's what reconciliation is all about. It's challenging, it involves Proponents absolutely, but it definitely requires very active participation of the Crown, as well as the community.” 13053-13056

Dr. Gibson added comments about the importance of listening with an open mind, rather than “arriving [to communities] with a frame and a set methodology”. 13058-13059

Mr. Bateman asked the witnesses for their thoughts on the responsibilities of a community in a regulatory context such as this, and how those responsibilities are measured. Dr. Gibson discussed a variety of ways of measuring responsibilities, such as “the amount of effort that's put forward from the community perspective on the process itself” within in the regulatory setting. She also spoke about a visual presence in a room, referring to the current hearing, “people have left their homes and come, they're here, they're listening, and I'm certain they have lots to say”. She also spoke about communities undertaking community-based risk assessments, independent of a proponent, in an effort to adequately inform itself. 13060-13067

Following up, Mr. Bateman asked “have you been in a situation where the parties have been in the same room, they're on the same page, and they're working to speak the same language, everybody's doing their part, but ultimately there are gaps and the parties simply cannot bridge those, then what?” Dr. Candler provided his opinion, which includes the need to “really look at the record and see if the parties really are listening to each other...for example, if studies are done and information is put forward, as Gitxaala has done, was that information actually meaningfully taken on, in terms of what it means for the process, for the application, for the risks to be assessed, and was anything done about it.” 13068-13072

Dr. Gibson spoke about her experience working in regulatory sessions under the *McKenzie Valley Resource Management Act*, and using collaborative approaches to understanding problems through technical sessions, and innovative ways of providing information and solutions. 13073

Dr. Candler added, “the flow of information isn’t necessarily one way”, referring to the importance of particular cultures and political structures being recognized in the application materials. 13079-13080

Mr. Bateman next asked about cultural fluency, inquiring if the witnesses have seen examples where communities lack the fluency to engage with proponents or regulatory bodies. 13081

Dr. Gibson referred to community hearings opening with prayers and acknowledgement of whose land is being stood on, and other cultural practices, stating, “the offering of protocol and the recognition of protocol changes the outcomes. It changes the way that things occur, what is said and how people are recognized”. Dr. Candler added thoughts on elements of inclusive structures of hearings. 13090-13100

Mr. Bateman asked a final question to the witnesses around a scenario where a party has withdrawn or refused to participate in a proceeding, and later indicates its interest in engaging, while the regulatory process has already carried on without it, asking, “what steps need to be taken to either reintegrate or to introduce to the first time, a party, midway in a process?” 13102

Dr. Candler explained, in such a case, “whether it’s this panel or other Crown players, should probably be really thinking about where we are in this process and how we got here and what perhaps went wrong earlier on an how we can fix it”, adding that he doesn’t know of examples of a community not caring about a project. 13105-13110

Dr. Gibson reflected on her own experience, speaking about the importance of respectfully helping communities engage, providing them with discrete documents, and asking whether the communities’ concerns have been addressed, as well as finding ways to resolve concerns in a patient and understanding way. 13115-13124

## **Examination by Mr. Bernie Roth for Northern Gateway Pipelines 13174**

### **Gitga’at First Nation Panel 4 - Economic and Informed Decisions**

Mr. Michael Ross introduced Drs. Robin Gregory and Chris Joseph yesterday, April 9. The evidence for which they are responsible is the “Gitga’at Economic Impact Report” [Exhibit [D71-7-3](#)] and “Gitga’at Informed Decisions Report” [Exhibits [D71-7-9](#)], and contributed to the Gitga'at response to NGP IR No. 1 [[Exhibit D71-17-2](#)].

Mr. Roth asked Dr. Gregory if he were the lead consultant for all the Gitga’at “teams,” and if he had recommended Dr. Theresa Satterfield (Panel 2 – Cultural Impacts, April 8), and Drs. Duane Gill and Liesel Ritchie (Panel 2 – Social Impacts, April 8). Dr. Gregory said he had recommended Dr. Satterfield and knew her well, but did not know Drs. Gill and Ritchie and because of that they had been recommended by others. “It means nothing more than that.” 13183

### **Apparent discrepancies in the economic report**

Mr. Roth asked first about the assertion in the economic impact report that 13% of the the value of the BC coastal fishery falls within the Gitga'at assessment area. [Exhibit [D71-7-3](#), Adobe 19]. He asked about apparent discrepancies between statements in the report relating to how many Gitga'at fisherman are involved in the commercial fishery, and the value of the fishery. 13215-13278

He also said that value of salmon given in the report [Adobe 29] is an order of magnitude greater than it should be. The witnesses accepted an undertaking (U-79) "to do a recalculation ... to determine whether or not there was an order of magnitude error in calculating the traditional harvest values for the Gitga'at assessment area as they related to the five species of salmon listed by Dr. Joseph and Dr. Gregory." 13279-13332

Mr. Roth next looked at seafood processing in the economics report, where \$86 million is given as its value. [Adobe 20]. He said, "You ascribe 23 Gitga'at jobs to processing plants," and asked what fish processing plants are located in the Gitga'at assessment area. Dr. Joseph said there are none in the Gitga'at marine use area (MUA), so those jobs are not in the assessment area, although they may rely on fish caught within the MUA. 13338

### **Tourism at risk**

The economic report describes tourism as the cornerstone of the Gitga'at economy, creating seasonal employment and bringing in annual revenues of \$3.7 to \$6 million. [Table 7, Adobe 24]. Mr. Roth noted that between \$2.7 and \$5 million of the total is attributed to King Pacific Lodge, a summer operation which employs about 30 people, and which is owned by Japanese investors. Two of the sailing charters noted are based in Vancouver but operate partly in the MUA. 13359

Dr. Gregory said, "A primary factor influencing demand is the area's reputation as pristine wilderness, rare wildlife, quality and accessibility of a wide range of wilderness recreation activities." Mr. Roth said "I'm just testing your suggestion that if this project proceeds that the cornerstone of the Gitga'at economy as a tourist economy is at risk. And I'm specifically looking at the King Pacific Lodge, and I'm positing to you that you didn't do any research on the demographics and you have no basis to conclude that the revenues, at least for the King Pacific Lodge, are at risk as a result of this project proceeding." 13413

### **Transient traffic vs installed facilities**

Of the tourism business listed in Table 7, Mr. Roth asked which "have a physical presence within the [MUA] rather than just transient vessel traffic through it." Dr. Joseph agreed that the only one with facilities is King Pacific Lodge. Mr. Roth asserted that the lodge is anchored in Prince Rupert for all but the summer months, that Gitga'at employment at the lodge is 10 to 12 summer jobs, and the revenue to the Gitga'at is \$50,000 a year from a protocol agreement. 13440

Dr. Joseph said he had spoken with Michael Uehara whom he believed to be the owner of King Pacific Lodge. Mr. Roth observed that Mr. Uehara is on the Board of ForestEthics.

## Revenues to Gitga’at from the MUA

Referring to Table 9 [Adobe 27], Mr. Roth noted that \$1.4 million of revenue is in “ecosystem services.” He asked for confirmation that approximately \$1 million of this is from the BC and Canadian governments, and approximately \$400,000 is from carbon credit sales or forestation programs. Dr. Gregory said, “The Gitga’at territory is providing a flow of ecosystem services that these different organizations ... consider to be important. Were there damages to the biophysical environment, ... were those ... ecosystem services to decline, that could affect funding.” “Simply the routine operation of [this] project could affect perceptions of the area and [that] could then affect ... the funding that we’re talking about right now.” 13481

**Table 9. Estimated annual revenues and annual employment from marine-dependent sectors in the Gitga’at MUA.**

Industry	Annual Revenue (2010 CDN)	Annual Total Employment <sup>1</sup>	Annual Gitga’at Employment <sup>1</sup>
Commercial fishing	\$7,023,435	unknown	~70
Seafood processing	\$86,296,871	~1,450	~23
Tourism	\$4.2 to 6.5 million	unknown	~30
Ecosystem services	over \$1.4 million	unknown	>5
<b>total</b>	<b>over \$99 to 101 million</b>	<b>&gt;1,450</b>	<b>~128</b>

Note. 1. Employment includes full-time, part-time and seasonal employment.

## Carbon markets and non-market activities

Carbon markets and their vulnerability to an oil spill were discussed. Mr. Roth asked, “On what basis would that funding be affected if this Project were approved?” Dr. Gregory replied that some of this funding relies on a pristine marine environment and “some of this funding perhaps could go down were there damages to the environment.” 13519-13556

Table 11, “Non-market activities” [Exhibit [D71-7-3](#), Adobe 30], shows \$302 million in non-market activities – “Traditional Harvest” at \$1.9 million and “Other Ecosystem Services” of \$300 million. These valuations were obtained from Table 20: “Annual Ecological Services and Economic Values in CFN Traditional Territories” in a report by Gunton & Broadbent in 2012 [Exhibit [D35-14-4](#), Adobe 53]. Mr. Roth said, “Dr. Gunton had come up with a total figure of approximately \$30 billion associated with ecosystem goods and services for the entire North and Central Coast; correct?” Dr. Joseph replied, “That was an estimate that Dr. Gunton and I came up with in a prior report, prior to this Enbridge proceeding.” Mr. Roth asked how “the Project would affect any of the values on that table.” Dr. Gregory said “it would be best to ask those questions of people who are experts in those areas.” 13560

## Passive use values

Mr. Roth observed that Table 23, “Damages from a major spill on non-use values” [Adobe 65] shows a range of from \$10 million to \$168 million. Dr. Gregory tried to explain these values, but Mr. Roth said they had been discussed extensively in Edmonton [Volume 73, 08Sep2012]. Mr. Roth referred to one of his aids to questioning (AQ84-A), a 1992 paper by Dr. Gregory and Mr. Mendelsohn called “Managing Environmental Accidents”, which was included in a book entitled “Valuing Wildlife Resources in Alaska.” He quoted a section which described the uncertainty associated with quantifying

non-use values. Dr. Gregory said that this paper was written 20 years ago, before there was a lot of talk about non-use values and attempts to quantify them, before much work had been done on the Exxon Valdez spill.

### Option values

A discussion of “Option Value” as illustrated in Figure 2, “Total economic value framework [Adobe 10]. Dr. Gregory said that “the term non-use values now is used pretty much exclusively in connection with the protection of a pristine environment.” He noted that dotted lines connect Option Value to both Use Value and Non-use Value, indicating potential for value in both categories. 13608

Mr. Roth said that Dr. Mansell’s Cost-Benefit Analysis for NGP contained evidence that “there is is significant unquantified option value” with the Project. He also mentioned the Keystone XL pipeline, crude oil differentials, oil transportation capacity bottlenecks in the US. Dr. Gregory said he was “getting at ... the estimated benefits for the proposed project. ... [But] that it’s ... extremely difficult for humans to evaluate a proposal without having something to refer that to, without being able to put that into a context.” For this reason, “the Panel is circumscribed in what they’re able to do” by its limited ability to examine alternatives. He said he found the discussion of alternatives in the application, “extremely partial.” 13663

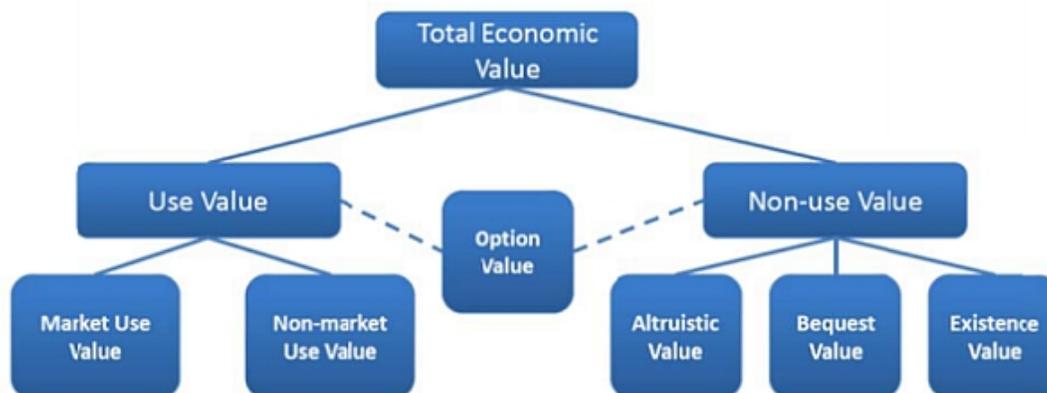


Figure 2. Total economic value framework.

### Offsetting values from the project

Mr. Roth turned to Adobe 61 and said, “At the end of the first full paragraph you’re essentially saying there may be some offsetting gains such as increased environmental monitoring funding or economic development to help the Gitga’at but these offsetting financial flows are likely to be much smaller than the current flows tied to a healthy environment.” He asked, “What [was] your basis for that information? [Had] you actually asked the Gitga’at what was potentially available, what had already been discussed?” Dr. Gregory replied, “We did not -- we were not part of those discussions and we did not ask for that information in terms of offsetting benefits agreements with any of the Gitga’at.” Mr. Roth: “You weren’t aware that a very long-term bird in the hand was being proposed by Northern Gateway to the Gitga’at?” 13688

### **Compensation agreement rescinded by Gitga'at**

To Mr. Roth's questions about costs and values, Dr. Joseph said, "We're able to put a figure on costs, but ... compensation is a much broader issue. ... Many of the things that could be impacted may not be compensable monetarily. This is a problem that we've seen throughout the Application from Enbridge is that compensation is often brought up as a mitigation measure and compensation is really at the bottom of a hierarchy of how things should be addressed. If you want to address a harm, you want to address it to the fullest extent possible and compensation is at the bottom." 13703

Mr. Roth said, "I take it you were unaware of the agreement that Northern Gateway had with the Gitga'at. ... Social, cultural, environmental factors were all in the top of the list and the half a million dollars in funding offered to resolve and talk about mitigation list had compensation at the very bottom. Dr. Gregory: "You put this in the past tense." Mr. Roth: "Well, because the Gitga'at rescinded the agreement following the receipt of your report and Dr. Gill and Ritchie's report." 13720

### **Perception of risk can be offset by benefits**

AQ84-B is a 1993 report used by Mr. Roth entitled "Perceived Risk, Dread, and Benefits" by Robin Gregory and Robert Mendelsohn. Dr. Gregory said, "The implications here for risk communication [has] not been talked about much. ... If one is dealing with benefits and risks that, in order to make a project more acceptable, one would try to decrease the risks; for example, through mitigation or perhaps through compensation. What these results show [is] that increasing the salience of the benefits might have more effect, in some cases, than attempts to convince stakeholders that risks are small. ... Even though nothing is done ... to change the risks ... a heightened salience of benefits ... suggests that the [perception of] risks become smaller." 13739

### **Risk probability & serious information gap**

Mr. Roth brought up the topic of risk probability, [Exhibit [D71-7-3](#), Adobe 69] to which Dr. Gregory said, "The work that [we] did was better than a back of the envelope calculation but it was nowhere near the kind of work that should be done. ... We simply lack the information and it's not available in the reports from the Proponent." "The high quality probabilistic information is not available ... to members of the Joint Review Panel either at this time. I find that a very serious information gap." 13758

Mr. Roth asked, "The conclusions in your report and the conclusions in Dr. Satterfield's report and the conclusions in Dr. Gill and Ritchie's report, are all based on a major oil spill being likely or inevitable; correct?" Dr. Gregory replied with a "two-part answer." The first was a comparison of spill occurrences in Alaska with volume of oil proposed for NGP which produced "an estimated 0.46 spills per billion barrels handled." For an average spill size of about 68,000 barrels they then estimated "a return period of about 11.3 years." The second starts with the statement given by NGP in a response to Gitga'at IR No. 1 [Exhibit B45-6, Adobe 51] that, "*the return period for a spill of any size is estimated to decrease from 250 to 200 years*" if the number of tankers were to be increased, and "Incident frequency would increase (return period would decrease) due to the increased density of shipping." Dr. Gregory said, "There's two questions here. One is: What is the return period for a major spill? But then the second is: What's the return

period for a spill of any size and is that return period large enough that it should be something that leads to an active discussion regarding whether the risks of the Project are or are not acceptable?” 13783

### **An expert judgment elicitation process needs to look beyond the arithmetic**

Mr. Roth noted that in the Informed Decision Report [[Exhibit D71-17-2](#)] Dr. Gregory indicated “that the lead authors that did that back of the envelope calculations had no expertise in the area of marine oil spills, marine transportation, marine safety?” Dr. Gregory said, “All one needs to be able to do is to multiply and divide.” He said that, “Given estimates from one party that say one thing, given estimates or calculations like we have made here from another party that say something quite different, I think the jury is out: Where does the truth lie?” He said that the JRP needs the benefit of “an expert judgment elicitation process” in which experts can come to some consensus. 13824

Mr. Roth suggested that the working group convened for the Semi-Quantitative Risk Assessment (QRA) by Det Norske Veritat (DNV) is essentially the process that Dr. Gregory had just recommended. Dr. Gregory disagreed. 13841

### **Examination by Member Hans Matthews of the Joint Review Panel** 13884

#### **Witnesses awareness of new evidence and information updates**

Member Matthews noted that the Gitga’a evidence was done in 2011 and asked if the witnesses were “aware of the updates on information that could maybe enhance some of your findings or compliment some of your work?” Dr. Gregory replied that “The 2012 Cost Benefit Analysis [by Wright Mansell] went partway towards addressing some of the concerns that Dr. Joseph and I and others had raised in our reports. I’m not aware of some of the other work that has been done, perhaps with reference to marine oil spills or other concerns.” 13885

Dr. Joseph said that of what has come out, “I don’t think anything affects the substance of our conclusions. ... There’s a big gap in terms of understanding the non-use values. ... I’m not aware of anything that’s addressed to tourism. ... There’s been some important steps made but it seems like there’s some really big gaps.” Dr. Gregory added cumulative impacts to the list. 13892

Member Matthews: “We have 160 something sessions of panel meetings and 70,000 pages of documents ... there’s been a lot of stuff and material filed since your report. ... Was there any barrier [to either of you] picking up that material, ... and getting ... back to your client?” Dr. Gregory spoke frankly to the fact of being extremely busy and unable to dedicate the time to reading the material. He offered his comments as “a bit of an apology.” Dr. Joseph said, “as Dr. Gregory was talking earlier, a better process would negotiate knowledge as opposed to pit experts against one another.” 13904

### **Introduction by Mr. Robert Janes for Gitxaala First Nation** 13939

## **Gitxaala Nation Panel 2 - Potential Impact on Aboriginal Rights and Interests**

Mr. Janes introduced Chief Moody. “There's no expert report for Chief Moody to adopt; he gave his testimony at Lach Klan (Kitkatla Village) [[Vol 26](#) March 12, 2012]. Chief Moody filed an affidavit which appears as [Exhibit D72-22-02](#) to D72-23-1, “which is primarily just an identification of some correspondence.”

## **Examination by Mr. Neufeld for Northern Gateway Pipelines 13943**

### **Gitxaala traditional territory and overlap with other jurisdictions**

Mr. Neufeld thanked Chief Moody for the hospitality he and the Gitxaala community had provided during the oral evidence hearings at Kitkatla. He put up the transcript of that hearing and turned to paragraph 17630. [[Vol 28](#), 14Mar2012] in which Chief Moody was asked, “*If we look at the tanker route up Principe Channel, is there anywhere that is not part of the house territory of one Chief or another?*” Chief Moody replied, in part, “*There is no parcel of land, no tract of waterways that does not belong to one of the smgigyet<sup>1</sup>. It is Gitxaala authority and jurisdiction.*” Later that day, Chief Moody had said, “*The tanker traffic and the route that it seeks to take, either on the inside or the outside is core Gitxaala territory.*” [para 17729] Mr. Neufeld said he could not find “a map of the traditional territory of the Gitxaala,” and the closest he could come was Figure 1 from Gitxaala evidence [[Exhibit D72-32-03](#)]. Chief Moody said this map “it encompasses all of Gitxaala territory, including what we would refer to as core Gitxaala territory.” 13944

The discussion that follows deals with complex, nuanced, elusive and difficult differences between modern, Canadian understanding of various concepts and those of traditional Gitxaala culture. Chief Moody said that difficulties arise because “the majority of people that seek to broach the concept of what is Aboriginal title and right don’t necessarily give the appropriate considerations to the definition provided by the groups providing that definition.” Follow this discussion in the transcript from paragraph 13970.

The village of Hartley Bay, a Gitga’at community, is included in the Gitxaala territorial map. Mr. Neufeld asked for help “in understanding the relationship between Gitxaala traditional territory and the traditional territory of others such as the Gitga’at,” particularly where there appears to be overlap such as with Hartley Bay. Chief Moody explained that “Gitxaala still lives by *ayaawx*, traditional law” as does Gitga’ata, that both have *gugwilx’ya’asnk*, the ability to inherit, as a principle in its laws. What we perceive as overlap does not exist “in relation to *ayaawx* -- traditional law -- does not exist. Chief Moody said that Hartley Bay is a “modern day Indian Band” and that it is concepts and “labels that are provided to us or upon us by Canada, by Proponents” that creates the perception of overlap. 13970

Mr. Neufeld asked if “the Gitxaala claim Aboriginal rights and title to the community of Hartley Bay” Chief Moody said “No.” Hartley Bay is a political entity; Gitxaala is a cultural grouping or identity. 13990

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<sup>1</sup> *Smgigyet*: Chiefs or councillor in the Tshimshian language

### **Gitxaala not in treaty negotiations**

In the March 2012 oral evidence, Mr. Robert Janes had asked for comments on Gitxaala's decision not to negotiate in the BC treaty process. [[Vol 28](#), para 17734] Speaking to Chief Moody, Mr. Neufeld said, "Clifford White answered by saying that your Nation prefers to pursue other alternatives to the treaty process such as co-management. And then you added that you were seeking other avenues and as a process of redress in relation to title and right." He summarized Chief Moody's reply [para 17739] as, "There is an approach there that involves using the consultation process on a project-by-project basis to secure benefits for a Nation and entitlements while not having to cede lands in order to make a treaty such as the Nisga'a did." Chief Moody agreed with that. "[It is] based on the notion that as we seek to engage in discussions with the province or the feds, the first step primarily taken by any one of those levels of government is to deny the existence of Aboriginal title and right. ... Our ability to engage in discussion with proponents around the issue of Aboriginal title and right is courts that have established a precedent in relation to consultation." 14008

### **Oil spill risk**

Chief Moody agreed that there are commercial vessels carrying bunker oil that transit traditional territory of the Gitxaala on a daily basis. Mr. Neufeld said that in the oral testimony he had heard discussion about NGP and Queen of the North but "I didn't hear a lot of discussion that would -- or any that would lead me to believe that people in your community have fears or apprehensions about commercial vessels and spills from commercial vessels." Chief Moody said that is not a fair characterization. "From my perspective, fear exists in relation to any accident that may happen within the territory that would be damaging." Mr. Neufeld said there was no apparent concern about spills from cruise ships. Chief Moody replied that "the fact that they hadn't elaborated on that fear ... is not indication that fear does not exist." 14026

### **Kitimat LNG export licence and Gitxaala intervention**

As an aid to questioning (AQ), Mr. Neufeld put up the Gitxaala application to intervene in the Kitimat LNG export licence application [[AQ85-A](#), 07Mar2011]. He noted paragraph 6 in which Gitxaala expressed concern about potential adverse impacts from increased tanker traffic within Gitxaala traditional territory and the risk of gas or fuel spills in the marine environment, and para 9 about inadequate consultation. His next AQ was a subsequent letter advising that Gitxaala were withdrawing their intervention. [[AQ85-B](#), 29Sep2011] Chief Moody said that they had entered a protocol agreement which defined a process of consultation "in relation to environmental assessment as well as TERMPOL." 14044

Mr. Neufeld asked "Was there also monetary consideration paid to you for that withdrawal of your intervention?" Chief Moody replied, "The simple answer in relation to monetary compensation, it is included as part of the package. But, first and foremost, what needs to be understood is monetary compensation is by no means a substitute for the respect that should be afforded in relation to discussion of authority and jurisdiction around title and right." 14055

### **Perception of risk, benefits and respect**

Mr. Neufeld, referring to earlier discussions today, suggested that “the perception of risk can be affected or influenced quite a bit by the perception of benefits [and] perception of respect.” He asked, “[Did] the fact that an agreement was reached between KLNG and your Nation, did that affect how the community members perceived the risks associated with that particular project?” Chief Moody said, “What you need to understand and as much as you think you’re understanding by your line of questioning, I don’t think you fully grasp what it is that I’m saying. Ultimately, the first question any *smgigyet* Gitxaala would ask of me would not be: How much money did you get? The question would be: What did you do to ensure the protection of my Aboriginal title and right? .., That financial compensation wasn’t the prime concern. ... Any Gitxaala member would be saying to and would say to myself, primary concern is to protection of our *gugwilx’ya’ansk*, which is our inheritance to the territory.” 14068

Mr. Neufeld: “[Did] the conclusion of an arrangement affect the perception of risk of that Project within the community?” Chief Moody: “[Consultation] became a much more structured process than the process that you’re currently engaged in. ... We’re participating in a meaningful way. ... Our voice was actually heard. ... We’re not talking to a wall.” Mr. Neufeld noted that in the case of Kitimat LNG, the approvals had been obtained before the export permit application. 14078

### **Shell LNG Project**

Mr. Neufeld observed that “An export licence has ... been granted for that and ... the Gitxaala opposed that export licence and has, in the last week, sought judicial review of that export licence.” Mr. Janes added, “so it’s technically correct. ... “We’ve ... sought leave to appeal the decision to approve the export licence ... and we have applied for judicial review of the Governor-in-Council Decision to authorize the permit.” Mr. Neufeld: “Is that also a way to assert your Aboriginal rights and title over the area?” Chief Moody: “Yes.” 14096

### **Conditions should include participation offer to every First Nation**

Mr. Neufeld put up the Gitxaala response to JRP IR 1 [[Exhibit D72-47-2](#), Adobe 21, para 18] “Gitxaala is proposing that NGP should be obligated to offer every First Nation potentially affected by the project a right to participate on the same terms and conditions as other First Nations who have not been allowed to participate without a requirement to consent to or not oppose the project.” Mr. Neufeld asked why Gitxaala would want this. 14112

Chief Moody explained that if the project is approved, with Gitxaala’s Aboriginal title and rights issues unresolved between governments, there will be no mechanism in which to consult or resolve those constitutional rights issues. “If the JRP or the Governor-in-Council ultimately decided that, from their perspective, that it’s in the national interest of Canada to push aside Aboriginal title and right that’s protected under the Constitution, there needs to be an ability for those that chose not to participate to have opportunity. But the question it then raises is that opportunity becomes imposed in relation to a decision that would be rendered without giving full consideration to the concept of Aboriginal

right as guaranteed under the Constitution.” Read Chief Moody’s lengthy statement directly in the transcript. 14112-14156

Mr. Neufeld said, “I think I heard the answer that, if the project was approved, Gitxaala would consider an offer of equity participation and you would want to be offered that opportunity if the Project was considered -- or approved, notwithstanding that you had opposed it at this hearing.” Chief Moody: “In terms of the opportunity to participate, you automatically equate it to an equity stake in relation to your pipeline. ... It may include that equity stake. ... If the JRP were to take the unfortunate position that your Project would be approved, ... those First Nations who have chosen not to provide voice at this forum should be provided the opportunity to provide voice at a later stage wherein the requirement would be for the Government of Canada to consult.” 14151

### **Gitxaala willingness to participate in other processes**

Mr. Neufeld asked about Gitxaala willingness to participate “in emergency response or preparedness and response planning.” Chief Moody said that is “in the context of protecting the territory.” 14157

With respect to participating in a Fisheries Liaison Committee, Chief Moody said that “The foundation of that participation, again, would be around our authority and jurisdiction in relation to the waterways, the resources within those waterways. ... Would I be confident that a fisheries committee would take into consideration Gitxaala’s Aboriginal right at harvest? I don’t know. ... [I haven’t seen anything] that would allow me to believe that that proposed fisheries committee would have any real authority in relation to decision-making around access to those resources, in relation to tanker traffic that would be coming through our territories.” 14168

Mr. Neufeld asked if Gitxaala would support participating in development of community response plans, focussed on nations in the confined channel assessment area. Chief Moody said, “Support is a bit of a loaded word at this stage. ... We still take the responsibility to protect the resources that we have authority and jurisdiction over. ... Our participation wouldn’t be one that would be necessarily supportive of, but it would be a requirement on our end to ensure that we’re actually protecting those resources.” 14183