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Order of Appearances

Government of Canada Panel 1

Environmental Effects

Ms. Bonnie Antcliffe	Mr. Michael Engelsjord	Mr. Brad Fanos
Dr. John Ford	Mr. Steven Groves	Mr. Thomas King
Ms. Tracey Sandgathe	Dr. Caroline Caza	Dr. Sean Boyd
Dr. Carl Brown	Ms. Coral deShield	Mr. Chris Doyle
Dr. Dan Esler	Mr. Grant Hogg	Dr. Bruce Hollebone
Mr. Richard Holt	Dr. Ali Khelifa	Ms. Laura Maclean
Mr. Ken Morgan	Dr. Patrick O'Hara	Dr. Barry Smith
Ms. Jennifer Wilson	Dr. Xuebin Zhang	Mr. John Clarke
Dr. Heather Dettman	Mr. David Peacock	

Examination by Mr. Jesse McCormick for Haisla Nation (continued) 17637

Examination by Ms. Lisa Fong for Heiltsuk Tribal Council 18279

Examination by Ms. Carrie Humchitt for Heiltsuk Tribal Council 18440

Examination by Ms. Joy Thorkelson for United Fisherman and Allied Workers Union 18874

Examination by Mr. Jesse McCormick for Haisla Nation (continued)

17637

Mr. McCormick asked Dr. Esler about his research on the residual effects of the Exxon Valdez spill on harlequin ducks. Dr. Esler agreed that his research demonstrated that the ducks are still exhibiting effects, 20 years after the spill. He also agreed that a growing body of literature is indicating that the effects of oil spills on vulnerable species are expressed over longer periods of time than conventional thinking used to believe. 17638

Decisions on whether or not to use spill treating agents

Picking up on a discussion from the previous day with Dr. Hollebone regarding the use of dispersants in oil spills, Mr. McCormick continued with questions about the benefits and harms of their use. The witnesses described Environment Canada and DFO's knowledge of Corexit 9500A, indicating extensive testing had not be done and a lack of confidence to predict the stability of the product. Discussion on the subject continued. 17647

Mr. McCormick asked how regional environmental emergency teams would decide whether or not dispersant is used in the event of a spill. Mr. Hogg explained the role and approach of the Department's emergency teams and the players involved in strategizing response plans. He indicated that the polluter "is responsible for taking the actions to contain the spill". Mr. Hogg added that Canada currently has no authority on spill treating agents, such as a regulation enabling approval of the use of such agents. 17667

Mr. McCormick asked if this meant that there is currently no policy framework to guide the use of dispersants and Mr. Hogg explained that there are many international frameworks and decision matrices that can be used, but that there is no legal authority for

such decisions. He indicated that Environment Canada and other departments are working to find a solution to the issue in an effort to “increase the size of the response toolbox that would enable the consideration of a use of physical means such as skimming, in situ burning, booming, as well as spill treating agents”. 17680-17685

Assessing NGP’s application in relation to toxicity and impacts on fish

Noting that the current panel doesn’t have expertise on toxicity issues, Dr. Caza confirmed that neither Environment Canada nor DFO had assessed the Di Toro target lipid model, and NGP’s use of it in its application. 17700

Referring to [Exhibit E9-47-2](#), page 9, Mr. McCormick noted that the DFO had made recommendations to NGP to consider *Species at Risk Act* designation for eulachon, quillback rockfish and yellowmouth rockfish, in their project planning. He asked if NGP had provided information about the presence of these species at the marine terminal, or whether DFO had knowledge of such presence. 17721

Ms. Sandgathe responded that NGP “has made a commitment to consider those species as a part of its environmental effects management program and take into account the possibility that they may be listed [under SARA] in the future”. 17724-17725

Mr. Groves discussed his expectations of the presence of the species at the terminal and Kitimat estuary, at certain life stages. 17728

Mr. McCormick asked about the potential for *Harmful Alteration Disruption or Destruction* (HADD) of tanker and tug operations on fish and fish habitat at the terminal that may require an assessment. Mr. Fanos answered that the need for a HADD assessment would be determined through a review of the project’s final design. 17732

Mr. McCormick asked further questions about life stages of fish, referring to [Exhibit E9-6-13](#), page 7. Mr. Engelsjord agreed that larval stages of eulachon “can’t propel themselves and move from places to place in a significant way” 17743

Mr. McCormick asked if DFO had assessed the impact of NGP’s terminal operations on fish in terms of the placement of containment booms. Mr. Fanos again indicated that such potential impacts would be assessed during the final construction and design phase of the project. 17749

Further discussion continued around potential impacts and mitigation efforts on eulachon larval stages. Ms. Antcliffe pointed to [Exhibit B46-5](#), a table describing life history and potential impacts on eulachon, provided by NGP in response to DFO’s request for information. 17758

Mr. McCormick asked if effects on eulachon would be considered an offence under SARA if the species were to be listed under the regulation. Ms. Sandgathe answered, “there are three populations right now that are under consideration for listing, if they were listed as either endangered or threatened, then there would be a prohibition in the

SARA Act under Section 32 that would make it illegal to kill, harm, harass, capture or take those individuals.” 17764-17766

Discussion continued around NGP’s satisfaction of requested mitigation measures for potential impacts to fish and fish habitat from the project’s construction and operational marine activities. 17767

Mr. McCormick asked if DFO’s evidence had included “a description of marine habitat use in species’ presences including population, lifecycle, sensitive periods and habitat requirements for each life stage”. Ms. Antcliffe answered that certain biological information on key species had been provided in [Exhibit E21-8](#), page 41. Mr. McCormick asked further details about the information given and discussion ensued. 17791-17805

Moving to Question Number 19 in the Exhibit, Mr. McCormick asked if DFO felt that NGP had “adequately demonstrated that it is taking into consideration the likelihood that eulachon, quillback rockfish and yellowmouth rockfish may be listed under the SARA”. Ms. Sandgathe indicated that the proponent had made a commitment to consider the species in their monitoring plans and to compile information on the subject following the environmental assessment. 17812

Noting further recommendations from the DFO to NGP regarding impacts to abalone habitat, Mr. McCormick asked if the DFO was seeking identification of effective mitigation measures for review in the JRP process. Ms. Sandgathe answered that NGP has committed to further assessment in the future. 17826

The PNCIMA process

Mr. McCormick continued with questions related to [Exhibit E9-6-13](#), page 13, asking if a described management plan had been completed. Ms. Antcliffe described the efforts of the Pacific North Coast Integrated Management Area (PNCIMA) plan to date and indicated that the final version of the plan will focus on an ecosystem-based framework and provide tools such as risk assessment. Discussion continued on elements of the PNCIMA plan and engagement process. 17831

Noting that NGP had raised questions about the credibility of the PNCIMA process in relation to its proposed project, Mr. McCormick sought to understand if the company had impacted the process in expressing its concerns. Ms. Anderson stated that the questions were not relevant to the issues before the Panel and The Chairperson asked Mr. McCormick to focus on the related evidence. 17851

Mr. McCormick asked if the Proponent had requested modifications to the PNCIMA process “in a way that might affect its outputs”. Ms. Antcliffe answered that it would be outside her knowledge to say if such requests had been made through the many interactions between the two parties. 17866-17868

Impacts of climate change on marine weather patterns and wave heights

Mr. McCormick sought Dr. Zhang's opinion of the impact of climate change in the region in question, in relation to comments made by NGP witness, Mr. Fissel on previous hearing days. Dr. Zhang indicated that global climate models do predict extreme wave heights, and increased frequency and magnitudes of storms, but that predictions for a small region are very difficult to make. 17870

Discussion with the witness continued around predicted impacts of climate change. Dr. Zhang continued to state the difficulty of projecting changes to storms, though indicated greater certainty around sea-level rise, which will play a role in storm surges. 17913

Government engagement with First Nations re impacts of the Project

Referring to [Exhibit E9-06-6](#), page 20, Mr. McCormick asked about the Departments' agreements and status as Responsible Authorities on the project, should it proceed. Upon learning that the DFO anticipates making regulatory decisions in the event that the project proceeds, Mr. McCormick asked if the Department had engaged with First Nations in pre-assessment consultation activities. Mr. Engelsjord indicated that engagement meetings were conducted, but that the Department had not independently taken steps to consider and evaluate concerns expressed by First Nations. 17930

Mr. McCormick inquired further into the Department's Aboriginal engagement and consultation activities through the JRP process. Ms. Maclean indicated that the federal departments were relying on a "whole government approach" to Aboriginal Crown consultation approach, which Environment Canada participates in. She described the consultation process framework and activities in general. 17949

The Departments' assessments of NGP's spill modelling

Turning to [Exhibit B164-13](#), page 36, Mr. McCormick asked for Environment Canada's thoughts on NGP's response to the Department's technical review of NGP's marine spill modelling studies and consequences analysis. In particular, he asked for thoughts on NGP's statement, "*providing additional scenarios will not change the prediction of effects in the environmental assessment*". Dr. Khelifa provided his thoughts and discussion ensued around NGP's intended future use of stochastic modelling. 17974-17997

Turning to page 23 of the Exhibit, Mr. McCormick inquired if Environment Canada thought NGP's deferral of the recommended action until post-approval "will leave the [JRP] with a less complete set of information upon which to assess the potential adverse effects of the project". Dr. Khelifa explained that the decision is not up to the Department, but to the Panel. 17998

Turning to [Volume 108](#) line 3904-3908, Mr. McCormick noted Dr. Caza's deferral to the present proceedings to discuss Environment Canada's position on the appropriateness of NGP's proposed timeline for additional oil spill modelling. Dr. Caza clarified her earlier statements and reiterated Dr. Khelifa's view that the Panel will decide on the necessary timing of the requested additional information. 18004

Mr. McCormick asked if Dr. Caza agreed that if Environment Canada's recommendations related to further oil spill modelling were not satisfied prior to completion of the JRP, the Panel would not be able to provide adequate conditions for the project. Dr. Caza explained that the Department's recommendations were designed to help inform the Panel's decision-making process. Discussion on the subject continued. 18020

Dr. Khelifa explained the purpose and methodology of an Aleutian Islands risk assessment project referred to in [Exhibit B164-13](#), page 26, which focused on marine transportation. He described how the approach related to that of NGP's risk assessment and what Environment Canada's recommendations were in response to NGP's spill modelling study. Discussion continued at length on the subject, and on NGP's spill response planning standards. Ms. Maclean described the respective roles of Environment Canada and Transport Canada in analyzing NGP's spill modelling study. 18029

Mr. McCormick continued with questions about sufficiency of stochastic versus deterministic modelling approaches for ecological risk assessment, calling up [Exhibit E9-21-12](#), page 98. He asked, "in the view of Environment Canada, has the spill modelling provided to date by [NGP] provided the necessary information for an accurate and reliable assessment of the potential environmental effects associated with a spill?" Dr. Khelifa explained stochastic and deterministic spill modelling for the panel and described the type of information the department was recommending. 18108-18117

Independent monitoring of NGP operations by DFO

Mr. McCormick inquired whether DFO planned to monitor impacts to fish and fish habitat independently, or if it would rely on NGP's assessments to evaluate effects of the project. Mr. Fanos explained that if the project were approved, the Department would do a regulatory review to establish mitigation efforts, which would involve some monitoring requirements. He indicated that the Panel's requirements will compliment "whatever requirements DFO would require under the Fisheries Act". 18120-18124

Mr. McCormick again questioned whether DFO staff would do monitoring, or if reliance would be placed on the information supplied by NGP's monitoring. Mr. Fanos answered, "it could be a combination", explaining that the Proponent will be required to provide information, and that confirmation of results would need to be done "on a site by site case". 18126-18128

Mr. McCormick asked about DFO's staffing capacity in the Pacific Region to carry out monitoring activities for the project, indicating significant cuts to the Department in 2012. Ms. Anderson questioned the relevance of the subject matter to the panel, and Mr. McCormick moved on. 18131

Changes to the Fisheries Act and their relation to NGP operations

Mr. McCormick asked about details of the June 2012 changes to the *Fisheries Act*. Mr. Fanos confirmed that the changes to Section 35 will replace HADDs with a "Serious Harm" provision as the benchmark to assess harmful effects on fish and fish habitat. He

explained that “Serious Harm” involves “the killing of fish and the permanent alteration or destruction” 18142-18149

Mr. McCormick asked if DFO had “developed a framework to assess how serious harm to fish will be determined”. Mr. Fanos answered that future policy updates are expected to provide guidance for the protection provisions and other revisions to the Act. Mr. McCormick asked if the changes to the Act will be effective prior to construction of the Project and Mr. Fanos stated that he wasn’t able to comment on the timing of the changes. 18150-18158

Again referring to the new “serious harm” provision in the Act, Mr. McCormick asked if it was true that a determination will be required to show an impact on the sustainability and ongoing productivity of a species to prove serious harm. Mr. Fanos stated that the new provision will “apply to fish that support a commercial, recreational, Aboriginal fishery or that supports such a fishery”. 18159-18160

Mr. McCormick asked about the meaning of permanence in the application of the new provision and the witness again indicated that future policy work would further develop the amendments. Mr. McCormick asked if a large oil spill would qualify as serious harm to fish under the Act. Mr. Fanos explained that a spill would be covered under Section 36, which covers deposits of deleterious substances into watercourses that are frequented by fish, whereas Section 35 deals with fish habitat impacts. 18164

Acknowledging that future policy work will provide more information, Mr. McCormick asked if DFO was in a position to determine whether under the new *Fisheries Act*, a release of diluted bitumen into the marine environment could cause a contravention. Ms. Anderson stated that the question was too speculative and Mr. McCormick rephrased his question, asking if the witness agreed “we face a deficit of knowledge...relating to how serious harm to fish will be assessed and specifically how serious harm to fish will be assessed in relation to potential spills, a product from this project”. Mr. Fanos indicated that he expected such a deficit of knowledge to be filled in once the second phase of the amendments to the Act come into force and are accompanied by supporting policy and guidance measures. 18169-18179

Ms. Maclean clarified an earlier statement regarding phase 2 consultation meetings, pointing out that Environment Canada “did not in fact meet with representatives of the Haisla Nation as part of those meetings”. 18195-18196

Examination by Ms. Lisa Fong for Heiltsuk Tribal Council 18279

Environment Canada’s recommendations for additional spill modelling

Noting that Environment Canada had “strongly recommended” NGP conduct additional spill modelling, Ms. Fong asked if the Department had priority areas for such modelling. Ms. Maclean described the commitment that NGP made as a result of the Department’s recommendations, which would include “potentially additional spill locations in a geographic sense as well as potential different spill sizes”. She explained that the Department recommended the modelling consider spill sites “based on probability for a

spill to occur in the particular location but also considering the potential environmental consequences that might result from a spill in that location”. 18279-18284

Ms. deShield added that the Department did recommend doing modelling for a location near the Scott Islands because of its importance for marine birds. 18287

Ms. Fong asked if a list of priority areas for spill modelling would be provided by Environment Canada and Ms. Maclean spoke about the recommendation for a scientific advisory committee which would involve biologists with expert knowledge of the area, and could provide advice along the lines of appropriate spill scenarios. 18292

Ms. Fong asked if the Department knew whether additional spill modelling would take place prior to commencement of NGP’s operations, and Ms. Maclean indicated that the Department would recommend they take place prior to commencement. Ms. Fong asked if the results from the modelling would be used for spill response planning and Dr. Khelifa confirmed that the data would help in responding to spills. 18310

Ms. Fong asked if Environment Canada would encounter problems participating in the previously mentioned expert working group “given its most recent rather dramatic budget cuts of \$88 million”. Ms. Anderson objected to the relevance of the question, and stated that “if the commitment is made then—then it will be followed through”, and Ms. Fong said she was satisfied with the answer. 18321-18325

Ms. Fong asked about the concept of “sequestered oil” and Dr. Esler provided a description in regards to the Exxon Valdez spill. Ms. Fong asked about its effects on herring eggs, and the witness panel wasn’t able to provide the expertise for an answer and referred her to [Exhibit E9-21-08](#), pages 43-43. 18339

Protection of the Central Coast herring stock

Ms. Fong asked if the DFO agreed, “the Central Coast herring stock is one of the five major herring stocks off the coast of British Columbia”, and Mr. Groves agreed. Ms. Fong continued with questions around the Department’s management of herring stocks and the steady decline of the stocks for the past 13 years. 18380

Ms. Fong asked if the DFO had specific protection plans for the Central Coast herring stock from the increased risk of oil spills related to the project. Mr. Engelsjord stated that he thought such plans would be the responsibility of the Proponent. Ms. Fong asked if the Department would require the proponent to design plans to protect that specific stock and Mr. Groves responded that the management plan seeks to protect all herring stocks. Ms. Antcliffe added that the DFO would provide biological information to inform spill contingency plans. 18396

Ms. Fong asked if the DFO planned to incorporate tanker traffic into the Integrated Fisheries Management Plans. Mr. Groves answered no, and indicated that tanker traffic would not occur at the same location of the herring fishery. 18406

Recovery strategies for species list in the *Species at Risk Act*

Ms. Fong asked if there was a recovery strategy for the northern abalone. Ms. Sandgathe confirmed that the department has one and answered that critical habitat for the species is set out in the action plan, which was posted in 2012. 18413

Responding to Ms. Fong's questions, Ms. Sandgathe indicated that the Department has prepared a recovery strategy for humpback whales, which is going through a final review and approval process. Ms. Fong asked if the strategy had been shared with NGP and the witness answered that the draft was posted for consultations in 2009 at which point it would have been public, which she suspected NGP was aware of. 18422

Examination by Ms. Carrie Humchitt for Heiltsuk Tribal Council 18440

Heiltsuk spawn on kelp fishery

Ms. Humchitt asked, "What is the DFO panel's understanding of the spawn on kelp fishery of the Heiltsuk Nation?" Mr. Steven Groves replied that he is the "regional spawn on kelp manager." He said he is aware that the Heiltsuk have both a communal and a commercial spawn on kelp fishery. Asked about the impacts of an oil spill, Mr. Groves said it would be helpful to have a question with more specific parameters. Ms. Humchitt put up a "Heiltsuk marine harvesting & tanker routes map" [AQ89-A] as an aid to questioning. 18458

Whole government consultation process

She asked about consultation between DFO and the Heiltsuk. Mr. Engelsjord said that before the hearing process there had been meetings with First Nations, but that these were on a "whole government basis, coordinated by the Canadian Environmental Assessment Agency (CEAA)," and that CEAA would have records of these meetings. 18483

Heiltsuk information not incorporated in DFO assessment

Ms. Humchitt asked if the witnesses had "reviewed the evidence tendered by the Heiltsuk Nation." DFO, Environment Canada (EC) and NRCan said they were generally familiar with the evidence. Ms. Humchitt asked DFO how it had "incorporated Heiltsuk Nation traditional ecological knowledge into their assessment" Mr. Engelsjord said "DFO has not incorporated the information provided by First Nations." Ms. Humchitt: "From my understanding, most of the consultation will occur post-approval, which is some years down the road." Mr. Engelsjord: "The consultation phase is ongoing." 18493

Ms. Humchitt asked, "Are there any plans for the DFO to contact the Heiltsuk Nation to ... talk about this Project?" Mr. Engelsjord: "We don't have specific plans because [it] would only be after ... the Government of Canada was to approve the Project." Ms. Humchitt's questions to DFO and Environment Canada, and the discussion, stayed on the theme of past and future consultation and lack of consultation with the Heiltsuk. Ms. Dayna Anderson for the Government of Canada and the Chairperson both suggested that some of Ms. Humchitt's questions would be more appropriately saved for the "Aboriginal Engagement and Consultation Framework and Approach" panel 18510

Effect of changing legislation on environmental protection

Ms. Humchitt asked how changes to the Fisheries Act in Bill C-38 and Bill C-45 “affect DFO’s ability to prevent serious or harmful alteration to the habitat.” Mr. Brad Fanos said he doesn’t think it affects their ability to do an assessment, that the current Act in force applies to this assessment. As for the future and the amended Fisheries Act, he said, there’s a policy framework that is expected to be updated to support the amended Fisheries Act and it has not been released. “That would provide the substance to the answer that you’re looking for.” 18556

Ms. Humchitt asked if DFO or Environment Canada had met with First Nations to discuss these legislative changes. Ms. Antcliffe and Ms. Anderson said changes to legislation were not led by members of this panel, and so they cannot comment. 18569

Species at Risk Act

Ms. Humchitt asked about a change to the Species at Risk Act (SARA): “To harm ... or kill wildlife that has been ... listed under SARA, one needs to obtain a permit pursuant to section 73 of SARA. Bill C-38 ... amended that provision to allow permits to extend beyond a three-year term. Is that correct?” Ms. Tracy Sandgathe said that SARA now has no time limit on permits, but “the expiry date needs to be put into the permit.” Ms. Humchitt asked how this will affect the referrals process for permits, specifically with respect to killer whales and whale strikes. Ms. Sandgathe said, “We don’t issue permits under Section 73 to vessels to allow them to strike and kill whales.” 18623

Ms. Humchitt asked if herring were a species of concern. Ms. Sandgathe said an assessment of herring as a species of concern has not been done.

Proponent funds studies, not DFO

Ms. Humchitt asked if DFO will be providing funding to First Nations to complete traditional land use studies. Mr. Engelsjord said that with respect to this project, funding would be the responsibility of the Proponent. “DFO doesn’t collect the baseline information or conduct the studies to support review of proponents’ proposals. We just review their information.” 18641

Mr. Groves mentioned three other programs by which the Heiltsuk could get funding for fisheries-related studies. Aboriginal Fishery Strategy (AFS) money is one, the Gladstone Reconciliation Process, and DFO’s “regular salmon assessment programs.” Asked about the AFS program, Ms. Antcliffe said that DFO had not filed evidence in this regard, and Mr. Groves said, “We wouldn’t expect any impact to the AFS agreements in relation to this Project.” 18660

Ms. Humchitt asked about Heiltsuk participation in Scientific Advisory Board meetings. Ms. Antcliffe asked whether she meant “the CEE-recommended committee or whether the internal DFO peer review process.” She said, “First Nations do participate in our peer review process meetings.” Ms. Humchitt asked the same question of Environment Canada - are there plans for First Nations participation in those meetings? Ms. Laura Maclean replied that the Scientific Advisory Committee that Environment Canada has

recommended in its evidence has not been struck yet. “It’s a recommendation at this stage.” 18681

Mammal contaminants, invasive species, cumulative impacts

Ms. Humchitt said that “the DFO’s mammal contaminant program has been shut down. Are there any plans on reviving that program?” Mr. Thomas King said “those type of issues would go to the Advisory Committee within DFO.” On invasive species, Ms. Antcliffe said that Transport Canada would be the lead regulatory agency, though DFO had filed some evidence which “talked about a couple species that may be of concern.” Cumulative impacts are a concern under the CEA Act, but are not part of DFO’s regulatory review process. 18693

Ms. Humchitt asked, “Will there be an assessment by Environment Canada” on fast flowing rivers. Ms. Maclean replied, “We are relying on the work done by Northern Gateway and filed as part of their application. Mr. Engelsjord said that with respect to stream crossings, “if the project goes to a regulatory phase those crossings that cause harm to the physical fish habitat and need an authorization from DFO, we would be conducting a detailed review on ... the details of exactly what they’re going to do at that time before we would give them the authorization.” 18708

Ms. Humchitt asked about a specific Northern Gateway liaison position in the DFO organizational structure. Mr. Fanos said, “In terms of a specific liaison for the project we don’t have an identified First Nation liaison for this project, as we referenced earlier it’s a whole-of-government approach to consultation. In terms of other work that we do with respect to First Nations there might be area representatives with respect to liaison with different First Nation groups.” 18732

COOGER

Ms. Humchitt asked how DFO’s Centre for Offshore Oil and Gas Energy Research (COOGER) is involved in assessment of this project.” Mr. King said he was from COOGER. “Our involvement in the project is to conduct research on the behaviour, fate and transport of dilbit products in a marine environment.” He confirmed that Dr. Kenneth Lee, the former head for COOGER, had said that the NGP proposal lacked key information on the chemical composition of the reference oils used in the hypothetical spill models. With respect to Dr. Lee’s proposal to conduct a series of studies through 2015 on the toxic effects of reference oils to marine species, Mr. King said, “We now have an Advisory Committee in place to handle those issues because most of the research was being conducted at universities. “The first part of the research is to look at the fate and behaviour and transport, and any type of potential spill cleaning agents that may be used and then take that information and be able to conduct toxicological studies.” Mr. King agreed with Ms. Humchitt that “this information won’t be completed to inform this assessment before approval.” 18742

Assessment of all species at risk

Ms. Humchitt asked, “Is DFO going to have time to complete an assessment of all the species at risk which might be impacted by this Project prior to approval?” Ms.

Sandgathe said, “We did provide information on species at risk and potential impacts to those species. We don’t have anything more to add at this time.” 18769

Tanker threat to humpback whales

Ms. Humchitt asked, “Did not the DFO review of the threats to humpback whales in 2005 name the proposed tanker traffic to Kitimat as a threat to whale recovery?” Dr. John Ford said, “We did review the various kinds of issues that may be connected with operations such as ship strike risk and acoustic impacts as well as the information available on the potential impacts of oil spills on cetaceans as part of our written evidence.” 18775

Ms. Humchitt asked, “Is there an office in the Central Coast area for Environment Canada’s emergency program?” Mr. Grant Hogg replied that the response office is in Montreal and there is a staff person in Vancouver, who “is not involved in response advice.” 18782

There was some discussion about emergency and spill response, but Ms. Anderson said “Panel 2 will be prepared to speak to issues relating to emergency response.” 18788

Baseline hydrocarbon study in Hecate Strait

Ms. Humchitt asked if are there plans to have a baseline hydrocarbon study in the Hecate Strait. Mr. King said that DFO is working with Environment Canada actually to collect sediment and other materials in those areas and test them, perhaps end of June or early July. The study could happen “within the next year, year and a half.” 18816

Ms. Humchitt said that the Heiltsuk had a significant herring spawn for the first time in years. Mr. Groves said he had not seen those results. Ms. Humchitt: “How is the DFO going to be able to protect that resource considering the potential impact of tanker-related traffic?” Mr. Groves said he would not speculate on the impacts of a spill other than that it would have a significant effect. 18829

Ms. Humchitt’s last question was: “Do you recognize that the Heiltsuk Nation considers this to be an unjustifiable infringement upon our rights and titles as Aboriginal peoples of Canada?” Ms. Anderson objected. 18836

Examination by Ms. Joy Thorkelson for UFAWU 18874

DFO’s mission and evidence

Ms. Thorkelson reviewed the positions and responsibilities of a number of the witnesses. She then put up Fisheries and Ocean’s evidence [[Exhibit E9-6-13](#), Adobe 6] and quoted, “*DFO’s mission includes providing for safe and accessible waterways, healthy and productive aquatic ecosystems, and sustainable fisheries and aquaculture.*” Ms. Antcliffe said that “prosperous fisheries” appears on DFO’s website as the department’s third “strategic outcome” instead of “sustainable fisheries and aquaculture.” 18874

Ms. Thorkelson asked if DFO had done an independent analysis of the impacts of the project on fish and fish habitat, as is stated in the evidence, or if it relied on Enbridge’s analysis. Mr. Engelsjord said that staff had done some site visits to verify information,

but it relies on NGP's information. Ms. Antcliffe added that "in our Information Request to the Gitga'at, we did provide biological information on species in the Project area such as life history information that is helpful to assess the impacts of the projects." 18927

Expertise on oil impacts on fish: an interdepartmental shell game

Ms. Thorkelson quoted, "The analysis of the accuracy of the spill likelihoods, spill trajectories, or fate and behaviour of chemicals of potential concern present in oil lies outside of DFO's expertise and mandate." [Adobe 34] Ms. Antcliffe confirmed this is the case. Mr. King said that Environment Canada and the Centre for Offshore Oil and Gas would be leading or contributing to that work. 18936

Ms. Thorkelson asked if the "habitat side of things" in DFO had prepared the submission and if that's "why it doesn't have much information on the impacts of oil on fish and fish habitat." Mr. King said "that branch led DFO's review." Ms. Antcliffe said it's now called the Fisheries Protection Program, but they "work with all elements in DFO." Mr. King said, "We have a great deal of information on conventional oils, but we don't have information on non-conventional oils. So the statement that it's outside our expertise just means that the research hasn't been done yet." 18946

Ms. Thorkelson noted that reports done in 1984 and in 2002 related to offshore drilling contained "lots of information about the impacts of oil on fish." Citing Adobe 8, para 12 which says that Environment Canada is responsible for Section 36(3) of the Fisheries Act "which prohibits the deposit of deleterious substances in water frequented by fish," she asked for more information about the relationship between Environment Canada and DFO in this context. Dr. Caza from Environment Canada, Ms. Antcliffe, Mr. King, Dr. Hollebhone each contributed to a reply. 18957

Ms. Thorkelson concluded that "[DFO] is in charge of the toxicology of the impacts of oil on fish ... and there's going to be a Scientific Advisory Committee set up that's going to give DFO this advice." "Who's going to be on that Scientific Advisory Committee?" Ms. Antcliffe said "We cannot comment at this point." 18957

Impacts of the project on fisheries: no analysis for an oil spill

Ms. Thorkelson asked if DFO had analyzed the potential impacts of the project on fisheries. Mr. Fanos replied that DFO had concluded that with "mitigations and avoidance measures it [they could] ensure there was no impacts to fisheries in terms of the constructions and operations piece. We have not done an analysis on the detail of an oil spill. There's more information that would be required to complete that kind of analysis." Mr. Groves said that a Fisheries Liaison Committee would "look at the potential effect of operation of the terminal, including tanker traffic on marine fisheries." 18988

Potential impacts of project to the economic prosperity of commercial fisheries

Ms. Thorkelson asked if DFO had analyzed "whether the project could potentially impact the ability of the commercial fisheries to work towards becoming or remaining, as the DFO mission says, economically prosperous" She asked a number of questions relating

to the point about prosperity. Ms. Antcliffe said, “We did not look at effects on economic prosperity of fisheries.” 19002

Ms. Thorkelson attempted to resolve paragraph 123, which says essentially that NGP could not predict or quantify impacts of an oil spill on the fisheries resource because of the uncertainties, with paragraph 124 in which DFO says that NGP “has conducted a reasonable risk assessment and provided useful information on the risks that an oil spill would pose to fisheries resources in freshwater and marine environments.” [Adobe 34] She asked, “How can DFO make that assessment if the uncertainties are so large?” Mr. Engelsjord said, “The Proponent based their risk assessment on a Government of Canada published approach to ecological risk assessments. And that’s our sort of higher level kind of acknowledgement that that’s what they base their ecological risk assessment on.” Ms. Antcliffe said, “We’re talking about the methodology, [and] DFO is simply saying that that provided some useful information.” 19007

Species at Risk Act (SARA)

Ms. Thorkelson said that while “there is a general prohibition against impacting individuals of SARA species, DFO may authorize allowable harm within certain limits.” She asked about the concept of “allowable harm” which Ms. Sandgathe explained it as “how much human induced mortality a species can withstand before its survival or recovery is jeopardized.” 19025

Ms. Thorkelson asked if “the total impact threshold already reached for sea otters, abalone or killer whales,” the only SARA-listed species for which allowable harm has been determined [Adobe 32, para 117]. “Is there any slack in the limits?” Ms. Sandgathe said that limit for abalone has been reached. Sea otters are now listed as special concern for which they don’t use allowable harm calculations. Dr. Ford said they have allowable harm calculations for transient killer whales and humpback whales, species for which “we are nowhere near that threshold of allowable harm.” Ms. Thorkelson observed that there are a number of species which DFO is considering listing. “Is it a goal to [calculated allowable harm] for all the species?” Ms. Sandgathe can’t answer if it’s a goal, but says, “It’s certainly helpful if we can.” 19027

Ms. Thorkelson described a scenario for rockfish fishermen who are allowed a very small by-catch of different species of rockfish. Once they run out of by-catch they have to shut down, and then they can’t prosecute their full fishery on their target species. “What they’re concerned about is that if there are allowable harm limits, that the impacts of the commercial fishery will have to be reduced to make room for the allowable harm allocation for the oil industry. Is that a possibility?” Ms. Antcliffe said the question is too speculative and they won’t answer it. With respect to the environmental effects of construction and operation, “we believe that the proposed mitigation measures can avoid impacts.” “With respect to spills ... it’s hard to quantify or predict what the effects of spills would be.” 19051

Ms. Thorkelson put up [[Exhibit B46-2](#), Adobe 25] for a complex and numerically dense discussion about data. “At IR 2.12, DFO says ... that Enbridge has misunderstood the structure of the effort values for many invertebrate fisheries. DFO then requests

additional information to assist DFO in understanding the impacts to fisheries.” Mr. Engelsjord said “Their answers to this did inform our written evidence which came after these two IR rounds.” Ms. Thorkelson questioned whether that is correct, that the evidence was written after the IR rounds, but the rest of this discussion loses its coherence. 19088

Impact on fishery if it is forced to close

Returning to the DFO evidence, [[Exhibit E9-6-13](#), Adobe 19, para 61], Ms. Thorkelson said that “DFO quotes Enbridge’s data which is only from fishing Areas 5 and 6. Does DFO not believe that tanker oil spills could impact Areas 7 and 8 [she listed a number of other fishing areas]” She said, “In your marine fisheries economic report you’re talking about fishing areas five and six only and which limits the possible economic impacts.” Ms. Antcliffe said, “DFO did not evaluate the economic impact of a spill on fisheries. We did provide information with respect to the economic value of fisheries.” Ms. Thorkelson noted that in other evidence, DFO “indicated they were unhappy with the details provided by Enbridge regarding the total geographic area that could be affected by an accidental spill from a tanker.” [[E9-21-09](#), Adobe 64] 19117

Ms. Thorkelson asked, “If a fishing area was closed to fishing, what would the harvester’s options be if they were to continue ... to fish?” Mr. Groves said, “We don’t provide other options for fisheries we just merely open where there is a surplus and close where there isn’t. In some cases for shellfish harvesting cases we actually close based on a human health or safety concern.” Ms. Antcliffe referred to “a liability regime that Transport Canada will be speaking to on the next panel.” 19152

DFO consideration of integrated fisheries management plans

Ms. Thorkelson said: “The habitat policy says that DFO should take into account the integrated fisheries management plans. ... Where has DFO in their submission, shown that they have taken into account or how they would take into account integrated fisheries management plans.” [Adobe 10, para 24] Mr. Engelsjord replied, “The part of the habitat policy that’s relevant ... is the no net loss guiding principle. ... Where that comes into play is where DFO is faced with a decision on whether or not to authorize harmful impacts to fish habitat that a Proponent feels are unavoidable and that doesn’t occur until the project gets government approval.” 19161

Ms. Thorkelson: “So in making a determination on whether you’re going to advise the Panel that the project could go ahead, you haven’t considered integrated fisheries management plans? It is only later that you will consider fishing management plans?” “Was there any discussion in your submission of where you took that into consideration?” Mr. Fanos replied, “I guess it’s how we do it within the process. We’re consistently looking at impacts to fish and fish habitats that support a fishery.” 19166

Ms. Thorkelson asked, “Was stock status considered by DFO in the risk assessment?” Mr. Groves and Mr. Engelsjord reply, but Ms. Thorkelson said, “I understand that from a habitat point of view, but I’m speaking of a fisheries point of view. ... Did DFO look at those other things that occur from the operations -- the routine operations of the project, such as vessels transiting through fishing grounds?” Mr. Engelsjord said “In terms of the

navigation of fishing vessels, that was considered in the TERMPOL study [which] did form part of the Proponent's submission." Mr. Groves said, "Generally, the Department does have a knowledge of stock status. Of course, that would be very species specific and we've got better knowledge about some species than others." 19171

Fishermen fear they will no longer be fishing

Ms. Thorkelson said, "Fishermen are worried that, if there is a spill, that they will no longer be fishing. One of the things they are concerned about is stock status and they see no reflection in the document about a concern about stock status, a spill and the impacts on commercial fisheries." She then spoke about "negative synergistic impacts", explained what they are, and asked if they had been examined." Mr. Groves said, "No." 19189

Ms. Thorkelson asked about hatcheries on the North Coast. Mr. David Peacock said "There's only two, one in Kitimat, one in Area 8 (Snootli)." Ms. Thorkelson asked if they are important to First Nations. Mr. Peacock again: "I think it's of modest importance to First Nations. Their food use of chum is a relatively low priority. I'd say it's locally important to the recreational fishery. 19201

Impacts to fish at the Kitimat terminal

Ms. Thorkelson asked, "Does DFO think that the Kitimat River Estuary, the Kitimat Hatchery and broodstock might be impacted by construction and routine operations of the terminal?" Mr. Engelsjord replied, "DFO feels that the risks associated with the routine construction and operations can be readily managed through mitigation measures and, where necessary, some offsetting with replacement habitats." This is true also of the Kitimat Hatchery. "We think that's manageable too." 19213

She asked "Does DFO think that the Kitimat River Estuary, the Kitimat Hatchery and broodstock might be impacted by an oil spill in the terminal area?" Mr. Fanos said, "The term "might" is challenging ... I don't know if we can speak to the likelihood. It's sort of outside of our expertise. We ... can recognize biological effects." Mr. Hogg provided an informative overview of the steps that would ensue following a spill. Ms. Antcliffe explained some of the ways that DFO would participate to support the spill response regime. 19218