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March 10, 2016

Schedule 1
Comments on CEAA Draft Conditions for PNWLNG

| Condition | Comment |
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| 2.1 | <p>It is not clear how this condition will be enforced (i.e. How will the Agency ensure that the Proponent's actions "are informed by the best available information and knowledge, including community and Aboriginal traditional knowledge" or "have applied the best available economically and technologically feasible mitigation measures"?). Will the agency be relying on the reporting from PNWLNG to verify, or will they be in direct contact with First Nations? See comments on conditions 2.2.3 and 2.2.4 for additional details on this topic.</p> |
| 2.2.3 and 2.2.4 and related conditions that reference "in consultation with Aboriginal Groups" | <p>It is not clear how the Agency will ensure that the Proponent has provided "a full and impartial consideration of any views presented by the party or parties being consulted". Should Metlakatla and the Proponent disagree that the Proponent has considered and incorporated Metlakatla's views, what is the process by which the Agency will discharge their duty to consult Metlakatla on the execution of conditions? Similarly, how will the Crown address the potential issue of a First Nation having inadequate capacity to respond to requests for consultation by PNWLNG to meet their conditions?</p> <p>Related to the point above, given that the PRPA will be issuing permissions to construct certain aspects of the Project, how does the PRPA ensure that the Proponent has fulfilled their obligations for consultation with Metlakatla and has met all aspects of their CEAA conditions prior to issuing a permission? To our knowledge, there is no formal mechanism between the PRPA and CEAA, nor between PRPA and First Nations to pro-actively ensure conditions are being met and consultation is adequate. Please verify.</p> |
| 2.4 | <p>Follow-up programs are proposed for effects to most valued components. The intent of these programs, generally, is to ensure that assessment predictions are accurate and/or that mitigations are effective, both of which are intended to ensure that desired environmental or social states have been achieved or regained.</p> <p>In cases where assessment of impact is made in the face of significant uncertainty, a structured method – adaptive management – to learn more about the VC or system in question is appropriate. A number of potential effects associated with the PNWLNG project that are suitable for adaptive management include:</p> <ul style="list-style-type: none"> • Potential effects to eulachon • Potential effects to marine mammals other than harbour porpoise |

- Potential effects to the sediment regime governing Flora Bank's structure and function

To that end, we recommend that explicit reference to adaptive management, as described in the CEAA Operational Policy Statement (OPS) for Adaptive Management Measures under the *Canadian Environmental Assessment Act* is applied as conditions to these areas of uncertainty.

The principles of the OPS are generally reflected in draft condition #2.4 as currently written. Revisions to this condition, however, could be made that would ensure a productive feedback loop of learning, management adjustment, and continued learning in cases where predicted effects have been made in the face of considerable uncertainty. Proposed revisions are identified in **bold text**, below:

2.4 The Proponent shall implement adaptive management programs using the results of monitoring programs for effects to eulachon, effects of noise on marine mammals, and effects to Flora Banks.

2.a Where an **adaptive management process** is a requirement of a condition set out in this document:

2.4.1. **identify measurable targets for desired state to be achieved or maintained for each valued component and thresholds beyond which management action may be required**

2.4.2. undertake monitoring and analysis to verify the accuracy of the environmental assessment as it pertains to the particular condition and/or to determine the effectiveness of any mitigation measures

2.4.3. **analyze monitoring results to understand performance with respect to established targets and thresholds**

2.4.4. **Where thresholds are being approached or targets exceeded, identify and implement additional mitigation measures**

2.4.5. **monitor and report on effectiveness of additional measures to achieve metrics identified in section 2.4.1 until a dynamic equilibrium consistent with the metrics established in section 2.4.1 are achieved**

2.4.6 **In cases where targets or thresholds with respect to VCs are being approached, the proponent shall convene a meeting among relevant regulators, First Nations, and stakeholders to develop and implement additional mitigation or other management controls needed to reverse change that exceed predictions made in the assessment.**

As noted above, determination of significance is predicated on effectiveness of mitigation. In the case of assessments made in the face of uncertainty, monitoring for mitigation effectiveness should also be subject to an adaptive management process.

An appropriately worded general condition to support mitigation effectiveness monitoring in the context of adaptive management could be structured as follows:

2.4.6 **Mitigation measures for effects to eulachon, effects of noise on marine mammals, and effects to Flora Bank morphology**

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| | <p>and function shall be subject to the adaptive management process outlined in Section 2.2.1 to 2.4.5 to ensure effectiveness.</p> |
| 2.4.1 | <p>This condition should require the Proponent to undertake monitoring and analysis to both verify the accuracy of the environmental assessment and to determine the effectiveness of mitigation measures (i.e. remove the “/or”)</p> |
| 2.4.2 | <p>This condition should not only require the Proponent to determine whether additional mitigation measures are required based on monitoring and analysis, it should require the Proponent to ensure that the results of monitoring and analysis are consistent with the predictions in the Environmental Assessment and that mitigation measures effectively reduce impacts.</p> |
| 2.5 and all conditions that require engagement of federal agencies and First Nations for implementation of conditions. | <p>In regards to Metlakatla’s desired opportunities for participation in the implementation of follow-up programs, Metlakatla feels that a technical committee/working group comprised of representatives from the Proponent, the Agency, relevant Aboriginal groups, and other appropriate federal authorities should be established to manage/guide the implementation and review of all follow-up and monitoring programs. Though the committee structure would not fulfill the Proponent’s delegated consultation obligations, (which would have to proceed directly with each First Nation), it would ensure the same information was being shared and discussed with all parties, issues were identified early and in a transparent setting, and solutions could be addressed regularly, consistently, and with the input of appropriate experts. We suggest a condition should establish the requirement for a committee with direction to collaboratively develop a Terms of Reference once the CEAA Decision Statement is released.</p> |
| 2.6.4 | <p>This condition is missing the requirement for reporting the results of marine fish and fish habitat monitoring (i.e. it should reference the follow-up program requirements identified in condition 6.22)</p> |
| 2.7 | <p>There is a typo in this condition. It references condition 6.18, but it should instead reference 6.14.</p> |
| 2.8 | <p>It should be stated in this condition that, should there be a transfer of ownership, care, control or management of the Designated Project, the CEAA and BCEAO conditions will be transferred as well.</p> |
| 2.9 | <p>The requirement of this condition is that the Proponent consult with Aboriginal groups and notify the Agency no later than 60 days prior to initiating changes to the Project, however, Metlakatla argues that this is too short of a timeframe if the change is major (e.g. the bridge/trestle requires additional towers than were modelled in the EA), as the Agency will need to fully discharge its duty to consult with Aboriginal groups prior to the Proponent initiating the change. Furthermore, it is very unclear what kind of Project changes would require a change in the Decision Statement, additional conditions, a new EA, etc. Guidance is needed from CEAA prior to a change being proposed so that all parties are clear on the requirements for evaluating a proposed change to the Project.</p> |
| 3.1 | <p>It is not clear how the Agency will ensure that the Proponent is complying with this condition. For instance, at what point in time will the Proponent be required to incorporate the latest best available technology and management practices to reduce and control air emissions (e.g. within one year after it becomes available?). What if the Proponent purports that the best available technology and management practices</p> |

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| | <p>are not economically feasible? This condition needs to be more specific. Suggestions that CEAA could consider to improve the condition include: CEAA could verify the use of best available technology on a predictable and pre-determined schedule (e.g. every 10 years) or in alignment with PNWLNG's internal process reviews for optimization of their operations. CEAA could also require a report of alternatives for best available technology and a technical and economic analysis of alternatives on a regular schedule.</p> |
| 3.1 | <p>Metlakatla is disappointed that no conditions are currently drafted to mitigate the predicted significant contribution of this Project to Greenhouse Gas emissions. Canada should be ensuring that GHGs are reduced as much as possible, not only through best available technology. Metlakatla suggests that Canada could consider mandating the incremental reduction of GHGs from the PNWLNG terminal over time, starting with requiring PNWLNG to use grid power for all ancillary services not related to the cooling process, and introducing electric-drive LNG trains for any trains built in addition to trains 1 and 2.</p> |
| 4.1.2 | <p>Requiring the Proponent to monitor changes to the baseline conditions established in condition 4.1.1 (regarding freshwater fish and fish habitat) for just one year following the start of operation of Train 2 does not seem sufficient in order to ensure no adverse changes are occurring as a result, particularly in consideration of cumulative effects over time. Metlakatla suggests monitoring occur, 1, 2, 5, 10 years after operations begin as a minimum or with increasing frequency if monitoring results reveal environmentally negative trends.</p> |
| 6 (General) | <p>Given the large proportion of insects found in the 2015 stomach content analysis conducted on fish found at Flora Bank, CEAA may want to consider a condition that requires the Proponent to monitor insect populations either directly or via fish stomach content analysis to ensure Project-related impacts (e.g. loss of wetland environment or forest on Lelu Island or pest control measures) are not causing declines in food availability for fish species utilizing Flora Bank.</p> |
| 6.1 | <p>Requiring the Proponent to identify timing windows of least risk for in-water construction activities "prior to start of in-water construction activities" is too vague in terms of time. The term "prior to" needs to be specified (e.g. "no later than 90 days prior to") in order to ensure that the Agency and Aboriginal groups have time to review the results of the pre-construction surveys supporting the identification of these timing windows. Additionally, the Proponent should identify timing-windows and submit their survey results to Aboriginal Groups prior to applying for a Fisheries Act Authorization.</p> |
| 6.1.1 | <p>In addition to the requirements of this condition, the Proponent should also be required to identify timing windows of least risk for the placing of coffer dams, installing bridge structures in-water, and potentially other in-water noise-generating activities that could cause sensory disturbance. CEAA may want to reconsider wording of the conditions as to capture all potential noise-generating in-water works over a certain decibel level, rather than specifying a list. This will also ensure timing windows are considered for activities resulting from a change in construction and engineering design that may occur post-EA.</p> |
| 6.1.2 | <p>This condition should require the Proponent to obtain permission from Fisheries and Oceans Canada if dredging, vibratory pile driving, impact pile driving, and sediment disposal at sea (or other noise generating activities) must occur outside of the least</p> |

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| | risk timing windows. |
| 6.1.4 | The Agency should consider expanding the list of underwater noise generating activities for which the Proponent is required to identify and implement additional mitigation measures (see reasoning in comment on condition 6.1.1). |
| 6.16 | CEAA should confirm that PNWLNG must use tugs that minimize scour during construction and operations . If other tugs must be used for the purposes of construction, PNWLNG first must demonstrate, to the satisfaction of federal authorities and First Nations, that scour from construction tasks will not contribute to erosion/deposition on Flora Bank nor impact fish and fish habitat prior to undertaking the construction activity in question. |
| 6.2 | <p>Given the remaining uncertainties regarding the modelling and the forgoing discussion regarding adaptive management, a calibrated and verified model is required that can:</p> <ul style="list-style-type: none"> • Predict effects on Flora Bank from both infrastructure and vessel-created wind-shadow (one and two vessels), particularly at the North-west corner of Flora Bank (near rocky knobs) • Integrate data and imagery (e.g. LIDAR) to monitor these predictions over time, and • Test adaptive management strategies (e.g. infrastructure) in the event that real-world effects deviate from predictions of effect. <p>An appropriately worded condition to replace draft conditions 6.2 and supplement draft conditions 6.22.3, 6.22.4, 6.22.5, 6.22.6, and 6.22.7 could be structured as follows:</p> <p>6.2a Prior to the start of in-water construction activities, the Proponent shall develop conceptual sediment budgets for both Flora and Agnew Banks. This model shall be developed in such a way that both programming and results can be queried by and are transparent to all reviewers.</p> <p>6.2b Prior to the start of in-water construction activities, the Proponent shall conduct further field surveys of waves, currents, and total suspended sediment concentrations over Flora Bank to calibrate and validate a fine scale three dimensional model of Flora and Agnew Banks that can:</p> <ol style="list-style-type: none"> a) model the south-west tower and anchor block of the suspension bridge to confirm that erosion and deposition are at least the same or less than the levels predicted in the environmental assessment. b) confirm that erosion and deposition on Flora and Agnew Banks are as predicted in the environmental assessment, considering wind-shadow effects of one and two berthed vessels c) in conjunction with annual collection of LIDAR or other data, be used to monitor real world response to the project |

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| | <p>d) be suitable for modelling possible additional mitigative procedures or design changes, in the event that adaptive management is required.</p> <p>6.2c In the event that results of the modelling program outlined in section 6.2b indicate that adaptive management is warranted, the Proponent shall create an adaptive management plan pursuant to CEAA guidance and international best practices.</p> <p>The Proponent shall provide the results of the modelling, including detailed inputs, methodologies and outputs, to the Agency, Fisheries and Oceans Canada, Natural Resources Canada and Aboriginal groups.</p> |
| 6.13 | Independent Environmental Monitors should be employed by the Proponent for all aspects of project construction, not just “in-water construction”. Further, Environmental Monitors should be required to produce regular reports that are shared with CEAA, other authorizing authorities, and First Nations. |
| 6.17 | Reducing speed may not be the only potential mitigation for avoiding marine mammal strikes by ships. Metlakatla suggests CEAA add, “proceed at a safe speed and respect speed profiles applicable to the operation of the Designated Project, and implement other reasonable mitigation measures , subject to navigational safety, ... “ |
| 6.22 | This condition requires the Proponent to develop and implement a follow-up program for marine fish and fish habitat in order to verify the accuracy of the environmental assessment, but the environmental assessment for marine fish and fish habitat (the 2015 fish studies) were never completed nor analyzed. This condition should specify the need to complete these studies and provide the results to Aboriginal groups for review and comment. Additionally, the condition should also specify that the follow-up program shall include, but not be limited to , the elements contained in conditions 6.22.1 to 6.22.10. |
| 6.22.1 | This condition should also require that the Proponent confirm that the levels of total suspended sediments and turbidity are not only within the ranges predicted during the environmental assessment, but also below DFO limits. |
| 6.22.3 | What is meant by the phrase “within the natural range predicted during the environmental assessment” must be explicitly stated (i.e. what is the natural range?). |
| 6.22.4 | What is meant by the phrase “if equilibrium is not reached after five years” must be explicitly stated (i.e. what is equilibrium?). |
| 6.22.5 | This condition should make it clear that the Proponent is required to monitor the extent and density of eelgrass beds associated with Flora Bank during construction as well as annually for a minimum of 10 years after construction is completed. |
| 6.22.7 | The requirement to monitor the “south end” of Flora Bank is not clear and should be described more fulsomely (e.g. Reference the location in relation to Kitson Island). Further, recent modelling by the Proponent shows potential changes in erosion/deposition patterns as a result of ships at berth, resulting in some concern regarding the accuracy of the model predicting effects at the corner of Flora Bank nearest the berth (in the vicinity of the “rocky knobs”). Monitoring at this quadrant of Flora Bank should also be required during docking and when ships are at berth and |

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| | should be continued for 10 years to verify model predictions. |
| 6.22.8 | As mentioned above (see comment for condition 6.22), while this condition requires the Proponent to monitor commercial, recreational, and Aboriginal fisheries species beginning prior to the start of construction, Metlakatla is specifically interested in receiving the results and analysis of the 2015 fish studies (which include completing a dietary analysis and larval identification) and having those studies continue until a satisfactory baseline for pre-construction conditions is reached. |
| 6.22.10 | This condition should require the Proponent to confirm the environmental effects of sediment disposal at Brown Passage prior to applying for a disposal at sea permit, using updated volumes and sediment characterization and taking into account RoV and other baseline studies undertaken during the EA. This condition should also require that if baseline conditions have changed since their EA (e.g. another project has disposed at Brown's Pass since EA approval but prior to PNWLNG construction), additional analysis is completed to address the cumulative impacts of multiple disposal actions. |
| 6.23 | <p>This condition should also require the Proponent to submit the results of the follow-up programs referred to in conditions 6.22.1 to 6.22.10 to the Agency <i>and</i> Aboriginal Groups annually.</p> <p>Additionally, as discussed in the previous comment relating to conditions 2.4, in cases where assessment of impact is made in the face of significant uncertainty (i.e. potential effects to eulachon, to marine mammals other than harbour porpoise, and to the sediment regime governing Flora Bank's structure and function) a structured "follow-up" method – adaptive management – to learn more about the VC or system in question is appropriate, and should be explicitly required. For all other VCs for which follow-up programs are required, the meaning of the phrase "additional mitigation measures" needs to be explicitly stated, either here or in the definitions section. The Proponent should be required to identify in these follow-up programs feasible, implementable and effective additional mitigation measures for all reasonably foreseeable scenarios.</p> |
| 6.24 | This condition should specify the marine mammal species to be included in the marine mammal protection plan (condition 6.24.1 refers to "the timing windows of least risk for marine mammals referred to in condition 6.1", but neither condition specifies the marine mammals for which least risk timing windows must be determined). |
| 6.24.4 | Metlakatla asks that the Agency consider including in this condition other efforts to avoid impacts to marine mammals in addition to marine mammal observers. If the weather or sea conditions are not ideal, Harbour Porpoises are difficult to observe visually. Other methods could include real-time acoustic or thermal monitoring. |
| 6.24.5 | This condition contains a typo: it refers to condition 6.22.8, but should refer to 6.22.9 |
| 6.25 | This condition should require the Proponent to participate, at the request of federal authorities <i>and</i> Aboriginal groups, in regional initiatives relating to cumulative effects monitoring and the management of marine shipping <i>and</i> any other regional cumulative effects initiatives that encompass Project-related effects. |
| General in relation to cumulative | The Proponent should be required to consider the potential cumulative impacts of specific construction activities that may overlap with those of the Prince Rupert Gas Transmission (PRGT) project that may exacerbate an already significant impact, or |

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| effects | cause an impact to become significant. Key examples include if the Proponent creates construction noise that may displace fish or marine mammals towards the PRGT project site where noise is also being generated. Additional examples may include short-term restrictions to navigation and access for marine harvesters and overlaps in above water construction noise and light that will impact migratory birds. A condition should be generated to ensure that the Proponent coordinates with PRGT during construction to avoid overlaps with key impacts to relevant VCs. |
| 7.4 | This condition includes a typo, it should read "The Proponent shall avoid or lessen <i>impacts</i> ". |
| 7.5 | In addition to requiring the Proponent to develop and implement a follow-up program to monitor Project-related impacts to migratory birds, this condition should also require the Proponent to include mitigation measures that the Proponent will implement if the results of monitoring indicate that the initial mitigation measures for impacts to migratory birds are not effective. |
| 8.1 | <p>Though Metlakatla understands the importance of taking a precautionary approach to protection of the little brown myotis, we believe this condition is overly prescriptive and may inadvertently cause the Proponent to:</p> <ul style="list-style-type: none"> - Conduct clearing overly quickly, thus compromising their careful treatment of CMTs that must be handled according to a protocol developed with Metlakatla to work with archaeologists and sample each CMT felled. - Clear Lelu Island as early as possible, potentially prior to a final investment decision which, if negative, will result in a cleared island and no project. <p>Metlakatla suggests CEAA consider re-wording this condition similar to draft condition 6.1, in which the Proponent must first complete studies to determine appropriate timing windows for clearing as to not impact critical life stages of the little brown myotis to the satisfaction of Environment Canada and Aboriginal groups.</p> |
| 9.1, 9.1.1, and 9.1.2 | These conditions appear redundant with existing provincial conditions and regulations. |
| 9.4.1 and 9.5 | This condition should allow for a wider study area in order to verify that dredging of marine sediment at the MOF does not result in increased human health risks (i.e. This condition should require the Proponent to collect Dungeness crabs and at least two other species a larger area than Porpoise Channel). The condition should also require the Proponent to gather samples from a reference or "pristine" site to determine if contaminant levels are resulting from the dredge program or some other environmental factor. |
| 10 (General) | Despite the heading for section 10, which reads "socio-economic conditions", no conditions regarding socio-economic issues have been drafted. Metlakatla argues that the existing provincial condition requiring the Proponent to develop a "Socio Economic Effects Management Plan" is insufficient to address the predicted socio-economic effects of the Project, including those predicted by Metlakatla's own socio-economic impact study. To address this gap, and at minimum given the federal government's jurisdiction, Metlakatla believes that the federal government must develop mitigations for potential impacts to on-reserve First Nation populations, and that the Agency should add a condition that requires the Proponent to monitor and mitigate these socio-economic impacts. |
| 10.1 | For clarity, this condition should specify that the bridge/trestle should be 11.3 meters from the highest high water <i>over known navigation channels used by mariners</i> . |

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| 10.3 | <p>This condition must specify the duration of time within which the Proponent is expected to implement the follow-up program in order to verify that the Project does not result in decreased opportunities for traditional and Aboriginal commercial fisheries. Metlakatla suggests regular monitoring during construction, (based on a study design developed collaboratively with relevant Aboriginal Groups), followed by monitoring at years 1, 3, 5, and 10 of operations or until the Proponent can verify that no impacts to Aboriginal use are occurring as a result of the Project.</p> <p>Additionally, CEAA should explicitly condition a requirement for PNWLNG to avoid restricting access to their project area during timing of key resource harvesting periods for Aboriginal groups (e.g. fishery openings, peak salmon harvesting periods).</p> |
| 11.1 | <p>This condition should specify that monitoring of the handling of physical and cultural features must be overseen by a qualified professional archaeologist.</p> |
| 11.1.5.1 | <p>In regards to “determining the heritage value of the physical or cultural heritage features or structures”, it is not clear what is meant by the term “heritage value”. A definition for this term should be included in the list of conditions.</p> |
| 13.4.3.4 | <p>This condition should call for the Proponent to provide a description of any residual environmental effects, and any additional measures required to monitor and mitigate residual adverse environmental effects” [added]</p> |
| 14.1 | <p>Given the number of conditions that require the Proponent to develop and implement follow-up programs prior to construction, this condition, which requires the Proponent to submit an implementation schedule for conditions at least 30 days prior to the start of construction, does not make sense. By this time, many of the conditions will have already had to be implemented. The timing contained in this condition should be revised to require the Proponent to submit the implementation after the Proponent indicates a positive final investment decision but at least 90 days prior to the start of construction.</p> |
| General | <p>Metlakatla is concerned that uncertainties in the timeline of this project may result in inaccuracies in the environmental assessment. Metlakatla requests conditions are added to address:</p> <ul style="list-style-type: none"> - The need to use the most up to date environmental information as possible when planning the final design phases of the project if these plans are being developed more than 2 years from the date of the issuance of a federal EA Decision. For example, if key baseline conditions have changed (e.g. certain fish stocks are dangerously low, if another large project is emitting pollutants into the airshed, etc.) from what was assessed in this Project, the Proponent will be required to re-submit certain analyses and consider different mitigation measures, to the satisfaction of federal agencies and Aboriginal Groups, prior to initiating construction. - The need exists to similarly examine changing baseline conditions when the Proponent is considering building additional trains (beyond the first 2 trains). Before initiating expansion, the Project should be required to look at key values that will see increased impacts as the result of expansion (e.g. air quality, marine traffic, noise and light, etc), and ensure that the baseline and predictions used in this EA are still accurate to inform the mitigations and designs of the additional trains. |



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March 10, 2016

Schedule 2

Comments on CEAA Draft Environmental Assessment Report for PNWLNG

| Section | Subject | Comment |
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| 6.2.3 | Greenhouse Gas Emissions | <ul style="list-style-type: none"> ○ Metlakatla concurs with the agency's conclusion that effects on greenhouse gas targets are significant. ○ Additional mitigations are needed (see comments on conditions) to further address the contribution of GHGs that will be attributable to PNWLNG. |
| 6.4.3 | Migratory Birds | <p>Metlakatla has consistently requested further assessment of impacts of lights, particularly considering fog events, during the EA. In the absence of further study, additional mitigations should be implemented, including:</p> <ul style="list-style-type: none"> ○ Monitoring for bird mortality should be conducted in the first year of operation, with particular emphasis on monitoring following flaring events and nighttime fog events during spring and fall season to confirm the predictions of the assessment regarding disorientation associated with project lighting/sky glow. ○ Monitoring must be rigorous enough to assess the effectiveness of mitigation and identify remedial solutions if necessary. Specific effect thresholds must be identified to guide the analysis of monitoring results and trigger management actions if necessary. |
| 6.5 | Freshwater Fish and Fish Habitat | <ul style="list-style-type: none"> ○ A geophysical study of Lelu Island should be conducted to understand discontinuities or porosities that may contribute to the potential for groundwater contamination ○ The upland disposal facility for contaminated dredged material must be lined to prevent groundwater contamination ○ Monitoring must be rigorous enough to assess the effectiveness of mitigation and identify remedial solutions if necessary. Specific effect thresholds must be identified to guide the analysis of monitoring results and trigger management actions if necessary. |
| 6.6 | Marine Fish and Fish Habitat including Species at Risk and Marine Mammals | <ul style="list-style-type: none"> ○ Additional modelling work is required as identified in Metlakatla comments on draft conditions. ○ Modelling should assess the need for maintenance dredging to confirm predictions that this type of dredging will not be required. ○ Mitigation for effects to eulachon, noise effects to marine mammals, and effects to morphology and function of Flora Bank should be assessed for effectiveness according to best practices of adaptive management. |

| Section | Subject | Comment |
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| | | <ul style="list-style-type: none"> ○ The first paragraph of page 55 indicates that dredge disposal will occur “approximately every 18 hours over seven months”. Does this suggest night-time disposal? What mitigations will be put in place to ensure marine traffic safety? How will mitigations that require visual surveys (for marine mammals) be effective if visibility is restricted by low-light/night conditions? ○ References are made throughout the Draft Assessment Report to a “Sediment Management Working Group being led by the Port of Prince Rupert (PRPA)” that will “develop a Port of Prince Rupert Dredged Sediment Management Guide that includes alternate uses for sediment from dredging activities, identification of potential locations for disposal, and other sediment management guidance.” This is a mischaracterization and overstatement of what this group will achieve. At this time, there is a group of technical representatives, coordinated by PRPA, working towards developing further guidance for proponents considering a dredge and disposal program. It is not a “Working Group” in the formal, regulatory sense nor does it have a mandate beyond publication of the guidance document. The PRPA has convened two meetings to gather input from federal agencies and Tsimshian Nations on best practices for management of dredged material in the Prince Rupert region. This document, as currently drafted, is intended to identify key issues and appropriate strategies for dredging and dredge disposal projects in the Prince Rupert Region. The current scope of the project will not accomplish identifying “preferred” locations for disposal. The project, as currently scoped, will most likely not influence nor provide any direct mitigation for PNWLNG impacts and should therefore not be characterized as such. |
| 6.7 | Marine Mammals including Species at Risk | <ul style="list-style-type: none"> ○ We agree with the conclusion that cumulative effects on harbour porpoises will be significant. ○ The Agency notes that “the Prince Rupert Port Authority and the Pacific Pilotage Authority may set speed profiles for vessels approaching the Port that will take into consideration impacts to marine mammals”. The requirement to develop speed profiles to minimize impacts to marine mammals for Prince Rupert bound vessels should be established as a condition of the project. ○ Mitigation for noise effects on marine mammals should be assessed for effectiveness according to best practices of adaptive management. |
| 6.10 | Current use of lands and resources for traditional purposes | <ul style="list-style-type: none"> ○ This section should reference the indirect effects of the Project on fishing of eulachon. ○ This section should include the potential Project-related impacts to fishing and marine harvesting due to disposal of sediment at Brown’s Passage. ○ The Agency should include a condition that requires the Proponent to avoid construction activities during key fishery openings in order to reduce potential effects on access to fishing and marine harvesting sites. ○ In a meeting with Metlakatla following the submission of the Agency’s draft EA Report, the Proponent indicated their desire to construct in-water |

| Section | Subject | Comment |
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| | | <p>during night time hours, including pile-driving (given the pile-driving activities are not initiated at nighttime, but continued on from the daytime). As such, the Agency should verify with the Proponent their “proposed measures to mitigate the effects of the Project on the sensory environment, including measures to reduce changes to noise and ambient light levels (such as timing of construction activities, design of the facilities, and construction and operation practices)” (pg.96).</p> |
| 6.11 | Socio-economic Conditions | <ul style="list-style-type: none"> ○ The proponent has not fully assessed the indirect impacts of the Project on Aboriginal communities on reserve, such as overcrowding, increased antagonism between “haves” and “have nots”, increased domestic violence and substance abuse, etc that have been identified by Metlakatla throughout the EA. The Agency should require a follow-up program to monitor these indirect impacts, particularly for effects that will be witnessed on federal reserves. ○ In regards to impacts to visual quality, the Agency reports, “The proponent stated that industrial development is a planning objective for the area according to the 2011 Prince Rupert Port Authority Land Use Management Plan”. Metlakatla was not adequately consulted by the PRPA on this Plan and the views expressed in it regarding industrial development are not shared by Metlakatla. As such, Metlakatla considers the Project-related impacts to visual quality to be significant. |
| 6.12 | Physical and Cultural Heritage and Historical and Archaeological Sites and Structures | <ul style="list-style-type: none"> ○ Metlakatla has consistently expressed that the detailed recording of Culturally Modified Trees that are destroyed by the Project does not fully mitigate the loss of physical and cultural heritage. Metlakatla expects the Proponent to follow through on their commitment for ongoing engagement with Metlakatla regarding the documentation and removal of CMTs and the implementation of additional measures, including potential support of longer term cultural programming to mitigate the impact to the important cultural heritage landscape on Lelu Island. |
| 7.1 | Effects of Accidents and Malfunctions | <ul style="list-style-type: none"> ○ The proponent has not fully assessed the potential effects of a bridge collapse. A subset of potential accidents that may contribute to bridge damage or collapse – an aircraft collision – has been assessed but other possible causes for bridge damage or collapse leading to loss of containment of LNG and or fires/explosions has not been assessed. Ice, for instance, has not been considered, nor has the potential impact of an unexpectedly large tsunami. Unexpected ice build-up on Vancouver’s new Port Mann bridge caused extensive property damage and posed a threat to human safety. A similar icing event could affect LNG infrastructure and should be assessed. |
| 7.3 | Cumulative Effects (Marine Fish and Fish Habitat, Marine Mammals, and | <ul style="list-style-type: none"> ○ We do not feel that the cumulative effect of the Project, in conjunction with potential effects of climate change, has been adequately considered and believe adverse effects on a wider range of mammal species, beyond harbour porpoises, may be significant. ○ Mitigation for project noise effects should be assessed for effectiveness according to best practices of adaptive management. |

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| | Current Use of Lands and Resources for Traditional Purposes) | <ul style="list-style-type: none"> ○ The Cumulative Effects Monitoring Initiative (CEMI), referenced on page 137 and 147, cannot be considered as a direct mitigation for impacts to Aboriginal Interests as a result of impacts to marine fish and fish habitat (including marine mammals) and current use of lands and resources for traditional purposes. The CEMI program is a broader initiative, not tied specifically to PNWLNG mitigations, and currently lacks long term commitment and financing. PNWLNG mitigations for cumulative effects should be independent of CEMI, particularly as the Proponent is not mentioned as a necessary participant of this Initiative or any other. The Agency must require the Proponent to participate in any monitoring of cumulative impacts to which the PNWLNG may be contributing, including those initiatives that may be developed by Aboriginal groups. |
| 8.0 | Impacts on Potential or Established Aboriginal Rights or title | <ul style="list-style-type: none"> ○ Metlakatla has ongoing concerns about Metlakatla's ability to autonomously manage their lands and resources in the Project area and surrounding area (especially considering cumulative effects). ○ Metlakatla also remains concerned about the continued incremental loss of Metlakatla lands to development projects such as the Pacific Northwest LNG Export Terminal. In regards to this Project in particular, Metlakatla has ongoing concerns about the loss of access to lands and resources within the Project area and surrounding areas (especially considering cumulative effects). ○ The Cumulative Effects Monitoring Initiative, referenced on page 153, cannot be considered as a mitigation measure for impacts to Aboriginal Interests as a result of impacts to the practice of marine fishing, harvesting and hunting, particularly as the Proponent is not mentioned as necessary participant of this Initiative or any other. Traditional use is also not necessarily within the scope of the Monitoring Initiative. The Agency must require the Proponent to participate in any monitoring of cumulative impacts to which the PNWLNG may be contributing, including those initiatives that may be developed by Aboriginal groups. |
| 9.0 | Follow-up Programs | <ul style="list-style-type: none"> ○ As referenced in Metlakatla's letter to CEAA and comments on conditions, to address ongoing uncertainty in this EA, PNWLNG should be required to pursue any follow-up programs as part of a larger, rigorous, Adaptive Management approach to identifying and addressing project impacts. A number of potential effects associated with the PNWLNG project are suitable for adaptive management, including: Potential effects to eulachon; Potential effects to marine mammals other than harbour porpoise; Potential effects to the sediment regime governing Flora Bank's structure and function ○ Wetland Compensation: It is not clear, neither in this draft EA Report nor in the Potential Conditions document (condition 5.5), how the federal government will determine whether wetland functions have been attained after less than 20 years of monitoring by the Proponent. Also, the draft EA Report indicates that monitoring of compensatory wetlands should occur in years 1, 3, 5, 10, and 20, but also indicates that the proponent should |

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| | | <p>submit annual monitoring reports. These requirements should be brought into alignment.</p> <ul style="list-style-type: none"> ○ Marine Country Foods: This follow-up program should allow for a wider study area than Porpoise Channel in order to verify that dredging of marine sediment at the MOF does not result in increased human health risks via marine country foods. The Proponent should also be required to gather samples from a reference or “pristine” site to determine if contaminant levels are resulting from the dredge program. ○ Marine Fish, Fish Habitat, and Marine Mammals: The follow-up program that requires the Proponent to monitor the abundance of commercial, recreational, and aboriginal fishery species should not begin, as indicated in the EA Report, upon issuance of a decision statement, but should instead be a continuation of the 2015 fish studies that have yet to be finalized. Similarly, the program should not cease at the end of the operations phase, but continue during decommissioning. Finally, the completion of 2015 fish studies, the sharing of results and analysis, and gathering of input to improve fish studies for the following years should be a requirement of PNWLNG. ○ Sediment Removal and Disposal: The Agency should require the Proponent to implement a follow-up program that includes monitoring and reporting on sediment dispersion at Brown’s Passage prior to, during, and following disposal of sediment at the site, in consultation with Metlakatla. |
| 11.4 | Key Mitigation Measures and Follow-up Considered by the Agency | <ul style="list-style-type: none"> ○ Greenhouse gas emissions: Given that the Project design already does not include the best available technology and best management practices to reduce GHGs (e.g. use of electric-drive LNG trains, renewable grid power for ancillary services, etc.), it is not clear how the Agency will enforce this mitigation measure. See Metlakatla comments on conditions for further comment on this condition. ○ Marine fish and fish habitat: The second follow-up program suggested regarding the Brown’s Passage sediment disposal site in this document does not quite align with the condition included in the “Potential Conditions” document. While the follow-up program in the conditions document requires follow-up monitoring to verify EA predictions at the disposal site <i>prior to</i> the first disposal, the EA report does not specify the timing of the follow-up program. The Proponent should be required to monitor Brown’s Passage both prior to the first disposal, during, and after the last disposal. ○ Human health: As mentioned in the above comment corresponding to section 6.10, the Proponent has indicated their intention to construct in-water during night time hours, including pile-driving. As such, the Agency should verify with the proponent that the mitigation measures regarding reducing nighttime construction noise and light are still valid. ○ Socio-economic conditions: As mentioned in the above comment corresponding to section 6.11, the Agency should institute a follow-up |

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| | | <p>program to monitor these indirect socio-economic impacts, particularly on federal reserves.</p> |
| 11.5 | Proponent's Proposed Mitigation Measures | <ul style="list-style-type: none"> ○ As in the EIS/Application review process, Metlakatla continues to question the strength and enforceability of many of the Proponent's proposed mitigation measures. Specifically, a number of mitigation measures include qualifying phrases such as "where practical", or simply do not contain enough detail to adequately understand how the proposed measure will mitigate impacts or how it will be enforced. Metlakatla suggests clarification is needed regarding how CEAA can and will enforce mitigations that have been committed to by PNWLNG, especially those with qualifiers. |
| 11.6 | Summary of Aboriginal Consultations | <ul style="list-style-type: none"> ○ Technical Implementation Committee: Metlakatla requests that a technical committee/working group comprised of representatives from the Proponent, the Agency, relevant Aboriginal groups, and appropriate federal authorities be established to manage the technical implementation of conditions and oversight of all follow-up and monitoring programs. Though the committee structure would not fulfill the proponent's delegated consultation obligations, (which would have to proceed directly with each First Nation), it would ensure the same information is being shared and discussed with all parties, issues are identified early and in a transparent setting, and solutions can be addressed regularly, consistently, and with the input of appropriate experts. We suggest a condition should establish the requirement for a committee with direction to collaboratively develop a Terms of Reference once the CEAA Decision Statement is released. ○ Adaptive management: The follow-up programs that the Agency has proposed for most effects to VCs are intended to ensure that assessment predictions are accurate and/or that mitigations are effective. However, where assessment of the impact has been made in the face of significant uncertainty, a structured "follow-up" method – adaptive management – to learn more about the VC or system in question is appropriate. We recommend that explicit reference to adaptive management, as described in the CEAA Operational Policy Statement (OPS) for Adaptive Management Measures under the <i>Canadian Environmental Assessment Act</i> is applied as conditions to these areas of uncertainty, including: <ul style="list-style-type: none"> - Potential effects to eulachon - Potential effects to marine mammals other than harbour porpoise - Potential effects to the sediment regime governing Flora Bank's structure and function ○ Cumulative effects initiatives: As discussed in the comments above, the Cumulative Effects Monitoring Initiative, referenced in the table on page 206, cannot be considered as a mitigation measure for impacts specifically of PNWLNG to Aboriginal groups. The Agency must require the Proponent to participate in any monitoring of cumulative impacts to which the PNWLNG may be contributing, including those initiatives that may be |

attached to a federal authorization and therefore contain no reference, nor further guidance on how the federal Crown will ensure consultation is appropriately executed.

- **Technical Implementation Committee:** Metlakatla requests that a technical committee/working group comprised of representatives from the Proponent, the Agency, relevant Aboriginal groups, and appropriate federal authorities be established to manage the technical implementation of conditions and oversight of all follow-up and monitoring programs. Though the committee structure would not fulfill the Proponent's delegated consultation obligations, (which would have to proceed directly with Metlakatla), it would ensure the same information is being shared and discussed with all parties, issues are identified early and in a transparent setting, and solutions can be addressed regularly, consistently, and with the input of appropriate experts. We suggest a condition should establish the requirement for a committee with direction to collaboratively develop a Terms of Reference once the CEAA Decision Statement is released.

Should the PNWLNG Project advance, it will be the Metlakatla First Nation, its members, and its resources which will most acutely experience the impacts of the development. As such, we ask CEAA to carefully consider the attached recommendations from the MSS which aim to improve the final product and ensure that any potential impacts from the Project will be carefully monitored, identified as early as possible, and well mitigated in advance of the permeation of negative effects to the ecosystem.

Should you require any further clarification on the attached or would like to discuss next steps, please do not hesitate to contact myself (ausborne@metlakatla.ca), Ross Wilson, Director of the MSS (rwilson@metlakatla.ca), or Chief Councillor Harold Leighton of the Metlakatla First Nation (hleighton@metlakatla.ca); 250-628-3315.

Kind regards,
<Original signed by>

Anna Usborne
Environmental Assessment Coordinator, Metlakatla Stewardship Society

Cc: Chief Harold Leighton, Metlakatla First Nation
Ross Wilson, Director, Metlakatla Stewardship Society
Jane Hauser, Environmental Assessment Assistant, Metlakatla Stewardship Society
Candace Anderson, Crown Consultation Manager, CEAA

Attachments: Schedule 1: Table of Comments on the Draft Conditions
Schedule 2: Table of Comments on the Draft Environmental Assessment Report

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| | | <p>developed by Aboriginal groups.</p> <ul style="list-style-type: none"> ○ Socio-economic impacts: No conditions regarding socio-economic issues have been drafted by the Agency. Metlakatla argues that the existing provincial condition requiring the Proponent to develop a “Socio Economic Effects Management Plan” (SEEMP) is insufficient to address the predicted socio-economic effects of the Project, including those predicted by Metlakatla’s own socio-economic impact study. To address this gap, and given the federal government’s jurisdiction, Metlakatla believes that the federal government must develop, at minimum, mitigations for potential impacts to on-reserve First Nation populations, and that the Agency should add a condition that requires the Proponent to monitor and mitigate socio-economic impacts beyond “infrastructure and services” mandated by the SEEMP process. |