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Alex Nisbet and John Harvie

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Regarding: Review of Lake Manitoba and Lake St. Martin Outlet Channels Project Environmental Impact Statement

Dear Mr. Harvie and Mr. Nisbet

Attached please find an executive summary and my technical review of the Lake Manitoba and Lake St. Martin Outlet Channels Project Environmental Impact Statement. The review is in support of the interests of your clients from Pinaymootang First Nation, Sagkeeng First Nation, and Sandy Bay First Nation.

You will see from my summary and review that I found the Environmental Impact Statement to be deficient in many areas, including errors made at the scoping stage. I do not believe that remedial work by Manitoba Infrastructure and its consultants will be able to correct the deficiencies in the environmental assessment. My recommendation is that the assessment process should be started again from the beginning.

I would be happy to discuss these documents and my assessment with you at a mutually convenient time.

Yours truly,

<Original signed by>

W. James Rettie, Ph.D.

Principal, Paragon Wildlife Research and Analysis Ltd.

EXECUTIVE SUMMARY

The Lake Manitoba and Lake St. Martin Outlet Channels Project Environmental Impact Statement (EIS) submitted by Manitoba Infrastructure in March 2020 failed to meet the requirements of the Canadian Environmental Assessment Act, 2012.

For reference, I examined the Canadian Environmental Assessment Agency technical guidance for a CEA process (CEAA 2014); it included the following recommended steps:

1. A scoping process that begins by acquiring scientific evidence and input from the public and Indigenous groups. Scoping includes several steps to identify;
 - a. potential valued components (VCs),
 - b. VC sensitivity to the Project and other past and future developments through cause-and-effect pathways,
 - c. the identification of VC-appropriate spatial and temporal scales of assessment,
 - d. selection of appropriate metrics and associated benchmarks, thresholds, and methods of analyses,
 - e. establishment of a reference condition to represent the pre-development natural state of the VCs,
 - f. identification of reasonably foreseeable future developments,

The outcome of scoping is the selection of the VCs that are carried forward for analyses;

2. An analysis stage that assesses the cumulative effects of the Project, and past and reasonably foreseeable future Projects, on each VC at the VC-appropriate spatial and temporal scales. The analyses should respect the source-pathway-receptor model to establish the relationship between the disturbances and the VC. Project effects that continue to affect the VC into the future must be recognized and accounted for;
3. Identification of mitigation measures should be incorporated throughout the scoping and analyses stages. Existing and proposed mitigation that can remove or reduce effects should inform VC selection and analyses;
4. Determination of significance of cumulative effects on each VC following mitigation;
5. Development of a follow-up program to verify the effectiveness of mitigation measures and assess the actual effects of cumulative development.

For each step, there should be documentation associated with all decisions, e.g., selection or exclusion of VCs, assumptions made, setting of temporal and spatial boundaries, and methods of analyses.

For purposes of organization this summary contains sections corresponding to sequential steps in the EA process where actions by the proponent contributed to the inadequacies of the EIS.

Project Description

The EIS Guidelines required that in documenting the analyses included in the EIS, the proponent would demonstrate that all aspects of the project had been examined and planned in a careful and precautionary manner. However, the EIS Project Description (Section 3.0) is deficient of the details that are necessary to determine what construction will occur, when construction will occur, and where it will occur. Details are absent on water control structures, bridges, local drainage structures, rock quarry and borrow pit locations, power and power distribution line requirements and locations, work camp locations, dikes, erosion management, volumes of material to be removed and its fate. Manitoba Infrastructure repeatedly refers to future decisions, standard practices, and appropriate planning and permitting to be completed as required.

The Project Description details are required for all Project phases at the outset of the EA process in order that the specific effects of the Project on the environment cannot be mitigated are properly assessed, and the residual and cumulative effects evaluated. Without a completed Project description, the effects assessment is premature and affected parties are asked to trust that future decisions will be mitigated.

Selection of Valued Components (VCs)

The EIS Guidelines required that VCs would be identified in part on their sensitivity to the Project and to past and future development. The VCs were also to be described in sufficient detail to allow the reviewer to understand their importance and to assess the potential for environmental effects arising from the project activities.

The specificity of VCs should match the vulnerability of the element to the environmental effects of the Project (CEAA 2014, p.11); when those effects are broad the VC may be broad, when the effects are specific owing to rarity or to ecological or social value, then the VC should be narrowly defined.

In the EIS there were only broad VCs adopted and they were then linked in sequence:

1. In the terrestrial environment, a single VC was chosen to represent ecological land classes, vegetation communities, plant species, plant species at risk, and wetland function. As the Project should not have been expected to affect all vegetation and could foreseeably have effects on specific vegetation types the selection of more than one vegetation VC was warranted to properly account for vulnerability of specific communities and landcover types;
2. Another single VC was selected to represent the health, status, and function of all wildlife species, wildlife communities, and wildlife species at risk. This decision was made despite variable species vulnerability and local importance of different species. The importance of several wildlife species to Indigenous and local users and their vulnerability to changes in habitat and harvesting pressure made them likely candidates as additional VCs (e.g., moose and white-tailed deer); these vulnerabilities were not considered and a single wildlife VC was used in the

assessment. Further, wildlife health was largely assessed based on general habitat associations where the habitat condition was determined by the absence of effects on the single vegetation VC. Inadequate assessment of Project effects on vegetation led to inadequate assessment of Project effects on wildlife;

3. At the next step in the sequence, Land and Resource Use(LRU) and Traditional Land and Resource Use (TLRU) were assessed through availability of traditional resources determined by the health of the wildlife and vegetation VCs. Poor assessment of vegetation leading to poor assessment of wildlife leading to poor assessment of LRU and TLRU;
4. Finally, the vegetation, wildlife, LRU, and TLRU VCs were carried forward to the cumulative effects assessment.

Regardless of the process for VC selection, the proponent and its advisors should have adopted several VCs that were clearly vulnerable to the Project effects within each component of the regional environment. The selection of broad VCs masks Project effects that are local, or that are specific to some elements.

Selection of temporal boundaries

The selection of temporal boundaries is a critical element in an EA, particularly in a cumulative effects assessment (CEA). The CEAA Guidance document for the Project indicated that the CEA would consider the effects of the Project together with past developments, the Project, and reasonably foreseeable development. The proponent elected from the outset to restrict the temporal scope of the Project to begin at present. The CEA on each VC did not include past development, excluding the Lake St. Martin Emergency Outlet Channel as well as all other historic developments.

With limited foreseeable developments, the CEA was a repetition of the Project effects assessment and clearly avoided the assessment of cumulative effects.

Selection of metrics for VC assessment

The metrics for vegetation (Change in Landscape Diversity, Change in Community Diversity, Change in Species Diversity, and Change in Wetland Function) are coarse categories, particularly given the coarse categorization of Land Cover Classes under the single Vegetation VC. While quantitative, based on area covered, they are largely insensitive to change at the scales assessed. Further, they do not account for changes that may require years to become evident as the analyses are restricted temporally. Modelling of long-term project effects on wetland function is an obvious omission.

For wildlife, the only quantitative metric is habitat change - assessed based on the same vegetation metrics. Other wildlife criteria are qualitative, not measured for current status and not measureable for future change. In other EA processes harvested species of importance to Indigenous peoples and local resource users are routinely assessed and modelled for sensitivity to habitat change and sensitivity to changes in harvest levels.

For LRU and TLRU the assessment metrics are availability of wildlife and vegetation resources, again based on existing wildlife and vegetation assessments, and access which is a measurable parameter. Appropriate modelling of future changes to vegetation and wildlife resources would inform mitigation actions and provide an estimate of changes on resource availability.

Overall, the metrics for assessment are a combination of crudely categorized and measured parameters and unmeasured parameters. This precludes proper assessment of the Project and precludes future effective monitoring.

Details of mitigation measures

Mitigation is a critical part of an EA. It should demonstrate the specific means by which the proponent will avoid, minimize, or restore the specific effects of a project on each VC. Potential effects without specific mitigation lead to residual effects. The CEAA Guidelines are very prescriptive in the requirements for mitigation. The mitigation strategies presented throughout the EIS can be described as lists of best practices and potential mitigation actions. The specific details required to demonstrate careful planning and consideration are absent in the EIS. There is a consistent failure to demonstrate any clearly planned and quantifiable mitigation of Project effects.

Assessments of Project effects and Cumulative Effects

The assessment of Project effects is based on an incomplete Project description, VCs that are insensitive to Project effects, poorly defined metrics for assessment, and no specific mitigation actions. The assessment process in the EIS cannot overcome those collective deficiencies to provide a meaningful assessment.

The cumulative effects assessment suffers from the same deficiencies as the Project effects assessment plus a failure to expand the temporal boundary to incorporate any historic effects on the environment.

Follow-up and Monitoring

There is little quantitative analysis in the EIS and there are no clearly defined mitigation strategies, quantitative targets, or thresholds. In the absence of baseline measurements or proposed mitigation with quantifiable objectives there can be no effective monitoring program. Effective environmental monitoring is a scientific process requiring data, predictive outcomes, and pre-defined methods of data collection, analysis, and reporting.

CONCLUSION

The deficiencies in the Lake Manitoba and Lake St. Martin Outlet Channels Project Environmental Impact Statement cannot be overcome with a series of remedial actions. The flaws in the EIS are foundational. I began drafting my recommendations one element at a time and soon realised that each successive recommendation depended on a sequence of other recommendations having been addressed first. Ultimately the problems are a deficient scoping process and a failure of the proponent to take responsibility for a thorough assessment. This Project should be re-scoped, re-assessed, and a new EIS prepared.

REFERENCES

CEAA (Canadian Environmental Assessment Agency). 2014. Technical Guidance for Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012. December 2014 Draft. ii + 56 pp.