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Taltson Hydroelectric Project Sediment and Erosion Monitoring Program Updated Erosion Management Plan V3

Hello Shannon

Please find attached NTPC's *Taltson Hydroelectric Project Sediment and Erosion Monitoring Program Updated Erosion Management Plan V3* as required by the May 10, 2018 Mackenzie Valley Land and Water Board (MVLWB) letter to NTPC.

The purpose of the *Taltson Hydroelectric Project Sediment and Erosion Monitoring Program Updated Erosion Management Plan V3* was to analyze past monitoring results in conjunction with new monitoring data collected throughout 2019 and respond to comments from the Public Review of the SEMP completed in 2018 which included developing site specific mitigation options, investigating their feasibility and providing recommendations for future monitoring based on results.

As per the 2012 Sediment and Erosion Monitoring Program sediment and erosion monitoring was focused on Nonacho Lake and Trudel Creek. The evaluation framework detailed in the 2012 SEMP defines erosion rates as significant if they are consistently above pre-background levels, and erosion is occurring across the landscape such that erosion is the 'norm'. If erosion is found to be significant on either system, an assessment of the effects on the aquatic environment is required. If the effect to the aquatic environment is found to be high, then development of erosion prevention and mitigation procedures and practices is required. If the effect was found to be medium, then continued erosion monitoring is required.

Detailed methods and results from the 2019 monitoring program are provided in the attached report. Based on the results, it was concluded that the effects of continued operation of the Taltson Twin Gorges Generating Station on existing erosion rates are **not significant** at Nonacho Lake and are **significant** at Trudel Creek. Due to the finding of significant erosion on Trudel Creek, an assessment

of the effects on the aquatic environment was completed, resulting in an assignment of **medium risk** to the aquatic environment.

Based on the evaluation framework detailed in the original SEMP the findings of the risk assessment to the aquatic ecosystem indicates that mitigation actions are **not required**, but that ongoing monitoring of erosion rates is necessary.

One of the comments from MVLWB's Public Review of the SEMP in 2018 was that low-level mitigation options should be considered even if the effects to the aquatic environment were medium. In response to this a variety of site specific sediment and erosion mitigation options were investigated and assessed based on feasibility.

All mitigation options were determined to be unfeasible with the exception of the possibility of implementing erosion control measures on the Taltson powerhouse road. In 2020 NTPC will investigate which specific erosion control measures could be installed along the powerhouse road in more detail and implement these measures if feasible.

NTPC will complete a similar monitoring program to the one presented here during the 2026 monitoring period that was specified in original SEMP in 2012 and verified in this investigation.

Thanks for your time and if you have any questions or concerns, please feel free to contact me at (867) 874-5314 or email mmiller@ntpc.com.

Sincerely,



Matthew Miller, M.Sc., P.Eng..
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