

Schedule 2 – Revised October 4, 2017

Scope of Work for MGF Project Services Inc.

For the Keeyask project:

1. Review, assess, and determine the reasons for project cost overruns from the \$6.5 billion final pre-construction budget with respect to:

- i. Design or project scope changes;
- ii. Deviations from estimated quantities;
- iii. Labour productivity;
- iv. Labour costs;
- v. Labour hiring constraints with respect to:
 - Competition with other large civil projects in Canada;
 - Remote location; and
 - Northern and First Nations jobs.

Inputs into the \$6.5 billion budget should be reviewed and assessed as required.

2. Determine whether the current state of design work, engineering work, and geotechnical analysis supports the \$8.7 billion cost estimate. If not, identify what changes in the contingencies, reserves, or forecast at completion cost are required.

3. Review and assess Manitoba Hydro's cost estimating methodologies, identifying best practices and short-comings, beginning with the development of the \$6.5 billion final pre-construction budget and with specific attention to the changes that have resulted in the \$8.7 billion forecast at completion budget. Identify whether sufficient contingency amounts are included in the \$8.7 billion forecast at completion budget.

4. Review and assess Manitoba Hydro's scheduling methodologies, identifying best practices and short-comings.

5. Review and assess Manitoba Hydro's tender, contract management, and cost control methodologies, and determine whether these methodologies support the \$8.7 billion forecast at completion cost. If not, identify what changes in the contingencies, reserves, or forecast at completion cost are required.

6. Review and assess Manitoba Hydro's and the Keeyask Cree Nations' project governance structure and processes comparing to best practices and shortcomings. Provide an opinion how the governance has affected – both positively and negatively – project management, contractor management, and scheduling.

7. Assess Manitoba Hydro's updated Keeyask cost estimate for reasonableness, including whether appropriate contingencies and reserves have been provisioned.

8. Identify aspects of the updated cost estimate and schedule that are at heightened levels of risk and recommend risk mitigation strategies that Manitoba Hydro should use.
9. Identify changes to project governance or project management that would beneficially improve the execution of the remaining work and minimize risks.

For the HVDC Converter Stations:

10. Review and assess Manitoba Hydro's cost estimating methodologies with respect to the final pre-construction budget of \$2.68 billion and forecast at completion budget of \$2.78 billion, identifying best practices and short-comings.
11. Review and assess the tendering and contracting methodologies for the converter stations, identifying best practices and short-comings.
12. Review and assess the reasons for the capital cost increases from the 2014 control budget of \$2.68 billion to the current forecast at completion amount of \$2.78 billion.
13. Assess Manitoba Hydro's updated converter station cost estimate for reasonableness, including whether appropriate contingencies and reserves have been provisioned in relation to outstanding uncertainties.

For the Bipole III Transmission Line:

14. Determine whether the current state of design and engineering work supports the \$1.96 billion cost estimate. If not, identify what changes in the contingencies, reserves, or forecast at completion cost are required.
15. Review and assess Manitoba Hydro's cost estimating methodologies, identifying best practices and short-comings.
16. Review and assess Manitoba Hydro's tendering and contracting methodologies, including choices of contract types for the major contracts, identifying best practices and short-comings.
17. Review and assess Manitoba Hydro's contract management and cost control methodologies, and determine whether these methodologies support the \$1.96 billion forecast at completion cost. If not, identify what changes in the contingencies, reserves, or forecast at completion cost are required.
18. Review, assess, and determine the reasons for project cost overruns since the final pre-construction control budget of \$1.66 billion.
19. Assess Manitoba Hydro's updated forecast at completion capital cost, including whether appropriate contingencies and reserves have been provisioned, and schedule estimates for reasonableness.

20. Identify aspects of the updated cost estimate and schedule that are at heightened levels of risk and recommend risk mitigation strategies that Manitoba Hydro should use.

For the Manitoba-Minnesota Transmission Project:

21. Determine whether the current state of design and engineering work supports the \$453 million cost estimate. If not, identify what changes in the contingencies, reserves, or forecast at completion cost are required.

22. Review and assess Manitoba Hydro's cost estimating methodologies that support the \$453 million cost estimate, identifying best practices and short-comings.

23. Review and assess Manitoba Hydro's proposed tendering and contracting methodologies, including choices of contract types for the major contracts.

24. Review and assess Manitoba Hydro's proposed construction management, contractor management, construction risk management, and scheduling methodologies.

25. Assess Manitoba Hydro's updated capital cost estimate of \$453 million for reasonableness, including whether appropriate contingencies and reserves have been provisioned.

For the Great Northern Transmission Line:

26. Compare the current GNTL estimated capital costs with estimates for similar projects and assess whether the estimated cost is reasonable.

27. Review and assess the Construction Management Agreement between Minnesota Power and Manitoba Hydro's subsidiary for reasonableness, identifying whether the agreements follow best practices or have short-comings and whether Manitoba Hydro's interests are protected.

28. Assess the current forecast at completion capital cost for reasonableness, including whether appropriate contingencies and reserves have been provisioned.

29. Assess Minnesota Power's approach to establishing the contingency for GNTL and whether appropriate risk areas and magnitudes of uncertainty are recognized.