

**MANITOBA HYDRO 2017/18 & 2018/19 GENERAL RATE APPLICATION  
PUB INFORMATION REQUESTS**

**MGF**

**MGF'S RESPONSES**

**5<sup>TH</sup> JANUARY 2018**

**PUB/MGF - 1** Reference: MGF Report Page 1

Please identify and explain the factors that have resulted in productivity not meeting the assumptions in the original General Civil Contract

MGF Response:

The following are the main contributing Factors for underperformance in 2016 by the GCC (as per MH 25<sup>th</sup> July 2017 Presentation to MGF):

- The contractors bid included productivity rates that are not achievable in the current market
- Slower than planned learning in ramp up on site
- Changed geotechnical / geological conditions and difficulty getting off rock

- [REDACTED]

8a

MGF does not disagree with any of MH's above observations. The Contract form, which is Cost Reimbursable, is also a contributing factor.

**PUB/MGF - 2** Reference: MGF Report Pages 1, 81, 162, and 163

Preamble:

MGF states Manitoba Hydro is not a construction manager with the experience and skills to direct the GCC (General Civil Contract).

MGF further states: "If Manitoba Hydro is to regain control of this Contract, then it needs to directly exert its influence on the GCC contractor."

MGF further states: "Manitoba Hydro needs to take ownership of the site, as they



are the party exposed. They need to hire experienced site supervisors (with trade backgrounds) to implement a more efficient workplan.”

Request:

Please describe the specific construction management methods that Manitoba Hydro should implement today to manage the Keeyask project to its completion.

**MGF Response:**

BBE has been contracted to perform the General Civil Contract. Its performance was unacceptable under the Original Contract and later this was replaced by Amending Agreement No. 7, dated 28<sup>th</sup> February, 2017. This later contract is not being performed at an acceptable level e.g. more money is being spent for less progress and revised productivities in Amending Agreement No. 7 are not being met. The cost reimbursable pricing mechanism disadvantages Manitoba Hydro as it is at risk for all costs and impacts arising from the GCC contract. MGF believes that a more hands-on construction management approach is required to improve BBE's performance, e.g. to seek to understand why planned progress (weekly, monthly and year to date) is consistently not met and to re-cast both forecast at completion costs based on a realistic and achievable schedule.

**PUB/MGF - 3** Reference: MGF Report Page 7

Please confirm whether it was MGF's or Manitoba Hydro's finding that all local Aboriginal labour availability has been exhausted. If MGF's finding, please



explain how this finding was reached.

MGF Response:

This was a statement made in conversation with Manitoba Hydro staff when reviewing the Joint Keeyask Development Agreement.

**PUB/MGF - 4** Reference: MGF Report Pages 12 and 36

- a) Please elaborate on what is meant by “Trends” and “Delay Estimate” and what these costs represent.

MGF Response:

The Delay Estimate, as presented by Manitoba Hydro was based on the following:

“Work Package Leads were instructed to generate estimates for the impact of a schedule delay of one year on their respective work package(s). The costs were divided into categories for labour, expenses, contracts, and consulting. The Leads also provided details on how the delay costs would be cash flowed.”

Trends, as presented by Manitoba Hydro, were based on the following:

“In addition to the costs of a schedule delay, Work Package Leads were instructed to provide estimates for other known trends not associated with the delay. The trends were separated from the delay costs in order to accurately determine the delay cost impact.”

A trend, as identified within Manitoba Hydro’s Keeyask Generating Station Project Project Controls Plan (Approved 15<sup>th</sup> September 2017), is noted as “...a projected deviation from an established baseline.”. These are related to identifiable real or potential changes to the scope/cost/schedule/quality.

- b) Please confirm whether the Trends and Delay Estimate amounts were provided by Manitoba Hydro or calculated by MGF. If calculated by MGF, please explain MGF’s methodology for calculating these values.

MGF Response:

The terms, values and allocations of “Trends” and “Delay Estimate” have all been provided by Manitoba Hydro.

**PUB/MGF - 5** Reference: MGF Report Page 33; KCB Report Pages 11 to 13; MGF Scope Items 2 and 8; KCB Scope Item 2

- a) Please identify and, if possible, quantify the remaining risks related to geotechnical issues, particularly with respect to excavations and structures that have not been substantially initiated (such as the south dam and south dyke). For example, does Amending Agreement 7 or the current forecast assume that there will be no geotechnical issues with the south



channel and south dam, or is there an allowance for substandard conditions in this area?

MGF Response:

In determining the Systemic Risks within the March 7, 2017 Risk Analysis and Contingency Estimates report, “residual uncertainty in rock conditions in the south area” had been identified. This has been considered in the P50 contingency.

- b) Please provide an assessment (qualitative, if a quantitative assessment is not feasible) of the impact of the brittle and ductile deformation zones beneath the central dam with respect to:
- (i) the quantities of earthworks and concrete,
  - (ii) the schedule, and
  - (iii) costs.

MGF Response:

Cost and schedule would be influenced by the extent of the scope of work impacted.



- c) Please explain whether the geotechnical issue in (b) could have been foreseen through more extensive geotechnical analysis prior to award of the General Civil Contract.

MGF Response:

Refer to KCB Responses.

**PUB/MGF - 6** Reference: MGF Report Pages 34 and 35 and the KCB Report Pages 16 to 32

- a) Please describe Manitoba Hydro's management system for developing cost estimates. How does Manitoba Hydro's cost estimating management system compare to other large civil projects in MGF's and KCB's experience?

MGF Response:

As referenced within Manitoba Hydro's Keeyask and Converter Station Projects Procedure (PAS-010), Cost Monitoring and Control, the procedure for Project Estimate Development is outlined as follows:

1.1. The CSS Cost Estimate Lead develops and creates the project cost estimate based on CSS-012.

1.2. The approved project cost estimate becomes the control budget for the project.

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These procedures could be further developed to align with other capital projects.

- b) Was the project design at a sufficient stage to provide accurate cost estimates before tender?

MGF Response:

The procurement method selected would determine the level of design required at tender stage.

- c) What improvements should be made to Manitoba Hydro's cost estimating processes?

MGF Response:

Cost Estimating Standards and Procedures would be a suggested area of improvement.

**PUB/MGF - 7** Reference: MGF Report Pages 34 and 35 and KCB Report  
Page 33

Preamble:

KCB reports that the 2014 Keeyask was a cost reimbursable model with "early

contractor involvement”.

Request:

- a) Please explain the extent of the early contractor involvement in the development of the 2014 cost estimate.

MGF Response:

[Refer to KCB Responses.](#)

- b) Given early contractor involvement in pricing of the project, please provide the reasons for the significant increases in unit prices for cast-in-place concrete, reinforcing steel, excavations and compacted fill.

MGF Response:

[Refer to KCB Responses.](#)

**PUB/MGF - 8** Reference: MGF Report Pages 34 and 35 and KCB Report Pages 33 and 34

Preamble: KCB reports: “there is no connection between actual costs and the quantities and unit prices in the Bill of Quantities.” KCB also reports from the BBE contract that: “subject to these Terms and Conditions of Payment, the Purchaser shall pay the Contractor’s Actual Costs incurred in the performance of the work.”



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- a) Are any progress payments submitted by BBE based on revised unit prices for cast-in-place concrete, reinforcing steel, excavations and compacted fill? If there is no connection between actual costs and the quantities and unit prices, what purpose do the unit prices serve?
- b) How are BBE's costs invoiced for the Keeyask project and how are these costs compared to original construction cost estimates?
- c) How do these contractor payment conditions compare to other large civil projects in MGF's and KCB's experience?
- d) What cost control methods are used by Manitoba Hydro in light of the apparent cost reimbursable nature of the Keeyask project and no apparent relevance of unit prices and quantities in payment provisions?
- e) What incentive does the contractor have to seek work production efficiencies in light of these contractual arrangements?

**MGF Response:**

- a) Progress payments are not based on unit prices but on the Actual Costs incurred by BBE in performing the GCC.
- b) BBE submits its costs on a monthly basis for Manitoba Hydro to verify (BBE is paid 2 months in advance).
- c) The choice of a cost reimbursable pricing mechanism is not typical for such a project. Lump sum priced contracts or approximate quantities valued at unit rates are more common. A possible driver for the cost reimbursable pricing mechanism was on account of the project being schedule driven.



- d) The GCC provides for an open book accounting process where Manitoba Hydro should have full and open access to all records and data related to Actual Costs. BBE is obligated to maintain full records of Actual Costs, to provide a monthly summary and a forecast to align with planned construction activities. Manitoba Hydro has Audit Rights for 10 years after Final Payment to audit and verify such records.
  
- e) Lump sum and unit rate pricing mechanisms drive efficiencies in a contractor because it is the contractor who is at risk; rarely does a cost reimbursable pricing mechanism do this.

**PUB/MGF - 9** Reference: MGF Report Pages 44 to 46

- a) Please explain why MGF uses a concrete productivity factor derived from the September 2017 monthly progress report as opposed to an average of several months' concrete productivity factors.

**MGF Response:**

MGF used the concrete productivity factor derived from the information provided by MH covering the actual productivity rates experienced between October 2016 to end of September 2017.

- b) Please explain why MGF's forecast concrete placement rate increases more rapidly in the final portion of the graph on page 45 (that is, in the region between the red dashed line and the end of the graph) than the other forecasts depicted on this graph.

MGF Response:

The concrete placement rates increase more rapidly during the period of April to October each year to reflect summer concrete work versus winter concrete work.

**PUB/MGF - 10** Reference: MGF Report Pages 50 to 56

- a) Please describe Manitoba Hydro's overall contract management and cost control system for the Keeyask project.
- b) What is the role of the original design engineer in contract management?
- c) Did Manitoba Hydro engage an outside third party to provide contract management services?
- d) What party is responsible for quality assurance and quality control of the General Civil Contract to ensure all elements of work meet specifications? What are the roles of the General Civil Contract contractor and design engineer in quality management and quality control provisions?
- e) How does Manitoba Hydro ensure the work is completed in accordance with specifications if it pays the General Civil Contract contractor two months in advance for work?

MGF Response:

- a) MH is performing a Project Management Role.

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- b) MGF is not aware of any role for the original design engineer in the contract management of the Keeyask project. It should be producing Issued for Construction Drawings that support BBE's planned construction activities.
- c) MGF is not aware of Manitoba Hydro engaging an outside third party to provide contract management services.
- d) It is a collaborative exercise between MH and the GCC.
- e) The two months advance payment is to fund BBE and its payment does not signify that any Work has been performed in accordance with the Contract or that any Work has been accepted by Manitoba Hydro.

**PUB/MGF - 11** Reference: MGF Report Page 58; PUB MFR 122

Preamble:

MGF states: "...the ratio of Craft to Foreman is 3.97:1. This appears to be high." MGF further states: "Typical ratios for similar construction projects have higher craft to supervision ratios. MGF has allowed for a craft to foreman ratio of 6:1." A ratio of 3.91:1 appears to be lower than a ratio of 6:1.

Manitoba Hydro states in PUB MFR 122 at page 2 that it is "Implementing revisions to the General Civil Contractor organization structure to increase supervision and improve the management of work processes (in progress)."

Request:

- a) Please clarify whether MGF finds the number of foremen to craft labour to be high (the inverse of the 3.97:1 ratio), whether MGF observed that the actual craft to supervision ratio is lower than the 3.97:1 that BBE reports,



or otherwise reconcile the finding that 3.97:1 is high compared to 6:1. In other words, please clarify the meaning of “high” in these ratios.

MGF Response:

The ratio of 3.97:1 represents 3.97 Craft Labour to 1 Foreman. MGF considers the number of Foremen to Craft Labour to be high. We would consider 6 Craft Labour to 1 Foreman to be more representative of industry standard.

- b) Please provide MGF's view whether the 3.97:1 ratio reflects Manitoba Hydro's implementation of the increased supervision or whether this ratio will further decline when Manitoba Hydro implements its Keeyask recovery plan as described in PUB MFR 122.

MGF Response:

It depends on what MH consider as Supervision. Typically, Supervision would be considered as anything above a Foreman.

- c) Please provide MGF's view whether additional supervision will assist in enhancing the productivity of craft labour, advancing the schedule, or reducing costs.

MGF Response:



It is not necessarily the number of Supervision that should be considered, rather the type, quality and structure.

- d) Please confirm whether MGF has observed any improvement in the project as a result of the implementation of Manitoba Hydro's recovery plan as summarized in PUB MFR 122.

MGF Response:

MGF were not involved in the project prior to the implementation of the recovery plan and we do not know to what extent it was implemented, therefore it is difficult for us to comment.

**PUB/MGF - 12** Reference: MGF Report Page 62

- a) Please explain what is meant by "self-performing contractor" and what other types of contractor there are.
- b) If MGF has information readily available, please elaborate on Bechtel's history of self-performing contracts in North America.

MGF Response:

A 'self-performing' contractor is typically one who employs directly its own personnel to build formwork, place reinforcing bars, mix concrete and pour this. Compared to a contractor who mostly outsources such and other work to specialized sub-contractors to perform such work.

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**PUB/MGF - 13** Reference: MGF Report Page 63

Preamble:

MGF states: "The above raises concerns on whether the risks inherent in the contracting strategy, e.g. a cost reimbursable compensation mechanism and potentially too aggressive concreting productivity factors were fully understood by Manitoba Hydro and how it would set up the contract to manage and mitigate such risks with their chosen contractor."

Request:

Please provide MGF's views on whether the following mitigation measures (as identified by Manitoba Hydro at the NFAT review) are appropriate, recommended, or sufficient to manage the risks of a cost reimbursable contract with potentially aggressive concreting productivity factors:

- (i) Establishment of labour reserves
- (ii) Establishment of escalation reserves
- (iii) Construction of premier camp accommodations to attract labour
- (iv) Early contractor involvement in the general civil contract

**MGF Response:**

The establishment of reserves for labour and escalation is the financial provisioning for likely additional costs but this has nothing to do with managing a cost reimbursable priced contract where there is always the risk of costs getting out of control. Premier camp accommodations are a recognized strategy to attract and retain craft labour; it may help control



costs if contractors are charged a fixed rate per room for the number of rooms they would have included in their tender. This promotes contractors being more efficient in the use of construction camps. This is not the approach currently managed by Manitoba Hydro. Having an 'Early contractor involvement' phase could be used to work with the contractor to co-develop how costs will be planned, incurred and paid for and to ensure that the Contractor treats such costs as if they are his own and behaves as if it has been engaged as lump sum fixed price contractor.

**PUB/MGF - 14** Reference: MGF Report Pages 63 and 64

Preamble:

MGF states: "Based on our findings in this Capital Review, in our opinion the Final Cost for the Keeyask project will not meet the budget of \$8.7 billion, but rather be in the range of: Order of Magnitude Estimate Range \$9.5 billion to 10.5 billion."

Request:

- a) Please provide a table indicating the specific additional items that cause the cost estimates to increase from the existing \$8.7 billion estimate to MGF's estimate of \$9.5 billion to \$10.5 billion, along with explanatory notes or references to the specific additional items in MGF's report.

**MGF Response:**

Refer to: Intervener Evidence Information Requests - Manitoba Hydro, MGF Responses. Reference MH/MGF I - 26



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- b) Please explain MGF's methodology used to arrive at the \$9.5 billion to \$10.5 billion estimate, detailing the steps taken to arrive at these figures.

MGF Response:

See a) above.

- c) Please expand on the steps Manitoba Hydro can take to take control of the project, as recommended on page 64.

MGF Response:

MH should take a more hands on approach. There are a number of issues in our report which can/should be addressed, e.g.:

- Craft to Foreman ratios
- Earthwork productivity
- Concrete productivity
- Overtime management
- Construction work methods
- Trade & Cash discounts

Preamble:

Scope Item 8 states: “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.”

Request:

Please explain whether the following items are at heightened levels of risk and recommend risk mitigation strategies (or identify where these are addressed in MGF’s report):

- (i) unknown geotechnical conditions in the south river channel and along the south dyke
- (ii) weather
- (iii) other risks at the Hazard level as identified in Manitoba Hydro’s updated Risk Register (PUB/MH II-64b Attachment 1)

**MGF Response:**

- (i) Unknown geotechnical conditions on the south river channel and along the south dyke are at heightened risk. A mitigation strategy is to base the conditions on experiences encountered to date and apply contingency where necessary.
- (ii) Weather is low risk. To mitigate for inclement weather, provide provisions in budget and schedule.
- (iii) Other Risks:

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- [Redacted] 4b and as per MH/PUB I-46b
- [Redacted] 4b and as per MH/PUB I-46b
- [Redacted] 4b and as per MH/PUB I-46b
- [Redacted] 4b and as per MH/PUB I-46b
- [Redacted] 4b and as per MH/PUB I-46b
- [Redacted] 4b and as per MH/PUB I-46b

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- [REDACTED] 4b and as per  
[REDACTED] MH/PUB I-46b  
[REDACTED]
  
- [REDACTED] 4b and as per  
[REDACTED] MH/PUB I-46b  
[REDACTED]

**PUB/MGF - 16** Reference: MGF Report Pages 10, 74, and 78

Preamble:

MGF states that concrete and earthworks productivity are the primary reason for the increased General Civil Contract cost estimate.

MGF states: "If BBE continue to miss their productivity targets then completion is likely to be delayed, resulting in higher earthwork cost and increased indirect costs for the BBE contract" and "If concrete productivity is not brought back in line with the assumption in the contract schedule and forecast to completion, then the cost of concrete will increase by approximately \$136.4 million."

Request:

- a) Please reconcile MGF's estimates of increased cost for concrete of \$136.5 million [page 78] and increased cost for earthworks of \$88.4 million [page 74] which total \$224.9 million with the overall increase in the General Civil Contract [page 10].

MGF Response:

The chart on page 10 is up to the Amending Agreement No.7.

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The above costs are post the Amending Agreement No. 7.

- b) Please clarify whether the \$136.4 million estimate increase is with respect to the original contract or Amending Agreement 7.

**MGF Response:**

The above costs are post the Amending Agreement No. 7.

- c) Please provide a table of the following earthworks productivities:
- (i) In the original General Civil Contract
  - (ii) In Amending Agreement 7
  - (iii) Achieved in 2016
  - (iv) Achieved in 2017
  - (v) In Manitoba Hydro's most current forecast

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MGF Response:

Activity	Productivity MHR/M3
Earthwork – In Original GCC	Not Reviewed
Earthwork – In Amending Agreement No. 7	■
Earthwork – Achieved in 2016	Not Reviewed
Earthwork – Achieved in 2017 (Actual from October 2016 to end September 2017)	■
Earthwork - Current Forecast	■

1a, 7a

Reference Source: BBE September 2017 Monthly Cost Report QURR  
(Quantity Unit Rate Report).

d) Please provide a table of the following concrete productivities:

- (i) In the original General Civil Contract
- (ii) In Amending Agreement 7
- (iii) Achieved in 2016
- (iv) Achieved in 2017
- (v) In Manitoba Hydro's most current forecast

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MGF Response:

<b>Activity</b>	<b>Productivity MHR/M3</b>	<b>Source</b>
Concrete – In Original GCC	■	2014 Basis of Estimate (Page 10)
Concrete – In Amending Agreement No.7	■	Provided by MH (Response to MGF finding)
Concrete – Achieved in 2016	Not Reviewed	
Concrete – Achieved in 2017 (Actual from October 2016 to end September 2017)	■	Provided by MH (Response to MGF finding)
Concrete - Current Forecast	■	BBE September 2017 Monthly Cost Report QURR

1a, 7a

Reference Source: MH response to MGF Finding. (The labour productivity includes the following activities in the figure - Formwork, Carpenter Shop, Rebar Support, Rebar Install, Cast-in-Place Concrete, Anchors, Water stop, Finishing, Heating & Hoarding, Scaffolding and Miscellaneous Items)

MGF cannot confirm what the labor productivity, in grey font, includes.

**PUB/MGF - 17 Reference: KCB Report Page 29**

Please provide the source and origin of KCB's historical comparative unit price information.

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MGF Response:

Refer to KCB Responses.

**PUB/MGF - 18** Reference: MGF Report Pages 95 and 97

Please reconcile the finding that the P75 contingency is not based on a current or updated contingency review with the conclusion on page 95 that the unallocated contingency is reasonable.

MGF Response:

Per document titled “Basis for the Current Converter Stations Budget”, MH has indicated that “...it is assumed that at completion of the project risks will have materialized and the budget dollars previously allocated for Contingency will be depleted”.

There remains to be unallocated Contingency available for the remainder of the project based on the carried P75 value, which in MGF’s opinion appears to be reasonable.

**PUB/MGF - 19** Reference: MGF Report Page 99

Please reconcile the conclusion that the 2014 Basis of Estimate was extremely well done with the finding in the previous paragraph that: “Quantities, man-hours



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and unit rates associated with the physical scope were not clearly defined within the estimate summary sheets included within the estimate packages. From the estimate package provided, the information was not consolidated in any one location.”

**MGF Response:**

It is MGF's opinion that the Basis of Estimate was well written and outlined much of the information required to understand the sources of inputs the estimate was based on; however, the detailed sheets included did not clearly identify the scopes of work within the estimate package. These detailed sheets were primarily cost reports and did not match the SAP Costs Reports. This should be reconciled and the elements to which the costs varied should be updated at the most detailed level. This would also increase MH's visibility into project cost control during execution.

**PUB/MGF - 20** Reference: MGF Report Pages 102 to 107

Preamble:

Scope of Work Item 17 states: “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.”

Request:

MGF does not appear to reach an overall conclusion on this Scope of Work item.



Please provide MGF's conclusions with respect to whether these methodologies support the \$1.96 billion forecast at completion cost.

[MGF Response:](#)

[MGF believes it has addressed Scope of Work Item 17 adequately.](#)

**PUB/MGF - 21** Reference: MGF Report Pages 111 to 114

Preamble:

Scope of Work Item 19 states: "Assess Manitoba Hydro's updated forecast at completion capital cost, including whether appropriate contingencies and reserves have been provisioned, and schedule estimates for reasonableness."

Request:

MGF does not appear to reach an overall conclusion on this Scope of Work item with respect to whether the forecast at completion capital cost and schedule estimates are reasonable. Please provide MGF's conclusions.

[MGF Response:](#)

[MGF believes it has addressed Scope of Work Item 19 adequately.](#)



Preamble:

For the Great Northern Transmission Line, MGF reports: “MGF considers that the cost estimate prepared is comparable to a Class 4 estimate, as per ACE standards and based on the level of scope definition and estimate methodology used in developing the estimate.”

Request:

- a) Please provide MGF's view on the classification of the Manitoba-Minnesota Transmission Project \$453 million estimate based on ACE's classification standard.

MGF Response:

In MGF's opinion the estimate classification at the time would be considered close to that of a Class 4.

- b) Please provide a table showing ACE's estimate classifications and the corresponding purposes of each estimate class, project maturity levels, and accuracy ranges.

MGF Response:

The following table is from ACE International Recommended Practice (RP) 17R-97, Cost Estimate Classification System.

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	<i>Primary Characteristic</i>	<i>Secondary Characteristic</i>			
<b>ESTIMATE CLASS</b>	<b>MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES</b> Expressed as % of complete definition	<b>END USAGE</b> Typical purpose of estimate	<b>METHODOLOGY</b> Typical estimating method	<b>EXPECTED ACCURACY RANGE</b> Typical +/- range relative to index of 1 (i.e. Class 1 estimate) <sup>[a]</sup>	<b>PREPARATION EFFORT</b> Typical degree of effort relative to least cost index of 1 <sup>[b]</sup>
<b>Class 5</b>	0% to 2%	Screening or feasibility	Stochastic (factors and/or models) or judgment	4 to 20	1
<b>Class 4</b>	1% to 15%	Concept study or feasibility	Primarily stochastic	3 to 12	2 to 4
<b>Class 3</b>	10% to 40%	Budget authorization or control	Mixed but primarily stochastic	2 to 6	3 to 10
<b>Class 2</b>	30% to 75%	Control or bid/tender	Primarily deterministic	1 to 3	5 to 20
<b>Class 1</b>	65% to 100%	Check estimate or bid/tender	Deterministic	1	10 to 100

Notes: [a] If the range index value of "1" represents +10/-5%, then an index value of 10 represents +100/-50%.  
[b] If the cost index value of "1" represents 0.005% of project costs, then an index value of 100 represents 0.5%.

**Table 1 – Generic Cost Estimate Classification Matrix**

**PUB/MGF - 23** Reference: MGF Report Page 121

Please identify the most significant lessons to be learned from the Bipole III transmission line project that should be applied to the Manitoba-Minnesota Transmission Project.

**MGF Response:**

Bipole III procurement methods were appropriate. Lessons could be learned on vendor selection and supply quality. Control management of



schedules and contractor performance will enhance early reporting and implementation of recovery plans.

**PUB/MGF - 24** Reference: MGF Report Page 132

Please confirm whether the list on page 132 relates to activities whose costs are higher than similar industry projects.

MGF Response:

Confirmed.

**PUB/MGF - 25** Reference: MGF Report Pages 152 and 160

Please reconcile MGF's conclusion that the Great Northern Transmission Line contingency is reasonable at page 152 with the finding that there is no correlation between the Risk Register and the contingency amount at page 160.

MGF Response:

Based on a comparison of the contingency carried and anticipated to be allocated for the Bipole III Transmission Project, the figure currently assigned to the GNTL Project appears to be reasonable.

MGF maintains that an updated estimate should be prepared as soon as possible based on appropriate project deliverables.