

Mesa Power Group, LLC

-vs.-

Government of Canada

SECOND EXPERT REPORT OF

CHRISTOPHER JOHN GONCALVES



JUNE 27, 2014

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1 INTRODUCTION

1.1 Instructions

- 1 BRG has been retained by the Government of Canada to provide an independent analysis of the alleged causes of harm and applicable damages to Mesa Power Group LLC (“Mesa Power”) resulting from the alleged violations of Canada’s treaty obligations under Chapter 11 of the North American Free Trade Agreement (“NAFTA”) by the measures of the Government of Ontario (“Ontario”) and the Ontario Power Authority (“OPA”).
- 2 We have been requested by Canada to review the reply valuation report prepared by Richard Taylor and Robert Low of Deloitte (“Second Deloitte Report”), dated April 29, 2014. We were also requested to review, and if needed revise, the Correction of Applicable Damages provided in our first report, dated February 28, 2014, in light of the comments and analysis contained in the Second Deloitte Report.
- 3 In our first report and the current report, we were asked to assume that the alleged violations were in fact inconsistent with Canada’s treaty obligations. We did not offer any opinion as to whether this was the case, and this remains our approach in the current report. The focus of our analysis was and remains to analyze the cause and quantum of harm to Mesa Power, if any, that resulted from the alleged violations. We focus on analyzing:
 - a. Whether Mesa Power was harmed,
 - b. If so, the way in which Mesa Power was harmed in comparison to a “but for” counterfactual scenario in which the violation(s) are assumed not to have occurred, and therefore
 - c. How the harm should be quantified.

1.2 Expert Credentials

- 4 This report was prepared by Christopher John Goncalves, whose experience and credentials were described in our first report. Mr. Goncalves has been assisted by members of the BRG energy team in the preparation of this report. All work in this report has been carried out under his direct supervision and the views in this report are his own.

1.3 Disclaimers and Disclosures

- 5 This opinion has been prepared solely for the arbitration between Mesa Power and Canada. In giving this opinion, neither Mr. Goncalves nor BRG accept or assume responsibility for any other purpose, or to any other person to whom this opinion is provided. Mr. Goncalves

confirms that he is not aware of any issue that would constitute a conflict of interest or detract from his providing a wholly independent opinion in relation to this matter.

1.4 Documents and Information Provided and Reviewed

- 6 In addition to the Reply Memorial of the Claimant (“Reply”) with all supporting exhibits, the Second Deloitte Report, the Report of Mr. Seabron Adamson and the Reply Witness Statement of Mr. Cole Robertson, we have reviewed documents previously disclosed by the Claimant and Canada during the arbitration in preparation of this report.
- 7 We have also reviewed the financial model provided by the Claimant in support of Deloitte’s revised damages valuation calculations.
- 8 Finally, we have conducted independent research covering the economics and commercial practices of the wind industry globally and in North America, with a particular emphasis on the Ontario market.

1.5 Scope of the Report

- 9 Our report provides a review of the assumptions, analysis and revised damages calculations included in the Second Deloitte Report. To accomplish this, we first provide an evaluation of Deloitte’s response to our first report. Then we analyze and critique Deloitte revised damages analysis. Based on this review and critique, we revise BRG’s independent damages analysis presented in our first report and provide updated conclusions.

1.6 Structure of the Report

- 10 Our report is organized into four primary chapters, following this Introduction:
 - a. Executive Summary
 - b. Evaluation of Deloitte Response
 - c. Evaluation of Deloitte’s Damages Analysis
 - d. BRG Updated Damages Analysis

2 EXECUTIVE SUMMARY

- 11 It is clear that we fundamentally disagree with Deloitte about the proper approach with respect to the analysis of causation and damages. We believe that Deloitte’s analysis of causation is conceptually flawed. As we pointed out in our first report, Deloitte does not properly analyze the actual impact to Mesa Power of the alleged harm caused by each alleged violation. Instead, Deloitte assumes that “but for” the alleged violations, the appropriate counterfactual scenario for damages analysis would entail the application of the Green Energy Investment Agreement (“GEIA”) terms and conditions to Mesa Power. Based on this assumption, Deloitte then analyzes the situation that would have existed if the GEIA applied to all the Mesa Power Projects,¹ including Summerhill and North Bruce.
- 12 This assumption presents an inaccurate counterfactual scenario for damages analysis because Mesa Power would not have had access to the GEIA terms for any of its projects “but for” the violations. There is no realistic or probable counterfactual scenario in which that would have occurred (as detailed in Section 3.2 below).
- 13 The appropriate question is not what would have occurred had Mesa Power obtained access to the GEIA terms, but rather what was the actual harm caused to Mesa Power, if any, from the Korean Consortium² (“KC”) having been awarded these terms. The goal of damages analysis should be to put the investor back in the position it would have most likely enjoyed “but for” the alleged violations. “But for” the alleged violations, none of the Mesa Power Projects would have received the terms of the GEIA, and only two of them would have received FIT Contracts.
- 14 In our first report, we explained why Deloitte’s approach was confusing and inaccurate, and focused our analysis on the actual causes of harm. We maintain that our approach is the appropriate way to evaluate damages in this arbitration. There are three alleged violations that could have caused harm to Mesa Power:
 - a. The priority transmission access provisions of the GEIA,³

¹ As in our first report, TTD, Arran, Summerhill, and North Bruce are collectively the “Mesa Power Projects.”

² Samsung C&T Corporation (“Samsung”) and Korea Electric Power Corporation (“KEPCO”), both Korean-based companies comprised the Korean Consortium along with Pattern Energy.

³ The GEIA was signed on January 21, 2010 (C-0322). We understand that in this original version of the GEIA, KC was guaranteed priority access to Ontario’s transmission system, provided that it met certain obligations. This version of the GEIA was in force on September 17, 2010, when a Ministerial Direction was issued setting aside 500MW of transmission capacity for KC projects in the Bruce Region of Ontario. It was also in force on July 4, 2011, when contracts were awarded to certain projects as a result of the June 3, 2011 Ministerial Direction. An amending agreement (The GEIA Amending Agreement - C-0282) was entered into on July 29, 2011. In that Amending Agreement, changes were made to the economic development adder (EDA) to be paid to the KC, and how that adder was to be calculated. For the purposes of our report, when we say GEIA, we mean the original GEIA to the extent it relates to the priority transmission access granted prior to July 29, 2011, and the Amended GEIA to the extent that we are discussing the EDA.

- b. The provisions of the June 3, 2011 Ministerial direction that allowed projects to change their connection points during a 5-day period (“Connection Point Change Window”), and
 - c. The Domestic Content Requirements of the FIT Program.
- 15 The Claimant alleges that as a result of the GEIA and the Connection Point Change Window, Mesa Power failed to secure FIT Contracts that it allegedly would have obtained “but for” these violations. The Domestic Content Requirements allegedly reduced the value of the proposed projects by increasing wind turbine procurement costs and reducing wind energy production.
- 16 Assuming these items were in fact violations of NAFTA, our analysis has addressed three questions:
 - a. Did the alleged violations cause harm to Mesa Power?
 - b. If so, how was the harm caused in comparison to a counterfactual scenario without the violations?
 - c. How should the applicable damages to Mesa Power be quantified?
- 17 We conclude that the priority transmission access provisions of the GEIA and the Connection Point Change Window, individually or in combination, caused the Twenty Two Degrees (“TTD”) and Arran Wind (“Arran”) projects not to obtain FIT Contracts.⁴ The North Bruce Wind Energy (“North Bruce”) and Summerhill Wind Energy (“Summerhill”) projects would not have received FIT Contracts “but for” the alleged violations and, therefore, did not suffer any harm from them. In essence, they would have been in the same position “but for” the alleged violations. Therefore, Summerhill and North Bruce are excluded from our analysis of damages.
- 18 Mesa Power also assumes that the Domestic Content Requirements of the FIT Program forced the company to use more costly, less efficient turbines for the Mesa Power Projects, presumably decreasing value as compared to a “but for” scenario without this violation.⁵ While this is conceptually possible, Deloitte has not demonstrated the impact of harm allegedly caused by the Domestic Content Requirements in comparison to a “but for” scenario without this alleged violation. In our analysis, we did not find grounds to assume that harm was actually caused by this alleged violation. In fact, the evidence suggests that no actual harm was caused.
- 19 We also correct for Deloitte’s error of including the GE deposit as a sunk cost for the Mesa Power Projects. The GE deposit was already a sunk cost from the failed Pampa project in Texas that Mesa Power sought to avoid or mitigate through engagement in new projects in Ontario, Minnesota, and subsequently another project in Texas. The loss was not caused by the alleged violations. Even if causation is assumed, the direct impact would be proportionally less than the full amount assumed by Deloitte.

⁴ First BRG Report, para. 179, p. 59; First BRG Report, Figure 6, p. 60.

⁵ Second Deloitte Report, para. 4.1, p. 15.

- 20 Finally, we correct for a series of erroneous assumptions and mechanical errors in the Deloitte analysis:
- a. Above all, Deloitte uses an inappropriately low discount rate that does not properly account for the true risk associated with the Mesa Power Projects. Focusing on the TTD and Arran projects that would have received FIT Contracts “but for” the alleged violations, these were middle stage development projects that would have still faced substantial completion risk even had they obtained FIT Contracts.⁶
 - b. Deloitte makes unrealistic assumptions about the impact of the Domestic Content Requirements and use of alternative GE turbines.
 - c. Deloitte chooses inappropriate valuation dates and wrongly applies these dates in its analysis.
- 21 Our updated analysis of the applicable damages for the actual harm caused to Mesa Power is provided in Figure 1 below, using the same organization as provided in our first report. Our updated estimate of total damages is approximately \$19.4 million⁷ including both sunk costs and future losses. This result is \$6.1 million higher than the damages results in our first report. The change results primarily from adjustments to our discount rate related to the cost of debt and the size premium (resulting from the submission of new evidence by the Claimant and Deloitte and our own additional research).⁸

⁶ In our first report we identified the Mesa Power Projects as only at the middle of the wind project development process on July 4, 2011. First BRG Report, para. 76, p. 25.

⁷ All monetary amounts presented are in Canadian Dollars (CAD \$) unless otherwise noted.

⁸ First BRG Report, Figure 2. We have updated our cost of debt to 6.0 percent in light of new evidence obtained and research performed, and we have decreased the size premium we use to 4.07 percent.

Figure 1: Comparison of Deloitte and BRG Damages for All Alleged Violations⁹

(\$000s)	Sunk Costs			Future Losses		Total
	Past Costs - TTD & Arran	Past Costs - SH & NB*	GE Deposit	TTD & Arran	SH & NB*	
Deloitte Damages	\$6,420	\$1,680	\$156,833	\$225,782	\$266,803	\$657,517
Inaccurate Causation	\$0	(\$1,680)	(\$156,833)	(\$75,326)	(\$266,803)	(\$500,642)
Damages Without Inaccurate Causation	\$6,420	\$0	\$0	\$150,455	\$0	\$156,875
Adjustments to Deloitte Base Case (TTD and Arran Only)						
Optimistic Discount Rate	\$0	\$0	\$0	(\$120,041)	\$0	(\$120,041)
GE Turbine Treatment	\$0	\$0	\$0	(\$12,167)	\$0	(\$12,167)
Valuation Date	\$0	\$0	\$0	(\$42,931)	\$0	(\$42,931)
BRG Damages (TTD and Arran Only)	\$6,420	\$0	\$0	\$12,963	\$0	\$19,383

*"SH" stands for Summerhill. "NB" stands for North Bruce

- 22 For the information presented in Figure 1 above, we emphasize that the individual adjustments cannot be added together to arrive at a total because of the effects of combining individual adjustments within the damages model. For example, the individual results for the Discount Rate adjustments and Valuation Date adjustments are different than if these adjustments are entered into the damages model in tandem (yielding a different combined effect from adjusting both assumptions at once).
- 23 Further, the calculated damages in Figure 1 do not include pre-judgment interest. We have been advised by Canada that applicable interest is subject to dispute. Nevertheless, should the tribunal deem pre-judgment interest to be applicable, it would be reasonable to apply annual compound interest using the Bank of Canada Business Prime monthly rate from the Valuation Date until the date of award. The comparative results for pre-judgment interest are as follows:
- Deloitte uses the Bank of Canada Business Prime monthly rate as of its proposed Valuation Date, which was 2.8 percent,¹⁰ to calculate pre-judgment interest through November 1, 2014.¹¹ It estimates this to be \$78.5 million.

⁹ The Deloitte mid-point damages figure of \$657,517 reported here is slightly different than Deloitte's damages of \$657,683 reported on page 7 of the Second Deloitte Report. We believe the difference is due to rounding assumptions made by Deloitte when aggregating categories of damages. Our numbers for Deloitte's Sunk Cost Damage are taken from Deloitte Spreadsheet, 004564, Financial Model to the Second Expert Witness Report of Richard Taylor and Robert Low, dated April 29, 2014, 1B Summary of Past Costs. The number we use for Deloitte's future losses was taken from Summary 2A, 3A, 4A, and 5A of Deloitte Spreadsheet, 004564, 004567, 004566, 004565.

- b. We also use the Bank of Canada Business Prime monthly rate, which was 3.0 percent as of our Valuation Date of July 4, 2011, to estimate pre-judgment interest through November 1, 2014 to be \$2.0 million.

¹⁰ Second Deloitte Report, para. 7.19, p. 29. This appears to be a rounded number as 2.75 percent is used by Deloitte in its calculation of pre-judgment interest in its model.

¹¹ This is the date used by Deloitte in its calculation of pre-judgment interest.

3 EVALUATION OF DELOITTE RESPONSE

- 24 This section provides an evaluation of the Second Deloitte Report. We analyze the conceptual and methodological basis of the Second Deloitte Report and identify flaws in the report. This establishes the foundation for our evaluation of Deloitte’s damages analysis in Section 4.

3.1 Summary

- 25 The GEIA, the Connection Point Change Window, and the Domestic Content Requirements are the alleged sources of harm to Mesa Power. Assuming the GEIA and Connection Point Change Window violated Canada’s NAFTA obligations, we agree with Deloitte that these alleged violations caused harm to Mesa Power. However, we do not find any convincing evidence that the Domestic Content Requirements actually caused any harm to Mesa Power. Finally, we find no basis to assume that forfeiture of the GE turbine deposit was caused by the actions of Ontario or Canada.
- 26 As noted in our first report, we have significant concerns with the methodology Deloitte employs to assess the harm caused and applicable damages for each area of alleged violation. To calculate damages related to the GEIA and Connection Point Change Window, Deloitte applies the terms of the GEIA to all the Mesa Power Projects and assumes that access to these terms would have resulted in FIT Contracts for all the projects due to the priority transmission access afforded to the KC.¹² Deloitte assumes this was appropriate because the Mesa Power Projects were allegedly in “like circumstances” to the KC. In its Second Report, Deloitte now relies on the opinion of Seabron Adamson to back the assumption of “like circumstances.”
- 27 The theory underlying Deloitte’s assumptions is essentially a matter of the legal interpretation of the NAFTA. Deloitte assumes “[g]iven the breaches of Articles,[sic] 1102, 1103 and 1104, Mesa Power would be entitled to the profits that would have been realized had it also been granted the terms of the Amended GEIA.”¹³ We offer no opinion on the interpretation of NAFTA.
- 28 Our analysis of the cause and quantum of damages is independent of NAFTA and based on standard practices for assessing damages in international arbitration. In our view, the purpose of damages analysis is to put an investor such as Mesa Power back in the position it most likely would have enjoyed “but for” the alleged violations and the alleged harm they caused. Therefore, the proper approach to damages analysis is to calculate the harm caused by reference to a realistic and probable counterfactual scenario in which the alleged violations did not occur. This is what we have done.

¹² Second Deloitte Report, para. 2.5, p. 11.

¹³ Second Deloitte Report, para. 2.5, p. 10.

- 29 For purposes of damages quantification, there is no merit to Deloitte’s counterfactual assumption that “but for” the alleged violations, Mesa Power would have enjoyed all the terms of the GEIA. That is not a realistic or probable assumption and does not accurately capture the counterfactual value of the Mesa Power Projects “but for” the alleged violations.
- 30 To calculate damages from the Domestic Content Requirements, Deloitte assumes this alleged violation required the company to use less efficient turbines than it would have preferred for its Ontario projects. This allegedly reduced the valuation of the projects. However, the additional information provided by Deloitte and Mr. Robertson does not support their position. There are three problems of causation and impact:
- a. There is no conclusive evidence that the larger GE 2.5 MW turbines (the “GE 2.5 XL” model) would have failed to meet, or that the GE 1.6 MW turbines (t the “GE 1.6 XLE” model) would have met, the Domestic Content Requirements,
 - b. It remains unclear that the allegedly preferred GE 2.5 XL turbines were available and more economical than the GE 1.6 XLE turbines,
 - c. Deloitte has not demonstrated that the violation in fact caused economic harm to Mesa Power.
- 31 Without any solid basis to establish the actual harm caused to Mesa Power from this alleged violation, if any, we conclude that damages from the Domestic Content Requirements are speculative and should be excluded from any analysis of applicable damages.
- 32 Deloitte also has not demonstrated that the Respondent caused Mesa Power to lose the GE turbine deposit. The original Master Turbine Sales Agreement (“MTSA”) with General Electric (“GE”) was signed in relation to the failed Pampa Wind Farm project (“Pampa”) in Texas. Mesa Power incurred the obligation to purchase wind turbines before any investment in Ontario and before the FIT Program was in existence. The new evidence provided by Mr. Robertson suggests that the MTSA was renegotiated in light of Ontario’s Domestic Content Requirements in [REDACTED].¹⁴ However, this still does not demonstrate causation because obligations from the original contract remained intact and no actions of Ontario or Canada required Mesa Power to sign the contract or forfeit the deposit.
- 33 Nevertheless, in case the tribunal does find grounds to assume causation, we offer a calculation of the reasonable amount of damages that could be attributed to this alleged cause of harm.
- 34 With respect to the appropriate discount rate for damages analysis using a Discounted Cash Flow (“DCF”) methodology, Deloitte contends that the development and completion risks faced by the Mesa Power Projects would have been mitigated by the terms of the GEIA¹⁵ and the

¹⁴ Reply Witness Statement of Cole Robertson, para. 34, p. 7.

¹⁵ Second Deloitte Report, para. 5.2, p. 17.

experience of Mesa Power as a wind developer.¹⁶ However, the terms of the GEIA would not be applicable to the Mesa Power Projects in any realistic or reasonable counterfactual scenario.

- 35 Further, it is wrong for Deloitte to presume that the terms of the GEIA would eliminate risk. They clearly did not, as evidenced by the experience of several KC projects, which, like other FIT projects, have confronted the sorts of permitting problems, delays, and FIT project risks we identified in our first report.¹⁷
- 36 Deloitte also inflates the risk mitigation implied by Mesa Power’s experience as a wind project developer. The historical record shows this experience did not mitigate risk in any of Mesa Power’s projects in the U.S. and there is no reason to believe that, as the developer, Mesa Power itself reduced its own project’s risks and thereby increased their value.

3.2 Causation

- 37 In our first report, we identified confusion in Deloitte’s analysis of causation. Deloitte organizes its report by the articles of NAFTA which have allegedly been breached. This is confusing because multiple actions by Ontario are alleged to have violated a single article, and individual actions to have violated numerous articles. The way Deloitte bundles the claims for damages makes it difficult to sort out and quantify the harm caused by any one alleged violation, or combination of alleged violations.
- 38 We understand and anticipate that the NAFTA articles will be used by counsel to sort out whether the actions of Ontario indeed violated NAFTA. That is not the province of damages analysis. Assuming that such violations occurred, our concern is rather to:
- a. Evaluate how each alleged violation did or did not cause harm to Mesa Power,
 - b. Evaluate how each alleged violation did or did not impact Mesa Power economically compared to a counterfactual scenario in which the violation is assumed not to have occurred, and
 - c. Thus, quantify any resultant applicable damages.

GEIA

- 39 Deloitte alleges that the GEIA caused all four Mesa Power Projects to miss the opportunity to obtain FIT Contracts and that it granted special accommodations to the KC.¹⁸

¹⁶ Second Deloitte Report, paras. 5.9 -5.10, pp. 19-20.

¹⁷ First BRG Report, Attachment XI, pp. 60-62.

¹⁸ Second Deloitte Report, para. 2.5, p. 10.

- 40 For purposes of damages quantification, Deloitte assumes that the terms of the GEIA should be applied to Mesa because the KC is “in like circumstances” with Mesa Power.¹⁹ In particular, Deloitte assumes that damages should include:
- a. The results of all four Mesa Power Projects having Priority Transmission Access,
 - b. An Economic Development Adder (“EDA”) of 0.27%, which increased the prevailing power purchase price of the energy sold by the KC project;
 - c. A Capacity Expansion Option, which allowed each project to increase its available generation capacity by up to 10 percent with reasonable notice, and
 - d. Expedited regulatory support through the application and permitting process.
- 41 In developing this assumption, Deloitte relies on a report by Seabron Adamson. In his report, Mr. Adamson concludes that the KC is in like circumstances to Mesa, because “the manufacturing commitments of the KC amount to little or nothing more than the domestic content requirements imposed on FIT participants such as Mesa.”²⁰ Mr. Adamson makes substantial efforts to demonstrate the KC obtained guaranteed priority access to the Bulk Transmission System capacity and received the EDA without providing any additional benefit to the province of Ontario in return.
- 42 We have not been asked by Canada to make any direct assumption regarding whether or not the KC and Mesa Power were accorded treatment in like circumstances. Rather, we were asked to assume that the treatment of KC and Mesa Power breached Canada’s MFN obligation under the NAFTA. Effectively, we have been advised that, from a legal perspective, this instruction implies that we also assume that the treatment in question was accorded in like circumstances.
- 43 Although we cannot address the proper legal interpretation of the GEIA or NAFTA, this interpretation is not relevant from a damages calculation perspective. Even if Ontario wrongly provided benefits to the KC without getting anything in return, the appropriate way to evaluate the harm caused to Mesa Power from an economic perspective is to assume the counterfactual removal of the allegedly wrongful benefits provided to the KC (as we do), not to also ascribe those wrongful benefits to Mesa Power (as Deloitte does).
- 44 In fact, as we noted in our first report, Deloitte’s application of GEIA terms to Mesa Power presents a logical impossibility. If all the Mesa Power Projects were entitled to GEIA terms then so too should be all of the other FIT applicants’ projects. Deloitte’s assumption leads to the logical conclusion that to equalize the competitive benefits provided to the KC every project in the FIT Program should have been granted priority transmission access. “Priority access” for all participants is logically impossible, and therefore an unreasonable line of analysis.

¹⁹ Second Deloitte Report, paras. 2.3 and 2.5, pp. 8 and 10.

²⁰ Expert Report of Seabron Adamson, para. 19, p. 9.

- 45 The proper approach is to correct for the allegedly wrongful act by eliminating its impact on the Claimant. To do that, the appropriate and probable “but for” scenario is one in which Ontario does not provide GEIA treatment to the KC. Once that wrongful treatment is removed, the impact on the Claimant can be properly assessed. The probable result for the Claimant would be that sufficient Bruce Region transmission capacity would have been available for the OPA to have awarded contracts to Mesa Power’s TTD and Arran projects on July 4, 2011.

Connection Point Change Window

- 46 Deloitte also alleges that changes in the FIT rules governing the allocation of transmission capacity in the Bruce Region, and in particular the Connection Point Change Window, caused harm to the Mesa Power Projects.²¹ This change allegedly allowed competing projects access to the transmission capacity that the Mesa Power Projects were in line to receive.²²
- 47 In our first report, we concluded that had the Connection Point Change Window not been implemented, TTD and Arran would have likely been awarded FIT Contracts based on their position on the Priority Ranking list.²³ We also concluded that “but for” the alleged violations, the Summerhill and North Bruce projects still would not have received FIT Contracts based on their position on the Priority Ranking list.²⁴
- 48 In its Second Report, Deloitte presents new information regarding a pre-Economic Connection Test (“ECT”) Dry Run in which connection point changes were not contemplated. That “dry run” was passed by the TTD and Arran projects. Deloitte uses this information to argue that the TTD and Arran projects would have received FIT Contracts, “but for” the June 3 Direction, which allowed for connection point changes. This information is not surprising and it does not require any new analysis or conclusion on our part. In our first report, our analysis already established our view that “but for” the Connection Point Change Window, TTD and Arran would have received FIT Contracts.
- 49 As far as we know, Deloitte does not purport to use the results of the Dry Run to demonstrate that Summerhill and North Bruce would have received FIT Contracts “but for” the Connection Point Change Window. That would not make sense because Summerhill and North Bruce were not even considered in the Dry Run. The Dry Run evidence does not provide support for the proposition that Summerhill and North Bruce would have received FIT Contracts “but for” the Connection Point Change Window.

²¹ Second Deloitte Report, para. 2.5, p. 10.

²² First Deloitte Report, para 1.3 - 1.4, pp. 5-6.

²³ C-0233, FIT CAR Priority Ranking by Region, February 24, 2011.

²⁴ First BRG Report, Attachment IV, pp. 24 - 32.

- 50 In short, nothing presented in the Second Deloitte Report leads us to rethink our conclusion that, assuming the Connection Point Change Window violated NAFTA, the only harm caused to Mesa Power was that the TTD and Arran Wind Projects did not obtain FIT Contracts on July 4, 2011.

Domestic Content Requirements

- 51 The Domestic Content Requirements associated with the FIT Program required developers to spend at least 50 percent of their capital expenditures on local content.²⁵ Mesa Power claims that it preferred GE 2.5 XL turbines for the Ontario sites, but that these turbines failed to meet the minimum standards for domestic content. As a result, Mesa Power claims that it was allegedly compelled to use GE 1.6 XLE turbines to comply with local requirements.²⁶ This allegedly impaired the value of the projects compared to a “but for” scenario without the Domestic Content Requirements, in which Mesa Power could have presumably used the larger turbines.
- 52 In our first report, we stated that the Domestic Content Requirements could only have caused harm in combination with the GEIA and/or the Connection Point Change Window.²⁷ Counterfactual removal of the Domestic Content Requirements alone would not provide FIT Contracts to Mesa Power and so would not cause any additional harm. Unless TTD and Arran are assumed to have been awarded FIT Contracts due to one or both of the other violations, then the Domestic Content Requirements alone caused no harm for which damages are applicable.
- 53 In response, Mr. Robertson reiterates that Mesa Power preferred the GE 2.5 XLturbines for the Ontario projects and that the Domestic Content requirements prevented Mesa Power from using these turbines.²⁸ Deloitte responds that there was a differential in sunk costs between actual historical expenditures for the GE 2.5 XL preferred turbines and for the GE 1.6 XLE turbines.²⁹ However, neither Mr. Robertson nor Deloitte provide evidence to support their claims, and in Deloitte’s model the development costs incurred before 2012 are identical for the GE 2.5 XL and GE 1.6 XLE scenarios for both TTD and Arran.³⁰

²⁵ C-0143, Ontario Power Authority, Feed-In Tariff Program, FIT Rules, Version 1.2, November 19, 2009, p. 15.

²⁶ Reply Witness Statement of Cole Robertson, paras. 25-27, p. 7.

²⁷ First BRG Report, para. 52, p. 15.

²⁸ Reply Witness Statement of Cole Robertson, para. 36, p. 7.

²⁹ Second Deloitte Report, para. 4.1, p. 15.

³⁰ Second Deloitte Report, Schedules 2J, 2L, 3J, and 3L; 004564, Project Twenty-Two Degrees - Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low, dated April 29, 2J Constr Costs 1.6XLE, Row 12; 004564, Project Twenty-Two Degrees - Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low, dated April 29, 2L Constr Costs 2.5XL, Row 12; 004567, Project Arran - Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low,

- 54 As more fully explained below, Deloitte inappropriately assumes that the Domestic Content Requirements caused additional harm to Mesa Power, but does not provide any substantive analysis to back this assumption. Our analysis of available information suggests there is no basis for Deloitte’s assumption. Therefore, any analysis of damages from the Domestic Content Requirements is speculative.
- 55 In particular, it remains unclear whether or not the GE 2.5 XL turbines were:
- a. Non-compliant with Domestic Content Requirements,
 - b. More economic than the GE 1.6 XLE turbines,
 - c. Available, or
 - d. Preferable for the local wind regime.

Compliance with Domestic Content Requirements

- 56 It appears that the GE 2.5 XL turbines were actually expected to comply with the Domestic Content Requirements, whereas the GE 1.6 XLE turbines might not comply.
- 57 In his Reply Statement, Mr. Robertson states that, “[w]e had confirmation from GE that the 1.6 XLE turbines would meet the minimum domestic content,”³¹ but no support for this statement is provided in his reply testimony.
- 58 Mr. Robertson also claims that GE could not confirm that the GE 2.5 XL turbines would meet the Domestic Content Requirements. The email he provided in support of this statement, however, does not validate his claim. In fact, it indicates the [REDACTED], would meet Domestic Content Requirements.
- 59 As Michael Volpe, a GE employee, explained:

[REDACTED]

[REDACTED]

[REDACTED]³²

- 60 An earlier email from Mr. Volpe to Mark Ward of Mesa Power also suggests that the GE 2.5 XL turbines would meet the Domestic Content Requirement. It also leaves uncertain whether or not the GE 1.6 XLE turbines would meet these requirements. In particular, Mr. Volpe wrote:

dated April 29, 3J Constr Costs 1.6XLE, Row 12; 004567, Project Arran - Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low, dated April 29, 3L Constr Costs 2.5XL, Row 12.

³¹ Reply Witness Statement of Cole Robertson, para. 27, p. 5.

³² C-0107, Email from Michael Volpe to Mark Ward, August 5, 2010.

[REDACTED]
[REDACTED]³³

61 In reply, Mark Ward himself identified the GE 2.5 XL turbines as compliant with the Domestic Content Requirement and expressed surprise that the GE 1.6 XLE turbines might qualify. He wrote:

“[a]m I missing something? I thought that only the 2.5 xl will meet content requirements.”³⁴

62 The only unambiguous information provided to back the claim that the GE 2.5 XL turbines would not meet the Domestic Content Requirements and that the GE 1.6 XLE turbines would meet the requirements is the testimony of Mr. Robertson and a letter from Mesa Power to Deloitte dated November 15, 2013.³⁵ The date for this letter, however, is well past the alleged dates of harm (and was, in fact, the date on which the Claimant filed its Memorial in this arbitration).³⁶

The Economics of the 2.5 XL Turbine

63 It is unclear whether the bigger GE 2.5 XL turbines were more economic for Mesa Power than the GE 1.6 XLE turbines. The numbers provided by Deloitte and Mesa Power are too uncertain and unreliable to make a definitive determination. Our own benchmark analysis suggests the opposite may have been true.

64 In assessing costs, Deloitte uncritically relies on “costs that Management provided.”³⁷ It does not perform or provide any independent research to audit or validate the construction costs. The construction and turbine costs provided by Mesa Power and accepted by Deloitte are unclear and contradictory. Most notably, Mr. Robertson states that Mesa Power would have realized [REDACTED] in capital cost savings with the GE 2.5 XL turbines.³⁸ But in Deloitte’s First Report the capital costs for the 2.5 XL scenarios are higher than for the 1.6 XLE scenarios.³⁹

65 This confusion is illustrated in Figure 2 and Figure 3 below.

³³ BRG- 123, Email from Michael Volpe to Mark Ward, July 7, 2010.

³⁴ BRG- 123, Email from Michael Volpe to Mark Ward, July 7, 2010.

³⁵ Reply Witness Statement of Cole Robertson, para. 23, p. 4. C-0075, Letter from Lee A. Cole Robertson (Mesa) to Deloitte LLP, November 2013, p. 2.

³⁶ Initial filing date for this arbitration was November 20, 2013.

³⁷ Second Deloitte Report, para 4.3, p. 15.

³⁸ Reply Witness Statement of Cole Robertson, para. 29, p. 6.

³⁹ Confusingly, these higher capital costs were included by Deloitte on the basis of guidance from Mesa Power. In particular, Deloitte’s model references a letter from Mesa Power Group on November 15, 2013 (the same date as the Claimant’s memorial) as the basis for its GE 2.5 XL turbine costs. First Deloitte Report, p. 33, footnote 90, citing C-0075 and First Deloitte Report, para. 4.33, p. 33.

66 First, we note that Deloitte reports that the construction costs for TTD and Arran with the GE 2.5 XL turbines will be \$306.2 million and \$230.4 million, respectively, illustrated below in Figure 2. These figures were actually higher than for the 1.6 XLE scenario.

Figure 2: Wind Turbine and Development Costs for TTD and Arran in Deloitte First Report⁴⁰

USD	1.6xle turbine	2.5xle turbine ⁹⁰
TTD		
Wind Turbine Generator (“WTG”) cost	\$2,165,000/WTG	\$3,320,000/WTG
Other WTG related costs	\$220,400/WTG	\$486,449/WTG
Other WTG related costs per project	\$216,000	\$297,615
Engineering, procurement and construction costs	\$65,103,111	\$62,089,296
Total construction costs (CAD)	\$295,079,779	\$306,172,113
Arran		
Wind Turbine Generator (“WTG”) cost	\$2,165,000/WTG ⁹¹	\$3,320,000/WTG
Other WTG related costs	\$220,400/WTG	\$486,449/WTG
Other WTG related costs per project	\$216,000	\$296,400
Engineering, procurement and construction costs	\$47,277,199	\$43,534,832
Total construction costs (CAD)	\$230,012,393	\$230,420,230

67 However, as illustrated in Figure 3 below, the construction costs for TTD and Arran that Mr. Robertson provides are only [REDACTED] million and [REDACTED]⁴¹ He cites this data to support his claim that using GE 2.5 XL turbines would have resulted in [REDACTED] in capital cost savings,⁴² but the information is undated, unsourced, and contradicts data provided by Deloitte and Mesa Power previously.⁴³

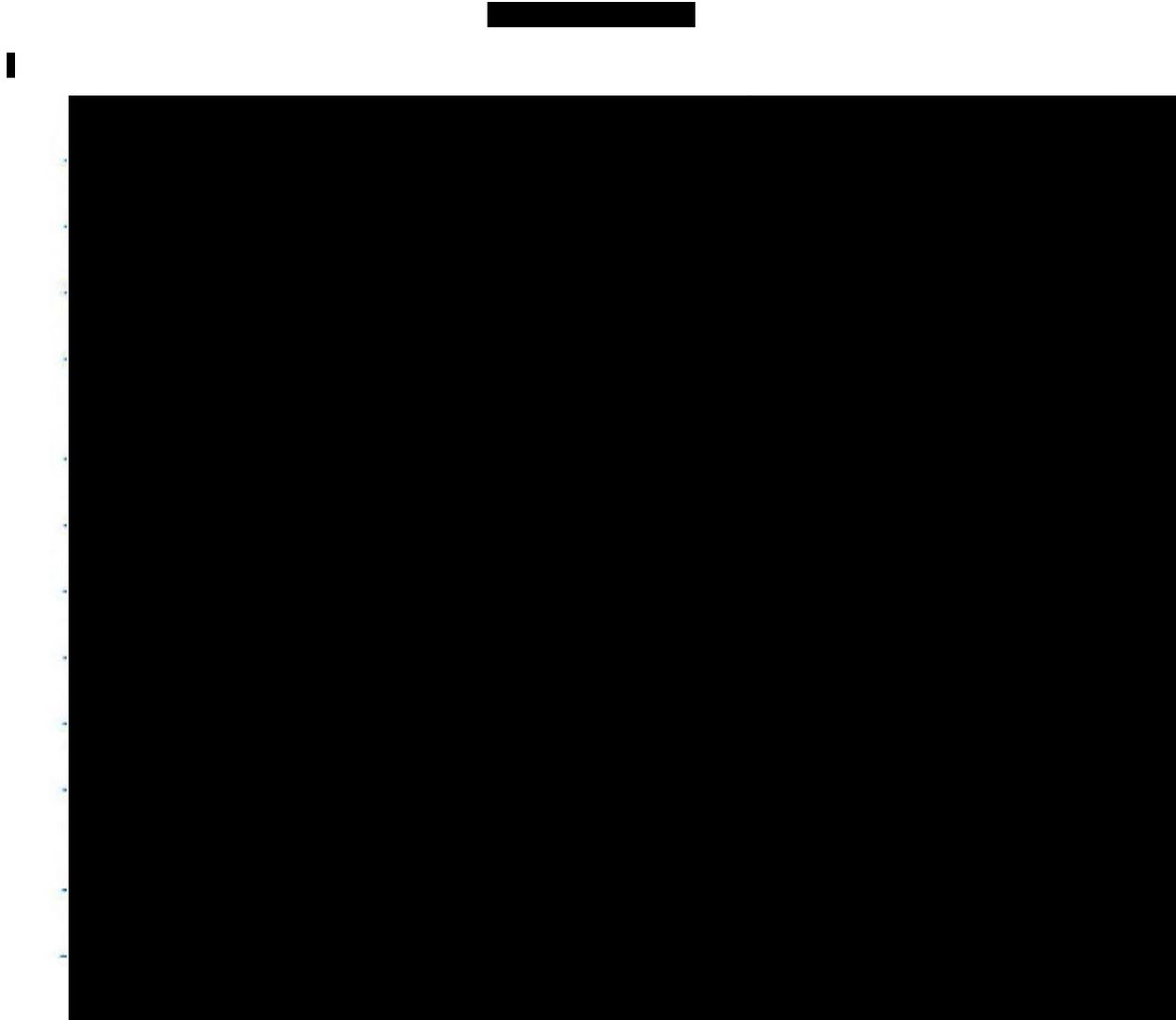
⁴⁰ First Deloitte Report, para. 4.33, p. 33.

⁴¹ Reply Witness Statement of Cole Robertson, p. 10.

⁴² Reply Witness Statement of Cole Robertson, para. 29, p. 6. Mr. Robertson is combining the alleged savings for all four Mesa Power Projects, but the exact basis for this calculation is unclear.

⁴³ Reply Witness Statement of Cole Robertson, p. 10.

Figure 3: TTD and Arran 2.5 XL Scenario Costs in Reply Witness Statement of Cole Robertson⁴⁴



- 68 Deloitte’s uncritical use of unverified information is not appropriate for damages analysis. Accurately establishing reasonable construction costs is critical to the integrity of results.
- 69 This is important because using unreasonably low capital costs yields higher project valuation and higher damages. As we demonstrated in our first report an increase in construction costs for the 2.5 XL scenarios by 6 percent for TTD and 8 percent for Arran would eliminate the differential between valuations using the GE 1.6 XLE and the GE 2.5 XL turbines.⁴⁵ Given the uncertainty regarding Deloitte’s construction cost estimates, we were unable to calculate or

⁴⁴ Reply Witness Statement of Cole Robertson, p. 10.

⁴⁵ First BRG Report, Attachment VII, p. 44.

determine whether using the GE 1.6 XLE turbines rather than GE 2.5 XL turbines would have resulted in any actual financial harm to Mesa Power.

- 70 To address the uncertainty regarding this information, we investigated benchmark cost information from comparable projects. When compared to reasonably similar project benchmarks the construction cost estimates for TTD and Arran appear low.
- 71 In our first report, we evaluated management’s reported construction costs for the GE 2.5 XL turbine scenarios. Compared to the reported construction costs using the same GE 2.5 XL turbines for the U.S. Shepherds Flat and the Canadian Kent Breeze wind farm, the costs reported for the Mesa Power Projects appear low.⁴⁶ U.S. Shepherds Flat had construction costs approximately 20 percent higher than TTD and Arran per installed kW in the Deloitte model, and Canadian Kent Breeze had construction costs approximately 5 percent higher than TTD and Arran per installed kW in the Deloitte model.⁴⁷
- 72 Deloitte has dismissed our assessment of Shepherds Flat because the project would not be “fully comparable”⁴⁸ to the construction costs for the Ontario projects. It states that Shepherds Flat “faced significant construction and scheduling challenges that increased the construction costs for that project.”⁴⁹
- 73 This claim is unsubstantiated by Deloitte and lacks basis in fact. In November 2011, Shepherds Flat was reported as “moving forward according to schedule and Phase 1...[was] supposed to be fully completed by the end of November” with construction “on schedule and on budget.”⁵⁰ Blattner Energy, the EPC Contractor of Shepherds Flat, indicated that the project achieved “on-schedule completion” in 2012.⁵¹ Upon the commercial operation date, Shepherds Flat was indicated as having “adequate liquidity” to carry out remaining punch-list items and “carry the project through final completion.”⁵² With the project’s apparent completion on time and within budget, there is no factual basis for Deloitte’s statement that the project faced “significant construction and scheduling challenges.” We do not find any basis for Deloitte to make such a factually inaccurate statement.
- 74 Nevertheless, to further verify the figures in our first report, we performed additional research and analysis. We analyzed construction costs for two additional comparable projects, which

⁴⁶ First BRG Report, Attachment VII, p. 43.

⁴⁷ First BRG Report, Attachment VII, p. 43.

⁴⁸ Second Deloitte Report, para. 4.3, p. 15.

⁴⁹ Second Deloitte Report, para. 4.3, p. 15.

⁵⁰ BRG- 105, Clean Technica, “World’s Largest Wind Power Project Moving Forward,” <http://cleantechnica.com/2011/11/04/worlds-largest-wind-project-moving-forward/> (accessed May 28, 2014).

⁵¹ BRG-118, Blattner Energy, “845-MW Wind Farm,” <http://blattnerenergy.com/projects/shepherds-flat-wind-project/> (accessed May 28, 2014).

⁵² BRG-110, Business Wire, “Fitch Affirms Shepherds Flat’s Senior Secured Trust Debt,” September 27, 2013, <http://www.bloomberg.com/article/2013-09-27/aqhvEG1UkdM0.html> (accessed May 28, 2014).

received FIT Contracts in the Bruce to Milton contract award round and that used large 2.3 MW Siemens turbines (which directly compete with GE turbines). The construction costs for these comparable projects are illustrated below in Figure 4 (and further detailed in Attachment 3).

Figure 4: Costs of comparable wind projects utilizing large turbines⁵³

Project Name	Capacity (MW)	Number of 2.3 MW Siemens Turbines	Cost (USD \$/kW)
Grand Valley Wind Farms (Phase 3)	41.40	18	2,580
St. Columban Wind Energy Project	34.50	15	3,190

* Converted to USD using average CAD/USD exchange rate for 2013 of 1.03⁵⁴

- 75 These projects report construction costs that were significantly higher than those assumed by Deloitte. The construction costs for TTD and Arran in Deloitte’s GE 2.5 XL scenarios are \$2,302/kW (USD) and \$2,264/kW (USD) respectively.⁵⁵ These costs in Figure 4 are all more than 12 percent higher than Deloitte’s construction costs, which eliminate the benefit from using GE 2.5 XL turbines.⁵⁶
- 76 We conclude that Mesa Power’s construction cost estimates appear to be quite low when compared to the prior evidence we provided for comparable use of GE 2.5 XL turbines at Shepherds Flat (US) and Kent Breeze (Canada), and to the Siemens turbine projects presented in Figure 4.

⁵³ BRG-108, Greta Energy, “Grand Valley Wind Farms Phase 3,” <http://gretaenergy.com/our-projects/canada/grand-valley-wind-farms-phase-3>.

BRG-122, Veresen, “St. Columban Wind Project,” <http://www.vereseninc.com/our-business/business-development/st-columban-wind-project>.

BRG-114, Veresen, “Veresen Announces 2013 Fourth Quarter and Year-End Results and Affirms 2014 Guidance,” March 5, 2014, <http://www.vereseninc.com/veresen-announces-2013-fourth-quarter-and-year-end-results-and-affirms-2014-guidance>.

⁵⁴ BRG-112, Bank of Canada, *Monthly and Annual Average Exchange Rates*, <http://www.bankofcanada.ca/stats/assets/pdf/nraa-2013.pdf>.

⁵⁵ First BRG Report, Attachment VII, p. 44.

⁵⁶ First BRG Report, Attachment VII, p. 44

The Availability of the 2.5 XL Turbines

77 In our first report, we noted that Mesa Power’s use of GE 2.5 XL turbines under the Amended GE MTSA would have been [REDACTED]⁵⁷ and that this availability had not been demonstrated.⁵⁸ Deloitte has dismissed this point, stating that Mesa and GE “had negotiated the availability and pricing for a 2.5 XL turbine as specifically outlined in Cole Robertson’s Reply Witness Statement,”⁵⁹ making reference to paragraph 25 of that statement. However, Mr. Robertson states only that “we knew that the 2.5 XL turbine was being manufactured by General Electric.”⁶⁰ It is unclear how his statement provides certainty regarding the availability of GE 2.5 XL turbines for wind projects in Ontario. No other evidence has been cited by Deloitte to support the claim that these turbines would have been available.

The Preferability of the 2.5 XL Turbines

- 78 It is not clear that the larger GE 2.5 XL turbines were technically preferable for the Ontario sites. The energy production of wind turbines is correlated to wind speed and each turbine design has distinct performance on the wind production curve. For example, as was indicated, other Mesa Power Projects in the U.S. have opted for the smaller turbines, as we identified in our first report.⁶¹
- 79 Mr. Robertson claims the use of the GE 1.6 XLE turbines for the Stephens Bor-Lynn Wind Project was related to the lower air density and higher wind speeds of the project and is not indicative of what would be appropriate for the Ontario projects.⁶² Similarly, Deloitte claims that “but for” domestic content rules, Mesa Power would have used GE 2.5 XL turbines in Ontario, because they would have been the most efficient alternative given the “higher air density and slightly lower wind speeds” characteristic of the Ontario projects.⁶³
- 80 However, these views are inconsistent with published GE materials regarding the performance of the relevant wind turbines.⁶⁴ GE indicates the 2.5 XL wind turbine is most suited for wind speeds of 8.5 m/s while the 1.6 XLE turbine is best suited for wind speeds of 7.5 m/s—the wind speeds characteristic of the Ontario Projects.⁶⁵ The collected Arran wind data indicate that long-term mean wind speeds at hub heights of 80 to 100 meters ranges between [REDACTED]

⁵⁷ C-0379, Amended and Restated Master Turbine Sale Agreement, [REDACTED]

⁵⁸ First BRG Report, para. 88, pp. 28-29.

⁵⁹ Second Deloitte Report, para. 4.1, p. 15.

⁶⁰ Reply Witness Statement of Cole Robertson, para. 25, p. 5.

⁶¹ First BRG Report, Attachment VI, pp. 39-40.

⁶² Reply Witness Statement of Cole Robertson, para. 24, p. 5.

⁶³ Second Deloitte Report, para. 4.5, p. 16.

⁶⁴ BRG- 100, Kielichowska,Iza, GE, “Wind Technology,” March 6, 2011, pp. 7-8.

⁶⁵ BRG- 100, Kielichowska,Iza, GE, “Wind Technology,” March 6, 2011, pp. 7-8.

██████████⁶⁶ Similar wind speeds were found for TTD, with expected long-term wind speeds ranging between ██████████⁶⁷ The GE 2.5 XL turbines do not appear to be the technically preferable turbines for the Mesa Power Projects.

GE Turbine Deposit

- 81 Mesa Power entered into an agreement to purchase 667 wind turbines on May 9, 2008 for the Pampa Wind Farm project (“Pampa”).⁶⁸ ██████████ of the original USD \$153.6 million deposit was forfeited.⁶⁹ The remaining ██████████
██████████⁷⁰
- 82 Deloitte claims that damages for Mesa Power’s Ontario projects should include the entire amount of this forfeited deposit.⁷¹ Deloitte does not explain or demonstrate why it assumes that the alleged violations caused Mesa Power to forfeit the GE turbine deposit, or any portion of it.
- 83 In our first report, we stated that the GE Master Turbine Sales Agreement (“GE MTSA”) was originally established to provide turbines for the Pampa Wind Farm⁷² and the final forfeiture of the GE turbine deposit was not caused by the GEIA, Connection Point Change Window or the Domestic Content Requirements. None of these alleged violations caused Mesa Power to sign the original agreement, incur the down payment, or forfeit the deposit.⁷³
- 84 In response, Mr. Robertson states that a “fresh deal had been negotiated”⁷⁴ for the GE MTSA when Mesa Power switched its focus from Pampa Wind Farm to the Ontario wind projects by executing the Amended GE Master Turbine Sales Agreement (“Amended GE MTSA”).⁷⁵
- 85 There is no evidence that the GE turbines were solely earmarked for the Ontario projects. It is easy to understand why, given the failure of the Pampa wind project, Mesa Power would have wanted to deploy as many turbines as possible in Ontario and other U.S. projects. As demonstrated in Figure 5 and as more fully explained below, once Pampa failed, Mesa Power

⁶⁶ C-0374, Garrad Hassan Canada Inc., Assessment of the Energy Production of the Proposed Arran Wind Energy Project, June 25, 2010, p. 22.

⁶⁷ C-0387, Garrad Hassan Canada Inc., Assessment of the Energy Production of the Proposed Twenty-Two Degree Wind Energy Project, November 9, 2010, p. 21.

⁶⁸ R- 042, Master Turbine Sale Agreement For The Sale Of Power Generation Equipment and Related Services between General Electric Company and Mesa Power ██████████

⁶⁹ First Deloitte Report, para. 2.22, p. 20. Equivalent to \$156.8 million.

⁷⁰ C-0382, Letter from Cole Robertson (Mesa) to Stephen Swift (GE), December 21, 2012

⁷¹ Second Deloitte Report, para. 6.3, p. 21.

⁷² First BRG Report, para. 38, p. 11.

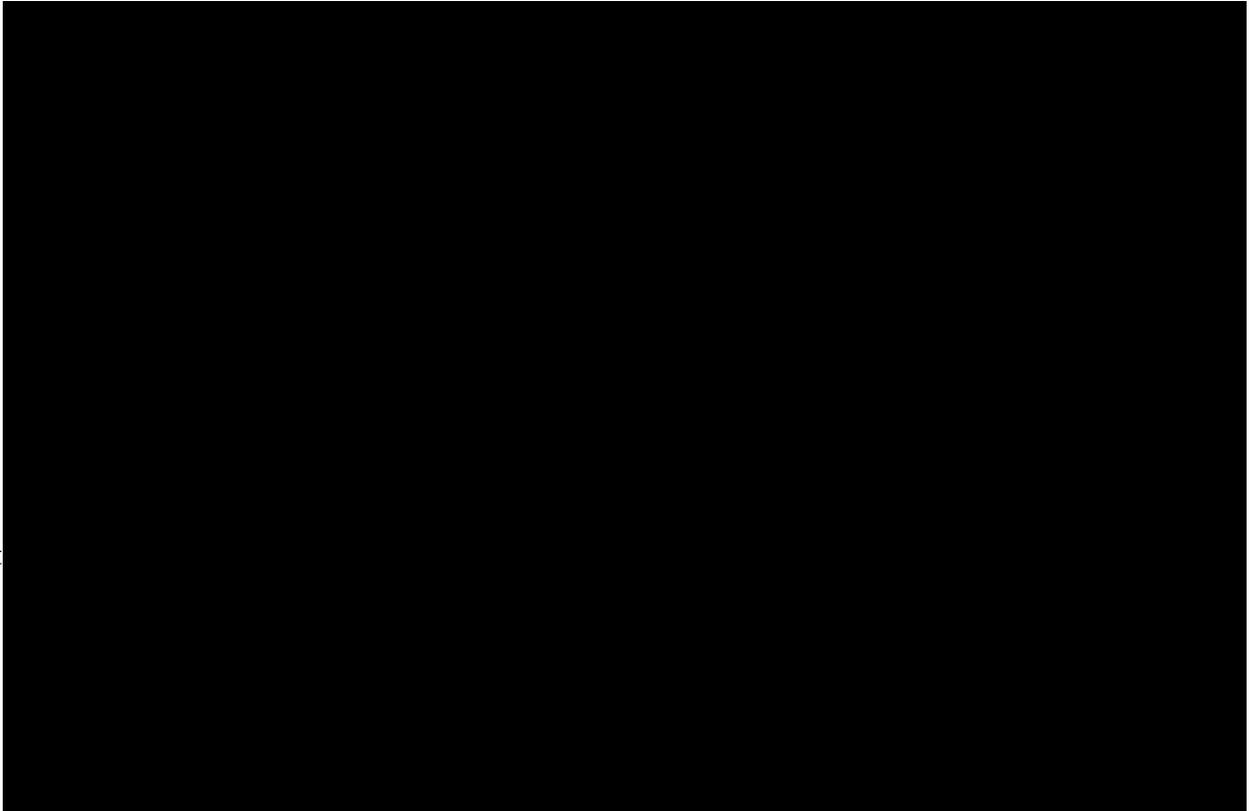
⁷³ First BRG Report, paras. 31-38, pp. 8-11.

⁷⁴ Reply Witness Statement of Cole Robertson, para. 48, p. 11.

⁷⁵ C-0379, Amended and Restated Master Turbine Sale Agreement, ██████████

tried to deploy turbines purchased under the GE MTSA in each of the wind farms it sought to develop in North America.

Figure 5: GE MTSA Contract Timeline⁷⁶



86 Following the cancellation of the Pampa Wind Farm, Mesa Power attempted to find new homes for the orphaned GE turbines.⁷⁷ A number of these turbines were expected to be placed in projects in Minnesota and Ontario.⁷⁸ Fifty two of those turbines were earmarked for the

⁷⁶ C-0379, Amended and Restated Master Turbine Sale Agreement, [REDACTED]. C-0381, GE Invoice No. N1H8937, 12 May 2008. R- 042, Master Turbine Sale Agreement For The Sale Of Power Generation Equipment and Related Services between General Electric Company and Mesa Power [REDACTED]. R-056, Mesa Power MTSA External Change Order No 1, [REDACTED] C-0380, Letter from Carson Harkrader (GE Energy) to Mark Ward (Mesa), February 8, 2011. C-0383, Letter from Mark Ward (Mesa) to Stephen Swift (GE), December 16, 2011. R- 129, Master Turbine Sale Agreement- External Change Order (ECO) Proposal No. 4 (Letter from Gary Elieff, GE to Mark Ward, Mesa) [REDACTED]. C-0037, Second Amended and Restated Master Turbine Sale Agreement between General Electric Company and Mesa Power Pampa, LLC, [REDACTED] C-0382, Letter from Cole Robertson (Mesa) to Stephen Swift (GE), December 21, 2012.

⁷⁷ BRG-022, Anderson Mark, Windpower Monthly, "T. Boone Pickens' new Minnesota wind project hits resistance", April 16, 2010, <http://www.windpowermonthly.com/article/997272/t-boone-pickens-new-minnesota-wind-project-hits-resistance> (accessed December 16, 2013).

⁷⁸ BRG-016, Green Technology Daily, "Pickens Halves GE Turbine Order as Texas Project Falts," January 14, 2010.

Minnesota based Goodhue Wind Farm (“Goodhue”) in December 2009⁷⁹ but there was no specific number of turbines earmarked for the Ontario projects.

- 87 After the prior U.S. and Canadian projects failed and/or were sold, Mesa Power made subsequent attempts to develop and supply the Stephens Bor-Lynn project in Texas with turbines under the Second Amended GE Master Turbine Sales Agreement (“Second Amended MTSA”).⁸⁰
- 88 In other words, Mesa Power attempted and failed to deploy the GE turbines at a variety of projects in the U.S. and Ontario over the course of nearly five years. Pampa pre-dated the Mesa Power engagement in Ontario. Goodhue was developed concurrently with the Ontario projects. Mesa Power attempted to make use of the turbines at Stephens Bor-Lynn after the Ontario projects faltered. Deloitte does not explain why it assumes the alleged violations in Ontario caused Mesa Power to forfeit the GE turbine deposit and why it attributes the entirety of the forfeited deposit to harm caused by the alleged violations, rather than to the failure of the other projects.
- 89 Even if a violation is found and causation is assumed with regard to forfeiture of the GE turbine deposit, there is no realistic counterfactual scenario in which hypothetical removal of the alleged violations would have eliminated the full GE turbine deposit forfeiture. TTD and Arran required less than 50 percent (150 of 333 turbines) of the total turbines. Further, Summerhill and North Bruce were too remote in the queue to have received FIT Contracts and would not have deployed turbines even “but for” the alleged violations.⁸¹
- 90 Additionally, as noted above, the Ontario projects were not the only destination for the turbines. The Minnesota Goodhue project was concurrently being developed and the Stephens Bor-Lynn was developed after.
- 91 Therefore, we conclude that even if causation is assumed with regard to the forfeiture of the GE turbine deposit, the probable counterfactual scenario would entail partial deployment of the turbines in Ontario. Even in that case, there are important quantification problems to address:
- a. The original GE MTSA required a USD \$153.6 million deposit for a commitment to deliver 667 smaller turbines for the Pampa project only.⁸²

⁷⁹ BRG-099, Direct Testimony of Mark Ward on Behalf of AWA Goodhue, LLC. State of Minnesota OAH No. 3-2500-21662-2, MPUC Dkt No. IP6701/WS-08-1233, January 28, 2011, pp. 3-4; BRG-016, Green Technology Daily, “Pickens Halves GE Turbine Order as Texas Project Falters,” January 14, 2010.

⁸⁰ First BRG Report, para. 88, p. 29.

⁸¹ First BRG Report, Attachment IV, pp. 24 - 32.

⁸² C-0381, General Electric, Invoice to Mesa Power, LP, May 12, 2008

- b. The Amended GE MTSA (the “fresh deal” cited by Mr. Robertson) maintained the same deposit amount for a revised turbine commitment of [REDACTED].⁸³ These turbines were available for Goodhue and Ontario.
- c. After the prior projects failed or were sold, the Second Amended GE MTSA (a second “fresh deal”) cancelled [REDACTED] and forfeited [REDACTED] of the original deposit, leaving [REDACTED] and approximately [REDACTED] of deposit applicable to Stephens Bor-Lynn project in Texas.⁸⁴
- 92 In light of these factors, we conclude that even if causation is assumed, any damages should be calculated approximately as follows:
- a. First, the assumed harm caused should be limited to the [REDACTED] forfeited and [REDACTED] cancelled in the Second Amended GE MTSA. That is the only specific harm suffered after the Mesa Power Projects in Ontario failed. The remaining [REDACTED] and [REDACTED] of turbine deposit were replaced by a new “fresh deal” for the Stephens Bor-Lynn project in Texas.
- b. Second, of the [REDACTED] remaining available turbines under the Amended MTSA, the maximum number available to deploy in Ontario should be pro-rated to reflect the proportion of turbines that could have been deployed at Mesa Power’s other active wind projects in the US. Mesa Power had 52 turbines earmarked for Goodhue in Minnesota⁸⁵ and TTD and Arran were slated to use a combined total of [REDACTED]. Therefore, Goodhue accounted for 25 percent of the total turbines to be deployed by the three projects, and therefore 25 percent of the turbines should be allocated to Goodhue. As a result, the Ontario projects should be responsible for no more than 75 percent of the [REDACTED] cancelled turbines and [REDACTED] forfeited.
- 93 Because the alleged violations did not cause Mesa Power to originally assume or ultimately forfeit the GE turbine deposit, we conclude that no harm was caused and no damages are appropriate. However, if the tribunal determines that the violations did occur and did cause harm to Mesa Power, then we estimate that Canada’s responsibility should be limited to the 100 cancelled turbines and [REDACTED] forfeited following the alleged violations in Ontario, and Canada’s pro-rata share (considering proportional allocation for the Goodhue farm) of the alleged harm caused would be limited to [REDACTED].

⁸³ C-0379, Amended and Restated Master Turbine Sale Agreement, [REDACTED]

⁸⁴ C-0383, Letter from Mark Ward (Mesa) to Stephen Swift (GE), [REDACTED]. C-0037, Second Amended and Restated Master Turbine Sale Agreement between GE and Mesa Power Pampa, LLC [REDACTED] R-129, Master Turbine Sale Agreement-External Change Order (ECO) Proposal No. 4 (Letter from Gary Elieff, GE to Mark Ward, Mesa) [REDACTED]

⁸⁵ BRG - 099, Direct Testimony of Mark Ward on Behalf of AWA Goodhue, LLC. State of Minnesota OAH No. 3-2500-21662-2, MPUC Dkt No. IP6701/WS-08-1233, January 28, 2011, p. 3-4; BRG-016, Green Technology Daily, “Pickens halves GE turbine order as Texas project falters,” January 14, 2010.

3.3 Completion and Project Risk

- 94 Completion risks significantly affect valuation. When investors buy and sell projects at this stage of development they significantly adjust the perceived full operational value to reflect the risk that such development projects may never reach completion. Mechanically, this can be done by either:
- a. Increasing the discount rate to reflect the higher degree of project risk, or
 - b. Calculating the hypothetical de-risked value of a fully constructed and commissioned project that is ready to begin commercial operations, and then adjusting that value downward based on the risk of failure along the remaining project milestones to completion (e.g., permitting, financing, and construction).
- 95 The two approaches should yield approximately similar results and can be used in tandem to validate or calibrate valuation results.
- 96 Deloitte’s analysis skips over this important element of risk analysis. In fact, Deloitte adjusts the discount rate for the Mesa Power Projects down by 3.0 percentage points. This implies that the Mesa Power Projects are significantly less risky than the comparable group of publicly traded firms that are comprised of a portfolio of operating projects, largely in favorable European jurisdictions. This is unjustified and contradicted by a 2011 Deloitte report on valuing wind projects and a 2012 GE presentation for the World Bank on wind power projects and turbines.⁸⁶
- 97 Deloitte justifies its assessment based on three claims:
- a. First, that had the Mesa Power Projects received the GEIA terms then all completion risks would have disappeared.
 - b. Second, the successful development experience of Mesa Power was a mitigant to planning, permitting, and construction risk.
 - c. Third, KC’s offer for the North Bruce project proves that it faced little to no risk.
- 98 For the reasons below, we do not find any of these reasons sufficiently convincing to justify eliminating the risk reduction assumed in Deloitte’s discount rate.

⁸⁶ BRG-106, Frick, Bob, GE Energy, “Wind Turbine Overview World Bank,” March 13, 2012; BRG-037, Deloitte, “Valuing Wind Farm Developers,” August 2011.

GEIA does not insulate the developer from standard project risks associated with the REA process, construction, and financing.

- 103 Deloitte and Mr. Robertson also dismiss the risk of financing for the Mesa Power Projects. This is not appropriate because financing risks are a very significant risk in this sector. Above all, we note the following:
- a. A survey by The Economist identifies it as “the most significant risk associated with renewable energy projects.”⁹¹
 - b. The Chairman of Mesa Power, Mr. Boone Pickens, stated in an August 27, 2012 interview that “you can’t finance a wind deal” if the price of natural gas is below \$6.⁹² The price of natural gas has been well below \$6 per MMBtu since December 2008.⁹³
 - c. As discussed further in Section 4.2, the Letter of Interest from the Ex-Im Bank does not alleviate this risk.

Mesa Power Development Experience was Insufficient to Reduce Risk

- 104 Deloitte and Mr. Robertson also refer to the allegedly “successful”⁹⁴ development experience of Mesa Power as mitigating risks associated with planning, permitting, and construction. Deloitte assumes this should support a lower discount rate for purposes of damages calculation. This presents two problems:
- a. First, the valuation should establish the fair market value as of the date of harm and the fair market value would be the value to any party, including a third party buyer. The experience of the selling developer would not mitigate perceived risk for a third party buyer.
 - b. Second, even if we assume that the fair market value should be for the project value to Mesa Power only, Mesa Power does not have extensive experience developing wind projects and its experience cannot be called “successful.”
- 105 Regarding the second point above, the wind project development experience of Mesa Power does not merit a reduction in risk. The Pampa Wind project was developed, but ultimately abandoned.⁹⁵ Except for this project, all projects which Mr. Robertson cites to establish Mesa

BRG - 116, Mc, Ewen Todd, “County and Dufferin Wind Come to an Agreement,” March 10, 2014 <http://www.orangeville.com/news-story/4405280-county-and-dufferin-wind-come-to-an-agreement/> (accessed May 27, 2014).

⁹¹ BRG -104, Economist Intelligence Unit, *Managing the Risk in Renewable Energy*, October 2011, p. 5.

⁹² BRG -109, Solomon, Mark B., “Stepping on the Gas: Interview with T. Boone Pickens,” August 27, 2012.

⁹³ BRG-068, Henry Hub Prices 2008-2013.

⁹⁴ Reply Witness Statement of Cole Robertson, para. 19, p. 3 and Second Deloitte Report, para. 5.9, p. 19.

⁹⁵ BRG - 086, Zajac, Jennifer, SNL, “Pickens Cancels Plan for Mega-Wind Farm, Will Pursue Smaller Projects,” July 2009, <http://www.snl.com/InteractiveX/article.aspx?ID=9753013> (accessed December 16, 2013).

Power's experience as a wind project developer⁹⁶ were acquired in an early stage of development and sold prior to commercial operation date.

- 106 For example, Mr. Robertson refers to Mesa Power "successfully developing" Goodhue,⁹⁷ but Mesa Power's role in this project was limited. Mesa Power acquired the project after a PPA had already been negotiated and Mesa Power "contracted National Wind to act as the project's primary developer."⁹⁸ Furthermore, after Mesa Power sold that project, the project stalled and was cancelled. This was prior to any construction. The failure of Goodhue also demonstrates that a FIT Contract or PPA does not mitigate or obviate final completion risks and there is continued project attrition in the permitting and financing stages in particular.
- 107 Overall, the development experience of Mesa Power is not exceptional and does not demonstrate low risk. As demonstrated in Figure 6 and Figure 7 below, all pre-construction wind projects still face substantial risks.

Offers to Purchase North Bruce do not Demonstrate Reduced Risk

- 108 In a further effort to demonstrate that the Mesa Power Projects would have faced minimal risks under the terms of the Amended GEIA, Deloitte references KC's interest in purchasing North Bruce. Deloitte reasons that due to the GEIA terms, the KC placed value on the project and must have concluded that it faced minimal risks.⁹⁹
- 109 Deloitte overstates the implications of the KC offers. For example, Goodhue was cancelled after Mesa Power sold it to a third party.¹⁰⁰ This demonstrates that even a completed purchase, much less an offer to purchase, does not mitigate or eliminate completion risk.
- 110 In reality, permitting, construction, and financial risks persist after project sale/purchase transactions and can be fatal to project completion. Therefore, investors typically evaluate these risks when establishing the purchase price for development projects. The question is not whether a sale indicates the absence of risk, but rather how the perceived completion risk was discounted by the buyer in the purchase price.

⁹⁵ Reply Witness Statement of Cole Robertson, paras. 16-18, p. 3.

⁹⁶ Reply Witness Statement of Cole Robertson, para. 13, p. 2.

⁹⁷ Reply Witness Statement of Cole Robertson, para. 19, p. 3.

⁹⁸ AWA Goodhue purchased the development assets in December 2009. A PPA was agreed to between Goodhue and Northern States Power Company in October 2009. BRG-99, Direct Testimony of Mark Ward on Behalf of AWA Goodhue, LLC. State of Minnesota OAH No. 3-2500-21662-2, MPUC Dkt No. IP6701/WS-08-1233, January 28, 2011. pp. 3-4.

⁹⁹ Second Deloitte Report, para. 2.5 a. iii, p. 11.

¹⁰⁰ Second Deloitte Report, para. 5.10, pp. 19-20.

- 111 Therefore, it is reasonable to assume that TTD and Arran would continue to face development and completion risks common to all wind farms. Any analysis of damages must have a realistic view of the impact of these risks on valuation.
- 112 We correct for this substantial omission in the Deloitte analysis by eliminating Deloitte's large discount for company specific risk, identifying and applying a more appropriate size premium than used by Deloitte, eliminating Deloitte's assumed country risk discount for Canada, and making updates to the proxy group. The details are discussed in Evaluation of Deloitte's Updated DCF Section 4.2 below.

Alternative Method for Discounting Value of Development Projects

- 113 As an alternative to adjusting the discount rate to reflect development risk, another valuation approach would be to calculate the full, de-risked value of a project as of the expected commercial operation date and discount that by the risks involved in project completion. This is a common technique used by buyers and sellers of energy projects in actual transactions. The first step is to determine the probability of project success, or the risk of failure.
- 114 An example of this logic is provided in a slide from a 2012 GE presentation to the World Bank overviewing the global prospects of wind turbines and projects, as provided in Figure 6. This suggests that for every 20 projects initiated by a typical developer, 10 projects (50 percent) typically achieve Phase I development, 5 projects (25 percent) accomplish Phase II development, 2 to 3 projects (10 percent to 15 percent) receive project financing and only 2 projects (or 10 percent) are successfully completed and commissioned for commercial operations.

Figure 6: GE Wind Projects Development Stage and Success Rates¹⁰¹

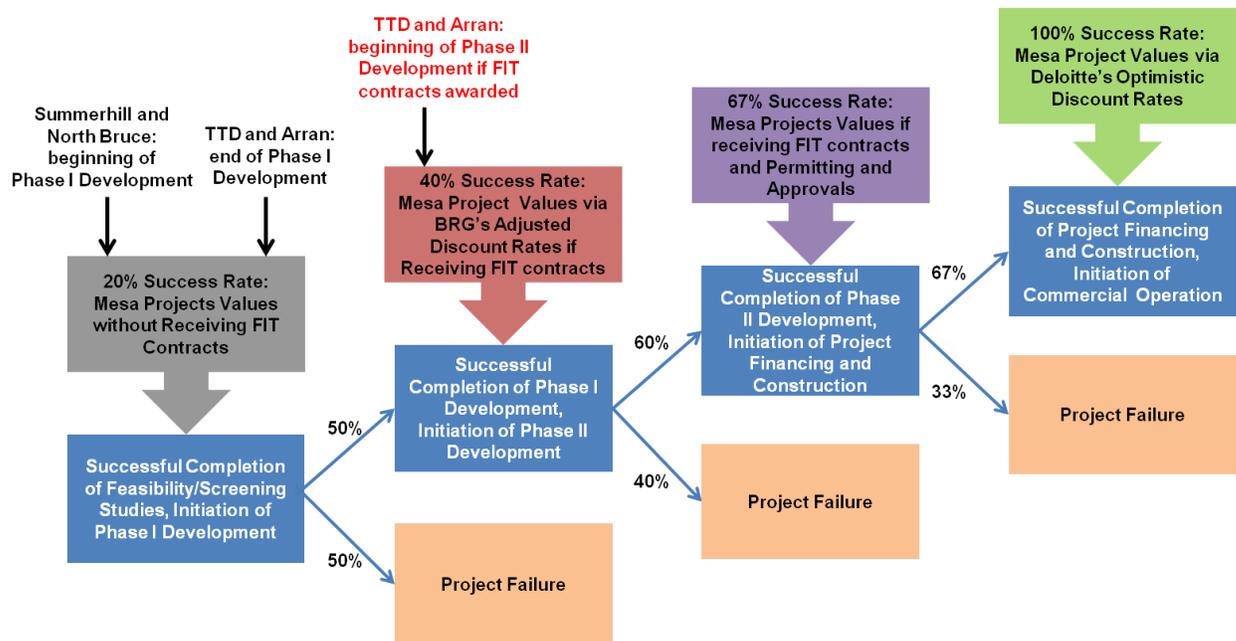
- "Off ta
- Financ

- 115 Using this concept, the TTD and Arran projects had advanced to the end of Phase I Development and, had they received FIT Contracts on July 4, 2011 (“but for” the alleged violations), they would have been among 5 remaining projects at the beginning of Phase II Development, with permitting, financing, and construction still ahead.¹⁰² That implies an approximate 2 in 5 (40 percent) chance of getting to completion.
- 116 We transpose the GE project sieve above into a probability decision tree in Figure 7 below. Using this logic, TTD and Arran would only have a 40 percent possibility of success even after receiving FIT Contracts (2 projects of 5 projects) from the beginning of the Phase II Development through the project completion and commissioning for commercial operation.

¹⁰¹ BRG- 106, Frick, Bob, GE Energy, “Wind Turbine Overview World Bank,” March 13, 2012, p. 113.

¹⁰² BRG First Report, Figure 9, p. 59.

Figure 7: TTD & Arran Projects Development Success Probabilities



- 117 The Deloitte reports both overlooked careful analysis of completion risks and used optimistic discount rates that do not adequately reflect completion risks. As a result, Deloitte effectively assumes a 100 percent chance of success for all the Mesa Power Projects as if they were ready to commence commercial operations. This was far from true, even in a counterfactual scenario without the alleged violations and in which TTD and Arran obtained FIT Contracts.
- 118 The oversight yields an unrealistic evaluation of risk and, therefore, a vastly inflated valuation for TTD and Arran as middle-stage development projects.
- 119 As an example of the importance of completion risk to project valuation, we have provided a different, 2011 Deloitte report on wind project valuation.¹⁰³ This report uses comparable sales transactions to quantify the discount that buyer's apply when purchasing development projects. According to this report, projects under construction were discounted 40 percent from the completed project and late-stage development projects at a 75 percent discount from the sales price of an operating project. For late-stage development projects (i.e., post Phase II), this means that investors typically paid 25 percent of full-value on average.¹⁰⁴ Early stage development projects (i.e., Phase I and II) had no demonstrable value to investors.¹⁰⁵

¹⁰³ BRG-037, Deloitte, "Valuing Wind Farm Developers," August 2011, p. 7.

¹⁰⁴ BRG-037, Deloitte, "Valuing Wind Farm Developers," August 2011, p. 7.

¹⁰⁵ BRG-037, Deloitte, "Valuing Wind Farm Developers," August 2011, p. 7.

120 Therefore, mid-stage development projects such as TTD and Arran should be valued at no more than 25 percent, and perhaps significantly less, than a full, de-risked valuation assuming they had already completed development, financing, and construction and reached commercial operation.

4 EVALUATION OF DELOITTE'S DAMAGES ANALYSIS

121 In this section, we build upon the foregoing evaluation of Deloitte's Second Report to analyze the methodologies, assumptions, and calculations deployed by Deloitte in its damages model. We then provide our conclusions for the reasonable adjustments needed to obtain realistic results for the fair market value of TTD and Arran at the date of alleged harm to Mesa Power.

4.1 Deloitte's Revised Damages Results

122 In its Second Report, Deloitte updated its damages analysis to correct some of the smaller errors we identified in our first report and add a calculation of pre-judgment interest. The changes Deloitte has made include:

- a. Implementation of individual valuation dates for four Mesa Power Projects,
- b. Correction of unrealistic assumptions for post valuation date development costs,
- c. Correction of unrealistic assumptions for interest during construction, and
- d. Correction of various spreadsheet errors.

123 The difference of damage values between the two reports is illustrated in Figure 8 below. As a result of Deloitte's adjustments, pre-interest damages have increased by a range of \$3 to \$5 million and pre-judgment interest of between \$75 and \$82 million has been added. The total impact is an increase of between \$80 and \$85 million.

Figure 8: Deloitte Damages

CAD 000s NAFTA 1102/1103/1104/1105	Original		Updated		Increase/(Decrease)	
	Low	High	Low	High	Low	High
Base Case	303,000	345,000	301,000	343,000	(2,000)	(2,000)
Economic Development Adder	20,000	22,000	21,000	23,000	1,000	1,000
Capacity Expansion	33,000	38,000	34,000	38,000	1,000	-
Economic Development Adder Applicable to Capacity Expansion	2,000	2,000	2,000	2,000	-	-
Total past costs incurred						
- General Electric deposit forfeiture	156,833	156,833	156,833	156,833	-	-
- Other / Past Costs Incurred	8,100	8,100	8,100	8,100	-	-
NAFTA 1106 (below)	101,200	111,300	106,200	115,300	5,000	4,000
Total NAFTA 1102/1103/1104/1105 (pre-interest)	624,133	683,233	629,133	686,233	5,000	3,000
Pre-judgment interest	-	-	75,000	82,000	75,000	82,000
- Percent Interest			11.9%	11.9%	11.9%	11.9%
Total economic damages including pre-judgment interest	624,133	683,233	704,133	768,233	80,000	85,000
NAFTA 1106						
Base Case	91,000	100,000	96,000	104,000	5,000	4,000
Economic Development Adder	1,000	1,000	1,000	1,000	-	-
Capacity Expansion	9,000	10,000	9,000	10,000	-	-
Economic Development Adder Applicable to Capacity Expansion	200	300	200	300	-	-
Total NAFTA 1106 (pre-interest)	101,200	111,300	106,200	115,300	5,000	4,000
Pre-judgment interest	-	-	13,000	14,000	13,000	14,000
- Percent Interest			12.2%	12.1%	12.2%	12.1%
Total economic damages including pre-judgment interest	101,200	111,300	119,200	129,300	18,000	18,000

4.2 Evaluation of Deloitte’s Updated DCF

124 The purpose of the damages analysis in this arbitration is to determine the value an investor might reasonably assign to the projects on the date of harm “but for” the alleged violations. We have received and reviewed the revised Deloitte damages model. The revised model maintains several unrealistic inputs and assumptions. There are also some new errors included in the new model and Deloitte’s Second Report. Our concerns are listed below, followed by a detailed discussion of each item.

- a. Incorrect Valuation Dates
- b. Optimistic Discount Rate Calculation, including
 - The Proxy Group
 - The Size Premium
 - The Specific Company adjustment
 - The Country Risk Adjustment
 - The Cost of Debt
 - Unlevered Cost of Equity
- c. Unrealistic assumption for GE Wind Turbines Treatment
- d. Residual value of the projects

- e. Calculation of pre- and post-judgment interest
- f. Energy production estimates for Summerhill and North Bruce

Incorrect Valuation Dates

- 125 In its first report, Deloitte identified three dates of harm. The three dates of harm were:
- a. November 25, 2009 for harm caused by the Domestic Content Requirements – this is the date that the FIT applications for TTD and Arran were filed.
 - b. May 29, 2010 for harm caused by the Domestic Content Requirements – this is the date that the FIT applications for Bruce and Summerhill were filed.
 - c. January 21, 2010 for all other future losses at TTD and Arran – this is the date that the KC signed the original GEIA.
- 126 In our first report, we identified that the valuation dates used by Deloitte were inconsistent with the alleged cause of harm.¹⁰⁶ Filing for FIT Contracts did not cause harm, nor was specific harm caused by the signing of the GEIA.¹⁰⁷ Deloitte and the Claimant agreed that the original dates provided were inaccurate and the dates have been amended in the Second Deloitte Report.¹⁰⁸
- 127 In our first report we identified the date that harm could most clearly be demonstrated as July 4, 2011, the date that Mesa Power was officially not offered a FIT Contract. This date is a definitive point at which harm can be identified and quantified. Mr. Robertson has confirmed this to be the case as well:
- “Mesa’s loss was confirmed on July 4, 2011, when we [Mesa] were not awarded the FIT contracts that we anticipated.”¹⁰⁹
- 128 Neither North Bruce nor Summerhill suffered harm in this regard as neither project would have had access to transmission under any realistic scenario.¹¹⁰
- 129 Deloitte’s Second Report does not accept our dates and proposes three new dates. According to Deloitte, “Based on a further review of the documents and discussions with Counsel and Management we have revised the Dates of Breach as follows:

¹⁰⁶ First BRG Report, paras. 165-167, p. 54.

¹⁰⁷ First BRG Report, paras. 232-233, pp. 72-73.

¹⁰⁸ Second Deloitte Report, para. 7.11, p. 26.

¹⁰⁹ Reply Witness Statement of Cole Robertson, para. 51, p. 11.

¹¹⁰ First BRG Report, para. 34, p. 9 and Attachment IV, p. 32.

- a. “September 17, 2010: On this day, Mesa Power became aware of the better treatment that other investors were given due to the public reservation of transmission (500MW) in the Bruce region.
- b. “December 21, 2010: The FIT rankings were publicly available on this day and the Projects were ranked lower than Mesa Power should have been ranked under the FIT rules.
- c. “August 5, 2010: The date that Mesa Power confirmed they would use 1.6 XLE turbines as GE was unable to provide certainty that the 2.5 XL turbines would meet the domestic content rules.”¹¹¹

130 The harm allegedly caused on each of these dates is unclear for the reasons analyzed below.

131 On September 17, 2010 the Minister of Energy issued a direction to the OPA requiring 500 MW of transmission capacity to be reserved for the KC in the Bruce Region.¹¹² This was a consequence of the GEIA. As we have already demonstrated in our first report, and as Deloitte has already confirmed by changing its original date, the signing of the GEIA itself did not cause harm. Publicly reserving transmission for the KC in accordance with the terms of the GEIA, likewise, caused no immediate and direct harm to Mesa Power. While this agreement had implications for alleged future harm, the act itself did not result in the loss of FIT Contracts for TTD and Arran. No harm has been demonstrated on this date and we do not find any basis to conclude the alleged violation harmed Mesa Power on this date. Therefore, this date is not appropriate for damages analysis.

132 Deloitte also identified as a date of harm (apparently for an alleged violation of Article 1105) December 21, 2010, when the FIT rankings were released and allegedly ranked Mesa Power “lower than it should have been ranked.”¹¹³ Even assuming that this violation has been demonstrated, the lower ranking did not, in and of itself, result in the loss of a FIT Contract. It requires speculation to conclude that the ranking implied a final result. Therefore, no harm can be determined or quantified from any action on this date.

133 Finally, Deloitte selected August 5, 2010, as the date that the Domestic Content Requirements caused harm. It is alleged that on this date Mesa Power resigned itself to using the 1.6 XLE turbines to comply with the Domestic Content Requirements. This allegedly caused harm because, Deloitte assumes, the smaller turbines were economically unfavorable to the larger GE 2.5 XL turbines. Deloitte and Mr. Robertson cite an email from Mark Ward, as shown in Figure 9, to demonstrate this harm.

¹¹¹ Second Deloitte Report, para. 7.11, p. 26.

¹¹² C-0119, Letter from Brad Duguid (Ministry of Energy) to Colin Anderson (OPA), September 17, 2010.

¹¹³ Second Deloitte Report, para. 7.11, p. 26.

Figure 9: Email Exchange between GE and Mesa August 5, 2010¹¹⁴



- 134 This single emailed line referencing “cost and schedule impacts” lacks other factual support in the record. On its own it does not demonstrate any harm occurring on this date.
- 135 The contents of GE’s response to this email, reproduced in Figure 10 below, also leaves uncertainty regarding any conclusion about which turbines were needed to comply with the Domestic Content Requirements.

¹¹⁴ C-0107, Email from Mark Ward (Mesa) to Michael Volpe (General Electric) and Andrew Goodman (General Electric), August 5, 2010.

Figure 10: Email Exchange between GE and Mesa August 5, 2010¹¹⁵



- 136 It is entirely unclear how this email exchange indicates the crystallization on August 5, 2010 of any harm to Mesa Power as a result of the Domestic Content Requirements in the FIT Program. The issue of which turbines to use remains unsettled at the conclusion of this exchange and it appears that GE was willing to support at least the 2.5 XL, if not both the 1.6 XLE and the 2.5 XL turbines for Domestic Content Requirements. As explained above, this casts into doubt whether the Domestic Content Requirements caused any harm or damages at all.
- 137 Further, these emails do not provide any clear basis for the use of August 5, 2010 as the date on which harm was caused by the alleged breach of NAFTA. As a result, we conclude that this date should not be relied upon in the analysis of damages.
- 138 Finally, we note that despite its stated analysis of three valuation dates, Deloitte actually uses only two valuation dates in its damages model – September 17, 2010, for the damages under NAFTA 1102/1103/1104/1105 and August 5, 2010 for the damages under NAFTA 1106.¹¹⁶ This

¹¹⁵ C-0107, Email from Mark Ward (Mesa) to Michael Volpe (General Electric) and Andrew Goodman (General Electric), August 5, 2010.

¹¹⁶ Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low, Input Tabs for 1.6 XLE and 2.5 XL; 004564, Project Twenty-Two Degrees - Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low, dated April 29, Inputs 1.6XLE, Cell G9; 004564, Project Twenty-Two Degrees - Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low, dated April 29, Inputs 2.5XL, Cell G9; 004567, Project Arran - Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low, dated April 29, Inputs 1.6XLE, Cell G9; 004567, Project Arran - Financial Model to the Reply Valuation Report of Richard Taylor and Robert Low, dated April 29, Inputs 2.5XL, Cell G9.

is inconsistent with its stated approach and is not explained. Each cash flow stemming from an alleged cause of harm should be discounted on the appropriate day. Deloitte's updated damages calculations do not appear to actually use the analysis stated in its most recent report insofar as the December 21, 2010, date of harm is not used in the models.

- 139 Based on this review, we reiterate our conclusion that July 4, 2011, is the only valuation date for which clear evidence of harm to Mesa Power can be discerned and the applicable damages can be quantified. Therefore, we continue to use July 4, 2011, as the valuation date in our analysis.

Optimistic Discount Rate

- 140 In our first report, we found that Deloitte's Discount Rate was too optimistic because it was unrealistic about the level of risk faced by the Mesa Power Projects. As noted in Section 3.3, this continues to be the case. Deloitte's Discount Rate does not take into consideration the status of the Mesa Power Projects as mid-stage development projects that faced substantial development and financing risks.
- 141 As discussed in Section 3.3, it is standard for wind project investors to apply a discount to pre-construction projects. Deloitte makes no such adjustment in its Second Report and continues to under-estimate the Discount Rate for the reasons we identified in our first report:¹¹⁷
- a. The cost of equity proxy group basis (pre-adjustment) was skewed to companies that operated outside of North America,
 - b. The Size Risk Premium is under-estimated,
 - c. There is no basis for the 3.0 percent Company Specific Risk Discount that Deloitte applies,
 - d. The Country Risk Premium is too speculative.
- 142 In its Second Report, Deloitte largely overlooks these points and continues to use an unreasonably low and optimistic discount rate. There are several key areas where Deloitte's discount rate assumptions remain unrealistic. Above all, Deloitte continues to:
- a. Rely on the same proxy group to assess industry risk even though the comparables selected are not geographically relevant,¹¹⁸

¹¹⁷ First BRG Report, paras. 131-154, pp. 42-48.

¹¹⁸ Second Deloitte Report, paras. 7.1, p. 22.

- b. Apply three adjustments to the cost of equity (for company size risk, specific company risk, and country risk)¹¹⁹ that are premised on a series of speculative and highly optimistic assumptions, as indicated in our first report,¹²⁰
 - c. Maintain its original cost of debt estimate of █████ percent, which is based on a Letter of Interest from Ex-Im Bank.
- 143 We have updated our analysis based on new information from Deloitte's Second Report and our own additional research. The updates include changes to the applicable size premium and the cost of debt. Nevertheless, we maintain our overall conclusion that Deloitte's discount rate significantly understates the specific development risks faced by TTD and Arran.

Cost of Equity – Proxy Group

- 144 Deloitte continues to rely on the same proxy group as in its original report. We demonstrated in our first report that use of this proxy group significantly underestimates the cost of equity faced by TTD and Arran.¹²¹
- 145 In its Second Report, Deloitte did not update the proxy group data as of the new valuation dates it has proposed; the model uses the same cost of capital data (such as betas, equity, debt) as of January 21, 2010, even though Deloitte's analysis is now as of September 17, 2010. In making these corrections to Deloitte's model we discovered that several of the levered equity betas previously provided in Deloitte's First Report were incorrect and understated the proxy group beta. In particular, Deloitte used adjusted 5-year betas of 0.83 and 0.54 for PNE Wind AG and Theolia, respectively. Based on our calculations¹²² those values should have been 0.97 and 1.28 as of Deloitte's updated Valuation Date of September 17, 2010. As of our Valuation Date of July 4, 2011, the beta values for those two companies were 0.94 and 1.29. We have made these corrections in our analysis.

Cost of Equity – Size Premium

- 146 We agree with Deloitte that a size premium is an appropriate adjustment to the discount rate. Smaller companies and projects are riskier investments and require a higher rate of return from investors. Ibbotson has quantified the additional returns required from investors for different

¹¹⁹ Second Deloitte Report, paras. 7.3-7.5, pp. 22-24.

¹²⁰ First BRG Report, paras. 140-145, pp. 44-45.

¹²¹ First BRG Report, paras. 140-143, p. 44.

¹²² We calculated 5-year adjusted betas based on weekly returns using Bloomberg data. It is our understanding that this aligns with the methodology used by Deloitte, as described in Note 3 of Schedule 6A from Deloitte's First Report. Other comparable company beta values used by Deloitte were consistent with our calculations.

levels of market capitalization (which it uses to define the “size” of the company). We also agree on the use of the adjustment and the source (Ibbotson) for deriving this adjustment.

- 147 We disagree, however, on the market value of equity (or market capitalization) for Mesa Power. Deloitte has asserted that its calculated market value of \$500 million for the projects is the appropriate market value of equity to use in determining the size premium. But the appropriate market value of equity is a point of contention in these proceedings. Furthermore, Deloitte’s argument is circular and self-fulfilling as the size premium is used to determine the discount rate for purposes of calculating fair market value of the equity. Deloitte does not explain how it intends to use the fair market value to determine an appropriate size premium and discount rate for purposes of analyzing fair market value. The result of the analysis cannot also be a principal input to the analysis.
- 148 A more objective approach should be employed to determine the correct size premium. It is unclear whether the market value of the equity at the valuation date would be higher or lower than the book value of equity. For example, we note that Mesa Power received two offers from Pattern Energy valuing the North Bruce project at less than book value. We understand that Mesa Power considers these offers to be low,¹²³ but at a minimum these offers demonstrate that the market value of the projects is uncertain and debatable.
- 149 In our initial report, we relied on a market risk premium of 4.91 percent corresponding to a market capitalization of between USD \$144 million and USD \$179 million consistent with the total book value of assets for Mesa Power.¹²⁴ This was made in an effort to be balanced and conservative.
- 150 In light of Deloitte's concerns with our approach, we have reevaluated this item and have found a reasonable basis to provide a solution that is even more fair and balanced. Our updated analysis now employs Ibbotson’s “Micro-Cap” size premium, which is applicable to companies with market capitalizations ranging from USD \$1.2 million to USD \$477.5 million. In the 2011 Ibbotson Yearbook, this size premium has a stated value of 4.07 percent.
- 151 The wide range of valuations covered by this premium makes it the most reasonable size adjustment to apply to the discount rate. Considering the uncertainty involved with the market capitalization of Mesa Power, the use of this “Micro Cap” premium covers a wide range of valuations and is the most reasonable solution.

¹²³ Reply Witness Statement of Cole Robertson, para. 72, p. 16.

¹²⁴ First BRG Report, paras. 199-201, pp. 65-66.

Cost of Equity – Specific Company Adjustments

- 152 As we noted in our first report, Deloitte subtracts 3.0 percent from its proposed Cost of Equity for Company Specific risks. This implies that Deloitte considers the Mesa Power Projects considerably less risky than the proxy group, but Deloitte provides no calculation or specific support for the specific adjustments made.¹²⁵
- 153 In its Second Report, Deloitte continues to apply and provides additional defense of this 3.0 percent discount as compared to the proxy group.¹²⁶ In particular, Deloitte makes the following points:
- a. **GEIA Benefits:** The terms of the GEIA would have reduced the development risk and reduced the volatility of cash flows relative to the proxy group.
 - b. **Dry Run:** TTD and Arran both successfully passed the pre-ECT “Dry Run.”
 - c. **P50 Wind:** The cash flows in the models are based on a P50 wind factor, which makes the forecasted capacity factors reliable.
 - d. **Proxy Group:** The proxy group companies contain pre-development projects and lack FIT contracts making the group riskier than the Mesa Power Projects.
 - e. **Market ROE:** Both Scotia Bank and OPA cite an 11 percent Return on Equity for FIT projects.
 - f. **Support for a Nil Adjustment:** No support has been provided for the nil adjustment we recommend in our first report.
- 154 Each of these reasons is flawed, for the reasons outlined below:
- a. **GEIA Benefits:** As explained in detail above, the appropriate counterfactual scenario to restore Mesa Power to the position it would have enjoyed “but for” the alleged GEIA violation would not entitle Mesa Power to the terms of the GEIA. Further, even if it did (although it did not) the terms of the GEIA would not eliminate the development risks faced by Mesa Power. As addressed in Section 3.3, several of the KC’s GEIA projects have still encountered project permitting problems and other delays. Therefore, it is unrealistic to assume that Mesa Power would have confronted less risk than the proxy group, which was comprised of companies with completed, cash-flowing energy projects.
 - b. **Dry Run:** As noted above in Section 3.2, the Dry Run was a transmission simulation that demonstrated that TTD and Arran would have received transmission access, “but for” the Connection Point Change Window. It is unclear why Deloitte concludes that passing

¹²⁵ First BRG Report, para. 144, pp. 44-45.

¹²⁶ Second Deloitte Report, para. 7.4, pp. 23-24.

the Dry Run would make the Mesa Power Projects less risky than the proxy group companies. The proxy group companies all have projects which are already connected to transmission, but Mesa Power did not.

- c. **P50 Wind:** The Mesa Power Projects have P50 wind forecasts, which are used in Deloitte’s model. We agree that these forecasts are reasonable to use in the model. However, it is unclear how the use of P50 wind data warrants any discount for risk because wind energy companies typically utilize such data in the course of developing projects. It is not exceptional or unusual for a obtain and utilize P50 wind data. The proxy group companies almost certainly have P50 wind forecasts for their projects, in addition to actual wind data from their operating wind farms in their asset portfolios. The P50 estimates are still estimates for a middle stage development project. As Mr. Robertson states: “While certain areas might be prone to more wind, and more constant wind streams than others, there is only so much certainty that one can rely on when assessing potential wind-energy sites.”¹²⁷
- d. **Proxy Group:** Deloitte states that “it appears that the comparable industry participants do not all have revenue contracts.”¹²⁸ This is incorrect. Each of the proxy group companies has FIT Contracts, PPA’s or favorable regulatory treatments protecting a majority of its revenue already.¹²⁹ Deloitte also states that each of the proxy group companies has pre-development projects in their asset portfolios, which makes the proxy group riskier than the Mesa Power Projects.¹³⁰ Deloitte ignores the fact that the preponderance of capital in each of the proxy group companies is invested in less risky energy projects that are in operation or under construction. As demonstrated in Attachment 1, each of the proxy group companies for which this could be checked¹³¹ has a majority of its capital invested in low-risk, operating projects.
- e. **Market ROE:** Deloitte is incorrect about the benchmark market ROE information. Deloitte references the pre-tax, unlevered cost of equity (10.9 percent) that Scotia Bank cites, rather than the after-tax, levered cost of equity (23.2 percent), which is the appropriate proxy.¹³² The unlevered cost of equity should be applied in reference to

¹²⁷ Reply Witness Statement of Cole Robertson, para. 15, p. 3

¹²⁸ First Deloitte Report, para. 4.54, p. 40.

¹²⁹ Second BRG Report, Attachment 1.

¹³⁰ Second Deloitte Report, para. 7.4 d., p. 23.

¹³¹ The percentage of developmental projects for Energiekontor could not be verified from annual reports.

¹³² BRG-006, Scotia Capital Report, p. 8. Deloitte quotes the “pre-tax unlevered equity IRR” as the cost of equity. In its model, Deloitte applies the discount rate to after-tax cash flows for projects financed with 80 percent debt – which is highly levered capital structure. It is therefore inappropriate to use the “pre-tax unlevered equity IRR” in these projects. The relevant proxy for the cost of equity to use in this analysis is the “after-tax levered equity IRR.” Scotia Bank provides an estimate of 23.2 percent for the unlevered cost of equity for onshore wind farms that have FIT contracts. This is much higher than the costs of equity that Deloitte uses. Rather, the 23.2 percent supports the cost of equity we calculate without a 3.0 percent downward adjustment (22 percent), and demonstrates that our calculation is conservative compared to other industry reports.

projects with no debt or in analyses not considering the impact of debt on valuation. The levered cost of equity should be employed when looking at a company with debt on its balance sheet. We are analyzing the TTD and Arran projects which have capital structures with 80 percent debt. Therefore, citing an unlevered cost of equity is inappropriate. The 23.2 percent levered cost of equity referenced by Scotia Capital supports a much higher cost of equity than the one Deloitte employs.

With respect to the OPA cost of equity referenced by Deloitte, this is the allowable return for purposes of setting the FIT tariff levels. It is not a comparable investment benchmark and should not be used as such. Furthermore, it is inconsistent for Deloitte to cite the OPA in regards to the cost of equity, but to disregard the OPA's assumptions in determining the cost of debt. The OPA relied on a 7.0 percent cost of debt,¹³³ which was the same as the cost of debt we used in our first report and which Deloitte protests. Overall, we find OPA's rate making assumptions inappropriate for valuing investments have lowered the cost of debt in our updated analysis.¹³⁴

- f. **Support for a Nil Adjustment:** Finally, Deloitte dismisses our recommended zero percent adjustment for Company Specific Risk because, in its words, "BRG has not provided any support for a nil company specific risk premium."¹³⁵ However, "making no adjustment" is the default position and does not require support because the proxy group is less risky than Mesa Power's middle stage development projects (as further evaluated in Attachment 1 to this report). A cost of equity discount is not appropriate. In fact, a premium for additional development and completion risks faced by Mesa Power should probably be applied instead. There are reasons to increase the discount rate, as we outline above, to account for risks faced by the Mesa Power projects relative to the proxy group. However, we have not quantified those and, therefore, have made no upward adjustment. Our recommendation for a nil adjustment for Company Specific Risk is generous.

¹³³ C-0353, Ontario Power Authority. "Proposed Feed-In Tariff Price Schedule Stakeholder Engagement – Session 4." April 7, 2009, p. 30.

¹³⁴ Scotia Capital does rely on these derived OPA prices in its model and is able to calculate a 23.2 percent levered return on equity from them. Allowable returns for rate-making are different than investors required returns and the allowed return on equity provided is intentionally set low to control the price of electricity. Compared to cost of equity used by European countries in rate setting, this 11.0 percent is noticeably higher. Germany, Italy, and Spain use between 5.0 and 9.0 in setting their FIT rates. This connotes a higher risk associated with the projects located in Canada as the proxy group companies are primarily invested in European countries with supportive renewable policies.

¹³⁵ Second Deloitte Report, para 7.4, p. 24.

Cost of Equity – Country Premium

- 155 In their initial report, Deloitte applies a country risk adjustment to reflect the decreased risk to investments in Canada relative to the U.S. Specifically, Deloitte cites Ibbotson 2010 Country Risk Rating Model risk premium, which entails a downward 0.8 percent adjustment to U.S. investments made in Canada. In its Second Report, Deloitte validates their use of this specific adjustment by citing Ibbotson: “... the Country Risk Rating Model offers a number of advantages that the other international models are unable to overcome.”¹³⁶ This quotation is taken out of context and refers specifically to issues with evaluating the cost of capital in the developing world.¹³⁷ The Ibbotson quotation does not refer specifically to a country risk discount for Canada. Use of this adjustment remains speculative and unsubstantiated for the reasons we detailed in our initial report¹³⁸ and in Attachment 2.
- 156 Deloitte focuses on the risk differential between the U.S. and Canada as measured by Ibbotson, which is largely immaterial, while ignoring the risk differential between North America and the rest of the world. Deloitte’s proxy group, however, is largely made of European companies operating outside of the U.S. Deloitte acknowledges this fact, but states that all wind companies are subject to the same risks.¹³⁹ However, a 2011 industry report published by Deloitte finds that North American wind projects trade at a 35 percent discount to those everywhere else in the world.¹⁴⁰ This indicates that North American wind projects are riskier investments than extra-regional projects. If one is using a proxy group with a majority of wind energy companies outside North America, the discount rate calculated from this proxy group should be adjusted upwards, not downwards, to account for additional risk in the wind energy sector for North America relative to the rest of the world. Applying no country risk premium, as we have done, is very generous.

Cost of Debt

- 157 Deloitte maintains that the [REDACTED] percent cost of debt it employs in its model is appropriate to use in its damages calculation and raises concerns with the 7.0 percent we use in our analysis.¹⁴¹
- 158 Our suggested 7.0 percent cost of debt comes from a 2009 Scotia Bank report focused on the Ontario FIT Program. Deloitte criticizes this figure as too high because the Scotia Bank report is

¹³⁶ Second Deloitte Report, para. 7.5, p. 24.

¹³⁷ BRG- 098 , Ibbotson, 2011 Valuation Yearbook, p. 118

¹³⁸ First BRG Report, paras. 205-211, pp. 67-68.

¹²⁴ Second Deloitte Report, para 7.1, p. 22.

¹⁴⁰ BRG-037, Deloitte, “Valuing Wind Farm Developers”, August 2011, p. 14. Discount = (1 – (1.1 North American Valuation / 1.7 Rest of the World Valuation)).

¹⁴¹ Second Deloitte Report, para. 7.7, p. 25.

out of date. We agree that the lending environment from 2009 is not necessarily comparable to the environment in 2011. In light of new information in the Second Deloitte Report and our own research, we have re-evaluated the cost of debt we use in our analysis.

- 159 The Mintz-Levin report we originally cited and Deloitte uses in its Second Report supports a cost of debt for onshore wind in the range of 5.50 percent to 7.25 percent.¹⁴² We have also identified an additional comparable transaction that is consistent with this range and helps pinpoint an appropriate assumption.
- 160 Publicly available information pertaining to USD \$214 million in project financing for Invenenergy's Le Platuea Wind Farm in May 2011 indicates a cost of debt of 5.978 percent.¹⁴³ This falls in the middle of the Mintz-Levin range. Accordingly, we have updated our analysis with a 6.0 percent cost of debt based on the available information. This is a reasonably conservative downward adjustment from the 7.0 percent cost of debt we used in our original analysis.

Unlevered Cost of Equity

- 161 Deloitte is correct that, hypothetically, the weighted cost of capital should be the same regardless of capital structure. In this hypothetical situation, the unlevered cost of equity will equal the weighted cost of capital. This relationship, however, breaks down when interest on debt payments is tax deductible, creating a tax incentive to employ debt in the capital structure. The value of this "tax shield" reduces the weighted cost of capital.¹⁴⁴ The unlevered cost of equity that the cost of capital approaches as debt is retired should not incorporate such effects. Deloitte's ending unlevered cost of equity incorrectly reflects the benefits of this tax shields. This should be removed. Therefore, we maintain our position from the first report.

Unrealistic Assumptions for GE Turbine Treatment

- 162 In our first report, we identified an inconsistency between stipulations pertaining to the turbine warranty in the Amended MTSA and information in Deloitte's model.¹⁴⁵ Deloitte's model excludes turbine maintenance costs for the first two years of operation, but this does not align with the terms of the MTSA agreements. In our assessment:

¹⁴² BRG-040, Mintz-Levin, Renewable Energy Project Finance in the U.S.: 2012-2013 Overview and Future Outlook, p. 21.

¹⁴³ BRG- 102, McCarthy Tetrault, "Transaction/Case Details," May 9, 2014, http://www.mccarthy.ca/transactions_and_cases_detail.aspx?id=5178 (accessed June 5, 2014); BRG-111, Thomson One; Libor Rates: BRG- 101, The Wall Street Journal, "Money Rates," http://online.wsj.com/mdc/public/page/2_3020-moneyrate-20110509.html?mod=mdc_pastcalendar (accessed June 5, 2014).

¹⁴⁴ BRG- 084, Brealey, R.A. and Myers, S.C., *Principles of Corporate Finance*, 5th Ed., McGraw-Hill, 1996, pp. 384-385.

¹⁴⁵ First BRG Report, para. 225, p. 71.

- a. The Amended MTSA, which Deloitte correctly cites in its Second Report, identifies the warranty period as [REDACTED]
[REDACTED]
[REDACTED]¹⁴⁶ [emphasis added].
 - b. Per the terms of the Amended MTSA, [REDACTED]
[REDACTED]¹⁴⁷ Therefore, the “earlier of” the two alternative dates stated above could be no later than 36 months from this stated Delivery Date, or June 1, 2015.
 - c. Deloitte assumes the Commercial Operation Date for TTD and Arran to be March 31, 2014. Therefore, the warranty would expire on June 1, 2015, less than 15 months from the start of commercial operation. This is what our analysis reflects.
- 163 Deloitte responds to this by citing that “it is normal industry practice to assume that the warranty period would be 24 months after turbine completion.”¹⁴⁸ In our view, assumptions about normal industry practice do not trump written turbine agreements specific to the projects in question.
- 164 Also, in our initial report we noted that Change Order #3 requires turbine payments in 2011, 2012 and 2013.¹⁴⁹ Deloitte only modeled turbine payments in 2013 and 2014. This overstates the value of the project. Deloitte responds by noting Mesa Power’s expectations for payments as described by Mr. Robertson in his second witness statement.¹⁵⁰ With no further evidence, Deloitte assumes that Change Order #3 was not binding.
- 165 We prefer to have damages quantification adhere to the commercial terms of the agreement as written, rather than to reinterpret those terms based on the opinion of management. We continue to make the same adjustments for this as in our first analysis.

Residual Value for TTD and Arran

- 166 Deloitte claims that the project had only nominal residual value after the FIT Contracts were not awarded.¹⁵¹ Mr. Robertson confirms that after July 4, 2011, Mesa Power has “not received any subsequent offers to purchase the projects.”¹⁵² However, we note that Pattern Energy

¹⁴⁶ C-0379, Amended and Restated Master Turbine Sale Agreement For the Sale of Power Generation Equipment and Related Services [REDACTED] p. 50.

¹⁴⁷ C-0380, Letter from Carson Harkrader (GE Energy) to Mark Ward (Mesa), February 8, 2011.

¹⁴⁸ Second Deloitte Report, para. 7.15, p. 28.

¹⁴⁹ First BRG Report, para. 224, p. 70.

¹⁵⁰ Reply Witness Statement of Cole Robertson, para. 50, p. 11.

¹⁵¹ Second Deloitte Report, para. 7.18, p. 28.

¹⁵² Reply Witness Statement of Cole Robertson, para. 52, p. 11.

informally offered to discuss a purchase after the awarded FIT Contracts were published on July 4, 2011,¹⁵³ and the valuation was material. Mesa Power also referred to other offers,¹⁵⁴ but has provided no evidence of them. Therefore, we reserve the right to update our analysis in light of any information related to this offer or other offers, which indicate a residual value for the projects. Any value that could be obtained with the current Mesa Power assets should be deducted from the damages analysis.

Pre-Judgment Interest for TTD and Arran

- 167 We have been advised by Canada that the application of pre-judgment interest is a subject of dispute in these proceedings. Nevertheless, if the tribunal determines that pre-judgment interest is applicable, the Bank of Canada Prime Business rate, which Deloitte uses in its calculation, would be a reasonable rate. This should be applied from the Valuation Date to the Judgment Date, and compounded annually.
- 168 In its analysis Deloitte fails to calculate separate damages for each of its valuation dates. This needs to be corrected. We have calculated pre-judgment interest based on our Valuation Date.
- 169 We reserve the right to adjust our calculations if there is a determination by the Tribunal with respect to whether interest is applicable, and if so on what specific basis.

Energy Production Estimates for North Bruce and Summerhill

- 170 We do not include Summerhill and North Bruce in our analysis and maintain that the exclusion of these projects is appropriate as the projects were not harmed by any of the alleged violations. Still, even though this is irrelevant for the purposes of our analysis, we note that Deloitte's calculation of capacity factors for these projects is inappropriate because it is based on a potentially unreliable extrapolation from other data. As Mr. Robertson has stated, "Each wind development site is unique."¹⁵⁵ Even within a wind development site, wind speed can vary. For example, a report on wind yield assessment identifies problems with using only one wind tower to assess wind speed for a site, as the difference from tower to tower can be significant.¹⁵⁶ Extrapolating the results from one wind project to another, as Deloitte has done for Mesa Power's North Bruce and Summerhill projects, is questionable even if the projects are adjacent.

¹⁵³ C-0426, Email from George Hardie to Cole Robertson and Mark Ward, July 6, 2011.

¹⁵⁴ Reply Witness Statement of Cole Robertson, para. 71, p. 15. C-0038, Email from George Hardie (Pattern Energy) to Cole Robertson (Mesa), July 11, 2011.

¹⁵⁵ Reply Witness Statement of Cole Robertson, para. 15, p. 3.

¹⁵⁶ BRG-085, Bastide, Camille and Justin Harding, "Energy Yield Assessment – Are You Doing it Right?" http://proceedings.ewea.org/ewec2007/allfiles2/500_Ewec2007fullpaper.pdf, p. 8.

5 BRG UPDATED DAMAGES ANALYSIS

171 This chapter presents our updated analysis of the appropriate damages to the Mesa Power Projects for alleged NAFTA violations by Ontario. We made adjustments to Deloitte’s damages analysis to correct for the flawed causation identified in Section 3 and unrealistic assumptions described in Section 4.2.

5.1 Summary of BRG’s Correction of Damages

172 We make no conclusions about Canada’s liability in regards to any of these alleged violations. The purpose of our analysis is to calculate the realistic and probable economic harm caused to Mesa Power by each of the alleged violations, assuming that they are violations. The objective of our analysis is to restore Mesa Power to the probable economic position it would have enjoyed “but for” the alleged violations.

173 We used Deloitte’s updated analysis as the baseline for our analysis and made adjustments to reflect our updated analysis and conclusions described in Section 3 and Section 4. Our updated results are summarized below in Figure 11.

Figure 11: Corrections of Deloitte Damages Analysis¹⁵⁷

(\$000s)	Sunk Costs			Future Losses		Total
	Past Costs - TTD & Arran	Past Costs - SH & NB*	GE Deposit	TTD & Arran	SH & NB*	
Deloitte Damages	\$6,420	\$1,680	\$156,833	\$225,782	\$266,803	\$657,517
Inaccurate Causation	\$0	(\$1,680)	(\$156,833)	(\$75,326)	(\$266,803)	(\$500,642)
Damages Without Inaccurate Causation	\$6,420	\$0	\$0	\$150,455	\$0	\$156,875
Adjustments to Deloitte Base Case (TTD and Arran Only)						
Optimistic Discount Rate	\$0	\$0	\$0	(\$120,041)	\$0	(\$120,041)
GE Turbine Treatment	\$0	\$0	\$0	(\$12,167)	\$0	(\$12,167)
Valuation Date	\$0	\$0	\$0	(\$42,931)	\$0	(\$42,931)
Corrected Damages (TTD and Arran Only)	\$6,420	\$0	\$0	\$12,963	\$0	\$19,383

**"SH" stands for Summerhill. "NB" stands for North Bruce

- 174 We calculate a maximum of \$6.42 million of damages related to past losses incurred by Mesa Power and a maximum of \$13.0 million of damages related to future losses.¹⁵⁸ Total potential damages are therefore no more than \$19.4 million.
- 175 This represents an increase of \$6.1 million from our previous damages analysis. Downward adjustments to the discount rate for the size premium and the cost of debt contributed heavily to this increase.
- 176 Deloitte calculates total damages of \$657.5 million in its updated analysis, before including pre-judgment interest. This is \$638.1 million higher than the damages we calculated. As illustrated in Figure 11, four categories of corrections and adjustments account for the difference between our analysis and Deloitte’s results. As analyzed further in this chapter, these categories are:
- Inaccurate Causation – These adjustments are based on our correction of flawed causation in Deloitte’s analysis, reducing damages by \$500.6 million.

¹⁵⁷Our adjustments to damages are not strictly additive because of interactions between the individual adjustments. For example, excluding cash flow from Inaccurate Causation and Valuation Date in the model would yield a different (though approximate) result from adding \$500,642,000 (Inaccurate Causation) and \$42,931,000 (Valuation Date). As a result, the values in Figure 11 are not necessarily meant to sum. In particular, the value of the “Corrected Damages (TTD and Arran Only)” is not meant to be the sum of “Damages Without Inaccurate Causation” and the various “Adjustments to Deloitte Base Case (TTD and Arran Only).”

¹⁵⁸ See BRG Updated Damages Analysis, Technical Annexes 2L and 3L.

- b. Optimistic Discount Rate – We update cost of equity and cost of debt assumptions to reflect more realistic assumptions for TTD and Arran only, reducing damages by \$120.0 million.
- c. Unrealistic Assumptions of GE Turbine Treatment – These adjustments correct speculative, inaccurate assumptions related to timing of the expiration of GE turbine warranty and the payment schedule made in Deloitte’s analysis for TTD and Arran only. This reduced damages by \$12.2 million.
- d. Valuation Date – This adjusts for the inappropriate and inconsistent dates of harm assumed in Deloitte’s analysis for TTD and Arran only. This reduced damages by \$42.9 million.¹⁵⁹

5.2 Correction of Inaccurate Causation for All Damages

177 The conclusions with respect to incorrect causation from our first report continue to apply. They are:

- a. Either the Amended GEIA or Connection Point Change Window were sufficient to result in Mesa Power not receiving FIT Contracts for TTD and Arran; these two projects would probably have received FIT Contracts had either or both of these alleged violations not occurred.¹⁶⁰
- b. There was no harm caused to Summerhill and North Bruce in any scenario as the projects were not in line to receive FIT Contracts. These projects account for \$268.5 million in Deloitte’s analysis of the damages, including sunk costs and future damages.¹⁶¹
- c. The harm caused by the GEIA did not entitle Mesa Power to the terms of the GEIA, including the EDA or the Capacity Expansion Option.¹⁶² The assumption of these benefits inappropriately added \$29.7 million to Deloitte’s valuation for TTD and Arran.
- d. Harm from the Domestic Content Requirements has not been demonstrated and any analysis of potential damages would be speculative.¹⁶³ Removing the harm allegedly caused by the Domestic Content Requirements from Deloitte’s analysis lowered damages by \$45.6 million for TTD and Arran only.

¹⁵⁹ These damages include the effect of updating proxy group betas to our valuation date. Deloitte’s original beta submission contained two errors which had the effect of reducing the discount rate by 3.0 percent.

¹⁶⁰ First BRG Report, para. 179, p. 59.

¹⁶¹ First BRG Report, para. 179, p. 59.

¹⁶² First BRG Report, para. 179, p. 59.

¹⁶³ First BRG Report, para. 179, p. 59.

- e. The GE turbine deposit damages are not applicable because the turbine deposit was not originally intended for the FIT Program and the alleged violations did not cause Mesa Power to forfeit the deposit.¹⁶⁴ This lowers Deloitte’s damages by \$156.8 million. If causation is found, however, then as discussed in Section 3, the maximum amount for which the Respondent could reasonably be held responsible is \$32.8 million.

178 The results of our causation analysis are presented in Figure 12 below. As noted in Section 2, the adjustments below are illustrative of individual impacts and cannot be added from the table due to the compound impacts resulting from applying two or more adjustments in the damages model.

Figure 12: Correction of Inaccurate Causation

Inaccurate Causation (\$000s)	Deloitte Damages Disqualified	Remaining Potential Damages After Adjustment
Deloitte Potential Damages		\$657,517
Summerhill and North Bruce Future Losses	(\$266,803)	\$390,715
Summerhill and North Bruce Past Costs	(\$1,680)	\$655,837
GEIA EDA* and Capacity Expansion (TTD and Arran Only)	(\$29,723)	\$627,794
Domestic Content Requirements (TTD and Arran Only)	(\$45,603)	\$611,914
GE Turbine Deposit	(\$156,833)	\$500,684
Impact of All Inaccurate Causation	(\$500,642)	\$156,875

*"EDA" stands for Economic Development Adder

5.3 Correction of Deloitte Base Case DCF for TTD and Arran

- 179 In its Second Report, Deloitte adjusted its Base Case Scenario damages for Mesa Power from \$324.0 million to \$322.0 million. TTD and Arran account for \$150.5 million of this amount, which is a decrease of \$10.0 million from Deloitte’s first report. Summerhill and North Bruce comprise the remaining \$171.6 million, which represents an increase of \$8.4 million from Deloitte’s first report.
- 180 We excluded the Summerhill and North Bruce damages and the GE turbine deposit damages due to inaccurate causation. Therefore, our analysis focuses on the past costs and future loss damages for TTD and Arran. This excludes \$266.8 million in future losses and \$1.7 million in sunk costs from Deloitte’s damages.
- 181 We used Deloitte’s Base Case Scenario analysis as the starting point for our own DCF analysis. We then made adjustments to correct for Deloitte’s:
 - a. Optimistic discount rate,

¹⁶⁴ First BRG Report, para. 179, p. 59.

- b. Unrealistic assumptions of GE Turbine treatment under the MTSA,¹⁶⁵ and
- c. Inappropriate Valuation Dates

182 Figure 13 details the impact of each individual change on a stand-alone basis and the cumulative impact of all the changes for each group. As mentioned in Section 2, the adjustments are provided to illustrate the relative impact on damages of each individual assumption applied in isolation. Any combination of multiple adjustments requires its own model scenario to calculate specific combined results.

Figure 13: Corrections to Deloitte’s Base Case for TTD and Arran¹⁶⁶

Summary of BRG Adjustments (\$000s)	Deloitte Damages Disqualified	Remaining Potential Damages After Adjustment
Optimistic Discount Rate	(\$120,041)	\$30,414
Unrealistic Assumptions for GE Turbines	(\$12,167)	\$138,289
Valuation Date	(\$42,931)	\$107,524
Impact of All BRG Corrections	(\$137,493)	\$12,963
Optimistic Discount Rate (\$000s)	Deloitte Damages Disqualified	Remaining Potential Damages After Adjustment
Spreadsheet Errors for Discount Rates	(\$47,519)	\$102,937
Adjustment for Size Risk	(\$40,247)	\$110,208
Adjustment for Company Risk	(\$51,481)	\$98,974
Adjustment for Country Risk	(\$18,969)	\$131,486
TTD Obtains Export-Import Bank Financing	(\$7,511)	\$142,945
Arran Obtains Export-Import Bank Financing	(\$5,744)	\$144,712
Unlevered Cost of Capital	(\$6,411)	\$144,045
Impact of All Optimistic Discount Rate Assumptions	(\$120,041)	\$30,414
Unrealistic Assumptions for GE Turbines	Deloitte Damages Disqualified	Remaining Potential Damages After Adjustment
Timing of Payments for GE Turbines	(\$11,768)	\$138,687
Timing of Expiration of Turbine Warranty	(\$399)	\$150,057
Impact of All Unrealistic Assumptions for GE Turbines	(\$12,167)	\$138,289
Valuation Date (Date of Harm) (\$000s)	Deloitte Damages Disqualified	Remaining Potential Damages After Adjustment
Valuation Date as of July 4, 2011	(\$42,931)	\$107,524

183 In our analysis, we have assumed that the past cost estimates provided to Deloitte by Mesa Power management will be verifiable. We note however, that so far the Claimant and Deloitte have provided little independent documentary evidence for these estimates. Apart from the

¹⁶⁵ This refers specifically to assumptions around the terms of the GE MTSA, like payment dates and warranty length, and does not include the turbine deposit.

¹⁶⁶ All numbers represented here are pre-interest and the values in Figure 11, Figure 12, and Figure 13 are not necessarily meant to sum.

invoice for the turbine deposit to GE and summaries of development costs from Leader Resources Service Corp,¹⁶⁷ we have not been provided with invoices or specific documentary evidence for any of the expenses Mesa Power claims.

184 Therefore, our updated results remain subject to change pending verification and audit of the past costs alleged for TTD and Arran, as was the case with our first report.¹⁶⁸ This verification and audit should be performed before any damages are awarded.

5.4 Correction of Optimistic Discount Rate for TTD and Arran

185 Deloitte's discount rate is overly optimistic and understates the risk faced by mid-stage development projects like TTD and Arran. We made adjustments for the company size risk, company specific risk, the cost of debt and changes to the company's weighted average cost of capital with the retirement of debt as discussed in Section 4.2. These changes and their effects are outlined below. We have also updated the valuation for damages associated with assumptions we have not changed. Though these assumptions have not changed, the values will be different as other aspects of the model have been amended.

Adjustments for Size Risk

186 In our first report, we adjusted Deloitte's 1.85 percent size premium to 4.91 percent to more accurately reflect to smaller size of the firm.¹⁶⁹ For the reasons cited above in Section 4.2, we have revised this value to equal Ibbotson's recommended Micro Cap adjustment of 4.07 percent, which is representative of a wider range of smaller sized companies.

187 In our original report, using the 4.91 percent size adjustment to the discount rate reduced damages by \$50.6 million.¹⁷⁰

188 The new size adjustment of 3.99 percent¹⁷¹ now decreases damages by \$40.2 million.¹⁷²

¹⁶⁷ C-0373, Leader Resources Services Corp., Twenty-Two Degree Energy Project summary, June 21, 2011. C-0370, Leader Resources Services Corp., North Bruce Wind Energy Project - Development Status, July 20, 2011.

¹⁶⁸ First BRG Report, para. 235, p. 73.

¹⁶⁹ First BRG Report, para. 201, p. 66. 4.91 percent is the correct Ibbotson size premium for 2010, which we applied to all calculations using Deloitte's January 21, 2010, valuation date. All analyses using our Valuation Date of July 4, 2011, relied on the 2011 Ibbotson size premium of 4.96 percent.

¹⁷⁰ First BRG Report, para. 201, p. 66. 4.91 percent is the correct Ibbotson size premium for 2010, which we applied to all calculations using Deloitte's January 21, 2010, valuation date. All analyses using our Valuation Date of July 4, 2011, relied on the 2011 Ibbotson size premium of 4.96 percent.

¹⁷¹ When adjusting only for size premium, we have applied the corresponding micro-cap rate of 3.99 percent for 2010 as per Deloitte's valuation date (September 17, 2010). When adjusting for size premium and valuation date (July 4, 2011), we have applied the corresponding micro-cap rate of 4.07 percent for 2011.

¹⁷² See BRG Updated Damages Analysis, Technical Annexes 2B, and 3B.

Adjustments for Company Specific Risk

- 189 Deloitte does not demonstrate the need for a Company Specific Risk adjustment. As a result, we eliminated it from the analysis in our first report.¹⁷³ For the reasons cited above in Section 4.2, we have continued to exclude this from our updated analysis in this report. Eliminating the negative 3.0 percent adjustment that Deloitte employs resulted in a \$50.5 million decrease in damages in our first analysis.¹⁷⁴
- 190 Our nil adjustment for Company Specific Risk in our updated analysis decreases Deloitte's damages by \$51.5 million.¹⁷⁵

Adjustments for Country Risk

- 191 The use of a risk adjustment between the United States and Canada is speculative and the specific use of the Country Risk Rating Model adjustment is arbitrary. As a result, we excluded it from the analysis in our first report.¹⁷⁶ For the reasons cited above in Section 4.2, we have continued to exclude this from our updated analysis in this report. Eliminating the negative 0.8 percent adjustment that Deloitte employs resulted in a \$18.7 million decrease in damages in our first analysis.¹⁷⁷
- 192 In our updated analysis, eliminating the 0.8 percent reduction in the discount rate decreases Deloitte's damages by \$19.0 million.¹⁷⁸

Cost of Debt

- 193 We have reduced the cost of debt in our analysis from 7.0 percent to 6.0 percent in light of additional research. Deloitte recommended a 5.38 percent cost of debt in its initial report and continued to use this rate in their Second Report.¹⁷⁹ The 7.0 percent cost of debt reduced damages by \$14.4 million for TTD and \$13.7 million for Arran in our first analysis.¹⁸⁰
- 194 Using the updated 6.0 percent cost of debt, damages are reduced by \$7.5 million compared to Deloitte's updated TTD analysis and by \$5.7 million compared to Deloitte's updated Arran analysis.¹⁸¹

¹⁷³ First BRG Report, para. 203, p. 66.

¹⁷⁴ First BRG Report, paras. 202-204, p. 66.

¹⁷⁵ See BRG Updated Damages Analysis, Technical Annexes 2C and 3C.

¹⁷⁶ First BRG Report, para. 210, p. 68.

¹⁷⁷ First BRG Report, paras. 208-211, p. 68.

¹⁷⁸ See BRG Updated Damages Analysis, Technical Annexes 2D and 3D.

¹⁷⁹ First Deloitte Report, para. 4.42, p. 37. Second Deloitte Report, para. 7.7 f., p. 25.

¹⁸⁰ First BRG Report, para. 214, p. 69.

¹⁸¹ See BRG Updated Damages Analysis, Technical Annexes 2E and 3E.

Adjustment for Unlevered Cost of Capital

- 195 As the projects are projected to pay down debt balances, Deloitte assumed that their cost of equity capital would approach their original weighted average cost of capital.¹⁸² In fact, such de-leveraging should result in the cost of equity capital approaching the unlevered cost of equity capital. Using the original weighted cost of capital incorrectly incorporates the value of the interest tax shield. This error had the effect of lowering Mesa Power's cost of equity capital, increasing their valuations, and thus increasing damages. Correcting this assumption in our first report reduced damages by \$5.9 million.¹⁸³
- 196 In our updated analysis, this correction reduces damages by \$6.4 million.¹⁸⁴ The increase from the last report stems from the corrected proxy group betas we use in setting the discount rate.

Spreadsheet Errors for Discount Rates

- 197 Deloitte did not update the financial information for its proxy group to be consistent with its new valuation date; all of the debt calculations and betas in its model rely on data from January 21, 2010. We have updated Deloitte's proxy group data for September 17, 2010. In doing so, we found additional errors in Deloitte's original submission which substantially understated the proxy group beta.¹⁸⁵ The effect of this error was to reduce the discount rate by 3.0 percent.
- 198 Updating the information and correcting the errors reduces Deloitte's damages by \$47.5 million.¹⁸⁶

5.5 Correction of Unrealistic Assumptions for GE Turbine Treatment

- 199 We identified several incorrect assumptions and errors in Deloitte's analysis with respect to its treatment of the agreements with GE and provide corrections below.
- 200 As explained in Section 4.2 above, Deloitte uncritically relies upon Mesa Power management's opinions about industry practices, even when these are contradicted by the specific delivery and payment terms of the GE MTSA.¹⁸⁷

¹⁸² Second Deloitte Report, para. 7.9, pp. 25-26.

¹⁸³ First BRG Report, para. 216, p. 69.

¹⁸⁴ See BRG Updated Damages Analysis, Technical Annexes 2F and 3F.

¹⁸⁵ Deloitte uses betas of 0.85 for PNE and 0.54 for Theolia in its model, stating that these are the calculated 5-year betas as of January 21, 2010. Deloitte references Capital IQ as the source for these numbers. We have double-checked these values using Bloomberg data to calculate 5-year weekly adjusted betas and have verified the January 21, 2010, betas for the other proxy group companies. But the beta values for PNE and Theolia as of January 21, 2010, should have been 0.97 and 1.24. Implementing these values increases the beta used in the cost of equity calculation substantially, leading to a discount rate that is 300 basis points higher than the rate originally calculated by Deloitte.

¹⁸⁶ See BRG Updated Damages Analysis, Technical Annexes 2A and 3A.

¹⁸⁷ Second Deloitte Report, para. 7.16, p. 28.

- 201 In particular, Change Order #3 to the Amended GE MTSA outlines the dates on which turbine payments would commence and the length of the warranty,¹⁸⁸ which negates the need for maintenance capital expenditures in the early years of the project.¹⁸⁹ We have used the actual terms of this agreement in our analysis rather than rely on management opinion. This is more representative of the actual costs faced by TTD and Arran. In our first report these changes reduced damages by \$11.3 million.¹⁹⁰
- 202 Implementing these changes in our updated analysis reduces damages by \$12.2 million.¹⁹¹

5.6 Correction of Valuation Dates for TTD and Arran

- 203 Deloitte has updated the valuation dates it uses in its analysis.¹⁹² As discussed in detail in Section 4.2, these new valuation dates are not the correct dates to use. We continue to use July 4, 2011 as the appropriate valuation date.
- 204 In the course of analyzing Deloitte's model, we discovered that Deloitte had failed to update the financial data for its proxy group. All of the financial data and betas that Deloitte uses are left unchanged from its previous model, which uses a date of January 21, 2010. In addition to this we found several errors in Deloitte's original beta calculations which significantly understated the proxy group average beta. We have made the necessary corrections and updated the betas and financial information to be as of our recommended valuation date, July 4, 2011.
- 205 These corrections and updates reduced damages by \$42.9 million.¹⁹³

5.7 Conclusions Regarding Applicable Damages

- 206 In conclusion, we maintain that several categories of alleged damages should be disqualified:
- a. All sunk costs and future losses related to Summerhill and North Bruce, because no harm was caused by the alleged violations.
 - b. All benefits related to the terms of the GEIA, including the EDA and Capacity Expansion Option, because the Mesa Power Projects were never in a position to receive them.

¹⁸⁸ C-0380, Letter from Carson Harkrader (GE Energy) to Mark Ward (Mesa), February 8, 2011.

¹⁸⁹ See BRG Updated Damages Analysis, Technical Annexes 4D, 5D, and 6A.

¹⁹⁰ First BRG Report, para. 227, p. 71.

¹⁹¹ See BRG Updated Damages Analysis, Technical Annexes 2J and 3J.

¹⁹² Second Deloitte Report, para. 7.11, p. 26.

¹⁹³ See BRG Updated Damages Analysis, Technical Annexes 2K and 3K. We have not analyzed these corrections using Deloitte's valuation dates.

- c. All costs related to the GE turbine deposit, as this deposit was made prior to any investment in Ontario and the alleged violations did not force Mesa Power to forfeit its deposit.
 - d. All costs related to the Domestic Content Requirement as harm has not been demonstrated and the effects of this were not quantifiable without using speculative, unverified assumptions.
- 207 Only the sunk costs and future losses for TTD and Arran are relevant to this analysis. The sunk costs for the two projects are alleged to be \$6.4 million. These damages are more tangible. However because neither Mesa Power nor Deloitte have provided sufficient documentary evidence demonstrating these expenses, any award of such alleged damages should be verified with an audit.
- 208 The future losses for the TTD and Arran projects are more speculative. Based on assumptions we deem to be reasonable and realistic, we calculated future losses equal to \$13.0 million.¹⁹⁴
- 209 Including sunk costs and future losses, the applicable damages total no more than \$19.4 million. If interest is found to be applicable, we calculate an additional \$2.0 million, totaling \$21.4 million. This total amount is \$714.8 million lower than Deloitte’s total of \$736.2 million, consisting of \$657.7 million in pre-interest damages plus \$78.5 million in pre-judgment interest.

¹⁹⁴ See BRG Updated Damages Analysis, Technical Annexes 2L and 3L.

I confirm that the foregoing report and the opinions and conclusions stated herein are accurate in my independent judgment based on the information available to me as of the date of this report.



Christopher Goncalves

June 27, 2014