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Exhibit No. ___
Issue: Tax Equity, Proposed Conditions
Witness: Todd Mooney
Type of Exhibit: Surrebuttal Testimony
Sponsoring Party: The Empire District Electric Company
Case No. EA-2019-0010
Date Testimony Prepared: March 5, 2019

Before the Public Service Commission of the State of Missouri

Surrebuttal Testimony

of

Todd Mooney
March 5, 2019

Liberty Utilities®
EMPIRE DISTRICT

TABLE OF CONTENTS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS.

A. My name is Todd Mooney. I am Vice President, Finance & Administration at Liberty Utilities (Canada) Corp., a subsidiary of Algonquin Power & Utilities Corp. ("APUC"), which is the ultimate corporate parent of The Empire District Electric Company ("Empire" or "Company"). My business address is 354 Davis Road, Oakville, ON L6J 2X1.

Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. My professional background and qualifications are contained in that prior testimony.

II. PURPOSE

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY IN THIS CASE?

A. The purpose of my testimony is to respond to Rebuttal Testimony filed by the Office of the Public Counsel ("OPC") as it relates to the Hedge and REC Agreements that will be entered into by Empire and each Wind Project, the negotiated prices of the Wind Projects, the anticipated tax equity terms, and the status of various ancillary agreements associated with the development of the three holding companies that will own the three wind generation assets that are the subject of this docket (the "Wind Projects"). Specifically, my testimony will respond to issues raised by Mr. John A. Robinett, Mr. John S. Riley, Mr. Geoff Marke and Ms. Lena M. Mantle, witnesses for the Office of the Public Counsel ("OPC").

III. HEDGE AGREEMENTS BETWEEN EMPIRE AND THE WIND PROJECTS

Q. WHAT CONCERNS DOES MR. RILEY EXPRESS ABOUT THE PROPOSED HEDGE AGREEMENTS BETWEEN EMPIRE AND THE WIND PROJECTS?

A. Mr. Riley expressed concern that the hedge agreements will adversely impact Empire's customers. However, Mr. Riley does not appear to have fully understood how the hedge agreements will work in conjunction with Empire's ownership of the Wind Projects. For example, on pages 6 to 7 of his rebuttal testimony, Mr. Riley indicates that he includes the hedge cost as an absolute cost to Empire in his revenue requirement calculation in schedule JSR-R-2, but fails to include the impact of the hedge on cash distributions received by Empire from the Wind Projects. It is critical to highlight that the hedge, in fact, has no rate making impact whatsoever. Mr. Riley's erroneous treatment creates a material overstatement of the costs of the Wind Projects. In order to ensure a complete understanding, I believe a review of how the hedge agreements will function is necessary.

Q. CAN YOU PLEASE SUMMARIZE WHAT THE HEDGE IS, WHY IT IS NECESSARY AND WHY THE HEDGE AGREEMENTS WILL HAVE NO RATEMAKING IMPACT ON EMPIRE'S CUSTOMERS?

A. Yes.

Q. WHAT IS A HEDGE?

A. The Hedge and REC Agreements (the "Hedge") represent a fixed for floating price swap financial product for energy in the SPP market and a contract to purchase all REC volumes from each project. Under the Hedge, one counterparty (e.g. Empire) agrees to pay to (or receive from) another counterparty (e.g. each Wind Project) the difference between a fixed price and the market price for a defined quantity of power for a given period. As well, the first party (Empire) also purchases the RECs in the defined quantity from the second party (each Wind Project).

Q. WHY IS A HEDGE NECESSARY?

A. Fundamentally, tax equity providers are investors in a project, and as such, they require some assurances that when they invest their capital, there is a reasonable likelihood that they will be paid back for their investment, with a return. The purpose of the hedge is to provide that assurance – that the Wind Projects will generate enough revenue to allow the tax equity investor to earn a return on and of its invested capital over time. Based on my experience, tax equity providers will not participate in projects such as this unless there is a hedge in place. As a result, if it is desirable to have a third party contribute up to half of the capital for the Wind Projects, which we believe it is, then the hedge is a necessary component of the transaction.

Q. HOW DOES THE HEDGE WORK?

A. Fundamentally, the hedge is a fixed for floating swap which means that for a defined quantity of power, Empire will pay the Wind Project a fixed price per MWh and the Wind Project will pay Empire the variable (i.e. floating) market price per MWh. The defined quantity of power will represent a substantial portion of the anticipated electricity production. This type of financial instrument is common in the energy industry. Without the use of the Hedge and REC Agreements the underlying investment thesis of the Tax Equity provider would not be possible. Without investments in the Wind Projects by the Tax Equity provider, the compelling economics for Empire's customers resulting from efficient monetization of the Wind Project tax attributes would not be possible.

The key terms of these agreements for the Kings Point and North Fork Ridge Wind Projects are outlined in Highly Confidential **Schedule TM-S-1** and can be summarized as follows:***

- ____ ____.
- ____.
- ____ ____.
- ____.
- ____________________________________.
- ____.
- ____ ____________.
- ____ ____________.
- ____ ____________________.
- ____ ____.***

Q. BEFORE ENTERING INTO THE HEDGE AND REC AGREEMENTS, DOES THE TAX EQUITY PROVIDER CONDUCT ANY DUE DILIGENCE ON THE WIND PROJECTS?

A. Absolutely. As you can imagine, a party would not invest hundreds of millions of dollars in a project like this without conducting extensive due diligence. Just as this Commission seeks to ensure that the Wind Projects are fundamentally sound projects for the Company's customers, the tax equity provider seeks to ensure that the Wind Projects are viable and that they will receive back not only the amount of money that they invested in the project but also compensation for the use of their funds over the period of time of their investment, i.e., the return on their investment in the project. For tax equity providers to gain the certainty that they need to make such a sizeable investment, they conduct extensive due diligence on all facets of a project. In the case of wind generation assets, this includes testing the economics and viability of each project, ensuring that all required permitting is in place, and that the project will perform as represented by Empire. If anything, this due diligence and the tax equity provider's ultimate decision to invest in the Wind Projects should give the Commission and the parties' comfort that the Wind Projects are sound undertakings.

Q. OPC, AND MR. RILEY IN PARTICULAR, IS HIGHLY CRITCAL OF THE USE OF A TAX EQUITY PARTNER AND THE HEDGE BASED ON CONCERNS THAT CUSTOMERS WILL BE HARMED. DO YOU AGREE WITH THAT PERSPECTIVE?

A. No, I do not. Admittedly, the concept of a hedge can be complicated, but it appears that it is Mr. Riley who misunderstands how it will affect this transaction. Attached to my testimony as <u>**Schedule TM-S-2**</u> is a response to Staff data request 4-24 in Case No. EO-2018-0092 and a response to Staff data request 18-65 in this case explaining the mechanics of the Hedge and its impact on customers.

Q. CAN YOU EXPLAIN WHY THE HEDGE AGREEMENT WILL HAVE NO RATEMAKING IMPACT ON EMPIRE'S CUSTOMERS?

A. Yes. The Hedge will have no rate making implications because the overall cash flow position of Empire is identical with or without the Hedge. This is because Empire participates in these transactions in two ways. First, Empire is the counterparty to the Hedge and is exposed to cash flows resulting from the settlement of the Hedge (under the Hedge, Empire pays cash when the market price received by the Wind Project is lower than the fixed Hedge price, and receives cash when the market price is higher). As such, whatever Empires pays to (receives from) each Wind Project increases (decreases) the Wind Project's net cash flows. Second, as a Class B investor in each of the Wind Projects, Empire receives the net cash flows of each Wind Project as cash distributions (i.e. dividends). These two positions offset each other resulting in a situation where Empire, and Empire's customers, are indifferent to the settlement of the Hedge.

<u>**Schedule TM-S-3**</u> to my testimony is a simplified illustration of the settlement of the Hedge that outlines how the cash flows to Empire, and thus has no rate making implications for Empire's customers. The attached illustration makes several simplifying assumptions:

- A discount rate of 0% has been assumed for all calculations – this has been done to simplify the calculation of the tax equity flip date.
- The tax equity flip date will change based on the actual returns generated by the project. The model takes a simplified approach to modeling this result where in all cases the overall cash distribution to tax equity remains constant with the

flip date increasing or decreasing based on the assumptions made regarding realized market price.

- Revenues and expenses are only representative and do not reflect the actual projects being discussed.
- Settlement of the energy and REC revenues for the project with and without hedges have been simplified for illustrative purposes.
- The actual revenue generated by each wind farm is variable – a function of overall generation at each site and the market revenue from the SPP market. The fixed for floating swap provides price certainty for the hedged quantities. To the extent that actual production differs from the hedge quantity the project cash flows will be exposed to market prices.

The illustration looks at two different cases:

- Case 1: Cash Flows to Empire without a hedge
- Case 2: Cash Flows to Empire with a hedge

For each of the above cases the cash flows have been calculated under three different scenarios:

- Scenario 1: Realized Market Prices are equal to Forecast Prices
- Scenario 2: Realized Market Prices are greater than Forecast Prices
- Scenario 3: Realized Market Prices are less than Forecast Prices

The results from these different Cases and Scenarios are presented in Table 1 below:

Table 1: Summary of Results – Simplified Hedge Model

				Scenario 1	Scenario 2	Scenario 3
		Hedge	Discount Rate	Market Price = Forecast	Market Price > Forecast	Market Price < Forecast
Case 1	Total Cash to Empire	No	0%	$ 752.50	$ 932.50	$ 572.50
Case 2	Total Cash to Empire	Yes	0%	$ 752.50	$ 932.50	$ 572.50

As can be seen in Table 1, while the overall cash flows to Empire change depending on the realized Market Prices for energy, the total cash flow to Empire are identical in all situations. The primary reason for this is that Empire is exposed to offsetting cash flows for the Wind Project Companies both from the perspective of an ownership interest, as counterparty to the Hedge, and changes in the Tax Equity flip date.

Q. IN HER TESTIMONY, MS. MANTLE ARGUES THAT THE HEDGE AGREEMENT IS A PAYMENT ARRANGEMENT WITH THE HOLDCO WHERE EMPIRE WILL MAKE SURE THAT THE HOLDCO RECEIVES A CERTAIN AMOUNT OF REVENUES. DO YOU AGREE?

A. No, I do not. As described above, the Hedge does not guarantee that each Wind Project receives a certain amount of revenues. Rather, it ensures that each Wind Project receives a fixed price for a defined quantity of electricity production. Thus, the Hedge provides the Wind Project with greater certainty of its revenues, allowing it to obtain tax equity financing.

IV. <u>TARTAN FACTORS</u>

Q. WHAT FACTORS DOES THE COMMISSION USUALLY CONSIDER IN REVIEWING APPLICATIONS FOR CCNS?

A. I am not an attorney, however, I have been advised by counsel that the Commission will generally consider what has been referred to as the *Tartan* factors. Those five factors are as follows: (1) need for the service; (2) the applicant's qualifications to provide the proposed service; (3) the applicant's financial ability to provide the service; (4) the economic feasibility of the proposal, and; (5) promotion of the public interest.

Q. WHICH OF THESE FACTORS WILL YOU ADDRESS IN YOUR SURREBUTTAL TESTIMONY?

A. I will address Tartan Factor #4, "the applicant's financial ability to provide the service," in response to the Rebuttal Testimony of OPC Witness Marke.

Q. WHAT ARE WITNESS MARKE'S CONCERNS ABOUT EMPIRE'S FINANCIAL ABILITY TO PROVIDE THE SERVICE, UNDER THE FOURTH TARTAN FACTOR?

A. Witness Marke expresses concern that there are no tax equity partners to date and that the terms of the tax equity partnership are unknown.

Q. DID OPC EXPRESS THESE CONCERNS IN THE PRIOR DOCKET, CASE NO. EO-2018-0092?

A. Yes.

Q. DO YOU AGREE WITH WITNESS MARKE'S CONCERNS?

A. Definitely not. While I understand Mr. Marke's desire to have every detail of the Wind Projects finalized before the Commission acts on this Application, that is simply not possible. As discussed in the predecessor docket, Case No. EO-2018-0092 and in this docket, tax equity agreements are typically negotiated and executed approximately one year or less before a wind facility is placed in service. Given that there are regulatory requirements with which Empire must comply such as this CCN process, it is not possible to undertake this project in a sequential fashion where Empire enters into project purchase agreements, obtains tax equity participation, and then comes to the Commission for CCN approval. That timing simply does not match up with the realities of the tax equity marketplace.

Q. GIVEN THESE REALITIES, WHAT IS THE PROSPECT OF TAX EQUITY PARTICIPATION IN THE WIND PROJECTS?

A. Interest in Empire's projects has been significant and has resulted in Empire completing its selection process for a tax equity partner, as described in my direct testimony in this case (page 18, lines 8 to 21). While final agreements have not yet been executed, a letter of interest and the key agreements were attached as Schedule TM-5 HC, Schedule TM-6A HC, and Schedule TM-6B HC to my direct testimony. Wells Fargo and Empire are presently negotiating a binding term sheet for Wells Fargo's tax equity investment, with anticipated completion in late Q1-2019 or early Q2-2019. Based on the discussions to date, Empire anticipates the following key terms:

	Sponsor (Empire)	Tax Equity Partner(s)
Approximate Initial Capital Contribution	*** __________ ____***	*** _____________ ***
Approximate Expected Return	As determined in future rate cases	*** ___________ _____***
Partnership taxable income Allocations **Years 1 to 10 (flip date[1])** **Thereafter**	1% 90%-95%	99% 5%-10%
PTC Allocation **Years 1 to 10**	1%	99%
Partnership cash Distributions **Years 1 to 5** **Years 6 to 10 (flip date)** **Thereafter**	100% 75%-50% 90%-95%	0% 25%-50% 5%-10%
Contingent Contributions **Years 1 to 10**	None	0% to 2% of Wind Project capital cost per year. Based on actual production in excess of a Threshold
Purchase Option	After the flip date, the Class B Members will have an option to purchase all of the Class A Interests, for 100% of their fair market value	None
Creditworthiness	N/A	A-/A3 or better

[1] The "flip date" is the date at which the tax equity partner(s) has achieved its expected return, scheduled to be approximately 10 years from the commencement of commercial operations.

Q. DOES THE OPC EXPRESS ANY OTHER CONCERNS ABOUT TAX EQUITY FINANCING?

A. Yes. Witness Riley speculates that since Wells Fargo has $232 million exposed to PG&E's bankruptcy proceedings, there is concern that Wells Fargo "may be inclined to back out of this deal."

Q. DO YOU AGREE WITH THIS CONCERN?

A. Most assuredly not. PG&E's bankruptcy proceedings are immaterial to Wells Fargo, a bank with total assets of almost $2 **trillion**[2], meaning that the $232 million exposure that witness Riley mentions is a mere 0.01% of Well Fargo's total assets. Furthermore, Wells Fargo maintains an allowance for loan losses of $11 billion. Thus, PG&E's bankruptcy proceedings will not have a material impact on Well Fargo's financial position.

V. <u>RETURN ON EQUITY (ROE) FOR EMPIRE'S INVESTMENT IN THE WIND PROJECTS</u>

Q. IN HIS TESTIMONY, MR. RILEY ARGUES THAT THE ROE FOR EMPIRE'S INVESTMENT IN THE WIND PROJECTS SHOULD BE LOWER THAN THE ROE THE COMMISSION TRADITIONALLY USES FOR RATEMAKING, EQUIVALENT TO THE TARGET RETURN OF THE TAX EQUITY PARTNER. DO YOU AGREE?

A. No. Mr. Riley appears to be comparing "apples to oranges" in comparing the tax equity partner's ROE to Empire's. The tax equity partner's sources of capital and cost of capital are unknown and irrelevant to Empire. The relevant factor is that the tax equity partner's

[2] Wells Fargo annual report, 2017

ROE is based on earning tax benefits immediately as they are earned as the majority of their return on and of capital. Empire would not be able to realize the tax benefits in the same timeline, hence the need for utilizing tax equity financing. Furthermore, the Wind Projects are no different than any of Empire's other generating assets – the Commission ordered in Case No. EO-2018-0092 that Empire "is authorized to record its capital investment to acquire wind generation assets as utility plant in service." Hence, there is no justification for Empire earning a different ROE for them.

Even if one accepted Mr. Riley's premise (that Empire should earn a same ROE as the tax equity partner), which I do not, Mr. Riley appears to have conflated return on investment with return on equity. The tax equity return of ***______________ *** specified in the table on page 13 of my direct testimony in Case No. EO-2018-0092 refers to the return that the tax equity partner is seeking on its **investment** in the Wind Projects. The tax equity partner will finance this investment with a combination of equity and debt, in a similar way to a regulated utility that finances its investments in generation, transmission or distribution assets with a combination of equity and debt. Thus, the tax equity return is analogous to return on rate base for a regulated utility. With an expected range of *** ____ ____.***

Q. DID MR. RILEY PROVIDE ANY FINANCIAL ANALYSIS TO SUPPORT HIS RECOMMENDATION?

A. No.

Q. HAS MR. RILEY TESTIFIED AS AN ROE EXPERT IN PRIOR PROCEEDINGS?

A. Not that I am aware of.

VI. TIMELINE FOR ACHIEVING CUSTOMER SAVINGS

Q. IN HER TESTIMONY, MS. MANTLE ASSERTS THAT, ACCORDING TO EMPIRE'S ANALYSIS, ITS CUSTOMERS WILL HAVE TO WAIT OVER A DECADE TO SEE ANY SAVINGS FROM THE WIND PROJECTS. DO YOU AGREE?

A. No. According to the analysis to which Ms. Mantle is referring, (an excerpt of which is attached as Highly Confidential **Schedule TM-S-4** to my testimony), Empire's customers start to enjoy annual savings in 2024, in the fourth year of operation and in **every year thereafter**. Over the first 10 years of the Wind Projects' lives, from 2021 to 2030[3], they will provide a total of $65 million in savings ($27 million on a net present value basis). Over the first 20 years of the Wind Projects' lives, from 2021 to 2030, they will provide a total of $259 million of savings on a net present value basis.

VII. COST OF THE WIND PROJECTS AND CUSTOMER IMPACT

Q. HAVE YOU REVIEWED MR. ROBINETT'S TESTIMONY REGARDING THE COST OF THE WIND PROJECTS?

A. Yes, I have. Mr. Robinett expresses concern about the increased price per MW of the Wind Projects and the decrease in the expected costs of operating and maintaining the Wind Projects. In particular, Mr. Robinett expresses concern about increased prices for the wind turbines given that the Purchase and Sale Agreements were not executed within the time

[3] It is important to distinguish the first 10 years of the Wind Projects' lives, 2021 to 2030, as compared to the first 10 years of the Generation Fleet Savings Analysis, 2018 to 2027.

frame for which RFP bid prices were considered firm (which Mr. Robinett refers to as the "price guarantee").

Q. PLEASE EXPLAIN THE CONDITIONS SPECIFIED IN THE RFP WITH RESPECT TO PRICING.

A. Section 2.4.3 of Empire's Request for Proposals for Build and Transfer of Ownership of Up to 800MW of Wind Energy Projects (attached as **Schedule TM-S-5** to my testimony) indicates that "proposed pricing must be firm and all terms and conditions must be open for acceptance by Empire until" October 1, 2018.

Q. WHAT OTHER FACTORS MUST BE CONSIDERED IN CONJUNCTION WITH PRICING?

A. With any undertaking as complex as developing and constructing a wind generating facility, it is imperative to define the allocation of risks between the buyer and seller. In other words, the buyer has to understand not only what it is getting for the price it pays, but also what happens and which party pays (the buyer or the seller) if things don't go according to plan. Mr. Riley focuses only on price under the Purchase and Sale Agreements but does not consider other key factors such as risk.

Q. HOW DID EMPIRE ADDRESS THE ALLOCATION OF RISKS BETWEEN THE RESPONDENTS AND EMPIRE IN THE RFP?

A. Empire provided a Form of Contract (i.e. the Purchase and Sale Agreement) as an attachment to the RFP. Section 6.9.1 requested Proponents to "include a copy of the redlined Form of Contract (Attachment F), including any comments, insertions, deletions, or other change recommendations."

Q. DID THE RESPONDENTS ACCEPT THE RISK ALLOCATION AS DEFINED IN THE FORM OF CONTRACT IN THE RFP?

A. No. As permitted in the RFP, respondents recommended changes to the Form of Contract that changed the risk allocation. It is important to note that the firm pricing proposed by each respondent in its bid was applicable to the allocation of risks that each respondent had specified in its redlined Form of Contract.

Q. HOW DOES THIS IMPACT THE OCTOBER 1, 2018 DEADLINE FOR THE PRICE GUARANTEE?

A. The price guarantee deadline was only applicable if Empire had also accepted the respondents' proposed risk allocation.

Q. WOULD IT HAVE BEEN PRUDENT TO ACCEPT THE RFP RESPONDENTS' PROPOSED RISK ALLOCATION IN ORDER TO MAINTAIN THE OCTOBER 1, 2018 DEADLINE FOR THE PRICE GUARANTEE?

A. No, it would have been completely imprudent to accept the risk allocation as offered. The successful bidders, Tenaska and Apex, *** ______________________________

______________________________:

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- ______________________________
- ______________________________
- ______________________________

- ____
- ______________________________

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- ____
  ____
- ____
  ____
  ____
- __________________
- ________________ ***

*** ____ ____ ________________. *** Hence, the Purchase and Sale Agreements were executed in October and November of 2018.

Q. MR. ROBINETT ASSERTS IN HIS TESTIMONY THAT EMPIRE'S FAILURE TO LOCK IN THE GUARANTEED BIDS EXPOSES ITS CUSTOMERS TO THE POTENTIAL OF PAYING NEARLY ** ____ ** MORE IN THEIR RATES FOR THESE SAME WIND FARMS. IS THIS THE CASE?

A. Absolutely not. First, as described above, *** ______________________ ____ _____ *** Second, Mr. Robinett focuses solely on the up-front capital costs of the Wind Projects as measured by cost per kW of capacity. While cost per kW is an important element, it is far from the whole picture. The economics of the Wind Projects and their effect on Empire's customers are also impacted in a very material way by operating costs and energy production/net capacity factor. In order to assess these three measures in a holistic manner, Empire uses Levelized Cost of Energy (LCOE) as one of its principal evaluation metrics for the Wind Projects.

Although the capital costs of the Wind Projects increased in the timeframe between RFP issuance and contract execution, this increase is primarily attributable to *** ________ *** This illustrates why all costs of the Wind Projects must be considered, and why LCOE is a more relevant benchmark than up-front cost per kW.

Q. MR. ROBINETT OBSERVES THAT *** ________

A. ________ *** It is important to note that because the buyout is based on the fair market value of the Wind Projects in year 10, it is currently an estimate.

Q. MR. ROBINETT ARGUES THAT EMPIRE SHOULD FULLY BUILD OUT EITHER THE NORTH FORK RIDGE OR KINGS POINT SITES, AND THAT THE REASON EMPIRE IS BUILDIING BOTH PROJECTS IS TO PROTECT AGAINST FUTURE DISALLOWANCE OF LEASE PAYMENTS FOR ONE OF THE TWO SITES. IS THIS THE CASE?

A. Definitely not. First, Empire is building both Wind Projects because, as described in my direct testimony, they "proved to be the most beneficial for Empire given their location in or near Empire's service territory, low risk of transmission congestion, proximity to interconnection, proximity to Empire's existing operations (allowing for economies in operating costs), as well as their robust wind regime."

Second, Empire secured the land rights to both sites through the use of land lease options. If Empire had chosen not to proceed with one or both of the Wind Projects, it would not exercise its option to enter into leases with the relevant land owners and thus not incur lease payments for the land.

Third, the cost of the land lease options to Empire are not material to the overall decision of which Wind Projects to select.

Fourth, and finally, Empire chose to build the Kings Point and North Fork Ridge projects at their planned size of approximately 150 MW each because it was the most economical option. *** ____

____

____

____ __________________________ *** When all factors were considered, building each project at the 150 MW size resulted in the best economics and LCOE.

Q. MR. ROBINETT ALSO CRITICIZES THE COMPANY BECAUSE IT HAS NOT EXECUTED SERVICE MAINTENANCE AGREEMENTS ("SMA") YET. WHAT IS YOUR RESPONSE?

A. While it is true that Empire is currently negotiating a 10-year SMA for all three Wind Projects, Algonquin Power & Utilities Corp. ("APUC"), on behalf of the project JVs, has entered into a Reservation Agreement with ***_____*** (included in Schedule TM-S-6). This Reservation Agreement sets out the pricing for the SMA for all three Wind Projects and provides that the SMAs will be in form and substance based on a template SMA agreement, (also included in Schedule TM-S-6). Together, these contracts represent clear terms, conditions and pricing. OPC was made aware of this on January 8, 2019 in the Company's response to OPC Data Request 8022, which is attached to my testimony as Highly Confidential **<u>Schedule TM-S-6</u>**.

VIII. <u>STATUS OF THE DEVELOPMENT OF THE WIND PROJECTS</u>

Q. SINCE THE COMPANY MADE ITS FILINGS IN THIS DOCKET, HOW HAVE THE TRANSACTIONS ASSOCIATED WITH THE WIND PROJECTS PROGRESSED?

A. We continue to work diligently and continuously to advance the Wind Projects pending the Commission's determination in this docket. While the OPC witnesses suggest that this project is highly uncertain, I could not disagree more. The Wind Projects are at an advanced-stage of development, with permitting and interconnection activities progressing according to schedule. Although some contracts such as the tax equity contracts or the SMAs are still in negotiation, such contracts are typically not negotiated until later in the development process, just before construction begins. As such, Empire's projects are more certain than is typical for wind developments at this stage.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

AFFIDAVIT OF TODD MOONEY

PROVINCE OF ONTARIO)
) ss
TOWN OF OAKVILLE)

On the 4th day of March, 2019, before me appeared Todd Mooney, to me personally known, who, being by me first duly sworn, states that he is Vice President of Finance and Administration at Liberty Utilities (Canada) Corp, and acknowledged that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

Todd Mooney

Subscribed and sworn to before me this 4th day of March, 2019.

Notary Public

My commission expires: Does not expire

1

SCHEDULE TM-S-1

HAS BEEN MARKED

HIGHLY CONFIDENTIAL

IN ITS

ENTIRETY

The Empire District Electric Company
Missouri Public Service Commission
Case No. EO-2018-0092
Response to Staff's Fourth Set of Data Requests

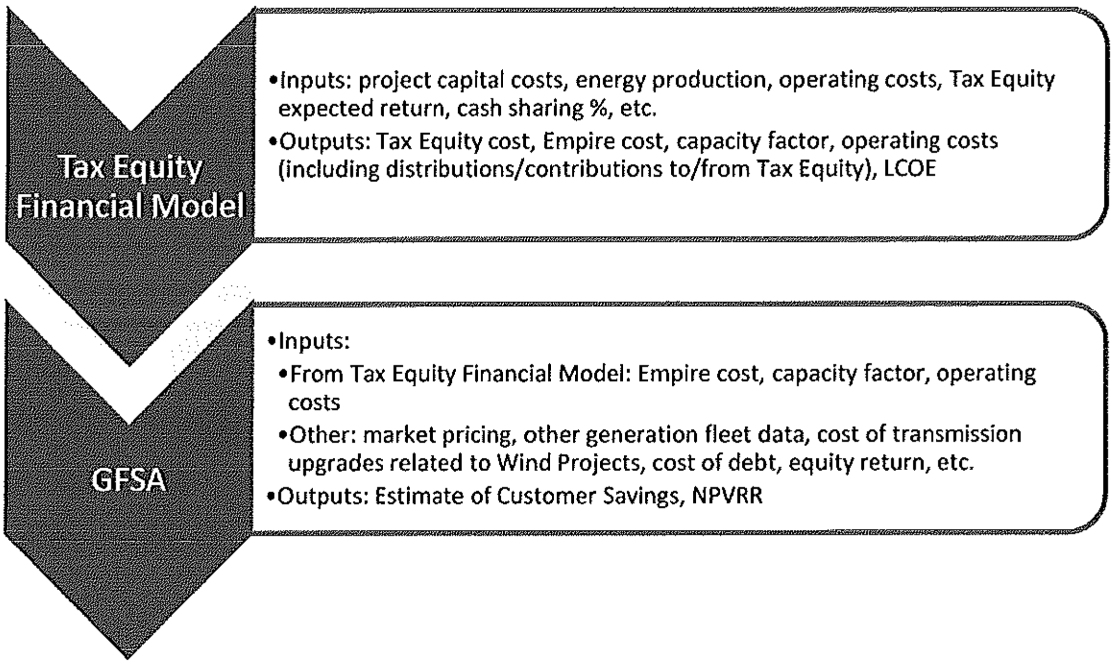
Response provided by:	Todd Mooney
Title:	Vice President, Finance & Administration
Company Response Number:	STAFF 4-24
Date of Response:	January 22, 2018

Question:

1. Please discuss in detail how and where all aspects of the fixed price hedges are accounted for in the Income Statements worksheet contained in the Generation Fleet Savings Analysis.
2. How was the fixed price hedge determined? Provide the calculation in electronic format with links and formulas intact as well as any background information and assumptions used to determine the fixed price.
3. Why is the fixed price hedge necessary for the wind projects? How would the Income Statement of each wind plan be impacted if there was no fixed price hedge? Is the estimated revenue from selling energy to SPP in phases 1 and 2 enough to cover the Wind Project Operating Expenses as defined in lines 10 through 12 on page 15 of Mr. Mooney's testimony?
4. In reference to Mr. Mooney's direct testimony, what effect could a fixed price hedge that is too high separately have on:
   a) Empire customers
   b) Empire shareholders
   c) tax equity partners
   d) Wind Project Co.
5. What effect could a fixed price hedge that is too low separately have on:
   a) Empire customers
   b) Empire shareholders
   c) tax equity partners
   d) Wind Project Co.?
6. Please reference pages 14 and 15 of Mr. Mooney's direct testimony in which he states, "In addition, Empire and the Wind Project Co. will execute a ten-year fixed price hedging agreement. For the energy generated by the Wind Project, Empire will pay the Wind Project Co. a fixed price and will receive (in the form of a fixed for floating swap) the floating SPP locational marginal price at the SPP node." In regards to the floating SPP locational marginal price at the SPP node, please describe which node Mr. Mooney is referring to and describe exactly how the floating SPP locational marginal price for that node will be evaluated.

Response:

1. To assist in understanding the financial modeling process, the following diagram summarizes how the tax equity financial models provide data that serves as input into the Generation Fleet Savings Analysis ("GFSA").



The Tax Equity Model assumes that a fixed price is received for all energy produced by the wind project (see the response to question 2 for more details on how this was determined), and calculates the required distributions to the Tax Equity Partner based on this fixed price. The Income Statements worksheet contained in the GFSA shows no impact of the fixed price hedge since the hedge net settlement received (paid) by the wind project is offset by the hedge net settlement paid (received) by Empire, leaving the P&L impact at zero. Any impact that the hedge net settlement has on the distributions paid to the Tax Equity Partner are reflected as part of the variable operating & maintenance costs of the project for years 1 to 10.

2. The fixed price hedge was calculated in the Tax Equity Financial Model. To estimate the fixed price for the hedge, the Tax Equity Financial Model calculated the price at which energy production from the facility ensured that the facility earned a fair market value return on the capital invested in the project. Please refer to the attached Tax Equity Financial Model for the low-LCOE Kansas wind project.

3. The fixed price hedge is necessary to minimize the risk of cash distributions from the project to the Tax Equity Partner being less than anticipated due to price risk. If this transpired, the Tax Equity Partner would continue receiving cash distributions from the project for a period longer than the planned 10 years, a term called a "flip date";[1] something a Tax Equity Partner typically tries to avoid due to regulatory requirements.

[1] The "Flip Date" is the date at which the Tax Equity Partner(s) typically start to transition out of the project, typically 10 years from the commencement of commercial operations.

If there were no fixed price hedge, the project would be impacted as described in the following example scenario:

a. No fixed price hedge for the project
b. Actual production equals expected production for a given period
c. Realized market price is lower than the expected market price for a given period
d. In years 6 to 10 of the project, the above facts would cause the Tax Equity Partner to receive fewer cash distributions than anticipated from the project
e. All else being equal, when the anticipated "flip date" at the end of year 10 of the project is reached, the Tax Equity Partner would need to remain invested for a longer period of time, a situation that Tax Equity Partners try to avoid as described above.

To illustrate the above scenario compared to a scenario with a hedge, and to show the impact on the Income Statement of the wind project, please refer to the Excel analysis "Attachment MPSC Staff 4-24 - simplified Wind Project P&L, hedge vs no hedge." Note that this is a simplified analysis based on a hypothetical project producing 1,000,000 MWh of energy in each year.

The estimated revenue from selling energy to SPP in phases 1 and 2 is expected to exceed the Wind Project Operating Expenses as defined in lines 10 through 12 on page 15 of Mr. Mooney's testimony.

...
...
...

4. A fixed price hedge that is too high would have the following impact:

<table>
<tr><th>Stakeholder</th><th>Impact</th></tr>
<tr><td>a) Empire Customers</td><td>No overall impact
Wind Project Co. will receive higher revenues due to higher net hedge settlement from Empire
Empire will pay higher net hedge settlement to Wind Project Co.
In years 1 to 5:
Wind Project Co. profits will be higher in the amount of the increased net hedge settlement and consequently pay higher distributions to Empire;
The increased distributions to Empire from Wind Project Co. will offset Empire's increased payment for the net hedge settlement and net to $0
In years 6 to 10:
Wind Project Co. profits will be higher in the amount of the increased net hedge settlement and consequently pay higher distributions to both Empire and the Tax Equity Partner
The increased distributions to Empire from Wind Project Co. will offset part of Empire's increased payment for the net hedge settlement; the net result is a cost for Empire's customers
The increased distributions to the Tax Equity Partner from Wind Project Co will cause the project to hit the "flip date" earlier than anticipated; the earlier "flip date" causes the Tax Equity Partner to receive fewer distributions in years 6 to 10, resulting in a savings for Empire's customers.
The cost and savings of the above two points offset resulting in no impact for Empire's customers.
Early achievement of the "flip date" causes the achievement of Phase 3 of the tax equity structure, reducing the interest of the Tax Equity Partner in the Wind Project to the residual amount (5%) and triggering the option for Empire to purchase this residual stake. Furthermore, Empire would receive 95% of the PTCs in the period after the "flip date" until the end of year 10 (after which the PTCs expire).</td></tr>
<tr><td>b) Empire Shareholders</td><td>Same impact as described above for Empire Customers</td></tr>
<tr><td>c) Empire Tax Equity Partners</td><td>Early achievement of the "flip date" causes the Tax Equity Partner to achieve Phase 3 of the tax equity structure, reducing its interest in the Wind Project to the residual amount (5%) and triggering the option for Empire to purchase this residual stake.</td></tr>
<tr><td>d) Wind Project Co.</td><td>Higher revenues due to higher net hedge settlement lead to higher distributions to Empire and Tax Equity Partner</td></tr>
</table>

5. A fixed price hedge that is too low would have the following impact:

Stakeholder	Impact

a) Empire Customers	• No overall impact
	  o Wind Project Co. will receive lower revenues due to higher net hedge settlement from Empire
	  o Empire will pay lower net hedge settlement to Wind Project Co.
	  o In years 1 to 5:
	    ▪ Wind Project Co. profits will be lower in the amount of the decreased net hedge settlement and consequently pay lower distributions to Empire;
	    ▪ The decreased distributions to Empire from Wind Project Co will offset Empire's decreased payment for the net hedge settlement and net to $0
	  o In years 6 to 10:
	    ▪ Wind Project Co. profits will be lower in the amount of the decreased net hedge settlement and consequently pay lower distributions to both Empire and the Tax Equity Partner
	    ▪ The decreased distributions to Empire from Wind Project Co. will offset part of Empire's decreased payment for the net hedge settlement; the net result is a savings for Empire's customers
	    ▪ The decreased distributions to the Tax Equity Partner from Wind Project Co. will cause the project to hit the "flip date" later than anticipated; the later "flip date" causes the Tax Equity Partner to receive more distributions in years 6 to 10, resulting in a cost for Empire's customers.
	    ▪ The cost and savings of the above two points offset resulting in no impact for Empire's customers.
	  o Late achievement of the "flip date" delays the achievement of Phase 3 of the tax equity structure when the interest of the Tax Equity Partner in the Wind Project is reduced to the residual amount (5%). This delays triggering the option for Empire to purchase this residual stake.

b) Empire Shareholders	• Same impact as described above for Empire Customers
c) Empire Tax Equity Partners	• Later achievement of the "flip date" causes a delay in achieving Phase 3 of the tax equity structure when the Tax Equity Partner reduces its interest in the Wind Project to the residual amount (5%) as well as a delay in triggering the option for Empire to purchase this residual stake.
d) Wind Project Co.	• Lower revenues due to lower net hedge settlement lead to lower distributions to Empire and Tax Equity Partner

6. The node/s will be determined once the final projects have been determined. The floating SPP LMP is determined by SPP, the Regional Tranmission Organization (RTO), based on the local demand and supply at each node. This marginal price is beyond the control of Empire or the wind project, as it is based upon underlying conditions at the specific node.

Responsible person(s): Todd Mooney

The Empire District Electric Company
Missouri Public Service Commission
Case No. EA-2019-0010
Response to Staff's Eighteenth Set of Data Requests

Response provided by:	Todd Mooney
Title:	Vice President, Finance & Administration
Company Response Number:	STAFF 18-65
Date of Response:	January 29, 2019

Question:
Re Mooney direct, page 20, lines 7 – 8, wherein it states that the Hedge and REC Agreement "should have no rate making implications and should not impact customers in any way:" Please provide a listing of the circumstances (if any) in which this agreement would have rate making implications and potentially impact customers.

Response:
As mentioned in response to STAFF 4-24 in Case EO-2018-0092, a fixed price hedge that is higher or lower than market prices would have the no overall impact for customers.

If the fixed hedge price is higher than market prices:
- Wind Project Co. will receive higher revenues due to higher net hedge settlement from Empire
- Empire will pay higher net hedge settlement to Wind Project Co.
- In years 1 to 5:
  - Wind Project Co. profits will be higher in the amount of the increased net hedge settlement and consequently pay higher distributions to Empire;
  - The increased distributions to Empire from Wind Project Co will offset Empire's increased payment for the net hedge settlement and net to $0
- In years 6 to 10:
  - Wind Project Co. profits will be higher in the amount of the increased net hedge settlement and consequently pay higher distributions to both Empire and the Tax Equity Partner
  - The increased distributions to Empire from Wind Project Co will offset part of Empire's increased payment for the net hedge settlement; the net result is a cost for Empire's customers

    - The increased distributions to the Tax Equity Partner from Wind Project Co will cause the project to hit the "flip date" earlier than anticipated; the earlier "flip date", causes the Tax Equity Partner to receive fewer distributions in years 6 to 10, resulting in a savings for Empire's customers.
    - The cost and savings of the above two points offset resulting in no impact for Empire's customers.
  - Early achievement of the "flip date" causes the achievement of Phase 3 of the tax equity structure, reducing the interest of the Tax Equity Partner in the Wind Project to the residual amount (5%) and triggering the option for Empire to purchase this residual stake. Furthermore, Empire would receive 95% of the PTCs in the period after the "flip date" until the end of year 10 (after which the PTCs expire).

If the fixed hedge price is lower than market prices:
  - Wind Project Co. will receive lower revenues due to higher net hedge settlement from Empire
  - Empire will pay lower net hedge settlement to Wind Project Co.
  - In years 1 to 5:
    - Wind Project Co. profits will be lower in the amount of the decreased net hedge settlement and consequently pay lower distributions to Empire;
    - The decreased distributions to Empire from Wind Project Co will offset Empire's decreased payment for the net hedge settlement and net to $0
  - In years 6 to 10:
    - Wind Project Co. profits will be lower in the amount of the decreased net hedge settlement and consequently pay lower distributions to both Empire and the Tax Equity Partner
    - The decreased distributions to Empire from Wind Project Co will offset part of Empire's decreased payment for the net hedge settlement; the net result is a savings for Empire's customers
    - The decreased distributions to the Tax Equity Partner from Wind Project Co will cause the project to hit the "flip date" later than anticipated; the later "flip date" causes the Tax Equity Partner to receive more distributions in years 6 to 10, resulting in a cost for Empire's customers.
    - The cost and savings of the above two points offset resulting in no impact for Empire's customers.
  - Late achievement of the "flip date" delays the achievement of Phase 3 of the tax equity structure when the interest of the Tax Equity Partner in the Wind Project is reduced to the residual amount (5%). This delays triggering the option for Empire to purchase this residual stake.

Responsible person(s): Todd Mooney

Cash Distribution Rate	Years 1-5	Years 6-10	Hedge Price	N/A
Empire	100%	75%		
Tax Equity	0%	25%	Discount Rate	0%

Realized Market Price = Forecast

	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wind Project													
Market Revenue	$1,200.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Hedge Net Settlement	-	-	-	-	-	-	-	-	-	-	-	-	-
Opex	360.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
EBITDA	840.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00
Cash Distibutions													
To Tax Equity	87.50	-	-	-	-	-	17.50	17.50	17.50	17.50	17.50	-	-
To Empire	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00
Empire													
Cash Distribution Received from Wind Project	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00
Hedge Net Settlement	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00

Realized Market Price > Forecast

	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wind Project													
Market Revenue	1,380.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00
Hedge Net Settlement	-	-	-	-	-	-	-	-	-	-	-	-	-
Opex	360.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
EBITDA	1,020.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00
Cash Distibutions													
To Tax Equity	87.50	-	-	-	-	-	21.25	21.25	21.25	21.25	2.50	-	-
To Empire	932.50	85.00	85.00	85.00	85.00	85.00	63.75	63.75	63.75	63.75	82.50	85.00	85.00
Empire													
Cash Distribution Received from Wind Project	932.50	85.00	85.00	85.00	85.00	85.00	63.75	63.75	63.75	63.75	82.50	85.00	85.00
Hedge Net Settlement	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	932.50	85.00	85.00	85.00	85.00	85.00	63.75	63.75	63.75	63.75	82.50	85.00	85.00

Realized Market Price < Forecast

	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wind Project													
Market Revenue	1,020.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00
Hedge Net Settlement	-	-	-	-	-	-	-	-	-	-	-	-	-
Opex	360.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
EBITDA	660.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00
Cash Distibutions													
To Tax Equity	87.50	-	-	-	-	-	13.75	13.75	13.75	13.75	13.75	13.75	5.00
To Empire	572.50	55.00	55.00	55.00	55.00	55.00	41.25	41.25	41.25	41.25	41.25	41.25	50.00
Empire													
Cash Distribution Received from Wind Project	572.50	55.00	55.00	55.00	55.00	55.00	41.25	41.25	41.25	41.25	41.25	41.25	50.00
Hedge Net Settlement	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	572.50	55.00	55.00	55.00	55.00	55.00	41.25	41.25	41.25	41.25	41.25	41.25	50.00

Simplified Hedge Illustration

SCHEDULE TM-S-3

Cash Distribution Rate	Years 1-5	Years 6-10	Hedge Price	100.00
Empire	100%	75%		
Tax Equity	0%	25%	Discount Rate	0%

Realized Market Price = Forecast

	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wind Project													
Market Revenue	$1,200.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Hedge Net Settlement	-	-	-	-	-	-	-	-	-	-	-	-	-
Opex	360.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
EBITDA	840.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00
Cash Distibutions													
To Tax Equity	87.50	-	-	-	-	-	17.50	17.50	17.50	17.50	17.50	-	-
To Empire	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00
Empire													
Cash Distribution Received from Wind Project	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00
Hedge Net Settlement	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00

Realized Market Price > Forecast

	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wind Project													
Market Revenue	1,380.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00
Hedge Net Settlement	(180.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)
Opex	360.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
EBITDA	840.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00
Cash Distibutions													
To Tax Equity	87.50	-	-	-	-	-	17.50	17.50	17.50	17.50	17.50	-	-
To Empire	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00
Empire													
Cash Distribution Received from Wind Project	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00
Hedge Net Settlement	180.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Total	932.50	85.00	85.00	85.00	85.00	85.00	67.50	67.50	67.50	67.50	67.50	85.00	85.00

Realized Market Price < Forecast

	Total	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Wind Project													
Market Revenue	1,020.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00	85.00
Hedge Net Settlement	180.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Opex	360.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
EBITDA	840.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00	70.00
Cash Distibutions													
To Tax Equity	87.50	-	-	-	-	-	17.50	17.50	17.50	17.50	17.50	-	-
To Empire	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00
Empire													
Cash Distribution Received from Wind Project	752.50	70.00	70.00	70.00	70.00	70.00	52.50	52.50	52.50	52.50	52.50	70.00	70.00
Hedge Net Settlement	(180.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)	(15.00)
Total	572.50	55.00	55.00	55.00	55.00	55.00	37.50	37.50	37.50	37.50	37.50	55.00	55.00

Simplified Hedge Illustration

				Scenario 1	Scenario 2	Scenario 3
		Hedge	Discount Rate	Market Price = Forecast	Market Price > Forecast	Market Price < Forecast
Case 1	Total Cash to Empire	No	0%	$ 752.50	$ 932.50	$ 572.50
Case 2	Total Cash to Empire	Yes	0%	$ 752.50	$ 932.50	$ 572.50

SCHEDULE TM-S-4

HAS BEEN MARKED

HIGHLY CONFIDENTIAL

IN ITS

ENTIRETY

SCHEDULE TM-S-5

HAS BEEN MARKED
HIGHLY CONFIDENTIAL
IN ITS
ENTIRETY

SCHEDULE TM-S-6

HAS BEEN MARKED
HIGHLY CONFIDENTIAL
IN ITS
ENTIRETY