BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

APPLICATION OF THE EMPIRE DISTRICT ELECTRIC COMPANY, A KANSAS CORPORATION, FOR AN ADJUSTMENT IN ITS RATES AND CHARGES FOR ELECTRIC SERVICE IN THE STATE OF OKLAHOMA	)))))	CAUSE NO. PUD 202100163

Direct Testimony

of

Kevin Melnyk

The Empire District Electric Company

February 28, 2022

****DENOTES CONFIDENTIAL****

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PUBLIC VERSION

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THE EMPIRE DISTRICT ELECTRIC COMPANY
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DIRECT TESTIMONY OF KEVIN MELNYK
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I. INTRODUCTION AND BACKGROUND

Q. Please state your name, occupation, and business address.

A. My name is Kevin Melnyk. I am Senior Vice President, Regulated Infrastructure Development 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. My business address is 354 Davis Road, Oakville, ON L6J 2X1.

Q. Please describe your educational and professional background.

A. I have a Bachelor of Arts, Economics and Administrative Studies from the University of Winnipeg, a Bachelor of Commerce (Honours), Accounting from the University of Manitoba and also have two professional designations, Chartered Professional Accountant, Ontario Institute of Chartered Accountants (CPA, CA) and CFA Institute, Chartered Financial Analyst (CFA). I have worked for APUC since October 2014 in a variety of capacities, including Director, Project Financing and Senior Director, Business Commercialization for Algonquin Power Co., APUC's non-regulated generation subsidiary. I lead the acquisition, development and financing of renewable projects. In my current role as Senior Vice President, regulated Infrastructure Development I am responsible for acquisitions, major projects and innovation within the regulated business. Prior to joining APUC I led the acquisition activities for the largest Canadian-based customs broker and was a partner in a Private Equity fund.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of The Empire District Electric Company ("Liberty-Empire").

Q. Have you previously testified before the Oklahoma Corporation Commission ("Commission") or any other regulatory agency?

A. I have not previously testified before the Commission or any other regulatory agency.

Q. What is the purpose of your Direct Testimony in this proceeding?

A. The purpose of my testimony is to describe Liberty-Empire's investment in three holding companies, North Fork Ridge Wind Holdings, LLC; Kings Point Wind Holdings, LLC; and Neosho Ridge Wind JV, LLC (collectively, the "Wind Holding Companies"). These Wind Holding Companies, through subsidiary project companies, own wind generation in the 149.4 MW North Fork Ridge Wind Project, the 149.4 MW Kings Point Wind Project, and the 301.0 MW Neosho Ridge Wind Project (collectively, the "Wind Projects"). Liberty-Empire is seeking cost recovery of the Wind Projects as a part of this rate case. Furthermore, my testimony will (a) describe how Liberty-Empire financed, in conjunction with Wells Fargo Central Pacific Holdings, Inc. and JPM Capital Corporation ("Tax Equity Partners"), the Wind Projects; (b) explain Affiliate transactions and Operating Agreements for the Wind Projects; and (c) demonstrate that the Wind Projects will provide substantial savings to Liberty-Empire's customers in Oklahoma.

II. THE WIND PROJECTS

Q. Please Describe the Transactions Entered into by Liberty-Empire to Acquire the Wind Projects.

A. The transactions required three steps: (1) tax equity contribution, (2) acquisition, and (3) consolidation. The transactions were structured that way to allow each acquisition to proceed independently if necessary (thus protecting Liberty-Empire's economic interests) and to meet the requirements of the participating tax equity partners, who were to contribute approximately fifty percent of the capital for the projects, thereby substantially reducing the costs to the Company's customers.

Q. Please Describe the first step, the tax-equity contribution.

A. Liberty-Empire formed a new entity for the sole purpose of serving as the tax equity holding company for the three Wind Projects. That entity, Empire Wind Holdings, LLC ("Empire Wind Holdings"), was formed as a direct, wholly-owned subsidiary of Liberty-Empire. On the date of the closing of each acquisition, The Tax Equity Partners made equity contributions to Empire Wind Holdings. These contributions were used to finance a significant portion of the purchase price in each transaction.

Q. Please describe the second step, the acquisition.

A. The second step was comprised of the acquisition transactions. In October 2018, Liberty-Empire entered into two Purchase and Sale Agreements ("PSA") with Tenaska Missouri Matrix Wind Holdings, LLC ("Tenaska") and Steelhead Missouri Matrix Wind Holdings, LLC ("Steelhead" and collectively, "Tenaska/Steelhead"). In November 2018, Liberty-Empire entered a PSA with Neosho Ridge Wind JV, LLC (the "Neosho Ridge JV"), a joint venture between a subsidiary of Apex Clean Energy, Inc. ("Apex") and a subsidiary of Steelhead Wind 2, LLC. Pursuant to these PSAs, Liberty-Empire acquired ownership of the Wind Holding Companies. For the acquisitions of the Wind Holding Companies, Liberty-Empire was required to assign the North Fork Ridge and Kings Point Purchase Sale Agreements to Empire Wind Holdings. Then, at the closing, Empire Wind Holdings used the funds contributed by the Tax Equity Partners and additional funds contributed by

Liberty-Empire to purchase 100% of the membership interests of each holding company in a single step.

The Neosho Ridge acquisition transaction was to occur in two sub-steps, in order to align with particular requirements of the Tax Equity Partners, including that the owner of the Class A membership interests retain an ownership interest in Neosho Ridge JV for at least two years. Subsequently, Liberty-Empire acquired the Class B membership interests of Neosho Ridge JV and Liberty-Empire also contributed additional cash to Neosho Ridge JV to acquire additional Class B membership interests. Liberty-Empire subsequently acquired all of the Class A membership interests of Neosho Ridge JV to own 100% of Neosho Ridge JV. Liberty-Empire then contributed Empire Wind Holdings to Neosho Ridge JV, and Neosho Ridge JV transferred Neosho Ridge Holdings to Empire Wind Holdings (such that, after such transactions, Neosho Ridge JV owned 100% of Empire Wind Holdings, and Empire Wind Holdings owned 100% of Neosho Ridge Holdings, LLC).

Q. Why was a two-class structure necessary?

A. It was required to implement the tax equity structure, including the provision of the differing allocations of tax benefits and cash distributions to the Tax Equity Partners and to Liberty-Empire. The rights of each class of the Class A and Class B members is spelled out in the Limited Liability Agreement ("LLCA") for Empire Wind Holdings, LLC which is attached to my testimony as Confidential Direct Exhibit KM-1.

Q. Please Describe the third step, the consolidation of the entities.

A Following the tax equity contributions and acquisitions, the three Wind Holding Companies were wholly-owned subsidiaries of Empire Wind Holdings. To simplify the post-acquisition organizational structure of the Wind Projects, the three Wind Holding Companies were merged into Empire Wind Holdings. After the merger, Empire Wind Holdings directly owned 100% of the three project companies - Neosho Ridge Wind, LLC, North Fork Ridge Wind, LLC, and Kings Point Wind, LLC (collectively, the "Project Companies"). A copy of the post-acquisition organizational structure is attached to my testimony as Direct Exhibit KM-2.

Q. When did Liberty-Empire acquire the Wind Projects?

A. Liberty-Empire, along with the Tax Equity Partners, acquired the Wind Holding Company for North Fork Ridge Wind Project on January 27, 2021[1], the Wind Holding Company for the Neosho Ridge Wind Project on May 5, 2021, and the Wind Holding Company for the Kings Point Wind Project on May 5, 2021.

Q. Were the PSAs for the Three Holding Companies Amended?

A. Yes. Copies of the final purchase and sale agreements for each Wind Project are attached as Confidential Direct Exhibits KM-3, KM-4, and KM-5. On March 31, 2020, Liberty-Empire amended and restated the PSA regarding the acquisition of the Neosho Ridge Wind Project. The PSA, originally executed in November 2018, was amended and restated to align with particular requirements of Liberty-Empire's Tax Equity Partners. On July 7, 2020, Liberty-Empire amended and restated the separate PSAs regarding the acquisitions of the North Fork Ridge Wind Project and the Kings Point Wind Project. The PSAs, originally executed in October 2018, were amended and restated to reflect the purchase of

[1] The Tax Equity Partners made an initial 20% investment in the North Fork Ridge Wind Project on December 30, 2020, with the remaining 80% of their investment on January 27, 2021.

Tenaska's interests in these two Wind Projects by Liberty Utilities Co. on November 5, 2019 (as described below) and to incorporate other prior amendments agreed to by Liberty-Empire and the original sellers (i.e., Tenaska and Steelhead). Attached to my testimony as Confidential Direct Exhibit KM-6 is a Summary of the Purchase and Sales Agreements.

Q. What Process Did Liberty-Empire Follow in the Selection of the Wind Projects for Acquisition.

A. Liberty-Empire, with the assistance of its advisor, Burns & McDonnell, developed a competitive Request for Proposals ("RFP") for the complete engineering, procurement, construction, and transfer of ownership of up to 600 MW of fully functional and/or operational wind energy projects located in or near the Liberty-Empire service territory. The Notice of Intent for the RFP was issued on October 16, 2017, to 11 wind developers. The RFP provided two options to developers. The first option was for a developer to construct projects that they currently own and then sell the projects to Liberty-Empire after they achieve commercial operation. The second option was for a developer to construct a wind project on the Kings Point and North Fork Ridge sites in Missouri that were being developed by Liberty-Empire.

Q. Did the RFP indicate a locational preference?

A. Yes. Liberty-Empire expressly sought projects within the Southwest Power Pool ("SPP") footprint, with a preference for those projects strategically located in or near the Liberty-Empire service territory in order to minimize costs associated with transmission congestion.

Q. Why was it important that projects be located in or near the Company's service territory?

A. Because the value of energy in SPP can very greatly by location. In particular, energy prices in Oklahoma, Kansas, and Missouri are affected by constraints on the SPP transmission system, recent buildout of new wind generation, and other factors. Prices at or near the Company's service territory tend to be higher than in other parts of the region. As a result, the value of a project to our customers is also greatly dependent on location.

Q. Please summarize the responses that the Company received to the RFP.

A. Liberty-Empire received bids from 10 developers representing 18 sites that were owned by the developers, with sites located in Missouri, Oklahoma and Kansas. A list of the bidders is contained in Confidential Direct Exhibit KM-7. Six of the bidders also bid on the Company's sites in Missouri. Burns & McDonnell evaluated each of the bids. This evaluation formed the basis for beginning negotiations with **[redacted]** bid finalists.

Q. How did Liberty-Empire Evaluate the Bids and Select the Finalists?

A. Once Liberty-Empire narrowed the list of bid finalists, the Company conducted extensive due diligence with the bid finalists in order to obtain more in-depth information on each developer's proposal than would have been provided in the RFP response. This due diligence included inquiry into key aspects of each project proposal, including permitting, qualification for Production Tax Credits ("PTCs"), project economics such as price, capacity factor, and transmission basis risk, and the ability to prudently complete the construction of the projects within the required timeframe. After completing its due diligence, Liberty-Empire began negotiations with project developers on the potential terms of the acquisition. After lengthy negotiations with multiple wind developers, Liberty-Empire determined that Tenaska/Steelhead had the best ability to develop wind projects on the Kings Point and North Fork Ridge sites.

Q. Did those locations meet the criteria you describe above?

A. Yes, investments at these locations create significant benefits for our customers in large part because of their location in or near Liberty-Empire's service territory, low risk of transmission congestion, proximity to interconnection, proximity to Liberty-Empire's existing operations (allowing for economies in operating costs), as well as their robust wind regime.

Q. What factors other than location were taken into consideration?

A. Tenaska/Steelhead were chosen as the successful bidder for the Kings Point and North Fork Ridge sites because they:

- Provided an economical fixed price for the Wind Projects;
- Committed to a construction schedule to ensure the Wind Projects would be completed before the end of 2020 (in order to ensure they qualified for PTCs) with a significant price reduction for any portion of the Wind Project completed late;
- Offered a robust strategy for qualifying for PTCs, following Internal Revenue Service ("IRS") guidance for the Five Percent Safe Harbor[2];
- Were a creditworthy entity able to provide the performance security required to insulate Liberty-Empire's customers from development risks, and;
- Had extensive experience in development and construction of power generation infrastructure.

[2] IRS has provided guidance on the determination of the beginning of construction in Internal Revenue Notice 2016-31. The beginning of construction can be established either by beginning physical work of a significant nature (section 2) or by incurring at least 5% of a wind project's costs (the "Five Percent Safe Harbor" provided in Internal Revenue Notice 2013-29).

Q. Upon what basis was the Neosho Ridge project selected?

A. Liberty-Empire determined that the Neosho Ridge Wind Project proposed by Apex was highly desirable given its physical proximity to Liberty-Empire's service territory, the low risk of transmission congestion, proximity to interconnection, proximity to Liberty-Empire's existing operations (allowing for economies in operating costs), as well as its robust wind regime. Apex's bid also included the following key attributes:

- The project had a development and construction schedule that ensured the Wind Project would be completed before the end of 2020 (in order to ensure it qualified for PTCs);
- Apex had extensive experience in the development and construction of power generation infrastructure. In order to ensure that the Wind Project qualified for PTC's, Liberty-Empire requested that Apex engage Steelhead to become a joint venture partner and provide equipment to meet the Five Percent Safe Harbor criteria, thus providing the Neosho Ridge Wind Project with a robust PTC qualification strategy.

Q. Can you please summarize the Company's approach to a PSA with Apex?

A. To ensure that Liberty-Empire's customers received the same benefits and risk profile as with the Kings Point and North Fork Ridge projects, APUC provided protections to the Neosho Ridge Wind JV so that it could enter into a Purchase and Sale Agreement with Liberty-Empire that was the same in all material respects as the Purchase and Sale Agreements for Kings Point and North Fork Ridge and provided benefits to Liberty-Empire's customers in the same manner. Namely, the Purchase and Sale Agreement:

- Provided an economical fixed price for the Wind Project for Liberty-Empire;

- Committed to a construction schedule that ensured the Wind Project would be completed before the end of 2020 (in order to ensure they qualified for PTCs) with a significant price reduction for Liberty-Empire for any portion of the Wind Project completed late;
- Offered a robust strategy for qualifying for PTCs, following IRS guidance for the Five Percent Safe Harbor, and;
- Backstopped by a credit worthy entity able to provide the performance security required to insulate Liberty-Empire's customers from risks, and;
- Offered extensive experience in development and construction of power generation infrastructure.

Q. Why did Liberty Utilities Co. ("LUCo"), Liberty-Empire's indirect parent company, eventually assume a role in the Wind Projects?

A. On July 7, 2020, LUCo Tenaska elected to terminate its role in the projects after missing key deadlines in the PSAs discussed in more detail later in my testimony. Liberty-Empire had the responsibility for achieving certain project development milestones by dates that were agreed upon by the parties to maintain the original construction timeline, largely as a result of Liberty-Empire being the interconnecting utility and the original owner and developer of these two Wind Projects. Under the terms of the PSAs, delays in achieving development milestones did not automatically result in adjustments to the purchase price or extend construction completion deadlines. Instead, the sellers had the right to terminate the PSA if the parties were unwilling or unable to agree at such time on an appropriate adjustment to the PSA to address the delay.

Two purchaser development milestones were not satisfied by the original deadlines. Although Liberty-Empire and the two Sellers were able to agree upon modifications to accommodate the initial delays, in early October 2019, Tenaska elected to terminate its role in the North Fork Ridge and Kings Point Wind Projects. In lieu of a full termination of the PSAs, for reasons described below, Liberty-Empire and Steelhead agreed at that time to the principal terms upon which Steelhead was willing to continue its investment. Those modifications were outlined in an amendment to each of the original PSAs at that time and are the primary substantive revisions reflected in the amended and restated PSAs.

Q. Which Purchaser Milestones Were Not Met?

A. Under the PSAs, Liberty-Empire was required to obtain an interconnection agreement for each of the Kings Point and North Fork Ridge Wind Projects from SPP by August 1, 2019 (subject to extension to September 1, 2019). The SPP reviews interconnection applications and supporting studies submitted to it. This process was delayed due to significant backlogs in the generation queue at SPP. Although Liberty-Empire proactively endeavored to advance the SPP review process, including by obtaining SPP's approval to engage, a third party to complete parts of the interconnection study required for approval, SPP was unable to complete the work by the deadline in the PSAs. Importantly, Liberty-Empire's efforts ultimately did lead to the execution of interconnection agreements in early November 2019.

Under the PSAs, Liberty-Empire was also responsible for certain threatened and endangered species clearances and, consequently, the U.S. Army Corps of Engineers (the "Corps") permit under Section 404 of the Clean Water Act ("404 Permit"). Issuance of the 404 Permit requires threatened and endangered species clearance, and is required prior to any construction impacting wetlands, which affected material portions of the North Fork

Ridge and Kings Point project sites. The contractual deadline for the 404 Permits was July 26, 2019. The Corps ultimately issued the 404 Permit for North Fork Ridge on January 29, 2020, and for Kings Point on February 19, 2020.

Q. Why didn't Liberty-Empire step in and complete the Wind Projects rather than its parent company?

A. Liberty-Empire did not itself elect to purchase Tenaska's interest in the Wind Projects and assume its obligations as a seller under the PSAs for two reasons. First, while Liberty-Empire and LUCo had concluded that the Wind Projects could be continued within acceptable cost and risk parameters, and setting aside any regulatory uncertainty, having Liberty-Empire step into Tenaska's shoes at that point would have resulted in Liberty-Empire assuming additional cost and timing risks as a developer. Second, it was uncertain whether Liberty-Empire had received the necessary authorization from regulators in Missouri to consummate an immediate step-in at that stage of the Wind Projects. Therefore, LUCo stepped in, assuming (along with Steelhead) the risks allocated to the sellers by the terms of the PSAs. In doing so, LUCo preserved for Liberty-Empire the protections afforded to Liberty-Empire under the PSAs with respect to (1) the remaining risks of construction and (2) satisfaction of other conditions to closing under the PSAs (all of which remain unchanged in the amended and restated PSAs).

Q. Did LUCo profit from the development of the North Fork Ridge and Kings Point Wind Projects?

A. No, it did not. To the extent that LUCo would be entitled to any development fee or profits associated with the North Fork Ridge and Kings Point Wind Project, it did not retain any such fees or profits. The amount of such profits, if any, that LUCo will relinquish to Liberty-Empire will be determined once final project costs are fully known.

Q. What was the purchase price of the Wind Holding Companies?

A. Table KM-1 below reflects the purchase price of the Wind Holding Companies: **

[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

**

The purchase price of the Wind Holding Companies was **[redacted]**.

Q. Did Liberty-Empire experience increased costs related to the Wind Projects that were attributable to COVID-19?

A. Yes. The Company estimates that the COVID-19 pandemic caused approximately **[redacted]** for the three Wind Projects.

[3] Cost estimates as of June 30, 2021. Final costs will be provided as part of the update period.

Q. Did the Company make any efforts to mitigate cost increases related to Covid-19?

A. Absolutely. The Wind Projects received a number of force majeure notices from Vestas, the manufacturer of the turbines, claiming that they could not deliver the turbines on time due to COVID-19. **[redacted]**

Q. How does the settlement that Liberty-Empire was able to achieve with Vestas compare to the experience of similar projects over the same time period?

A. Liberty-Empire is aware from discussions at that time with other wind developers that they have not been able to achieve similar results. The Company is pleased that we were able to leverage its parent company, APUC's, extensive knowledge and expertise in the development of wind farms to benefit Liberty-Empire's customers in this regard.

Q. Other than COVID-19 impacts, were there other circumstances that impacted Liberty-Empire's costs?

A. Yes. Unfortunately, the SPP experienced significant delays in processing applications in the interconnection queue, making it difficult to obtain interconnection cost estimates from SPP at the beginning of the project. Although Liberty-Empire proactively endeavored to advance the SPP review process, including by obtaining SPP's approval to engage, and engaging, a third party to complete parts of the interconnection study required for approval, SPP was unable to complete the work by the deadline in the PSAs. Liberty-Empire's efforts ultimately did lead to the execution of interconnection agreements in early November 2019. Anticipated interconnection costs for the Neosho Ridge project increased from initial estimates by approximately **[redacted]** based on updated information from SPP, while interconnection and gen-tie costs for the North Fork Ridge project increased from initial estimates by approximately **[redacted]**. Interconnection and gen-tie costs decreased from initial estimates by approximately **[redacted]** for the Kings Point Wind Project based on updated information from SPP and the final cost of the gen-tie line[4]. Similarly, because of significant delays by the U.S. Army Corps of Engineers issuance of Clean Water Act 404 permits, there were costs to accelerate the construction of the Kings Point and North Fork Ridge projects to keep the projects on schedule in order to meet deadlines for project completion to qualify for PTCs.[5] In addition, there were other factors such as expanded setback requirements imposed by Neosho County in the case of the Neosho Ridge project and an increased presence of intact rock and groundwater within excavation zones that were discovered during project construction.

Q. Was Liberty-Empire able to negotiate any contract provisions to reduce the costs of the Wind Projects?

A. Yes. As provided in Section 2.3(d) of the Purchase and Sale Agreements, any electricity production delivered to the SPP Integrated Marketplace ("IM") prior to Liberty-Empire's

[4] Cost estimates as of June 30, 2021. Final costs will be provided as part of the update period.

[5] Note that at the time those acceleration costs were incurred, the PTC deadline was December 31, 2020. On May 27, 2020, the IRS extended the PTC deadline by one year to December 31, 2021 (Notice 2020-41).

acquisition of the Wind Projects resulted in a reduction to the purchase price, estimated at **[redacted]**.

Q. With its acquisition of the Wind Holding Companies, will Liberty-Empire deliver expected savings to customers?

A. Yes. Liberty-Empire has projected that customers will experience $169[6] million in savings over twenty years.

III. THE FINANCING OF THE WIND PROJECTS

Q. How was the acquisition of the three Wind Holding Companies financed?

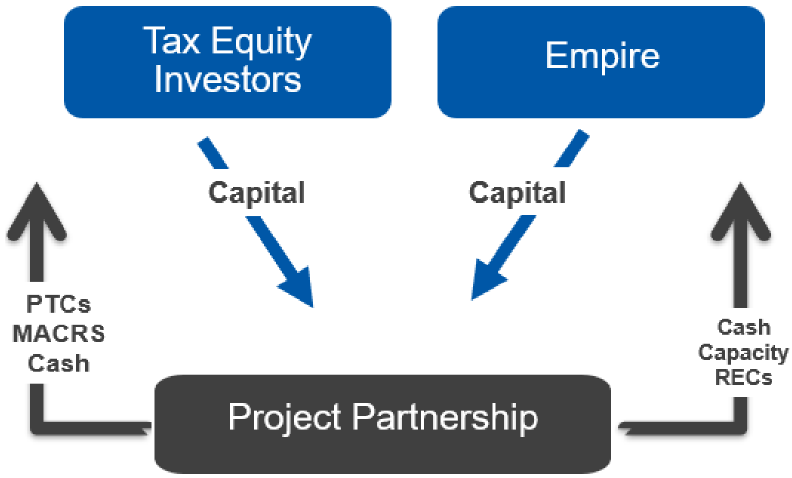
A. Liberty-Empire financed the acquisitions of the Wind Holding Companies with a combination of internal capital and capital from the Tax Equity Partners. Specifically, Liberty-Empire borrowed $425 million from LUCo and issued $135 million of new common shares to LUCo to fund its share of the acquisition costs. The debt financing is at an interest rate of 2.079%. The remaining balance of the costs to acquire the Wind Projects (**[redacted]**) was funded by the Tax Equity Partners by establishing a tax equity structure for the Wind Projects. The Wind Project debt financing is a component of the Company's overall 3.76% cost of debt which is being requested in this case. It is important to note that the Wind Project debt financing is contributing to additional savings since the last case as the cost of debt in the last case was 4.85%.

Q. What is a tax equity structure?

[6] Missouri File Number EO-2018-0092, Ex. 8C, McMahon Affidavit, p. 3-4.

A. A tax equity structure is a method of financing renewable energy projects (including wind projects and solar generation projects) to optimize the value in the near term of available tax incentives. In a tax equity structure, large, tax-paying corporations (typically large banks and insurance companies) become equity partners in a wind project (Tax Equity Partners). In exchange for providing a significant portion of the capital investment of the partnership, which is used to develop the wind generation facility, a Tax Equity Partner receives the tax incentives, including PTCs and use of the Modified Accelerated Cost Recovery System ("MACRS") for depreciation, that are generated during the first 10 years of the project's life. In addition, the Tax Equity Partner receives cash distributions in the latter years of the project (typically in years 6 to 10) as part of its return on and recovery of the capital it invested. On or before the end of the first ten years when the Tax Equity Partner has received its return on and recovery of its investment, the ownership structure "flips" and the majority of the ongoing financial benefits of the wind project transfers over to the non-tax equity partner, with the Tax Equity Partner retaining a nominal residual stake in the partnership (typically 5%). At this point, the non-tax equity investor also has an option to purchase the tax equity investor's interest in the partnership. Figure KM-1 depicts a commonly used tax equity structure:

Figure KM-1



Tax equity structures have been used to finance over 62 GW of wind and solar projects in the United States over the past decade.[7] These structures are accepted by the IRS as long as they conform to certain well-established guidelines and jurisprudence, including Revenue Procedure 2007-65.

Q. Are there any limitations on the availability or value of PTCs?

A. Yes. The United States federal government has legislated the phase-out of PTCs. In order to qualify for PTCs, a project must have begun construction before January 1, 2017. The beginning of construction is typically achieved by incurring at least 5% of a wind project's costs before the applicable date.[8] By working with wind equipment manufacturers and project developers who have already met this test, Liberty-Empire secured projects that

[7] BNEF Tax Equity Update: 2017, Tax Equity Demand Forecast dataset.

[8] IRS has provided guidance on the determination of the beginning of construction in Internal Revenue Notice 2016-31. The beginning of construction can be established either by beginning physical work of a significant nature (section 2) or by incurring at least 5% of a wind project's costs (the "Five Percent Safe Harbor" provided in Internal Revenue Notice 2013-29).

qualify for PTCs at their maximum value of $25 per MW-hour. Note, however, that there is a five-year limit on the timeframe allowed for construction.[9]

At the time Liberty-Empire was making its investment decision, any project that begins construction after December 31, 2016 qualified for a reduced amount of PTCs as provided in Table KM-2 below:

Table KM-2

Start of Construction	PTC%	PTC Value $/MW-hour
Before 1/1/2017	100%	25.00
During 2017	80%	20.00
During 2018	60%	15.00
During 2019	40%	10.00
During 2020	60%	15.00
After 12/31/2020	0%	0.00

Given that the percentage of the PTC that is available phases out completely for projects that started construction after December 31, 2020, a limited window of time existed to take advantage of the significant tax benefit. As mentioned earlier in my testimony, the PTC deadline was originally December 31, 2020. On May 27, 2020, the IRS extended the PTC deadline by one year to December 31, 2021, because of COVID-19 (Notice 2020-41).

[9] In order to qualify for PTCs, a wind project must have completed construction and been placed in service within four years of the date that construction commenced. Internal Revenue Notice 2016-31, section 3. This timeframe has been extended to five years by Internal Revenue Notice 2020-41.

Q. Please explain the accelerated depreciation that is available to the Wind Projects.

A. In addition to qualifying for the tax benefits associated with the PTCs, wind projects also qualify for accelerated tax depreciation using the five-year MACRS schedule.[10] Depreciation is a deductible expense that reduces taxable income, decreasing income tax payable. Depreciating the assets of a wind project over a five-year timeframe (compared to the approximately 30 year life of the project) creates income tax losses for the wind project in its first five years. These losses can also be used by its owner(s) to offset other sources of taxable income, realizing significant income tax savings. See Figure KM-2 below for additional detail.

<u>Figure KM-2</u>

Tax Credits	Accelerated Depreciation	When Combined
$ for $ reduction of tax liability	**Shelter for otherwise currently taxable income**	**Est. NPV of tax incentives (as a % of project costs)**
▸ Wind generates production tax credits* ▪ <u>*Wind:*</u> **$25 per MWh** generated for 10 years	▸ All renewable energy generating equipment is depreciable ▸ Using 5-year MACRs (double declining balance)	▸ Wind = ***<u>50% - 55%</u>*** ▪ <u>*E.g.*</u> for a $100 M project, the incentives are worth ~***<u>$50M to $55M</u>***

When combined, the net present value of the federal tax benefits can be a significant portion of the total capital cost of a wind project.

Q. Can you provide examples of how PTCs and accelerated depreciation have been used to finance projects in the renewable energy sector?

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[10] *See* 26 U.S.C. § 168.

A. In order to maximize the value of the PTCs and accelerated depreciation, the majority of non-regulated wind and solar generation projects in the United States have been financed using a tax equity structure.

Q. Why Was a Tax Equity Partner Structure Used by Liberty-Empire?

A. Because it maximizes the savings to customers from investing in these projects. Through the use of a tax equity ownership structure in conjunction with 600 MWs of wind generation, Liberty-Empire was able to utilize a limited opportunity to bring significant savings, which is approximately $169 million over the twenty year period used to assess integrated resource plans, and up to $295 million in savings to customers over a thirty year period, which is closer to the life of these assets. These savings are based on unique market conditions, which allow for production tax credits and the availability of financing to support these tax credits. In short, customers benefit from this ownership structure since the efficient monetization of tax attributes reduces the overall cost of energy procured on their behalf by Liberty-Empire. In addition, direct utility ownership in the partnership provides strong benefits to the customer based on long-term ownership of the Wind Projects and due to a regulated utility's lower cost of capital and prudent capital structure.

Q. Please Describe the Tax Equity Capital Contribution Agreements with the Tax Equity Partners.

A. Liberty-Empire entered into Equity Capital Contribution Agreements ("ECCAs") with the Tax Equity Partners for each of the Wind Projects[11] and a Limited Liability Agreement ("LLCA") for the holding company of the Wind Projects, Empire Wind Holdings. The ECCAs and LLCA set forth the terms and conditions of the Tax Equity Partners' investment in the Wind Projects and the ECCA for each of the Wind Projects are attached to my testimony as Confidential Direct Exhibit KM-8 through KM-10.

Q. Why did Liberty-Empire select Wells Fargo and JPM Capital Corporation as its Tax Equity Partners?

A. Wells Fargo has significant experience providing tax equity to renewable energy projects in the United States, financing approximately 11,000 MW of renewable generation, representing approximately $6 billion of investment, since 2007. Based on this experience, and Liberty-Empire's evaluation of indicative pricing from three other tax equity providers, Liberty-Empire determined that Wells Fargo offered the most value to the project. For example, the Flip Yield (which is a common metric of the relative cost of Tax Equity Partnership) offered by Wells Fargo was **[redacted]**. Other potential tax equity providers offered Flip Yields ranging from **[redacted]**. Similarly, other tax equity providers sought commitment fees in the range of **[redacted]**, while Wells Fargo

[11] Empire entered into the ECCA for the Neosho Ridge Wind Project on November 8, 2019. The Neosho Ridge Wind ECCA was amended on December 30, 2020, the date on which Empire entered into the Kings Point and North Fork Ridge ECCAs so that all three agreements would have consistent terms and conditions.

initially required no commitment fee[12]. Thus, on multiple metrics of comparison, Wells Fargo offered better terms, which translate into greater cost savings for our customers.

Q. Did Liberty-Empire evaluate Wells Fargo's and JPM's creditworthiness to be tax equity partners?

A. Yes. Wells Fargo Bank, NA has a long-term issuer credit rating from Dominion Bond Rating Service ("DBRS") of AA; a rating of AA- from Fitch; a rating of Aa2 from Moody; and a rating of A+ from Standard and Poor's. These credit ratings demonstrate that Wells Fargo has an investment grade credit rating, meaning that Wells Fargo is judged to have low credit risk and a high likelihood of being able to meet its ongoing obligations. Similarly, JPM has a long-term issuer credit rating from Moody's of A-2. These are highly desirable in a tax equity provider, as it means that the tax equity providers are highly likely to be able to meet their funding obligations under the tax equity partnership.

Q. Why did Liberty-Empire use a tax equity structure instead of a more traditional structure in which Liberty-Empire is the sole owner of the Wind Project from the outset and finances the project's costs with conventional utility debt and equity financing?

A. Liberty-Empire implemented a tax equity structure in order to maximize customer savings by utilizing the value of the available tax incentives. Such a structure enabled Liberty-Empire to reduce its capital investment to acquire the Wind Projects by an amount that reflects the ability of a Tax Equity Partner to utilize the tax savings provided by both PTCs

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12 ** [redacted] **

and MACRS in the near term. This reduced capital investment allows customers to realize the benefits of the full 10 years of PTCs and MACRS from day 1 through a reduced rate base. In its financial modeling associated with Liberty-Empire's update to its 2016 Integrated Least Cost Plan[13], Liberty-Empire estimated that, given the time value of money, using a tax equity structure (as compared with direct ownership of the Wind Project by Liberty-Empire without a partner) would result in between $4 and $7 per MW hour more savings for Liberty-Empire customers.

Q. Could Liberty-Empire alone utilize the available tax benefits to their fullest extent?

A. No. If Liberty-Empire financed the Wind Projects using conventional utility debt and equity financing, the tax benefits earned by the Wind Projects would be greater than what Liberty-Empire would need to eliminate its income tax payable in each year for at least the first 10 to 15 years of the Wind Projects' life. Any unused tax benefits would need to be carried forward to future tax years, but given the time value of money, delayed use of the tax benefits represents diminished economic value for Liberty-Empire's customers.

IV. AFFILIATE TRANSACTIONS AND OPERATING AGREEMENTS FOR THE WIND PROJECTS

Q. Given that Liberty-Empire purchased Kings Point Wind Holdings, LLC and North Fork Ridge Wind Holdings, LLC from an affiliate (LUCo), are there any concerns from an affiliate transactions perspective?

A. No. Most fundamentally, the North Fork Ridge and Kings Point Wind Projects were

[13] Integrated Resource Plan ("IRP") as filed with the Oklahoma Corporation Commission on June 14, 2017.

selected through a competitive solicitation process conducted by Liberty-Empire in the fall of 2017 and the base purchase prices in each of the PSAs that I described earlier in my testimony were established through that process. Liberty-Empire, with the assistance of Burns & McDonnell, developed a competitive RFP for the complete engineering, procurement, construction, and transfer of ownership of up to 800 MW of fully functional and/or operational wind energy projects that are strategically located in or near the Liberty-Empire service territory (the Notice of Intent for the RFP was issued on October 16, 2017 to 12 developers with a proven track record in developing wind projects). Burns & McDonnell provided a detailed overview of the bids received and evaluated each bid from a technical perspective. Burns & McDonnell also performed an additional technical transmission risk analysis for each project that was proposed. Their analysis was used in the final scoring of bids, the development of overall rankings, and the eventual selection of Tenaska as the developer for these two projects. In addition to the base price, there are certain pass-through costs under the North Fork Ridge and Kings Point PSAs, with no mark-up from either Seller. These costs cover items such as network upgrades, interconnection facilities, the gen-tie line, and public road upgrades and construction. Both the base price and flow-through cost approach for the projects were established by a robust market-based RFP process, and therefore the resulting prices satisfy the market-based pricing element of the affiliate transaction rule.

Q. Are there other aspects of this wind transaction that involve affiliated entities?

A. Yes. I have prepared a chart identifying each of the affiliate transactions associated with Liberty-Empire's acquisition and operation of the Wind Projects, which is attached to my testimony as <u>Direct Exhibit KM-11</u>. The following is a brief description of each of these transactions:

<u>Operations and Maintenance Agreements</u>: These three agreements (one for each Wind Project) are between Liberty-Empire and each Project Company. Under these agreements, Liberty-Empire will provide operations and maintenance services for the portions of the Wind Projects other than the wind turbines (e.g., for the main substations and collection systems). The majority of the Services will be charged at an annual fixed fee, subject to an annual escalation provision. A portion of the Services will be charged at cost plus a mark-up of 10%. A copy of these agreements is attached as <u>Confidential Direct Exhibit KM-12.</u>

<u>Asset Management and Administrative Services Agreement</u>: This single agreement is between Liberty-Empire, Empire Wind Holdings, and the Project Companies. Under this agreement, Liberty-Empire will provide asset management and administrative services such as the following: (a) contract administration, (b) financial reporting; (c) administration of banking and financing agreements; (d) management of landowner, local tax, and municipal issues; (e) permit administration and regulatory compliance and reporting; (f) lender and investor reporting; (g) project management services; (h) insurance services; and (i) professional services management. The majority of the Services will be charged at an annual fixed fee per Wind Project, subject to an annual escalation provision. A portion of the Services will be charged at cost plus a mark-up of 10%. A copy of these agreements is attached as <u>Confidential Direct Exhibit KM-13.</u>

<u>Energy Management Services Agreements</u>: These three agreements (one for each Wind Project) are between Liberty-Empire and each Project Company. Under these agreements, Liberty-Empire will provide energy management services such as the following: (a) energy scheduling services; (b) hedge agreement administration; and (c) SPP representation. The Federal Energy Regulatory Commission ("FERC") granted Liberty-Empire a waiver of FERC's affiliate rules with respect to these agreements. Services will be charged at an annual fixed fee, subject to an annual escalation provision. The agreements also allow for as-yet undefined additional services to be provided upon mutual agreement of both parties. Such services, if any, would be charged at a cost plus a mark-up of 10%. A copy of these agreements are attached as <u>Confidential Direct Exhibit KM-14</u>.

<u>Affiliate Service Agreement with Liberty Utilities (Canada) Corp.</u>: This agreement between Liberty-Empire and Liberty Utilities (Canada) Corp. has been in effect since Liberty-Empire's acquisition by APUC in 2017. Under this agreement, Liberty Utilities (Canada) Corp. will provide technical services to Liberty-Empire regarding the operation and maintenance of the Wind Projects on an as-needed basis and charged under the APUC Cost Allocation Manual. A copy of this agreement is attached as <u>Direct Exhibit KM-15</u>.

Affiliate Service Agreement with Algonquin Power Fund (America) Inc.: This affiliate service agreement between Liberty-Empire and Algonquin Power Fund (America) Inc. provides for Algonquin Power Fund (America) Inc. employees that operate and maintain wind farms in the U.S. to provide training to the employees of Liberty Utilities Service Corp. who will be operating and maintaining the three wind farms on Liberty-Empire's behalf. These services will be provided at the lower of market price or fully allocated cost. A copy of this agreement is attached as Direct Exhibit KM-16.

Hedge Agreements: These three agreements (one for each Wind Project) are between Liberty-Empire and each Project Company. They memorialize financially settled fixed-for-floating swap transactions for each Wind Project for a period of 10 years, commencing on July 1, 2021, and provide a predictable revenue stream to the Project Companies (which is a requirement of the Tax Equity Partners). The fixed price per megawatt-hour under each agreement represents market price based on a methodology approved by the Tax Equity Partners. A copy of these agreements is attached as Confidential Direct Exhibit KM-17.

Non-Energy Products Agreements: These three agreements (one for each Wind Project) are between Liberty-Empire and each Project Company. Under them, Liberty-Empire will purchase all renewable energy credits ("RECs"), capacity, and other non-energy attributes attributable to the electricity generated at each Wind Project, for a fixed price per megawatt-hour. The prices for RECs under these agreements were set based on an estimate of current market prices in SPP, while the prices for all other non-energy products will be at all actual and documented third party costs incurred by Seller. A copy of these agreements is attached as Confidential Direct Exhibit KM-18.

Q. Can you please summarize what The Hedge is, why it is necessary, and whether the Hedge Agreements will have any ratemaking impact on Liberty-Empire's customers?

A. Yes.

Q. What is a Hedge?

A. The hedge (the "Hedge") represents a fixed for floating price swap financial product for energy in the SPP market. Under the Hedge, one counterparty (e.g. Liberty-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.

Q. Why is a Hedge necessary?

A. Our tax equity providers, like any other investor, 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. The Hedge is a fixed for floating swap which means that for a defined quantity of power, Liberty-Empire will pay the Wind Project a fixed price per MWh and the Wind Project will pay Liberty-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, 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 Liberty-Empire's customers resulting from efficient monetization of the Wind Project tax attributes would not be possible.

Q. Can you provide more detail on the Hedge Agreements and the Non-Energy Products Agreements?

A. Yes. There is a Hedge between Liberty-Empire and each of the Wind Project Companies, which will be effectively a contract for differences with respect to the price of electric energy generated and sold by the Wind Project Company into the SPP IM, and an agreement by Liberty-Empire to purchase from the Wind Project Company all renewable energy credits created by the Wind Project (the Non-Energy Products Agreement).

The Hedge and Non-Energy Products Agreements will be for a term of ten years. Under the Hedge, during the first five years of the agreement, any cash that is generated by the Wind Project Company is paid entirely to Liberty-Empire. In years six through ten, the IRS requires that the tax equity partner be paid a share of the cash from the Wind Project Company, and that percentage is specified in the ECCA. Liberty-Empire would receive any remaining cash. A summary of the transactions is set forth in Table KM-3 below:

<u>Table KM-3</u>
<u>Illustration of Transactions</u>

Phase	Timing	Wind Project	Empire	Tax Equity Partners
0	Start		• Contributes **[redacted]** of capital	• Contribute **[redacted]** of capital
1	Years 1 – 5	• Sells energy to SPP • Settles price hedge with Liberty-Empire • Pays O&M, A&G • Distributes net cash	• Buys energy from SPP • Settles price hedge with Project • Receives 100% of net cash • Receives 1% of PTCs and tax losses	• Receive 0% of net cash • Receive 99% of PTCs and tax losses
2	Years 6 – 10	• Sells energy to SPP • Pays O&M, A&G • Distributes net cash	• Buys energy from SPP • Receives 60% of cash • Receives 1% of PTCs and tax losses/income	• Receive 40% of net cash • Receive 99% of PTCs and tax losses/income
3	After	• Sells energy to SPP • Pays O&M, A&G • Distributes net cash	• Buys energy from SPP • Liberty-Empire exercises option to purchase Tax Equity Partners' 5% stake at FMV	• 5% residual stake sold to Liberty-Empire

Q. How has the Hedge Agreements been reflected in the Company's rate case request?

A. Liberty-Empire has reflected a Total Company amount for Hedge Net Settlement revenue of $4,815,033 and a corresponding Total Company Hedge Net Settlement expense in the amount of $4,815,033. Therefore, the overall impact on the cost of service is $0.

Q. Can you explain why the Hedge Agreement has a net impact on the revenue requirement of $0?

A. Yes. The Hedge will have no impact of the cost of service because the overall cash flow position of Liberty-Empire is identical with or without the Hedge. This is because Liberty-Empire participates in these transactions in two ways. First, Liberty-Empire is the counterparty to the Hedge and is exposed to cash flows resulting from the settlement of the Hedge (under the Hedge, Liberty-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 Liberty-Empire 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, Liberty-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 Liberty-Empire and Liberty-Empire's customers are indifferent to the settlement of the Hedge.

Direct Exhibit KM-19 to my testimony is a simplified illustration of the settlement of the Hedge that outlines how the cash flows to Liberty-Empire and thus, has no ratemaking implications for Liberty-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 has 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 Liberty-Empire without a hedge
- Case 2: Cash Flows to Liberty-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 KM-4 below:

Table KM-4: 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 Liberty-Empire	No	0%	$752.50	$932.50	$572.50
Case 2	Total Cash to Liberty-Empire	Yes	0%	$752.50	$932.50	$572.50

As can be seen in Table 2, while the overall cash flows to Liberty-Empire change depending on the realized Market Prices for energy, the total cash flows to Liberty-Empire are identical in all situations. The primary reason for this is that Liberty-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. Does the Hedge Agreement guarantee that each Wind Project receives a certain amount of revenues?

A. No. 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.

Q. Have the Hedge prices been agreed to between Liberty-Empire and the Wind Companies?

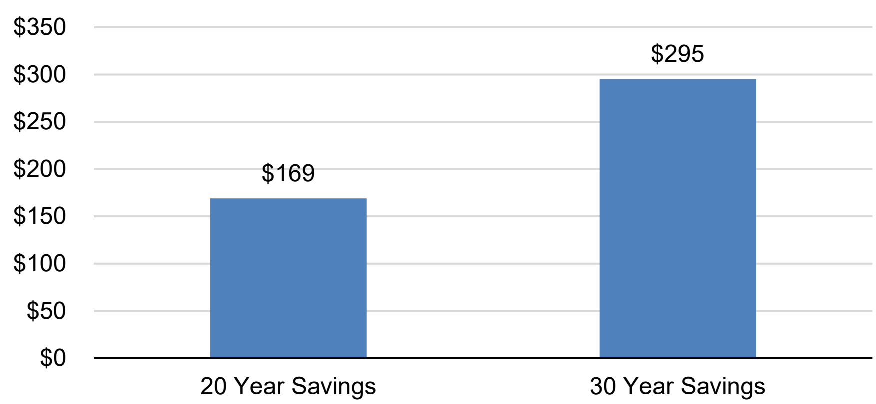
A. Yes. A summary price of the Hedge that has been agreed to by the parties is in Direct Exhibit KM-19.

V. OWNERSHIP OF THE WIND PROJECTS IS BENEFICIAL TO LIBERTY-EMPIRE'S CUSTOMERS AND IS IN THE PUBLIC INTEREST

Q. Earlier in your testimony you indicated that Liberty-Empire's acquisition of the Wind Projects would result in savings to its customers. Can you provide more detail to the Commission as to the support for that statement?

A. Yes. Relative to the 2016 IRP Preferred Plan Liberty-Empire determined that adding 600 MW of wind to Liberty-Empire's portfolio is expected to generate $169 million in customer savings over the next twenty years. That outlook is based on Liberty-Empires 2016 IRP[14], which found that an investment of 600 MW in wind will generate the following savings for customers:

Figure KM-4: 600 MW of Wind Customer Savings Relative to the 2016 IRP Preferred Plan ($ millions)



[14] As provided to Director of the Public Utility Division on June 14, 2017 to comply with OAC 165:35-37-1-1.

Q. Please explain the analysis in more detail.

A. Liberty-Empire determined how portfolio risk would change as a result of adding 600 MW of wind (the so-called "Settlement Plan in Figure KM-4 below) to the portfolio, relative to the 2016 IRP Preferred Plan. Figure 2 shows the 20 year present value revenue requirement and the 2016 IRP Preferred Plan under three market cases: Base, High Market, and Low Market. The Base scenario includes Liberty-Empire's base case forecast assumptions and the High Market and Low Market cases use ABB results that include high fuel and electricity prices and low fuel and electricity prices, respectively.

Figure KM-5: 20 Year Present Value Revenue Requirement Under *Base, High, and Low Market*

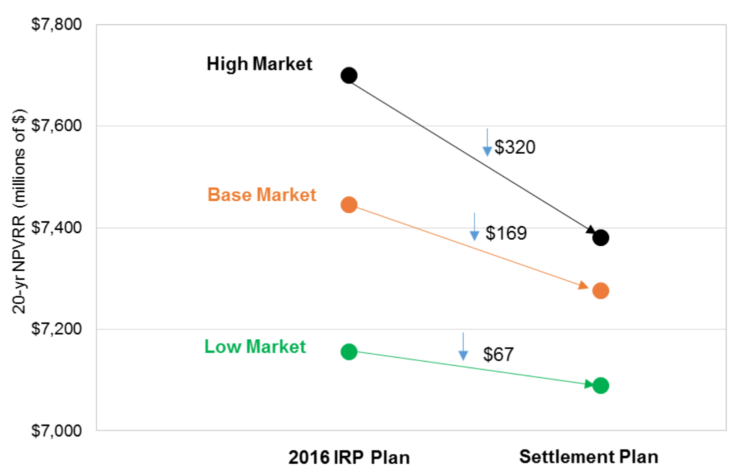


Figure KM-5 shows that the 20 year savings are greater (lower revenue requirement) in all cases relative to the 2016 IRP. Moreover, the High Market and Low Market cases form a tighter band around the base case than in the 2016 IRP, implying a portfolio that is at lower risk to market forces.

Q. How has Liberty-Empire obtained assurance that the Wind Projects will achieve the expected level of energy production?

A. Liberty-Empire has assurances of the Wind Projects' energy production as a result of (1) the service and maintenance agreement between each Project Company and the turbine supplier (i.e., Vestas-American Wind Technology, Inc. ("Vestas")), which includes an industry-standard turbine availability guarantee, and (2) rigorous wind resource assessments received by the Project Companies from an independent wind resource consultant. In a wind resource assessment, the consultant analyzes actual wind speed data collected at various locations at the proposed wind facility over a multi-year period, correlates the data with short-term and long-term measurements at nearby weather observation stations, and uses standard industry models to determine the expected amount of energy that can be generated with the selected wind turbine equipment.

Q. Please explain what an "availability guarantee" is.

A. By way of background, Vestas is supplying the wind turbines that will be installed at each of the Wind Projects. Vestas, a subsidiary of Steelhead, is a leading global supplier of wind turbines, having supplied more than 69,000 turbines in 80 countries. Vestas and each Project Company have entered into a Service and Maintenance Agreement, which are included as <u>Confidential Direct Exhibit KM-20</u> to my testimony. Pursuant to these agreements, Vestas makes certain covenants regarding the availability of the Wind Turbines, provides warranties, performs services, and provides parts for the wind turbines at each Wind Project. The availability covenants are incorporated by Section 2.3 of the Neosho Ridge agreement and detailed in Exhibit D to that agreement.

The availability covenant is fairly simple in concept and addresses the Wind Project's concern that the turbine equipment be maintained such that it is capable of operating, unimpeded, when the wind allows energy generation. A metric called "Measured Availability" is calculated for each Wind Turbine. This metric is a percentage, the numerator of which is the actual energy produced by a Wind Turbine during a period of time and the denominator of which is the amount of energy that would have been produced had the Wind Turbine been operating as specified during that time period.

During the Term of the Service and Maintenance Agreement, Vestas is liable for liquidated damages if the annual Measured Availability for all wind turbines comprising the Neosho Ridge Wind Project is below a specified threshold **[redacted]** Commercially, this handling aligns with the availability assumption in the Wind Project's financial model. Analogous provisions are in the North Fork Ridge and Kings Point agreements.

Q. Did the Company conduct any analysis of the estimated generation at various "P" levels for the Wind Projects?

A. Yes. Attached to my testimony as Confidential Direct Exhibit KM-21 is the most recent wind resource assessment conducted for each Wind Project by the engineering firm AWS Truepower, LLC ("AWS"), an independent third party that is a respected provider of resource assessments for wind energy projects across the country. The assessments show the estimated generation for each Wind Project at different "P" levels; specifically at P50, P75, P90, P95 and P99 levels.

Q. What is a "P" level?

A. A "P" level refers to the probability of exceedance for energy production by the Wind Project over a specified period of time (usually a year) in light of historical wind measurements, turbine specifications, and other relevant variables. In the case of wind energy, P values of P50 and P90 are frequently used. A P50 figure is the level of generation that is forecasted to be exceeded 50% of the time. In other words, P50 is the "average" in the sense that half of the time output is expected to surpass the P50 level of production, and half of the time output is expected to fall below it. A P90 figure is the level of generation that is forecasted to be exceeded 90% of the time. In other words, a P90 level of production would be expected to be exceeded, on average, nine years out of 10. Accordingly, the estimate of energy production is more conservative at the P90 level than at the P50 level. Confidential Direct Exhibit KM-21 provides assessments conducted by AWS as to expected energy capture from the Wind Projects. Assessments are based on a combination of data from on-site meteorological towers and SODAR units, correlation to long-term data from off-site, and computational flow dynamics modeling. The outcome of this data and modeling is a prediction of average annual hub-height wind speed distribution at each turbine location, which is then integrated over the warrantied power curve for the applicable turbine, and summed to provide a gross annual energy assessment for each Wind Project. Finally, a variety of loss factors are evaluated and applied to account for park aerodynamic effects, electrical losses, etc. The final outcome of this assessment activity is a probabilistic distribution of net annual energy production, which determines expected annual energy for various probabilities of exceedance. The summary of the analysis of the estimated generation at various "P" levels for the Wind Projects can be found in

Confidential Direct Exhibit KM-21 as follows: (a) Neosho Ridge - Table 17; (b) Kings Point – Table 18; and (c) North Fork Ridge – Table 19.

Q. In your opinion, should the Oklahoma Commission approve the acquisition of 600 MW of wind as outlined by the three Purchase and Sale Agreements signed by Liberty-Empire?

A. Yes. The PSAs include a number of terms and conditions to protect Liberty-Empire's customers. For instance, under the PSAs, Liberty-Empire's obligation to complete any purchase is subject to conditions that ensure that the applicable Wind Project is operational and producing wind energy within specified parameters. These "closing conditions" include, among others, that (1) wind turbines representing at least 90% of the Wind Project's expected nameplate capacity have been placed-in-service and achieved commercial operation, (2) the Wind Project has satisfied specified "in-service testing" requirements, (3) Liberty-Empire has received a report from an independent engineer confirming that the Wind Project conforms to agreed specifications and applicable industry standards, and (4) all key project contracts and permits remain in full force and effect. Also, in the PSAs, the Sellers make various representations and warranties about the Wind Projects, including with respect to environmental matters, permits, legal compliance, land rights, and other matters. If any of these representations and warranties is untrue, Liberty-Empire will have the right to recover any resulting losses from the Sellers, subject to customary limitations.

Q. In your opinion, is it consistent with the public interest for Liberty-Empire to own the Wind Projects and provide energy to their customers?

A. Yes. The Wind Projects will result in long term savings to its customers ($169 million over 20 years) compared to the costs of other resource acquisition portfolios. The process by which Liberty-Empire selected these Wind Projects was a competitive market-based process that was conducted without bias, was scored fairly and appropriately to determine the best facilities to supply wind energy, and resulted in quality contracts for Liberty-Empire to purchase the facilities after construction is complete. As the Wind Projects unfolded, Liberty-Empire took appropriate steps, as described through my testimony, to evolve the terms of the PSAs to respond appropriately to meet the needs of the developments. Liberty-Empire has been able to take advantage of tax equity financing to deliver significant savings to customers, effectively reducing by nearly 50% the cost of the Wind Projects for its customers.

Q. Could the Company have waited and made these investments later?

A. No. to do with Liberty-Empire's ability to acquire significant renewable energy resources at a 50% savings due to the availability of the tax benefits and the use of a tax equity partnership structure to acquire the Wind Projects. Under current tax laws, those opportunities are not available to Liberty-Empire and its customers if the utility waits to perfectly match up the expiration of the existing wind purchased power agreements and the acquisition of new wind resources. The acquisition of the Wind Projects not only has the benefit of rebalancing Liberty-Empire's portfolio with significant renewable energy resources, but such results in a low-cost (in the market price) opportunity to replace the existing wind purchased power agreements that will expire. Adding wind to Liberty-Empire's portfolio reduces risk and decreases costs because wind performs better than the status quo resource acquisition plan under nearly all of the market scenarios evaluated by Liberty-Empire in its IRP study.

Q. Are there any other reasons why Liberty-Empire's ownership of the Wind Projects will promote the public interest?

A. Yes. Approval is consistent public policy to diversify energy supply through the support of low-cost renewable energy resources which provide net benefits to customers. In addition, the public interest is promoted by Liberty-Empire taking proactive steps in competing in the SPP marketplace with the overall goal of reducing energy costs for its customers by owning and operating generation that can compete in the SPP marketplace. Liberty-Empire's efforts to acquire the Wind Projects is an example of how being proactive will result in benefits to customers and why such should be approved by this Commission.

Q. Will ownership of the Wind Projects by Liberty-Empire increase risk to its customers?

A. No, just the opposite is true. Adding wind to the portfolio reduces risk (in addition to decreasing cost) because wind performs much better than the status quo under most market conditions evaluated. This makes sense because, for example, when you introduce a carbon policy as Liberty-Empire does in some scenarios, the benefits of owning the additional wind rise substantially over a portfolio without the additional wind. On the other hand, the status quo is not only more costly in the base case, it is more costly in most of the scenarios that were evaluated.

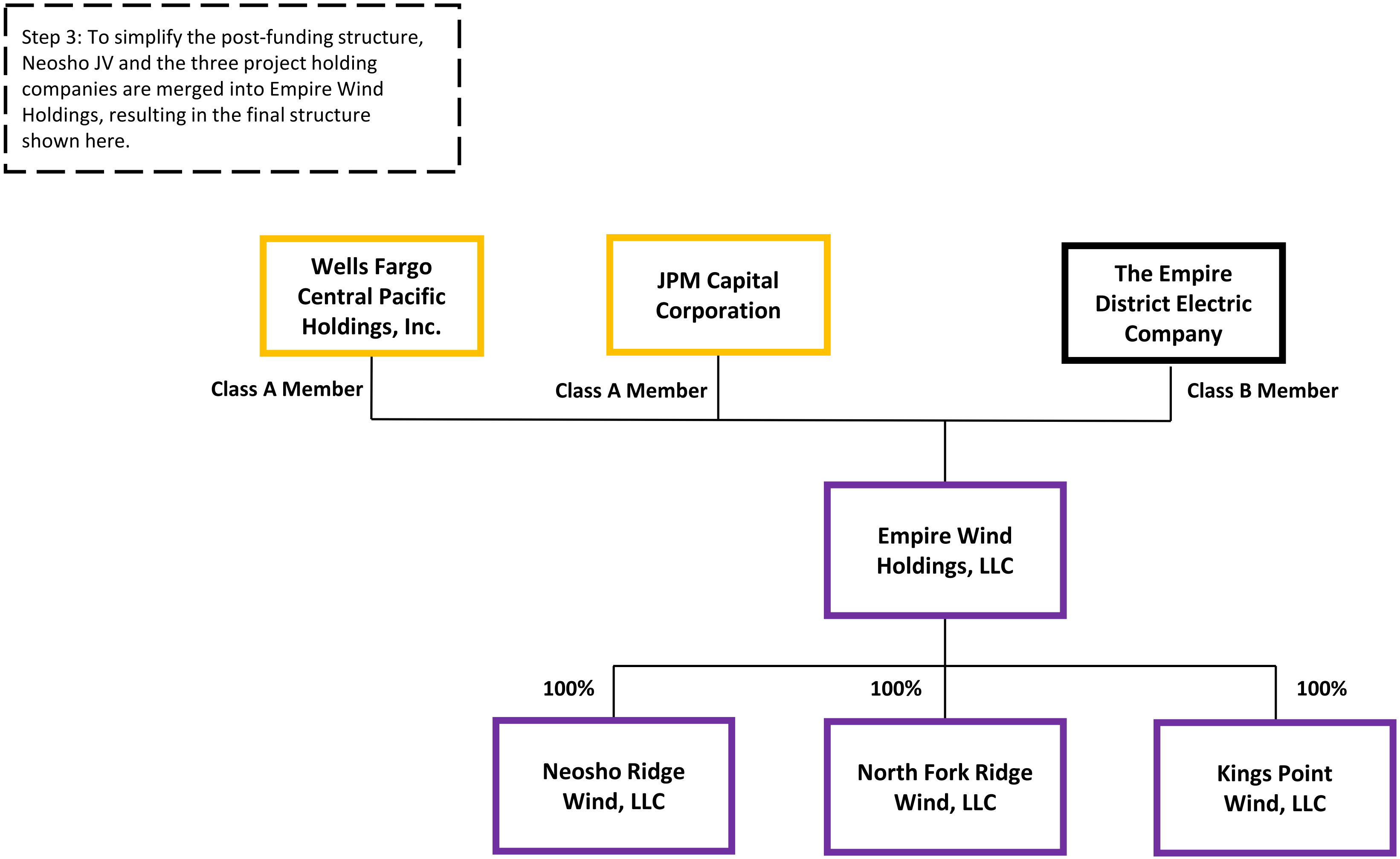
VI. <u>CONCLUSION</u>

Q. Does this conclude your testimony?

A. Yes.

CONFIDENTIAL IN ITS ENTIRETY

EMPIRE WIND: CONSOLIDATED FINAL STRUCTURE



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Affiliate Transaction	Nature of Transaction	Fee Structure
Balance of Plant Operations and Maintenance Agreement Between Empire and Kings Point Wind, LLC, North Fork Ridge, LLC and Neosho Ridge Wind, LLC	Empire, through Liberty Utilities Service Corp. staff, to provide ongoing O&M services to the wind projects	Fixed fee with escalation
Asset Management Agreement Between Empire and Kings Point Wind, LLC, North Fork Ridge, LLC and Neosho Ridge Wind, LLC	Empire, through Liberty Utilities Service Corp. staff, to provide ongoing asset management services to the wind projects	Fixed fee with escalation
Energy Management Services Agreement Between Empire and Kings Point Wind, LLC, North Fork Ridge, LLC and Neosho Ridge Wind, LLC	Empire, through Liberty Utilities Service Corp. staff, to provide ongoing services to bid the wind generation into the SPP Integrated Marketplace	Fixed fee with escalation
Affiliate Services Agreement Between Liberty Utilities (Canada) Corp. and Empire	ASA executed 6/30/2017 whereby LUCC provides operations and technical services to Empire	Charges are pursuant to the APUC Allocation Manual
Affiliate Services Agreement Between Algonquin Power Fund (America) Inc. and Empire	ASA will allow Liberty Power employees that operate and maintain wind farms in the US to train Empire employees on wind farm operations	Charges are pursuant to the APUC Allocation Manual
ISDA Master Agreements Between Empire and Kings Point Wind, LLC, North Fork Ridge Wind, LLC and Neosho Ridge Wind, LLC	Hedge Agreements (fixed for floating swap)	Market Value as determined by methodology approved by tax equity partner

Non-Energy Products Agreement Between Empire and Kings Point Wind, LLC, North Fork Ridge Wind, LLC and Neosho Ridge Wind, LLC	Empire would acquire ancillary services rights, capacity rights, RECs and other environmental attributes generated by or otherwise attributable to the wind farms	RECS sold at an amount equal to $0.20 per RECs delivered; other non-energy products priced at all actual and documented third party costs incurred by Seller (i) for any capital improvements required solely for the Project to generate Ancillary Services Rights or Capacity Rights, that would not be constructed or installed by Seller other than to generate such Ancillary Services Rights or Capacity Rights, and (ii) any registration and other non-capital costs reasonably required for the Project to qualify for, make available for delivery, or otherwise monetize any Non-Energy Products, including all fees, costs, charges or penalties (including those based on the performance of the Project) assessed by SPP or the inter-connecting utility or any other third parties
Amended and Restated Purchase and Sale Agreements Between Empire and Liberty Utilities Co. and Steelhead Missouri Matrix Wind Holdings, LLC	Purchase of North Fork Ridge Wind Holdings, LLC and Kings Point Wind Holdings, LLC	Fixed Price and Flow Through Costs Set Through Competitive Solicitation

CONFIDENTIAL IN ITS ENTIRETY

CONFIDENTIAL IN ITS ENTIRETY

CONFIDENTIAL IN ITS ENTIRETY

AFFILIATE SERVICES AGREEMENT
Liberty Utilities (Canada) Corp.

This Affiliate Services Agreement (this "Agreement") is effective as of the 30th day of June, 2017, by and between Liberty Utilities (Canada) Corp. ("LUC") and Liberty Utilities (EnergyNorth Natural Gas) Corp., Liberty Utilities (Granite State Electric) Corp., Liberty Utilities (New England Natural Gas Company) Corp., Liberty Utilities (Peach State Natural Gas) Corp., Liberty Utilities (CalPeco Electric) LLC, Liberty Utilities (Park Water) Corp., Liberty Utilities (Apple Valley Ranchos Water) Corp., Liberty Utilities (Bella Vista Water) Corp., Liberty Utilities (Gold Canyon Sewer) Corp., Liberty Utilities (Litchfield Park Water & Sewer) Corp., Liberty Utilities (Northwest Sewer) Corp., Liberty Utilities (Black Mountain Sewer) Corp., Liberty Utilities (Entrada Del Oro Sewer) Corp., Liberty Utilities (Pine Bluff Water) Inc., Liberty Utilities (Rio Rico Water & Sewer) Corp., Liberty Utilities (Seaside Water) LLC, Liberty Utilities (Fox River Water) LLC, Liberty Utilities (Missouri Water) LLC, Liberty Utilities (Silverleaf Water) LLC, Liberty Utilities (Tall Timbers Sewer) Corp., Liberty Utilities (White Hall Sewer) Corp., Liberty Utilities (White Hall Water) Corp., Liberty Utilities (Woodmark Sewer) Corp., Liberty Utilities (Woodson-Hensley Water) Corp., Liberty Utilities (Midstates Natural Gas) Corp., The Empire District Electric Company, The Empire District Gas Company, and Empire District Industries, Inc. (each individually a "Liberty Utilities Entity" and collectively, the "Liberty Utilities Entities"). The parties to this Agreement are otherwise collectively referred to as the "Parties" or individually referred to as a "Party."

WHEREAS, LUC and the Liberty Utilities Entities are all subsidiaries within the Algonquin Power & Utilities Corp. family of companies;

WHEREAS, in order to maximize efficiency and minimize costs for the Parties, LUC may perform various shared services for the Liberty Utilities Entities;

WHEREAS, the Parties seek to memorialize the terms and conditions that govern LUC's provision of services to the Liberty Utilities Entities, including the manner in which costs will be charged to the Liberty Utilities Entities.

THEREFORE, the Parties further agree as follows:

Section 1 – Provision of Services

Section 1.1 ***Staffing.*** LUC has and will maintain a staff trained and experienced in the provision of the services described in Section 1.2. In addition to the services of its own staff, LUC will, from time to time, arrange for services of non-affiliated experts, consultants, accountants and attorneys to provide the services in Section 1.2.

Section 1.2 ***Services.*** LUC agrees to provide, and the Liberty Utilities Entities agree to accept, services necessary for each Liberty Utilities Entity to provide safe, cost-effective and reliable utility services to its customers. These services include, but are not limited to, the following types of services upon the terms and conditions set forth herein:

administration, compliance, customer experience, energy procurement, external communications, financial reporting, treasury, planning and administration, legal, executive and strategic management, environmental, health, safety and security, human resources, information technology, internal audit, operations, procurement, regulatory strategy, risk management, technical services, training, facilities and building rent and utility planning.

Section 2 – Records and Charges

Section 2.1 ***Records***. LUC shall maintain adequate books and records with respect to the transactions subject to this Agreement to specifically identify costs subject to allocation, particularly with respect to their origin. In addition, the records must be adequately supported in a manner sufficient to justify recovery of the costs in the rates of the Liberty Utilities Entity. LUC shall be responsible for maintaining internal controls to ensure the costs associated with transactions covered by the Agreement are properly and consistently allocated and billed in accordance with the terms and provisions of this Agreement. Each of the Liberty Utilities Entities shall maintain its own books and records in the manner required by law, and in a transparent manner which allows the amounts billed by LUC to be readily determined.

Section 2.2 ***Charges***. All services rendered under this Agreement will be provided and charged to Liberty Utilities Entities in accordance with the then effective Algonquin Power & Utilities Cost Allocation Manual ("CAM"), which is set forth at https://libertyutilities.com/lucam.html and incorporated herein by reference. Charges for services consist of direct and indirect costs. Direct charges shall include direct labor, direct materials, direct purchased services associated with the related asset or services, and overhead amounts. Where service cannot be direct charged, LUC shall charge the Liberty Utilities Entity based on the allocation factors and methodologies set forth in the CAM. All employee costs for LUC employees who perform work for the Liberty Utilities Entity are to be paid by LUC and direct charged to the Liberty Utilities Entity. Joint and common costs not associated with the provision of services listed above shall be charged based on a four-factor allocation methodology in the CAM.

Section 3 - Term

Section 3.1 ***Term***. This Agreement shall continue unless terminated by any of the Liberty Utilities Entities or LUC giving thirty days' written notice to the other of such termination at the end of any month. Any such termination shall not affect (a) the terminating Party's accrued rights and obligations under this Agreement arising prior to the effective date of termination; (b) any Liberty Utilities Entities' rights to obtain any and all records from LUC regarding its provision of services under this Agreement; and (c) LUC's responsibilities to provide any Liberty Utilities Entity books and records and other information relating to its provision of services under this Agreement. This Agreement shall not be amended except by a written instrument signed by an authorized representative of each of the Parties hereto.

Section 4 – Confidential Information

Section 4.1 ***Confidential Information.*** The Parties recognize that each LUC employee who performs any of the services delineated in Section 1.2 above for a Liberty Utilities Entity may have access to confidential and commercially-sensitive information relating to the Liberty Utilities Entity's utility operations and customers ("Liberty Utilities Entities Confidential Information"). LUC agrees that such employees performing services for any Liberty Utilities Entity shall use any such Liberty Utilities Entity Confidential Information only for the purpose of performing Section 1.2 services. Each Party shall treat in confidence all information that it shall have obtained regarding the other Party and its respective business. If a Party is required to disclose confidential information to a governmental authority, such Party shall take reasonable steps to make such disclosure confidential as allowed under the rules of such governmental authority. The obligation of a Party to treat such information in confidence shall not apply to any information which (i) is or becomes available to such Party from a third party source which is not an affiliate of either Party, or (ii) is or becomes available to the public other than as a result of disclosure by such Party or its agents or other affiliates.

Section 5 – Miscellaneous

Section 5.1 ***Compliance with Governing Law.*** The services provided under this Agreement shall be performed to the extent permitted by law, and this Agreement will be subject to termination or modification at any time to the extent its performance may conflict with any federal or state law or any rule, regulation or order of a federal or state regulatory body having jurisdiction. This Agreement shall be subject to approval of any federal or state regulatory body whose approval is a legal prerequisite to its execution and performance. Cost allocations and the methods of allocation provided herein may also be subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC") under Section 1275 of the Energy Policy Act of 2005 and the rules promulgated thereunder and, to the extent applicable, FERC determinations regarding the allocation of costs shall be dispositive. In the case of Parties subject to the jurisdiction of the Massachusetts Department of Public Utilities ("MDPU") or any successor to the MDPU, any amounts to be paid by such Parties in connection with this Agreement or any transaction contemplated by this Agreement shall be subject to review and determination by the MDPU in any proceeding brought under Section 93 or 94 of Chapter 164 of the Massachusetts General Laws.

Section 5.2 ***Limitation of Liability.*** Each Party acknowledges and agrees that any services provided by LUC hereunder are so provided WITHOUT ANY WARRANTY (WHETHER EXPRESS, IMPLIED OR STATUTORY AND NOTWITHSTANDING ANY ORAL OR WRITTEN STATEMENT BY A PARTY'S EMPLOYEES, REPRESENTATIVES OR AGENTS TO THE CONTRARY) WHATSOEVER. ALL SUCH WARRANTIES INCLUDING, WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE HEREBY DISCLAIMED AND EXCLUDED.

Section 5.3 ***Exclusive Benefit.*** This Agreement is intended for the exclusive benefit of the Parties hereto and is not intended and shall not be deemed or construed, to create any rights in, or responsibilities to, third parties.

Section 5.4 ***Assignment.*** This Agreement may not be assigned by any Party without the prior written consent of all Parties.

Section 5.5 ***Severability.*** Wherever possible, each provision hereof shall be interpreted in such manner as to be effective and valid under applicable law, but in case any one or more of the provisions contained herein shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, such provision shall be ineffective to the extent, but only to the extent, of such invalidity, illegality or enforceable provision or provisions or any other provisions hereof, unless such a construction would be unreasonable.

Section 5.6 ***Waiver.*** Failure by any Party to insist upon strict performance of any term or condition herein shall not be deemed a waiver of any rights or remedies that such Party may have against any other Party nor in any way affect the validity of this Agreement or any part hereof or the right of such Party thereafter to enforce each and every such provision. No waiver of any breach of this Agreement shall be held to constitute a waiver of any other subsequent breach.

Section 5.7 ***Entirety.*** This Agreement constitutes the entire Agreement between the Parties pertaining to the subject matter hereof and supersedes all prior Agreements, understandings, negotiations and discussions, whether oral or written between the Parties with respect to the subject matter hereof.

Section 5.8 ***Counterparts.*** Any number of counterparts of this Agreement may be executed, and each shall have the same force and effect as an original instrument, as if all Parties to all counterparts had signed the same instrument.

Section 5.9 ***Supremacy.*** In the event of a conflict or inconsistency between the terms of this Agreement and the CAM, the CAM shall prevail.

[signatures appear on following pages]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the date first above mentioned.

LIBERTY UTILITIES (CANADA) CORP.

By: ______________________________
Name: Ian Robertson
Title: Chief Executive Officer

By: ______________________________
Name: David Bronicheski
Title: Authorized Signing Officer

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.

By: ______________________________
Name: James Sweeney
Title: President

By: ______________________________
Name: Tisha Sanderson
Title: Secretary

LIBERTY UTILITIES (GRANITE STATE ELECTRIC) CORP.

By: ______________________________
Name: James Sweeney
Title: President

By: ______________________________
Name: Tisha Sanderson
Title: Secretary

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Title: President

By: Tisha C. Sanderson
Name: Tisha Sanderson
Title: Secretary

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By: ______________________________
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Title: President

By: Tisha C. Sanderson
Name: Tisha Sanderson
Title: Secretary

LIBERTY UTILITIES (NEW ENGLAND NATURAL GAS COMPANY) CORP.

By: ______________________________
Name: James Sweeney
Title: President

By: ______________________________
Name: Ronald John Ritchie
Title: Secretary

LIBERTY UTILITIES (PEACH STATE NATURAL GAS) CORP.

By: ______________________________
Name: Charles A. Rossi
Title: President

By: ______________________________
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (CALPECO ELECTRIC) LLC

By: ______________________________
Name: Gregory Sorensen
Title: President

By: ______________________________
Name: Todd Wiley
Title: Secretary

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LIBERTY UTILITIES (PARK WATER) CORP.

By: ________________________________
Name: Gregory Sorensen
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By: ________________________________
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (APPLE VALLEY RANCHOS WATER) CORP.

By: ________________________________
Name: Gregory Sorensen
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By: ________________________________
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (BELLA VISTA WATER) CORP.

By: ________________________________
Name: Matthew Garlick
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By: ________________________________
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Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (BELLA VISTA WATER) CORP.

By: Matthew Garlick/SBK
Name: Matthew Garlick
Title: President

By: Todd Wiley/SBK
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (GOLD CANYON SEWER) CORP.

By: Matthew Garlick / SBK
Name: Matthew Garlick
Title: President

By: Todd Wiley / SBK
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (LITCHFIELD PARK WATER & SEWER) CORP.

By: Matthew Garlick / SBK
Name: Matthew Garlick
Title: President

By: Todd Wiley / SBK
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (NORTHWEST SEWER) CORP.

By: Matthew Garlick / SBK
Name: Matthew Garlick
Title: President

By: Todd Wiley / SBK
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

By: Matthew Garlick/SSK
Name: Matthew Garlick
Title: President

By: Todd Wiley/SSK
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (ENTRADA DEL ORO SEWER) CORP.

By: Matthew Garlick/SSK
Name: Matthew Garlick
Title: President

By: Todd Wiley/SSK
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (PINE BLUFF WATER) INC.

By: ____________________
Name: David Swain
Title: President

By: ____________________
Name: Dale Harrington
Title: Secretary

By: ______________________________
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (BLACK MOUNTAIN SEWER) CORP.

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LIBERTY UTILITIES (PINE BLUFF WATER) INC.

By: ______________________________
Name: David Swain
Title: President

By: Dale W Harrington
Name: Dale Harrington
Title: Secretary

LIBERTY UTILITIES (RIO RICO WATER & SEWER) CORP.

By: Matthew Garlick /SBK
Name: Matthew Garlick
Title: President

By: Todd Wiley /SBK
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (SEASIDE WATER) LLC

By: Matthew Garlick /SBK
Name: Matthew Garlick
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LIBERTY UTILITIES (FOX RIVER WATER) LLC

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LIBERTY UTILITIES (FOX RIVER WATER) LLC

By: David Swain
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LIBERTY UTILITIES (MISSOURI WATER) LLC

By: ______________________________
Name: David Swain
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By: ______________________________
Name: Dale Harrington
Title: Secretary

LIBERTY UTILITIES (SILVERLEAF WATER) LLC

By: Matthew Garlick /SBC
Name: Matthew Garlick
Title: President

By: Todd Wiley /SBC
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (TALL TIMBERS SEWER) CORP.

By: Matthew Garlick /SBC
Name: Matthew Garlick
Title: President

By: Todd Wiley /SBC
Name: Todd Wiley
Title: Secretary

By: ______________________________
Name: Dale Harrington
Title: Secretary

LIBERTY UTILITIES (MISSOURI WATER) LLC

By: David Swain
Name: David Swain
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LIBERTY UTILITIES (SILVERLEAF WATER) LLC

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LIBERTY UTILITIES (WHITE HALL SEWER) CORP.

By: David Swain
Name: David Swain
Title: President

By: ______________________________
Name: Dale Harrington
Title: Secretary

LIBERTY UTILITIES (WHITE HALL WATER) CORP.

By: David Swain
Name: David Swain
Title: President

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LIBERTY UTILITIES (WOODMARK SEWER) CORP.

By: ______________________________
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By: Matthew Garlick /SBK
Name: Matthew Garlick
Title: President

By: Todd Wiley /SBK
Name: Todd Wiley
Title: Secretary

Title: Secretary

LIBERTY UTILITIES (WOODSON-HENSLEY WATER) CORP.

By: James H. Lucas
Name: James H. "Pete" Lucas

By: ______________________________
Name: Todd Wiley
Title: Secretary

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.

By: ______________________________
Name: David Swain
Title: President

By: ______________________________
Name: Dale Harrington
Title: Secretary

THE EMPIRE DISTRICT ELECTRIC COMPANY

By: ______________________________
Name: David Swain
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THE EMPIRE DISTRICT GAS COMPANY

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By: ______________________________
Name: Dale Harrington
Title: Secretary

EMPIRE DISTRICT INDUSTRIES, INC.

By: David Swain
Name: David Swain
Title: President

By: ______________________________
Name: Dale Harrington
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THE EMPIRE DISTRICT GAS COMPANY

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EMPIRE DISTRICT INDUSTRIES, INC.

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AFFILIATE SERVICES AGREEMENT

Algonquin Power Fund (America) Inc. and The Empire District Electric Company

This Affiliate Services Agreement (this "Agreement") is entered into and effective as of the 12th of May, 2020, by and between Algonquin Power Fund (America) Inc. ("Provider") and The Empire District Electric Company ("Empire"). The parties to this Agreement are otherwise collectively referred to as the "Parties" or individually referred to as a "Party."

WHEREAS, the Provider employs individuals who are dedicated to providing operational services to wind generation facilities;

WHERAS, Empire seeks to benefit from the expertise of the Provider's employees in the operation of wind farms in anticipation of its ownership of 600 MW of wind generation;

WHEREAS, the Provider and Empire seek to memorialize the terms and conditions that govern Provider's provision of services to Empire, including the manner in which costs will be charged to Empire.

THEREFORE, the Parties further agree as follows:

Section 1 – Provision of Services

Section 1.1 ***Staffing***. Provider has and will maintain a staff trained and experienced in the provision of services described in Section 1.2.

Section 1.2 ***Services***. Provider agrees to provide certain training on the operation and maintenance of the Neosho Ridge, Kings Point and North Fork Ridge wind farms (the "Wind Farms") and Empire agrees to accept, such services necessary for Empire to ready its workforce for ownership of the Wind Farms, as well as their operation upon their acquisition.

Section 1.3 ***Intent of Agreement***. The intent of this Agreement is to allow the Provider to provide services necessary for Empire to operate and maintain the Wind Farms. The Parties understand and agree that, at all times, Empire remains solely responsible for operation of the utility in providing safe, reliable and cost-effective service to its customers. The Parties further understand and agree that they each remain responsible for complying with all applicable laws, rules and regulations in the conduct of their respective businesses. The Parties understand and agree that each Liberty Utilities Entity owns and/or controls certain plant, facilities and equipment used and useful in providing distribution utility service to its customers and Provider does not have any right, ownership or control over such plant, facilities and equipment used and useful in providing electric utility service to those customers.

Section 1.4 ***Duties Unchanged***. Nothing herein shall be construed to relieve the officers, directors or members of Empire from performing its respective duties, fulfilling its responsibilities, or limiting the exercise of its powers in accordance with its governing documents such as Articles of Incorporation or Operating Agreements, applicable law, or otherwise. The activities of Empire shall remain, and at all times be, subject to the control, management and direction of its directors or members and officers.

Section 2 – Records and Charges

Section 2.1 ***Records***. Provider shall maintain adequate books and records with respect to the transactions subject to this Agreement to specifically identify costs subject to allocation, particularly with respect to their origin. In addition, the records must be adequately supported in a manner sufficient to justify to any utility regulatory body recovery of the costs in the rates of Empire. Provider shall be responsible for maintaining internal controls to ensure the costs associated with transactions covered by the Agreement are properly and consistently allocated and billed in accordance with the terms and provisions of this Agreement. Empire shall maintain its own books and records in the manner required by law, and in a transparent manner which allows the amounts billed by Provider to be readily determined.

Section 2.2 ***Charges***. All services rendered under this Agreement will be provided and charged to Empire in accordance with the then effective Algonquin Power & Utilities Cost Allocation Manual ("CAM"), which is set forth at https://libertyutilities.com/lucam.html and incorporated herein by reference. Charges for services consist of direct and indirect costs. Direct charges shall include direct labor, direct materials, direct purchased services associated with the related asset or services, and overhead amounts. Where service cannot be direct charged, Provider shall charge Empire based on the allocation factors and methodologies set forth in the CAM. All employee costs for Provider employees who perform work for Empire are to be paid by Empire and direct charged to Empire. Joint and common costs not associated with the provision of services listed above shall be charged based on a four-factor allocation methodology in the CAM.

Section 3 – Term

Section 3.1 ***Term***. This Agreement shall continue unless terminated by Empire giving thirty days' written notice to the other of such termination at the end of any month. Any such termination shall not affect (a) the terminating Party's accrued rights and obligations under this Agreement arising prior to the effective date of termination; (b) Empire's rights to obtain any and all records from Provider regarding its provision of services under this Agreement; and (c) Provider's responsibilities to provide Empire books and records and other information relating to its provision of services under this Agreement. This Agreement shall not be amended except by a written instrument signed by an authorized representative of each of the Parties hereto.

Section 4 – Information

Section 4.1 ***Confidential Information***. The Parties recognize that each Provider employee who performs any of the services delineated in Section 1.2 above for Empire may have access to confidential and commercially-sensitive information relating to Empire's operations of the Wind Farms ("Empire Confidential Information"). Provider agrees that such employees performing services for Empire shall use any such Empire Confidential Information only for the purpose of performing Section 1.2 services. Each Party shall treat in confidence all information that it shall have obtained regarding the other Party and its respective business. Subject to the disclosure obligations set forth in Section 4.2, if a Party is required to disclose confidential information to a governmental authority, such Party shall take reasonable steps to make such disclosure confidential as allowed under the rules of such governmental authority. The obligation of a Party to treat such information in confidence shall not apply to any information which (i) is or becomes available to such Party from a third party source which is not an affiliate of either Party, or (ii) is or becomes available to the public other than as a result of disclosure by such Party or its agents or other affiliates.

Section 4.2. ***Requests by Regulatory Commissions***. Empire is subject to rate and financing regulation by various regulatory commissions and as such are obligated to respond to various requests for information. Provider agrees and recognizes that Empire is responsible for responding fully and timely to any such requests for information relating to Empire and Provider and Empire shall accordingly ensure that Provider shall provide information responding to such requests. Empire further agrees that it will not assert an objection to a request by a regulatory commission or otherwise refuse to provide the requested information on the basis either that: (i) the information is held by and needs to be obtained from Provider; or (ii) employees of Provider perform the functions necessary for Empire to provide public utility service. Empire does not waive any other legal rights and/or objections relating to information requests, except as noted in this paragraph. Without waiving any legal rights, Provider additionally agrees that it will provide any and all necessary supporting information to Empire as requested by any regulatory commission relating to the services listed and provided in Section 1.2 above to Empire.

Section 5 – Miscellaneous

Section 5.1 ***Compliance with Governing Law***. The services provided under this Agreement shall be performed to the extent permitted by law, and this Agreement will be subject to termination or modification at any time to the extent its performance may conflict with any federal or state law or any rule, regulation or order of a federal or state regulatory body having jurisdiction. This Agreement shall be subject to approval of any federal or state regulatory body whose approval is a legal prerequisite to its execution and performance. Cost allocations and the methods of allocation provided herein may also be subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC") under Section 1275 of the Energy Policy Act of 2005 and the rules promulgated thereunder and, to the extent applicable, FERC determinations regarding the allocation of costs shall be dispositive.

Section 5.2 ***Exclusive Benefit***. This Agreement is intended for the exclusive benefit of the Parties hereto and is not intended and shall not be deemed or construed, to create any rights in, or responsibilities to, third parties.

Section 5.3 ***Assignment***. This Agreement may not be assigned by any Party without the prior written consent of all Parties.

Section 5.4 ***Severability***. Wherever possible, each provision hereof shall be interpreted in such manner as to be effective and valid under applicable law, but in case any one or more of the provisions contained herein shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, such provision shall be ineffective to the extent, but only to the extent, of such invalidity, illegality or enforceable provision or provisions or any other provisions hereof, unless such a construction would be unreasonable.

Section 5.5 ***Waiver***. Failure by any Party to insist upon strict performance of any term or condition herein shall not be deemed a waiver of any rights or remedies that such Party may have against any other Party nor in any way affect the validity of this Agreement or any part hereof or the right of such Party thereafter to enforce each and every such provision. No waiver of any breach of this Agreement shall be held to constitute a waiver of any other subsequent breach.

Section 5.6 ***Entirety***. This Agreement constitutes the entire Agreement between the Parties pertaining to the subject matter hereof and supersedes all prior Agreements, understandings, negotiations and discussions, whether oral or written between the Parties with respect to the subject matter hereof.

Section 5.7 ***Counterparts***. Any number of counterparts of this Agreement may be executed, and each shall have the same force and effect as an original instrument, as if all Parties to all counterparts had signed the same instrument.

Section 5.8 ***Supremacy***. In the event of a conflict or inconsistency between the terms of this Agreement and the CAM, the CAM shall prevail.

[signatures appear on following pages]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the date first above mentioned.

ALGONQUIN POWER FUND (AMERICA) INC.

By: Charle Ashman

Name: Charles Ashman
Title: President

By: ______________________

Name: Steven Burns
Title: Secretary/Treasurer

THE EMPIRE DISTRICT ELECTRIC COMPANY

By: ______________________

Name: David Swain
Title: President

By: ______________________

Name: Tim Wilson
Title: Vice President, Electric Operations

ALGONQUIN POWER FUND (AMERICA) INC.

By: ______________________________

Name: Charles Ashman

Title: President

By: ______________________________

Name: Steven Burns

Title: Secretary/Treasurer

THE EMPIRE DISTRICT ELECTRIC COMPANY

By: ______________________________

Name: David Swain

Title: President

By: ______________________________

Name: Tim Wilson

Title: Vice President, Electric Operations

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the date first above mentioned.

ALGONQUIN POWER FUND (AMERICA) INC.

By: ______________________________
Name: Charles Ashman
Title: President

By: ______________________________
Name: Steven Burns
Title: Secretary/Treasurer

THE EMPIRE DISTRICT ELECTRIC COMPANY

By: ______________________________
Name: David Swain
Title: President

By: ______________________________
Name: Tim Wilson
Title: Vice President, Electric Operations

CONFIDENTIAL IN ITS ENTIRETY

DIRECT EXHIBIT KM-18
PUBLIC VERSION

CONFIDENTIAL IN ITS ENTIRETY

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

Simplified Hedge Illustration

	Years 1-5	Years 6-10		
			Hedge Price	N/A
	100%	75%		
	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

	Years 1-5	Years 6-10		
			Hedge Price	100.00
	100%	75%		
	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

Corporate Tax Change Sensitivity 6.98% Discount Rate

Income Stmt Endpoints	Other Report Endpoints		PVRR	Transact 10 Year Results	Transact 20 Year Results	Transact 30 Year Results	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
1		Plan 1	IRP Plan 5-F17 Ref Case	$4,440	$7,446	$9,418	546	567	593	618	643	659	677	694	709	721
2	2	Plan 2	600 MW Wind No Asbury-F17 Ref Case	$4,327	$7,188	$9,022	539	541	561	613	622	643	657	676	705	712
3	3	Plan 3	600 MW Wind with Asbury-F17 Ref Case	$4,447	$7,277	$9,123	546	567	587	637	644	663	676	693	707	714
4		Plan 1	IRP Plan 5-F16 Ref Case	$4,499	$7,559	$9,589	545	573	604	628	651	668	688	704	720	734
5	5	Plan 2	600 MW Wind No Asbury-F16 Ref Case	$4,359	$7,250	$9,111	538	550	578	616	623	645	660	676	710	717
6	6	Plan 3	600 MW Wind with Asbury-F16 Ref Case	$4,430	$7,265	$9,143	545	573	596	631	637	656	670	684	702	709
		17 Curve Savings														
			600 MW Wind No Asbury-F17 Ref Case	$113	$258	$396										
			600 MW Wind with Asbury-F17 Ref Case	($7)	$169	$295	$0	($0)	$6	(19)	(2)	(4)	1	2	3	7
		16 Curve Savings														
			600 MW Wind No Asbury-F16 Ref Case	$140	$309	$477										
			600 MW Wind with Asbury-F16 Ref Case	$69	$295	$445										
			Rate increases of Settlement Plan vs today's rates				0.0%	-0.1%	1.0%	-3.4%	-0.3%	-0.7%	0.2%	0.3%	0.4%	1.3%

Corporate Tax Change Sensitivity 6.98% Discount Rate

Income Stmt Endpoints	Other Report Endpoints		PVRR	Transact 10 Year Results	Transact 20 Year Results	Transact 30 Year Results	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
1		Plan 1	IRP Plan 5-F17 Ref Case	$4,440	$7,446	$9,418	738	744	800	792	847	869	895	910	966	992
2	2	Plan 2	600 MW Wind No Asbury-F17 Ref Case	$4,327	$7,188	$9,022	727	737	755	777	786	804	828	879	897	921
3	3	Plan 3	600 MW Wind with Asbury-F17 Ref Case	$4,447	$7,277	$9,123	725	737	743	760	770	793	818	855	900	924
4		Plan 1	IRP Plan 5-F16 Ref Case	$4,499	$7,559	$9,589	751	756	813	802	860	880	904	935	992	1020
5	5	Plan 2	600 MW Wind No Asbury-F16 Ref Case	$4,359	$7,250	$9,111	732	745	764	784	796	813	835	889	907	934
6	6	Plan 3	600 MW Wind with Asbury-F16 Ref Case	$4,430	$7,265	$9,143	720	737	742	757	770	790	813	867	914	940
		17 Curve Savings														
			600 MW Wind No Asbury-F17 Ref Case	$113	$258	$396										
			600 MW Wind with Asbury-F17 Ref Case	($7)	$169	$295	13	7	57	32	77	76	77	55	66	68
		16 Curve Savings														
			600 MW Wind No Asbury-F16 Ref Case	$140	$309	$477										
			600 MW Wind with Asbury-F16 Ref Case	$69	$295	$445										
			Rate increases of Settlement Plan vs today's rates				2.2%	1.2%	10.0%	5.6%	13.6%	13.4%	13.5%	9.7%	11.6%	11.9%

Corporate Tax Change Sensitivity 6.98% Discount Rate

Income Stmt Endpoints	Other Report Endpoints		PVRR	Transact 10 Year Results	Transact 20 Year Results	Transact 30 Year Results	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047
1		Plan 1	IRP Plan 5-F17 Ref Case	$4,440	$7,446	$9,418	1009	1022	1038	1060	1084	1104	1116	1142	1165	1185
2	2	Plan 2	600 MW Wind No Asbury-F17 Ref Case	$4,327	$7,188	$9,022	937	949	964	986	1008	1028	1038	1062	1086	1104
3	3	Plan 3	600 MW Wind with Asbury-F17 Ref Case	$4,447	$7,277	$9,123	941	954	968	990	1015	1034	1046	1072	1096	1115
4		Plan 1	IRP Plan 5-F16 Ref Case	$4,499	$7,559	$9,589	1038	1052	1068	1090	1115	1136	1148	1176	1200	1221
5	5	Plan 2	600 MW Wind No Asbury-F16 Ref Case	$4,359	$7,250	$9,111	950	964	979	1000	1023	1042	1052	1079	1103	1121
6	6	Plan 3	600 MW Wind with Asbury-F16 Ref Case	$4,430	$7,265	$9,143	957	972	986	1007	1033	1053	1063	1092	1117	1137
		17 Curve Savings														
			600 MW Wind No Asbury-F17 Ref Case	$113	$258	$396										
			600 MW Wind with Asbury-F17 Ref Case	($7)	$169	$295	68	67	70	70	69	70	70	69	69	70
		16 Curve Savings														
			600 MW Wind No Asbury-F16 Ref Case	$140	$309	$477										
			600 MW Wind with Asbury-F16 Ref Case	$69	$295	$445										
			Rate increases of Settlement Plan vs today's rates				12.0%	11.8%	12.3%	12.3%	12.1%	12.2%	12.3%	12.2%	12.1%	12.2%

DIRECT EXHIBIT KM-20
PUBLIC VERSION

CONFIDENTIAL IN ITS ENTIRETY

DIRECT EXHIBIT KM-21
PUBLIC VERSION

CONFIDENTIAL IN ITS ENTIRETY

CERTIFICATION

The undersigned, Kevin Melnyk, deposes and states that he is the Senior Vice President, Regulated Infrastructure Development, that he has personal knowledge of the matters set forth in the foregoing responses and the information contained therein is true and accurate to the best of his information, knowledge and belief after reasonable inquiry.

/s/ Kevin Melnyk

Kevin Melnyk