BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of The Empire District Electric Company for a Certificate of Convenience and Necessity Related to Wind Generation Facilities	))))	 **Case No. EA-2019-0010** Case No. EA-2019-0118

STAFF'S INITIAL BRIEF

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April 24, 2019

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Introduction

The current case is the second step of the process began in Case No. EO-2018-0092, *In the Matter of the Application of The Empire District Electric Company for Approval of its Customer Savings Plan* (the "Customer Savings Plan"). Initially, The Empire District Electric Company ("Empire") requested approval of its Customer Savings Plan in which Empire planned to develop up to 800 MW of wind generation using federal tax incentives in conjunction with a tax equity partner, and retire its Asbury coal-fired unit prior to April 2019.[1] The Parties filed three rounds of testimony based on this application before a non-unanimous stipulated agreement was reached on April 24, 2018.[2] That non-unanimous stipulated agreement, much like the Non-Unanimous Stipulation and Agreement ("Stipulation") in the current case, was designed to address the concerns raised in that case by all parties to the case, including those who objected. Generally, the non-unanimous stipulated agreement provided for building wind projects, but lowering the amount of new wind resources from the original 800 MW to up to 600 MW, including a specific minimum build commitment for Missouri.[3] After a hearing, the Commission determined it could not make a legal decision regarding the acquisition of the wind projects at that time, but it was acknowledged that the millions of dollars in customer savings and the addition of renewable wind energy resulting from the Customer

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[1] ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan,*** Case No. EO-2018-0092 (***Application of the Empire District Electric Company for Approval of its Customer Savings Plan and Application for Variance, and Motion for Waiver,*** filed October 31, 2017).
[2] ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan,*** Case No. EO-2018-0092 (***Non-Unanimous Stipulation and Agreement,*** filed April 24, 2018).
[3] Ex. 1HC, *Direct Testimony of Blake A. Mertens*, p. 5, l. 7-9.

Savings Plan and the Joint Position could be of considerable benefit to Empire's customers and the entire state.[4] In fact, the Commission stated in its Findings of Facts that:

> Adding wind generation to Empire's portfolio significantly reduces financial risk for Empire customers. Wind in the portfolio mitigates the impact that rising fuel and market prices have on Empire's retail rates. In a rising market price environment, Empire would be able to sell wind output at higher prices without any incremental fuel costs. Empire's credible analysis shows that adding up to 600 MW of wind to its portfolio would result in lower risk to that portfolio under three different market scenarios, relative to Empire's current resource plan.[5]

That Report and Order also stated in its Conclusions of Law and Discussion that:

> It is the public policy of this state to diversify the energy supply through the support of renewable and alternative energy sources. In past decisions, the Commission has stated its support in general for renewable energy generation, which provides benefits to the public. Empire's proposed acquisition of 600 MW of additional wind generation assets is clearly aligned with the public policy of the Commission and this state.[6]

Based on the Commission's nod in favor of the reasonableness of the Customer Savings Plan, Empire moved forward to acquire the 600 MWs of wind generation.[7] Empire executed two purchase and sale agreements (PSAs) for the Kings Point and North Fork Ridge sites in Missouri, each comprised of approximately 150 MWs of wind generation,[8] as well as a PSA for the 300 MW Neosho Ridge site in Kansas (collectively, the "Wind Projects").[9] Empire's application in the present case requested certificates of

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[4] ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan,*** Case No. EO-2018-0092 (***Report and Order,*** issued July 11, 2018, p. 22)
[5] *Id.* at p. 14-15.
[6] *Id.* at p. 20.
[7] Ex. 1HC, *Direct Testimony of Blake A. Mertens*, p. 5, l. 16-18.
[8] EFIS Item 2, *Empire's Application for Certificates of Convenience and Necessity*, p. 3.
[9] ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan for a Certificate and Necessity Related to Wind Generation Facilities in Kansas*****,** File No. EA-2019-0118, (***Empire's Application for a Certificate of Convenience and Necessity and Motion for Waiver, if Necessary***, filed November 18, 2018, p. 3.)

convenience and necessity (CCN) to acquire an interest in the three holding companies that own the Wind Projects, as well as authorize Empire to own, operate, maintain, and otherwise control and manage the Wind Projects.[10] Three rounds of testimony were filed, and on April 5, 2019, two Stipulation and Agreements were filed. The Stipulation and Agreement Concerning Wildlife Issues can be treated as unanimous, if the Commission would choose to do so, as all parties have indicated their non-objection and did not request a hearing on those subjects.[11] A hearing on the record was held April 8 and 9, 2019. The Office of the Public Counsel (OPC) objected to the Non-Unanimous Stipulation and Agreement ("Stipulation") on April 12, 2019.[12] As the Stipulation has been objected to, it is now the joint position of the signatories.

<u>The Stipulation</u>

The Stipulation is similar in many regards to the non-unanimous stipulation and agreement in the Customer Savings Plan. Both provide for Empire to receive CCNs for the three Wind Projects and their related interconnection assets and to enter into a holding company for each Wind Project with a tax equity partner. These Wind Holdcos will be direct subsidiaries of Empire and will each acquire a wind project company that owns a specific Wind Project.[13] At the end of approximately 10 years, Empire will have the right to purchase the tax equity partners' interest in the Wind Holdco, at which point Empire would wholly own the Wind Project.[14] Both require Empire to operate the Wind

[10] EFIS Item 2, *Empire's Application for Certificates of Convenience and Necessity*, p. 3.
[11] Ex. 12HC, *Stipulation and Agreement Concerning Wildlife Issues*.
[12] EFIS Item 88, *The Office of the Public Counsel's Objection to the Non-Unanimous Stipulation and Agreement Filed April 5, 2019.*
[13] Ex. 13 HC, *Non-Unanimous Stipulation and Agreement*, p. 3.
[14] *Id*.

Projects in accordance with Southwest Power Pool (SPP) Integrated Marketplace (IM) rules and in a manner not detrimental to Empire's customers.[15] This provision ensures that Empire abides by all applicable SPP IM rules, but also ensures Empire offers or bids the generation in at a value where it makes more sense to operate than to not operate.[16] In other words, when offering, there must be more value created by operating than not operating.[17] Both require an independent, third-party engineer to confirm in writing that Wind Projects have achieved mechanical completion, have a reasonable likelihood of meeting the agreed upon in-service criteria, and will meet or exceed the guaranteed power curve in the turbine supply agreements.[18] Both require in-service criteria to be met, the current Stipulation's in-service criteria being more detailed and thorough.[19] The current Stipulation also provides for quarterly reports on progress for construction, permitting, and transmission, as well as filing the SPP Definitive Impact System Impact Studies (DSIS), along with proposals to address any changes or any issues with sensitivity or curtailment.[20] This provision allows signatories to review information, and ask Empire to explain any material changes from what was proposed or would be approved by the Commission.[21] The current Stipulation requires the use of a tax equity partner for Empire to move forward, outlines terms and parameters that tax equity partner agreement must be bound by, and requires the tax equity partner to contribute a higher initial capital contribution than in the previous non-

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[15] *Id.* at p. 4.
[16] Tr. Vol. II, p. 211, l. 25 – p. 212, l. 3.
[17] Tr. Vol. II, p. 212, l. 11-15.
[18] Ex. 13 HC, *Non-Unanimous Stipulation and Agreement*, p. 4.
[19] Ex. 13HC, *Appendix A* to the *Non-Unanimous Stipulation and Agreement*.
[20] *Id.* at p. 5.
[21] Tr. Vol. IV, p. 321, l. 1-13 and p. 324, l. 15 - p. 325, l. 6.

unanimous stipulation and agreement.[22] Both stipulations contain provisions relating to true up and access to books and records.[23] Both stipulations also provide for non-residential access to renewable energy and credit, which allows Missouri non-residential customers to purchase RECs received from the Wind Project, which would provide further benefits and revenues for all of Empire's customers.[24] Both stipulations dealt with Asbury, however, the current stipulation just provides for the creation of regulatory assets and liabilities, to allow all of the costs and revenues relating to Asbury to be delineated and teed up for handling in a subsequent rate case.[25] This provision is intended to protect customers by not allowing Empire to shut Asbury down in between rate cases, and the realized cost savings being flowed through to shareholders instead of customers,[26] as would be the typical result of plant closures in between rate cases. Both stipulations contained a market price protection mechanism (MPP), designed to share risk between shareholders and ratepayers in the event of the Wind Projects underperforming. The MPP, an unprecedented risk sharing mechanism for supply side generation even in its previous form, has been improved to provide greater risk coverage, to the tune of nearly 20 million additional dollars, and eliminates the dead-band, which potentially adds an additional 20 million of value to customers.[27] In exchange for complying with the terms of the Stipulation, and subject to any prudency review of the costs of each Wind Project, the Signatories agree Empire should be authorized to record its capital investment as

[22] Ex. 13 HC, *Non-Unanimous Stipulation and Agreement*, p. 6.
[23] *Id.* at p. 8.
[24] *Id.*
[25] Tr. Vol. IV, p. 336, l. 1-9.
[26] Tr. Vol. II, p. 274, l. 11-18.
[27] Tr. Vol. II, p. 170, l. 12-15.

utility plant in service, consistent with the Commission's order in Case No. EO-2018-0092.[28]

The Issues

As OPC has objected to the Stipulation, it is now the joint position of the signatories. Incorporating the terms of the Stipulation into a final report and order is the appropriate and reasonable resolution to the issues presented in this case. As filed, there are two issues that the parties submitted to the Commission for determination. The two outstanding questions were:

1. Does the evidence establish that the Kings Point, Neosho Ridge, and North Fork Ridge wind projects for which The Empire District Electric Company ("Empire") is seeking certificates of convenience and necessity ("CCN") are "necessary or convenient for the public service" within the meaning of that phrase in section 393.170, RSMo.?

2. For each CCN the Commission grants, what conditions, if any, should the Commission deem to be reasonable and necessary, and impose?

However, as suggested in OPC's position statement,[29] and confirmed by counsel during openings, the Commission is now presented with two proposals,[30] the proposal put forth by the signatories in the Stipulation, or OPC's proposal. The signatories propose

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[28] *Id.* at p. 7, and ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan,*** Case No. EO-2018-0092 (***Report and Order,*** issued July 11, 2018, p. 24.) "THE COMMISSION ORDERS THAT:
…
2. The Empire District Electric Company is authorized to record its capital investment to acquire wind generation assets as utility plant in service subject to audit in Empire's next general rate case."
[29] EFIS Item 78, *The Office of the Public Counsel's Positions on Listed Issues*.
[30] Tr. Vol. II, p. 84, l. 7-9.

to allow customers to retain 100% of the upside benefits from the projects, the increased off system sales revenues that would run through the fuel adjustment clause (FAC) and share in the minimal risk that revenues would not exceed costs over a 10 year period, with a guarantee share of the downside risk up to 52.5 million, and the ability to argue whatever ratemaking treatment a party deemed appropriate if this soft cap is exceeded.[31] OPC proposes a "go fund me", where ratepayers contribute $25 million dollars, and receive nothing in return. No off system sales revenues, no revenues from non-residential REC sales, not even the benefit of having one of the Wind Projects contributed at half price to replace Empire's expiring wind purchase power agreements (PPAs) that will require replacement in 2028 to meet Empire's renewable energy standard requirements.[32] Furthermore, OPC's mechanism to protect ratepayers is one presented for the first time in position statements, with no written testimony or workpapers supporting its adoption, and a mere twelve lines of live testimony elucidated in its support on the stand.[33]

OPC's concerns should be given no weight, as it is clear after nearly two years of litigation, countless rounds of testimony, several technical conferences, and a myriad of opportunities to conduct discovery on any of the multiple "issues" OPC points to, that OPC does not understand the basic concepts of the tax equity partnership, the modeling Empire performed, how the SPP integrated market works, or the sharing mechanism contained in the Stipulations and Agreements. There has been no credible evidence

[31] Ex. 13 HC, *Exhibit A, Non-Unanimous Stipulation and Agreement*.
[32] Ex. 101HC, *Staff Rebuttal Report*, p. 17, Corrected Figure 1.
[33] Tr. Vol. IV, p. 384, l. 1-12.

presented that the terms of the Stipulation would not be a fair and just outcome, if ordered as the resolution to the issues presented in this case.

<u>Does the evidence establish that the Kings Point, Neosho Ridge, and North Fork Ridge wind projects for which The Empire District Electric Company ("Empire") is seeking certificates of convenience and necessity ("CCN") are "necessary or convenient for the public service" within the meaning of that phrase in section 393.170, RSMo.?</u>

Yes, the evidence in this case, in conjunction with the terms of the Stipulation, particularly the MPP, establishes that the Wind Projects are necessary and convenient. Staff reviewed Empire's Applications based on the five factors the Commission listed in *In Re Tartan Energy*, GA-94-127, 3 Mo.P.S.C.3d 173, 177 (1994): need, qualified to own, operate, control and manage the facilities and provide the service, financial ability, economic feasibility, and promotion of the public interest ("Tartan Criteria").[34]

Staff has interpreted "need" as whether there are benefits to the project that justify the cost, in accordance with the Western District's opinion in *State ex rel. Intercon Gas, Inc. v. Pub. Serv. Comm'n of Missouri*, 848 S.W.2d 593, 597 (Mo. Ct. App. 1993).

> The PSC has authority to grant certificates of convenience and necessity when it is determined after due hearing that construction is "necessary or convenient for the public service. The term "necessity" does not mean "essential" or "absolutely indispensable", but that an additional service would be an improvement justifying its cost.[35]

The primary need identified by Empire is the ability to take advantage of the opportunity to add generation capacity to Empire's fleet at a reduced cost due to the availability of the production tax credits (PTCs) and to provide low cost energy to

[34] Ex. 100, *Rebuttal Testimony of Natelle Dietrich*, p. 3, l. 8-12.
[35] *State ex rel. Intercon Gas, Inc. v. Pub. Serv. Comm'n of Missouri*, 848 S.W.2d 593, 597 (Mo. Ct. App. 1993)

customers.[36] Providing low cost energy to customers is in the best interest of the public, as can be seen by 4 CSR 240-22.010's mandate that

> "minimization of the present worth of long-run utility costs" be the primary selection criterion in selection of a preferred resource plan that meets the fundamental objective of the resource planning process; "to provide the public with energy services that are safe, reliable, and efficient, at just and reasonable rates, in compliance with all legal mandates, and in a manner that serves the *public interest* and is consistent with state energy and environmental policies.

Within this case and the previous, the modeling demonstrated that the addition of these Wind Projects reduces the net present value of the revenue requirement over a 20 and 30 year period.[37] In the 54 scenarios Empire modeled, the addition of the Wind Projects reduced the net present value of the revenue requirement (PVRR),[38] and considering those results with the MPP designed to cover potential downside risk, these Wind Projects are needed and in the public interest.

As noted above, the Wind Projects will further the public policy goals of the Commission and the state, as the Commission stated in its Report and Order in Case No. EO-2018-0092; at page 20,

> It is the public policy of this state to diversify the energy supply through the support of renewable and alternative energy sources. In past decisions, the Commission has stated its support in general for renewable energy generation, which provides benefits to the public. Empire's proposed acquisition of 600 MW of additional wind generation assets is clearly aligned with the public policy of the Commission and this state.[39]

[36] Ex. 1HC, *Direct Testimony of Blake A. Mertens*, p. 11, l. 1-4.
[37] Tr. Vol. IV, p. 329, l. 11-25.
[38] Ex. 8, *Surrebuttal Testimony of James McMahon*, p.17, l. 17-18.
[39] ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan,*** Case No. EO-2018-0092 (***Report and Order,*** issued July 11, 2018, p. 20.)

The Commission reiterated this, even more recently, in its Report and Order on remand in Case No. EA-2016-0358, at page 47 stating,

> There can be no debate that our energy future will require more diversity in energy resources, particularly renewable resources. We are witnessing a worldwide, long-term and comprehensive movement towards renewable energy in general and wind energy specifically. Wind energy provides great promise as a source for affordable, reliable, safe, and environmentally-friendly energy.[40]

Based on its review of the various Tartan Criteria, as briefly summarized below, the project is needed, Empire is qualified to own and operate the project, Empire has the financial ability to acquire the project, and the Wind Projects satisfy the public interest and will be economically feasible, subject to the conditions in the Stipulation.[41]

<u>There is a need for the Wind Projects.</u>

It has been long established that need does not mean absolutely essential or indispensable, it must merely be an improvement justifying its cost.[42] OPC throughout testimony states that Empire does not need the generation for capacity purposes, so the Wind Projects do not meet the need criterion under the Tartan Criteria.[43] In doing so, OPC ignores a long line of Commission and Court case law that expands the definition of necessary from absolutely indispensable, to a broader, more public interest view of

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[40] ***In the Matter of the Application of Grain Belt Express Clean Line LLC for a Certificate of Convenience and Necessity Authorizing it to Construct, Own, Operate, Control, Manage, and Maintain a High Voltage, Direct Current Transmission Line and an Associated Converter Station Providing an interconnection on the Maywood-Montgomery 345 kV Transmission Line*****,** Case No. EA-2016-0358, (**Report and Order**, issued March 20, 2019, p. 47)
[41] Ex. 101HC, *Staff Rebuttal Report*, p. 2, l. 1 – p. 4, l. 3.
[42] *State ex rel. Intercon Gas, Inc. v. Pub. Serv. Comm'n of Missouri*, 848 S.W.2d 593, 597–98 (Mo. Ct. App. 1993)
[43] Ex. 200HC, *Rebuttal Testimony of Geoff Marke*, p. 2, l. 24 – p. 3, l. 9 and Ex. 205HC, *Rebuttal Testimony of Lena M. Mantle*, p. 2, l. 18-25.

need. The seminal case invoking this proposition is *State ex rel. Intercon Gas, Inc. v. Pub. Serv. Comm'n of Missouri*.[44] There, the court found

> The PSC has authority to grant certificates of convenience and necessity when it is determined after due hearing that construction is "necessary or convenient for the public service." § 393.170.3. The term "necessity" does not mean "essential" or "absolutely indispensable", but that an additional service would be an improvement justifying its cost. State ex rel. Beaufort Transfer Co. v. Clark, 504 S.W.2d at 219…Furthermore, it is within the discretion of the Public Service Commission to determine when the evidence indicates the public interest would be served in the award of the certificate.[45]

The Court has also stated, "Necessity or need means the service is "highly important to the public convenience and desirable for the public welfare."[46] The public is served in two ways by these Wind Projects. The first is renewable generation, which is "desirable for the public welfare", as seen by the RES compliance standards codified at CSR 240-20.100. Aside from mandatory regulations, Missouri's Comprehensive State Energy Plan and the United States Code, 16 U.S.C. 46, Public Utility Regulation Policies (PURPA) encourages state officials and utilities to integrate more renewable resources in producing energy. The existence of these statutes and regulations is evidence that the public interest would be served by Empire building wind generation.

OPC has lost the battle to narrowly define need before, twice in front of the Commission in CCN applications for solar facilities that were not needed for RES compliance or capacity.[47] OPC went on to appeal the cases, and lost before the Court

[44] 848 S.W.2d 593, 597–98 (Mo. Ct. App. 1993)848 S.W.2d 593, 597–98 (Mo. Ct. App. 1993).
[45] *State ex rel. Intercon Gas, Inc. v. Pub. Serv. Comm'n of Missouri*, 848 S.W.2d 593, 597–98 (Mo. Ct. App. 1993)848 S.W.2d 593, 597–98 (Mo. Ct. App. 1993).
[46] *State ex rel. Missouri Kansas and Oklahoma Coach Lines, Inc., et al. v Public Service Commission,* 179 S.W.2d 132, 136 (Mo. App. 1944).
[47] ***In the Matter of the Application of KCP&L Greater Missouri Operations Co. for Permission & Approval of a Certificate of Pub. Convenience & Necessity Authorizing It to Construct, Install, Own, Operate, Maintain & Otherwise Control & Manage Solar Generation Facilities in W. Missouri,*** Case

as well. The Court upheld the Commission's grant of a CCN to Kansas City Power and Light Company-Greater Missouri Operations (GMO) to build a solar generation facility. OPC made the same argument it made in front of the Commission to the Court regarding GMO's need for the project as it was not needed for capacity or RES compliance. The Court stated:

> Moreover, Appellants fail to acknowledge that the same cases they generally rely on also emphasize "a necessity for the conservation of energy and of natural resources." *Pub. Water Supply*, 600 S.W.2d at 154 (citing *Atkinson*, 204 S.W. at 898–99) (inner quotation marks omitted). The public policy of the state to conserve natural resources and pursue renewable energy sources is reflected in Missouri's RES. *See Moorshead v. United Rys. Co.*, 119 Mo.App. 541, 96 S.W. 261, 271 (1906) ("[T]he very highest evidence of the public policy of any state is its statutory law").[48]

The second benefit, and the most substantial, is the reduction in net present value of revenue requirement. Even under the worst case scenario modeled, customers will receive a net benefit of $69 million in savings due to a lower PVRR than what the status quo produces.[49] Under the most probable scenario, or the base model, the net benefit rises to $169 million in savings, and the customers could experience $320 million in savings in a high market price scenario.[50] Those benefits come to fruition by the off system sales revenues resulting from the wind farm not only covering the costs of the Wind Projects, but producing benefits in excess, which reduces the revenue requirement

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No. EA-2015-0256, (***Report and Order*** issued March 2, 2016) and ***In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval of a Certificate of Public Convenience and Necessity Authorizing it to Offer a Pilot Distributed Solar Program and File Associated Tariff***, File No. EA-2016-0208, (***Report and Order*** issued December 21, 2016.)

[48] ***In the Matter of the Application of KCP&L Greater Missouri Operations Co. for Permission & Approval of a Certificate of Pub. Convenience & Necessity Authorizing It to Construct, Install, Own, Operate, Maintain & Otherwise Control & Manage Solar Generation Facilities in W. Missouri***, 515 S.W.3d 754, 763 (Mo. Ct. App. 2016), reh'g and/or transfer denied (Jan. 24, 2017), transfer denied (May 2, 2017)

[49] Ex. 8, *Surrebuttal Testimony of James McMahon*, p.14, Figure 4.

[50] *Id.*

for ratepayers. If the levelized cost of energy (LCOE) for the Wind Projects is lower than the market price in the SPP, that difference is savings for customers.[51] An LCOE for the Wind Project lower than the market price received for energy is the most straight forward application of an improvement justifying its costs. The existence of the MPP to share the downside risk that the market price is less than the LCOE, and therefore, the potential for the Wind Projects to not be improvements justifying their costs, supports a finding that the Wind Projects are needed.[52]

The applicant is qualified to own, operate, control and manage the Wind Projects.

Empire has not developed a wind farm and, therefore, does not have direct expertise to complete the Wind Projects. However, Empire has managed the addition of several large generating units and has managed several large-scale environmental modification projects made to its existing units.[53] Further, Empire's corporate parent, Algonquin Power & Utilities Corp. (APUC), has prior experience in developing renewable generation projects and has consulted on the Wind Projects.[54] Therefore, Empire, through its ownership structure, benefits from the experience of Liberty Utilities Company ("LUCo") and APUC in developing wind generation facilities.[55]

The Wind Projects will be constructed pursuant to PSAs between Empire and Tenaska Missouri Matrix Wind Holdings, LLC ("Tenaska") and Steelhead Missouri Matrix Wind Holdings, LLC ("Steelhead") and between Empire and Neosho Ridge Wind JV, LLC

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[51] Tr. Vol. II, p. 278, l. 12-20.
[52] Tr. Vol. IV, p. 365, l. 12 – p. 366, l. 4.
[53] Ex. 1HC, *Direct Testimony of Blake A. Mertens*, p. 6, l. 13-16.
[54] *Id.* at p. 7, l. 14-18.
[55] *Id.* at p. 12, l. 19-22.

("Neosho Ridge Joint Venture" [56]).[57] Furthermore, Empire's PSAs contain various provisions that are intended to shield Empire, and ultimately its customers, from risks associated with the Wind Projects.[58] Tenaska, Steelhead, and Neosho Ridge Joint Venture have experience with wind projects,[59] and no party has identified concerns with the qualifications of the individual contractors.

The applicant has the financial ability.

Empire indicates that it intends to finance the projects with a mix of debt, equity, and tax equity.[60] Empire will receive debt and equity financing from LUCo for the portion of the Wind Projects not financed by the tax equity partners.[61] The majority of the construction costs during development and construction will be borne by independent developers. Empire, in combination with the utilization of a tax equity partner, has the financial ability to acquire and operate these Wind Projects.

The Wind Projects are economically feasible.

Empire proposes to utilize tax equity financing for a portion of the new wind investment.[62] Under this approach, a tax equity investor will agree to finance a portion of the construction costs of a renewable project in return for, among other things, receipt

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[56] Neosho Ridge Joint Venture, LLC is a partnership consisting of Apex Clean Energy, Inc. ("Apex") and a subsidiary of Steelhead Wind 2, LLC ("Steelhead 2").
[57] Ex. 5C, *Direct Testimony of Todd Mooney*, p. 10, l. 7-13 and Ex. 6C, *Direct Testimony of Todd Mooney*, p. 3, l. 19-23.
[58] Ex. 5C, *Direct Testimony of Todd Mooney*, p. 7, l. 22 - p. 8, l.9 and Ex. 6C, *Direct Testimony of Todd Mooney*, p. 10, l. 21 – p. 11, l. 10.

[59] Ex. 5C, *Direct Testimony of Todd Mooney*, p. 6, l. 15 – p. 8, l. 22 and Ex. 6C, *Direct Testimony of Todd Mooney*, p. 7, l. 1 – p. 9, l. 9.
[60] Ex. 5C, *Direct Testimony of Todd Mooney*, p. 13, l. 1-8.
[61] *Id.* at p. 21, l. 9-12.
[62] *Id.* at p. 3, l. 20 – p. 4, l. 4.

of all federal tax benefits associated for the first 10 years of a project.[63] Use of a tax equity partner is beneficial, and as the Commission noted in its Findings of Facts, produces between $4 and $7 dollars more savings per megawatt (MW) hour than not having a tax equity partner, due to the time value of money.[64] The Wind Projects are economically feasible, if Empire utilizes a tax equity partner under the terms of the Stipulation.

The Wind Projects promote the public interest.

The Wind Projects, as conditioned by the terms of the Stipulation, are in the public interest. As shown by the diverse parties, (Empire, Midwest Energy Consumers Group (MECG), the Missouri Department of Economic Development-Division of Energy (DE), Renew Missouri, and Staff, collectively the "Signatories")[65] that have signed the Stipulation, it is a well-rounded and robust document that supports the needs of consumers, the utility, economic development in Missouri, and renewable energy goals. The Stipulation contains several key provisions that protect Missouri ratepayers and promote these goals, most importantly:

- Wind generation assets that diversify and green Empire's generation portfolio, have no ongoing fuel costs, and will have a substantial portion of the cost covered by a tax equity partner taking advantage of the PTCs;[66]

[63] *Id.* at p. 13, l. 14-17.
[64] ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan,*** Case No. EO-2018-0092 (***Report and Order,*** issued July 11, 2018, p. 7.)
[65] Furthermore, the Missouri Department of Conservation, the Sierra Club, and the National Resource Defense Council all indicated that they do not object to the Stipulation, and did not request hearing.
[66] Ex. 13 HC, *Non-Unanimous Stipulation and Agreement*, p. 3-6.

- A MPP that increases the likelihood that ratepayers receive benefits during the initial 10 years by both capturing any risk that market prices do not cover the revenue requirement of the wind projects by returning up to $52.5 million of any revenue requirement shortfall as a regulatory offset, as well as passes through 100% of all benefits to customers via the FAC;[67]

Along with the protection afforded ratepayers, in addition to the benefits they receive from off-system sales revenues (OSSR), the Wind Projects and the Stipulation promote the public interest across the state. As DE's witness Mr. Martin Hyman explains;

> This additional wind generation will improve the diversity and security of the state's energy supply and create the opportunity for more affordable rates for Empire's customers. The projects will also support local economic development through construction and operations jobs, more spending in local economies, and state and local tax revenues. The market price protection mechanism provides additional affordability related benefits in the unlikely event that the wind projects do not create net positive outcomes for ratepayers over the first ten years of operations.[68]

OPC's arguments regarding the wind modeling are contradictory and inconsistent, and OPC provide no evidence of their own to refute the modeling.

Empire's Modeling, the CSP, and Case No. EO-2018-0092

The modeling conducted by Empire led the company to select the 600 MW of wind as a cost effective option. According to Mr. McMahon:

> Empire selected 600 MW of wind on the basis of detailed portfolio analysis using industry standard modeling software and detailed and wide-ranging scenarios to test risk. As was described extensively in Case No. EO-2018-0092, that analysis included evaluating alternative portfolios across scenarios that flexed fuel and market prices, CO2 policy, nodal basis, load, and the build out of wind in SPP.[69]

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[67] *Id.* at p. 9, Appendix B and Exhibit A.
[68] Ex. 401, *Missouri Division Of Energy Witness Martin R. Hyman's Responses To Staff's Written Cross Examination Questions*, p. 2, ¶ 3.
[69] *Id*. at p. 17, l. 12-17.

In total Empire ran 54 different scenarios combing the factors listed above.

Empire Witness McMahon also describes modeling Empire performed at the request of other parties in his surrebuttal testimony:

> …Empire ran two types of scenarios in the CSP to address [the possibility that more wind would be built in SPP than contemplated in its base case]. First, Empire ran a scenario specifically at the request of OPC that increased the amount of wind additions thorough 2020 to 8.2 GW. OPC Witness Marke states that Empire assumed 6.5 GW of wind added over the entire study period in this "high wind" case. This is not accurate. Empire's "high wind" scenario added 8.2 GW from 2018-2020 only. Beyond this period, ABB assumes that "generic" wind will be built every year. This amounted to about 24 GW of wind in SPP by the end of 2020. This compares to the 21. 5 GW of wind in SPP today. This scenario resulted in market prices falling on average 5% to 7% from the base case. Empire also ran a low market price scenario, where market prices were reduced by 20% to 30% from the base case.[70]

Not only did Empire model a scenario at the request of OPC, but it ran a low market price scenario that still showed savings to Empire customers.[71] As discussed further below, OPC expresses concerns over the reliability of this modeling, without offering any alternative. Nevertheless, Mr. McMahon would expect modeling to show customer savings significantly higher under OPC's scenario than Empire's own low market price scenario.[72]

OPC's argument lacks any modeling of their own.

Much of OPC's argument rests on claims regarding the subpar nature of the modeling that the Signatories relied upon to validate Empire's claims of customer savings. However, OPC provides no alternative modeling. As described by Empire Witness McMahon:

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[70] Ex. 8, *Surrebuttal Testimony of James McMahon*, p. 12, l. 11 – p. 13, l. 8.
[71] *Id.* at p. 13, l. 12-14.
[72] *Id.* at l. 14-16.

Q. Mr. McMahon, are you familiar with the testimony of OPC Witnesses Marke and Mantle and the concerns they expressed regarding these projects generally?

A. Yes.

Q. And what sort of analysis would you usually expect to support the sort of claims that they make?

A. Well, I would expect – first of all, their claims are generally about historical pricing conditions and the current situation in SPP. And I would expect modeling that looks to supply and demand in the future to drive decision making.

Q. And did you see that sort of analysis in OPC's testimony?

A. No. [73]

Despite providing no modeling of their own, OPC questioned Staff's own lack of independent modeling. OPC questioned Staff Witness Luebbert:

Q. Did Staff perform any independent analysis of the economics of Empire's wind projects?

A. Staff reviewed the evidence that Empire provided both in this case and in the EO-2018-0092 case. There was some additional analysis of the information that they provided, but I don't think that Staff did any modeling of its own.

Q. It didn't rely on any sources other than those which Empire provided, correct, for data?

A. I think that's correct.[74]

Mr. Luebbert later testified that this is normal practice in all cases Staff participates; Staff regularly relies on information and modeling provided by utilities.[75] To Staff's knowledge, other parties regularly rely on the modeling information provided by utilities, as well.

[73] Tr. Vol. II p. 285, l 24 – p. 286, l 14.
[74] Tr. Vol. IV, p. 328, l 14-23.
[75] Tr. Vol. IV, p. 330, l 9-12.

<u>OPC appears to misunderstand the Signatories analysis of the SPP Queue and market price modeling.</u>

The claims of OPC regarding the modeling, if believed would raise some serious questions as to the sufficiency of information provided by all the utilities during resource planning. As Empire Witness Mertens testified:

> **Q. Are there any other analyses that Empire performs as part of other Commission requirements or resource planning that rely on the same kind of market forecast?**
>
> A. Integrated resource plan would be the one that would come to mind, yes.
>
> **Q. Are there any others?**
>
> A. You know—you know, I'm—when we do prudency costs on fuel and those type of things, we al—always rely on fuel—fuel forecasts and market price forecasts, yes.
>
> **Q. And in any of those cases, has the issue about market forecasts been raised before?**
>
> A. I couldn't say definitively yes or no. You know, I know we've had discussions in – in previous cases where we talk about the validity of those. And I think everyone would agree the day that a forecast is put forward is the day that it's incorrect. I mean it's just a matter of how – how ac – the relativity of that in – incorrectness.
>
> But we know that the day we put that out, you know, a year from now, market conditions are going to be slightly different, yes.
>
> **Q. But even with all of those considerations, it's something that's pretty typically re – relied upon by you and other utilities in doing your resource planning and other process. Correct?**
>
> A. Yes. Absolutely. That's the reason we go through those resource planning. And they absolutely require us to forecasting. [76]

[76] Tr. Vol. II, p 105, l. 8 – p. 106, l 12.

Mr. Mertens admits that modeling can never be certain, by nature, but reaffirms that that the modeling used in this case is regularly relied on by utilities and accepted by the Commission. Mr. Mertens further clarified:

> **Q. Mr. Mertens, you were asked about forecasting. And I think you used the – the sort of common description that – that – that they're inaccurate or incorrect the day they're put forward. Correct? You remember that?**
>
> A. Correct.
>
> **Q. And yet the Company utilizes forecasting extensively, doesn't it?**
>
> A. That's correct.
>
> **Q. And in particular, it uses ABB forecasts in a variety of – ways?**
>
> A. Correct.
>
> **Q. And has that been done for a number of years?**
>
> A. Yes. You know, since at least 2005 it's been part of our integrated resource planning process.
>
> **Q. And I assume that's because you believe that those – those forecasts have value to you?**
>
> A. That's correct.[77]

Forecasting and modeling of market prices are used consistently by utilities, and, thus, by the Commission when making decisions. Despite this, OPC continues to misunderstand how such data is used by Empire. In her rebuttal testimony, OPC witness Mantle opines on the limited history of the SPP market, operating since 2014:[78]

> In general, a forecast created from a small amount of historical data is questionable. In the case of SPP market prices, an examination of the available data shows that in addition to having a limited amount of data to input into a forecast, the data that is available is erratic, which should result in greater skepticism regarding the accuracy of any market price forecast – short-term or long-term.[79]

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[77] Tr. Vol. II, p. 158, l. 13 – p. 159, l 7.
[78] Ex. 205, *Rebuttal Testimony of Lena M. Mantle*, p. 10, l. 8-16.
[79] *Id.* at l. 17-22.

Ms. Mantle's argument that the historical pricing of the SPP market in inherently unreliable is addressed by Empire Witness McMahon:

> OPC Witness Mantle's testimony is oriented around the use of historic data in the Empire power price forecast. She argues at various points in her testimony that it is questionable, if not impossible, to produce a forecast with the limited history of SPP pricing. Yet, as I stated above, Empire did not develop its price forecast using a historical time series analysis. Rather, Empire used a fundamental pricing model that evaluates how load is being served by supply in each hour. **OPC Witness Mantle has nothing to say about Empire's actual approach to price forecasting in her testimony**. (emphasis added)[80]

At the hearing, while Ms. Mantle made clear that her concerns regarding Empire's modeling had nothing to do with the source of the modeling (ABB),[81] she continued to question what she perceives as the historical nature of Empire's forecasting during questioning by Commissioner Hall:

> **Q. I want to follow up on that question. So your concern about the market price forecasts is not a function of the source?**
>
> A. That is correct.
>
> **Q. Which means that – means what about your view of the source?**
>
> A. The market prices forecast; I don't believe that I could believe anybody's market price forecast with certainty to bet $1.1 billion. ABB used software that they've used for years. They used an analysis type that's been used for years. But we're entering into a whole new era where we have so much wind. It's different than coal plant. It's different that a combined cycle or CT. How it affects the market is completely different. So when you have as much wind going into SPP to rely on a forecast methodology based off history of a completely different resource provides while it may be the best forecast out there it's completely unknown.
>
> **Q. So would you agree that it's the best forecast out there?**

[80] Ex. 8, *Surrebuttal Testimony of James McMahon*, p. 22, l. 1-8.
[81] Tr. Vol. IV, p. 411, l. 205.

> A. I don't know if it's the best. I don't know a better way other than short of what I read through that MIT has provided in the paper I attached to my testimony and then Lawrence Berkeley Lab also had some suggestions.[82]

Even after her understanding of Empire's methodology was corrected in pre-filed testimony, Ms. Mantle still claimed that Empire was using historical data, making Empire's results inherently questionable if not outright incorrect. Because OPC misunderstands how the modeling used by Empire works, it is difficult to understand their criticisms of it. It is also notable that for all its criticisms, OPC admits this is software and analysis used in the past, and it might be the best forecast out there, or at the least, that there is not a better way to forecast.[83]

It is unclear, under OPC's standard, what a utility could put forth that qualified as competent and substantial evidence, if modeling, averaging, and assumptions about future conditions are not competent. OPC can disparage the modeling provided, but as they have not provided any relevant evidence that demonstrates that the data inputs were not competent, and have not produced any alternatives, modeling, or results that are competent, the Commission should give little weight to their claims and analysis, of which there is very little[84].

It should also be noted that while Staff does not perform its own modeling, Staff does perform an independent analysis of modeling inputs and outcomes provided by

[82] *Id*. at p. 411, l. 11 – p. 412, l. 11.
[83] *Id.*
[84] Ex. 200HC, *Rebuttal Testimony of Geoff Marke*, p. 8, l. 20-25; Ex. 206HC, *Surrebuttal Testimony of Lena M. Mantle*, p. 9-10. Both Dr. Marke and Ms. Mantle reference MIT and Lawrence Berkeley Lab studies but provide little to no analysis on them; no evidence is provided in actual written or verbal testimony that shows how these disqualify Empire's modeling or how they provide alternative ways of approaching the modeling. These studies are merely attached to Ms. Mantle's surrebuttal testimony.

utilities and would not discount or question such data without providing substantial evidence.

Ms. Mantle's mention of the amount of wind waiting to enter the SPP market is another area of OPC misunderstanding. She shares this concern with OPC Witness Marke, who addresses this in his rebuttal testimony:

> According to SPP's *SPP 101: An Introduction to Southwest Power Pool* uploaded to SPP's website on January 9th, 2019 there are approximately 20 GW of wind online and approximately 10 GW of unbuilt wind with signed interconnection agreements. Moreover, according to that same document there are over 70 GW of pending generation interconnection ("GI") requests, of which 50 GW (or 67%) are fore future wind farms…[85]

Dr. Marke is under the mistaken impression that most if not all of the aforementioned pending generation interconnection requests will come to fruition on the SPP market. Empire Witness McMahon addresses this mistake in his rebuttal testimony:

> OPC Witness Marke leaves out an important statement from the SPP presentation that he cites. On the same page where OPC Witness Marke references 10 GW of already signed interconnection agreements, SPP states that it is forecasting 6.5 GW to 11.5 GW of additional wind capacity by 2025. This important fact illustrates that even where a generator has a signed interconnection agreement, other reasons may prevent that plant from being built.
>
> Moreover, a review of SPP's historical interconnection queue illustrates that wind projects in SPP's interconnection queue are frequently cancels…According to the data published by SPP, the majority of these interconnection requests are withdrawn.[86]

OPC witness Dr. Marke, in the prior case, had testimony that revolved around the Windcatcher wind project, and how Empire did not account for that project in its modeling, and the alleged disastrous impacts Windcatcher would have on SPP market prices and Empire's actual results,[87] but Windcatcher in fact will not be built.[88] It is

[85] Ex. 200HC, *Rebuttal Testimony of Geoff Marke*, p. 14, l. 4-8.
[86] Ex. 8, *Surrebuttal Testimony of James McMahon*, p. 11, l. 7-14.
[87] *See* Ex. 200HC, *Rebuttal Testimony of Geoff Marke*, Schedules GM-3 and GM-4.
[88] Ex. 201HC, *Surrebuttal Testimony of Geoff Marke*, p. 15, l. 23-24.

unclear whether OPC's review of the SPP presentation cited in its testimony recognized that many projects in the SPP queue are cancelled.

For each CCN the Commission grants, what conditions, if any, should the Commission deem to be reasonable and necessary, and impose?

The Commission should impose the terms of the Stipulation as reasonable conditions on the granting of each requested CCNs. At a high level, these conditions are:

- The Wind Projects can only be operated in a manner not detrimental to Empire's customers and in accordance with SPP IM rules;[89]
- An independent, third-party engineer confirming in writing that Wind Projects have achieved mechanical completion, have a reasonable likelihood of meeting the agreed upon in-service criteria, and will meet or exceed the guaranteed power curve in the turbine supply agreements;[90]
- Completion of the In Service Criteria attached as Appendix A;[91]
- Filing of Quarterly Progress Reports on permitting, construction, transmission, interconnection, sensitivity or curtailment issues; complete plans and specifications when available, a copy of the SPP DSIS, closing notices and the tax equity agreements; and material changes to assumptions, costs, or curtailment, with proposed plans to be included;[92]
- The requirement to use a tax equity partner, and the contract(s) with the tax equity partner(s) following the outlined parameters;[93]
- Authorization to create a regulatory asset relating to the undepreciated balance (net book value) of Asbury and a regulatory liability to accrue the types of costs and revenues included in Empire's cost of service used for setting general rates

[89] Ex. 13 HC, *Non-Unanimous Stipulation and Agreement*, p. 4.
[90] *Id.*
[91] *Id.* at Appendix A.
[92] *Id.* at p. 5 and p. 7.
[93] *Id.* at p. 6.

in its last preceding general rate case that Empire no longer incurs after retiring Asbury, including—costs such as, but not limited to capital costs, depreciation expense, property taxes, operations and maintenance expense, fuel costs, SPP revenues and any deferred income tax effects;[94]

- Requirement to propose a tariff to allow non-residential customers access to purchase RECs received from the Wind Project;[95]
- Allocation of the Wind Projects based on typical state and wholesale jurisdictional allocators. Only the Wind Project capital investments and expenses allocated to the Missouri state jurisdiction may be included in Empire's cost of service for setting rates in Missouri;[96]
- The MPP, with a soft cap of $52.5 million dollars, to share downside risk beginning the first day of the month after the effective date of rates in which the first Wind Project is placed into rates, and lasting for 10 years after the effective date of rates from the first general rate case in which all Wind Projects are included in rates. Any resulting regulatory liability will be amortized to customers beginning in the first rate case after the end of the 10 year period;[97]
- A requirement for Empire to present the costs and benefits of any future energy storage technology, in the event that technology would not require a CCN.[98]

To avoid burdening the record in this case, Staff will limit its initial briefing to the MPP and the tax equity conditions.

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[94] *Id.* at p. 8.
[95] *Id.*
[96] *Id.* at p. 9.
[97] *Id.*
[98] *Id.* at p. 9-10.

The Commission should impose the MPP as designed and agreed to in the Stipulation as a reasonable condition.

The MPP is the most significant condition, as it not only offers ratepayer protection to the tune of $52.5 million if market prices are lower than modeled, it also incentivizes Empire to ensure the Wind Projects are completed in a manner that reduces the cost and maximizes the revenues.[99] The mechanism is simply, wind revenue requirement (or the cost of the project) as the sole numerical figure on the left side of the equation compared to wind revenues produced plus the value for the expired wind PPAs that the Wind Projects eliminate the need to replace.[100] If the revenue requirement is greater than the figure on the right side of the equation, the MPP is triggered, and Empire begins accruing 50% of the detriment, up to $52.5 million, as a regulatory liability to be amortized at the end of the MPP.[101] If the revenue requirement is less than the figure on the right side of the equation, the cost of wind farms is being covered by the revenues and ratepayers are held harmless.[102] In fact, ratepayers benefit, as excess revenues are flowed back via the FAC to reduce bills.[103]

The MPP covers actual costs and actual revenues, so even if variables change over time, customers have a backstop.

Counsel for OPC, in opening remarks, outlined a list of variables and unknowns as a focal point for why the Commission should adopt OPC's position and not the position of the Signatories.[104]

> Some of those unknowns are when will Empire – when Empire will have generation interconnection agreements with SPP for any of the wind projects; the cost of those interconnection agreements; how much Empire will invest; who its tax equity partner or partners will be; the actual terms and conditions of the tax equity partnership; the hedge price.[105]

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[99] Tr. Vol. IV, p. 341, l. 4-11.
[100] Ex. 4HC, *Surrebuttal Testimony of David Holmes*, p. 11, l. 5 – p. 12, l. 16.
[101] Ex. 13 HC, *Appendix B* to the *Non-Unanimous Stipulation and Agreement*.
[102] Tr. Vol. II, p. 232, l. 22 – p. 233, l. 3.
[103] Tr. Vol. II, p. 150, l. 15-23.
[104] Tr. Vol. II, p. 83, l. 25 – p. 84, l. 6.
[105] *Id.*

First, Staff disagrees that some of these variables are unknown. Empire has a tax equity partner; it is Wells Fargo, as discussed in Mr. Mooney's direct testimony and accompanying schedules,[106] and again in his surrebuttal testimony, when rebutting OPC witness Dr. Marke's assertion that there is no tax equity partner.[107] The terms and conditions of the tax equity partnership and the hedge agreements were also thoroughly discussed in Mr. Mooney's direct and surrebuttal testimony. Finally, the Stipulation outlined both parameters that the tax equity partnership must operate in, as well as a range of maximum investment Empire can contribute to the Wind Projects.[108]

Second, any remaining variables noted by OPC, or for that matter, in Staff's Rebuttal Report, are captured in the MPP.

The MPP will capture:

- Interconnection costs, as part of the final capital cots inputted in to Wind Data tab in the Transmission Line under Capital costs;[109]
- Tax Equity cash distributions and Paygo contributions, in the "Tax Equity" expense(credit) line;[110]
- Operation and Maintenance ("O&M") costs, in the "Fixed O&M" line;[111]
- Curtailment, via the SPP market revenues line;[112]

[106] Ex. 5C, *Direct Testimony of Todd Mooney*, p. 17, l. 13 – p. 21, l. 6.
[107] Ex. 7HC, *Surrebuttal Testimony of Todd Mooney*, p. 9, l. 13-p. 12, l. 11.
[108] Ex. 13 HC, *Non-Unanimous Stipulation and Agreement*, p. 6.
[109] Ex. 4HC, *Surrebuttal Testimony of David Holmes*, p. 10, l. 5-7.
[110] *Id.* at l. 8-9.
[111] *Id.* at l. 10.
[112] *Id.* at l. 11.

- Production levels and the ultimate net capacity factor;[113]

MPP incentivizes Empire to minimize capital costs and factors that would reduce production or result in lower OSSR. For instance, the MPP would incentivize Empire to have the tax equity partner contribute as much as possible, as it lowers the capital cost, which lowers the risk the Wind Project revenues will be insufficient to cover the capital costs, which would result in Empire facing a penalty under the mechanism.

A thorough understanding of the MPP and Empire's modeling shows that the MPP is designed to cover the worst case scenario.

Empire assessed the need for the 600 MW of wind on the basis of a detailed portfolio analysis using industry standard modeling software and detailed and wide-ranging scenarios to test risk.[114] As Mr. McMahon described extensively in testimony and in the hearing room in this case and the Customer Savings Plan, that analysis included evaluating alternative portfolios across scenarios that flexed fuel and market prices, CO2 policy, nodal basis, load, and the build out of wind in SPP.[115] All in all, Empire ran 54 scenario combinations, as well as the high wind case and a low market price scenario requested by the parties.[116] In most scenarios, adding the Wind Projects reduces risk and decreases cost because wind performs much better than the status quo under most market conditions evaluated.[117] In contrast, the status quo is not only more costly in the base case; it is more costly in most of the scenarios that were evaluated.[118]

Empire's witness Mr. David Holmes provided to parties a workable excel spreadsheet, similar to the base, low market price, and worst case scenarios contained in Exhibit D of the Stipulation.[119] The spreadsheet allowed parties to change inputs such as the wind production value, the market prices, even wind revenue requirement costs

[113] The net capacity factor represents the P50 median production, or the production at which there is a probability of exceedance of the production level 50% of the time. Ex. 101HC, *Staff Rebuttal Report*, p. 18, footnote 36.
[114] Ex. 8, *Surrebuttal Testimony of James McMahon*, p.17, l. 12-14.
[115] *Id*. at l. 14-17.
[116] *Id.* at p. 13, l. 7-8 and p. 17, l. 17-18.
[117] *Id*. at p. 16, l. 4-6.
[118] *Id.* at p. 16, l. 8-10.
[119] Tr. Vol. II, p. 204, l. 15-18.

such as return on equity (ROE), property taxes, and the tax equity buy out value.[120] Mr. Holmes also thoroughly walked through and explained these models and spreadsheets in a technical discussion. Staff conducted discovery, analyzed the modeling Empire provided, and worked through the executable spreadsheet Mr. Holmes provided,[121] and during negotiations came to a figure that, while is not unlimited sharing, is above what the modeling showed a worst case scenario shared impact on customers would be, and is a reasonable compromise that adequately balances the interests of the utility and ratepayers.[122]

OPC disagrees that the MPP is the reasonable outcome, and instead introduces, during position statements, its go fund me proposal as the appropriate risk sharing mechanism. However, it is important to note two things in regards to OPC and the MPP. First, it appears that there is a figure that OPC could agree to in the context of the MPP, although, even after the last case and the rounds of testimony and the modeling in this case, they are not quite sure what that would be.[123] Second, it is clear that OPC does not understand how the MPP works. OPC refers to the MPP soft cap as a cap on shareholder risk.[124] This is incorrect. In the highly unlikely event the $52.5 million dollar soft cap is exceeded, any amounts over $105 million dollars (the sum of the shareholder and the ratepayer soft caps) is up for the Commission to decide how to allocate.[125]

[120] Tr. Vol. II, p. 203, l. 9-11. In essence, if one looks at Schedule DH-S-4 attached to the Surrebuttal Testimony of David Holmes, the highlighted fields represent values parties could modify to see how those modifications impacted the total amount of exposure ratepayers faced.
[121] Tr. Vol. IV, p. 328, l. 16-18.
[122] Tr. Vol. IV, p. 335, l. 3-12 and p. 341, l. 12-22.
[123] Tr. Vol. II, p. 93, l. 23 – p. 94, l. 4.
[124] Tr. Vol. II, p. 81, l. 18-19 and p. 382, l. 23-24.
[125] Tr. Vol. II, p. 172, l. 5-9.

Parties are free to argue if the figure should be shared further, and to what percentage, or if it should be allocated 100% to shareholders or ratepayers.[126] OPC also makes accusations about signatories relying on outdated information, but these accusations are false.[127] Mr. Holmes clearly states in his surrebuttal testimony that the modeling includes updated capital costs, production values, O&M expenses, and tax equity expenses.[128] OPC is left to rally around market prices not being updated, ignoring, as discussed above, evidence that demonstrates OPC's characterization of the market prices as historical is inaccurate and a misrepresentation how Empire actually produced the forecasts used in the modeling,[129] and the credible testimony of Empire's expert witnesses in regards to the modeling, Mr. McMahon and Mr. Holmes, who testified that the forecasts used were still relevant and good data.[130] Mr. McMahon, in particular, has vast experience in the type of modeling and forecasting relied upon in this case, and in general relied upon by utilities nationwide in conducting integrated resource planning analysis and making decisions about supply side investment; as well as the industry standards and best practices for the modeling and analysis, like appropriate data sources or probability weighting.[131] Empire relied upon ABB provided forecasts, in conjunction with analysis from Charles River Associates, which is the same data and type of analysis

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[126] Tr. Vol. II, p. 342, l. 1-9.
[127] Tr. Vol. IV, p. 385, l. 12-18.
[128] Ex. 4HC, *Surrebuttal Testimony of David Holmes*, p. 9, l. 13-15.
[129] Ex. 8, *Surrebuttal Testimony of James McMahon*, p.20, l. 9-13.
[130] Ex. 8, *Surrebuttal Testimony of James McMahon*, p.19, l. 7-15, p. 24, l. 6-8, p. 26, l. 1-15, and Tr. Vol. II, p. 189, l. 10-17, p. 189, l. 22- p. 190, l. 1, and p. 192, l. 6-14.
[131] Ex. 8, *Surrebuttal Testimony of James McMahon*, p.1, l. 3, p. 1, l. 11-21, p. 17, l. 12-18, p. 19, l. 5-15, p. 21, l.1 -16, p. 24, l. 4-8, and p. 26, l. 1-15.

relied upon by Empire and other Missouri utilities to complete their integrated resource planning.[132] As Mr. McMahon notes,

> I find OPC Witness Marke's testimony to be short on the analysis that would generally support a position like the one he and OPC advance. Expertly evaluating the need for a new power plant in a utility's portfolio is complex. It involves simulating how a new plant would perform in a utility's portfolio under conditions that range from the expected to the unexpected.[133]

OPC provided no analysis, nor suggested market prices that would be more appropriate in its view. Further, OPC witness Ms. Lena Mantle admits that there is not a more accurate method of forecasting market prices.[134] This begs the question, if there is no more accurate forecasting method, and this method is industry standard for utilities to plan decades worth of investment around, why is it inappropriate to use here?

OPC is not only mistaken about the inputs into the modeling behind the MPP, OPC misunderstands how the MPP functions. This is exemplified in OPC's exchange with Empire's witness Mr. Holmes, as he guides OPC through the MPP.

> **Q. Is that the number[135] that goes directly -- in -- in this hypothetical entertained by this spreadsheet, is that the number that Empire's customers pocket?**
>
> A. At the end of the -- I'm not sure if I would use the word "pocket."· Again, the <u>purpose of the MPP is to determine if you need to create a regulatory liability to help compensate back</u>. *Since there's a positive value after the ten years*, there would be *no action*. It would be zero and you'd continue the operations for the next 20 years of this wind farm.
>
> **Q. But so the actual number that you would flo-- that presumably may be flowed back to customers is not the very right end of row 18, is it?· Because you take this annual wind value and then that's applied with a sharing value.· Correct?**
>
> A. No.· You have a <u>positive value</u> here.· <u>So upside is all to customers</u>.· And so the way this is going to happen is the -- the -- the wind farms will continue through rate cases and they'll be providing benefits based on more of row 16.·

[132] Tr. Vol. II, p. 105, l. 8-13.
[133] Ex. 8, *Surrebuttal Testimony of James McMahon*, p. 3, l. 8-12.
[134] Ex.205HC, *Rebuttal Testimony of Lena M. Mantle*, p. 9, l. 16 – p. 10, l. 5.
[135] In reference to the accumulative annual wind value, which represents at a given point in time the value of OSSR customers have received through the FAC due to the Wind Projects, as well as value for replacing Empire's expired PPAs.

Right?· They're going to be going through and providing value. The -- the whole part down in row 18 is to try to say if there's a *negative number*, well, then that's *where the Company has to provide more value back to the customers*.· So hopefully that made sense.

Q. So at the end of ten years then, in this hypothetical the 9 million figure is a positive and so that would be -- that is what goes to Empire's customers at the end of ten years in this hypothetical.· Right?

A. No.· So again, the only purpose of the MPP is for the downside protection to customers. Right?· So these are -- these are wind farms, they're in rates, they're generating -- they -- they generate costs and -- and -- and revenues, they're going to be treated through rate cases. And the purpose of this is to create a tracking mechanism so that if something goes bad at the end of the ten years, we have a way of flowing credit back to customers.· In -- in this scenario, they would -- customers would have been seeing benefit probably since year six and then the -- the total sum of their benefits after the ten years that they would have already seen, we're estimating at that 9.7 million dollars.

Q. Okay.· So you have the 9 million number and then beneath that in the annual sharing value sum, that's broken down to 4 million.· That 4 million is half of the 9 million.· Correct?

A. That is correct.

Q. What is that 4 million?

A.· · So that is representing half of the accumulated wind value.

Q. And that's di-- is that divided as to the wind co and Empire's customers?

A. So the -- in -- again, because it's a positive number, nothing will happen.· But the intention would be you take the balance after the ten years, you apply a sharing value, 50/50.· And if that is a negative value, then that creates a regulatory liability that you have to provide as a credit back to customers after the end of the guarantee period.

Q. So then -- okay.· So let's play this out. We've had a Market Protection Plan for ten years.· In this case now, we have -- we have the 9 million at the end.· Do Empire's customers get to pocket all of that in their lower rates or what?

A. Correct.· So they would have already received it.· Because the wind farm's already in rates and they're already in the cost-of-service up above, they will have already seen it.· So again, the MPP is just to cover the downside risks of these low probability events where you might need to provide additional credits back to customers.

Q. Where -- so you're saying they've already seen those benefits once you see the positives at about -- I think year 6 in the annual wind value you have 4 million?

A. That is correct.[136]

OPC also protests that the Stipulation and therefore, the finalized MPP, were only filed the Friday before the hearing leaving it little time to review and comprehend, but, as Mr. Holmes noted:

Q. Workbooks -- you know this was filed on Friday.· Correct?
A. The document is in the substantial same form as it was a year under the CSP case, so there's a -- I don't know.[137]

Q. And submitted for parties for consideration
A. In the same form as the document was 12 months ago, yes.[138]

Not only are the MPP and associated workbooks in the same form and have the same function as what was submitted 12 months ago, save for updated values, Mr. Holmes also walked through the MPP and the workpapers in his surrebuttal. Yet still, OPC struggles to understand how the workpapers work, as illustrated by the following exchange with Mr. Holmes:

Q. Looking -- stepping back and looking at all of these spreadsheet, I see that there's a expected case, a high case, a low case and low market/low wind case.· There's four different ones. I see that the first three that I mention use a value of P-50, whereas, the final one, low market and low wind case, uses a P-95 value.· Explain to me what the P -- the P values are again.

A. So P values represent kind of a confidence interval or like a probability of what is the amount of wind that would be expected over a period of time.· since obviously wind is variable, you're not going to have the exact same predicted output every year.P-50 is deemed the expected case. It's the amount of wind that you would expect to see 50 percent of the time over a period of time. P-75 is a lower number because it's got a higher probability of being exceeded over that time period. And so P-75 would be a number that you will exceed 75 percent of the time. ·And then down to P-90 and P-95. So with the workbook we provided, it

[136] Tr. Vol. II, p. 198, l. 23 – p. 202, l.3.
[137] Tr. Vol. II, p. 204, l. 19-23.
[138] Tr. Vol. II, p. 205, l.

creates toggles. So if people wanted to play with different combinations, they could see it. We provided four examples for clarity.

Q. So your P-95 scenario then is where you -- where we can expect the most certainty as to wind production?

A. It's a pretty unlikely scenario.· Like by definition, it's a 5 percent scenario.

Q. So we're just dealing with a P factor of.05 then?

A. By that are you just trying to say 5 percent?

Q. Yeah.· Referring back to ---- like basic stats.· I -- so I'm curious because -- like you said, you brought -- you brought illustrative examples, but then for your low market/low wind example where -- so we expect the lowest revenues with the lowest amount of wind, you've given us the highest certainty as to wind production in this example.· You've given ---- us -- you've inputted P-95 instead of the P-50.

A. Correct.· We were trying to portray within the data set we had, what would be a worse case scenario.

Q. **And all the other ones use P-50?**

A. That's correct.

Q. **So it's apple, apple, apple, orange?**

A. We were trying to portray a range of options.· And I believe the parties all have the workbooks so you could look at any combination you would like.[139]

OPC both misunderstands how P factors work, and how the worst case scenario modeling was calculated. A P-95 is the worst case scenario of wind production, not the most certain. It is assuming a production value that 95% of the time based on analysis, a higher level of wind production would occur.[140] It is both the less likely production value, and the lowest production value. So, contrary to OPC's implication that Empire cherry picked the highest wind production value to overstate results in a low market price situation, Empire picked the worst wind production to simulate results in a low market price situation, to determine what a worst case impact on ratepayers would be. Even

[139] Tr. Vol. II, p. 202, l. 13 – p. 204, l. 18.
[140] Tr. Vol. II, p. 232, l. 15-21.

OPC's apples and oranges idiom is misplaced, as all the scenarios evaluate different circumstances, such as production values and market prices. With 54 scenarios run, Empire has presented an entire fruit basket of analysis for the Commission, and the "orange" is the low market price scenario, which ABB has determined only has a 10% probability of occurring, combined with the low wind production scenario, where 95% of the time the wind production from the Wind Projects will exceed this value, to come up with a worst case.[141] Mr. Holmes proposed in surrebuttal the figure of $25 million dollars as the cap, which he stated would only have a probability of being exceed over the 10 year period of .05%.[142] The Stipulation's soft cap is double that amount, which shrinks the probability even further.

The MPP also safeguards against additional wind generation in SPP.

OPC's pervasive critique of the analysis is that it does not take into account the proliferation of wind expected in SPP.[143] As explained above, this assertion is not correct, and ignores the realities of the SPP queue. OPC asserted that Empire only modeled an additional 6.5 GW of wind in its high wind scenario,[144] which is factually incorrect. Empire actually modeled an additional 8.2 GW between 2018 to 2020, which resulted in *24 GW of wind in SPP by the end of 2020*,[145] in addition to the generic wind build out assumption for each year for the rest of the life of the plan.

[141] Ex. 4HC, *Surrebuttal Testimony of David Holmes*, p. 14, l. 4-6.
[142] *Id.* at l. 6-7.
[143] Ex. 200HC, *Rebuttal Testimony of Geoff Marke*, p. 14-18.
[144] *Id.* at p. 15, l. 1-4.
[145] 2020 is the latest any wind generation can be placed into service and still receive 100% PTC value. Tr. Vol. II, p. 223, l. 23 – p. 224, l. 1. With expiration of the PTCs looming, it is likely that wind generation building will peak during this period, and level off afterwards accordingly. Tr. Vol. II, p. 288, l. 7-9.

As the high wind scenario resulted in market prices only 5% to 7% lower than what was modeled in the base case, the MPP is more than adequate to safeguard against OPC's concerns.[146] The MPP was designed to capture the worst case scenario, which was low market prices and low wind production. The low market prices in the worst case scenario are 20% to 30% lower than what is modeled in the base case.[147] The guarantee soft cap is not breached in the worst case scenario, so in OPC's high wind scenario, which only resulted in market prices being reduced 5% to 7%, the guarantee will sufficiently share risk.

The Commission should impose the terms and parameters for the tax equity partner(s) contained in the Stipulation as a reasonable condition.

Empire's utilization of a tax equity partner, with the Commission imposing the conditions outlined on page 6 of the Stipulation, is a valuable approach for Empire's customers to receive 600 MW of wind generation, but only contribute half (or less) of the capital costs to build the Wind Projects.[148] In exchange, the tax equity partner receives PTCs and accelerated depreciation.[149] Currently, Empire does not have a cash tax payable position, or "tax appetite" to monetize the tax benefits resulting from the Wind Projects in a timely manner.[150] In addition, the Wind Projects are expected to generate 2.4 million MWhs, and the value of the resulting tax benefits would exceed the income tax liability Empire has, even without considering other loss carry forwards or other tax credits.[151] By the time Empire could utilize the tax benefits, the benefits would have been reduced in value due to the time value of money.[152]

The Hedge agreement will have no rate impact on customers.

A source of confusion for OPC is the hedge agreement, or "the hedge", which has been discussed in such terms that one could scarce be faulted for believing "the hedge"

[146] Ex. 8, *Surrebuttal Testimony of James McMahon*, p.13, l. 5-6.
[147] *Id.* at l. 7-8.
[148] Tr. Vol. II, p. 224, l. 13-16.
[149] Tr. Vol. II, p. 244, l. 5-10.
[150] Tr. Vol. II, p. 244, l. 15-25,
[151] Tr. Vol. II, p. 279, l. 14-22.
[152] Tr. Vol. II, p. 245, l. 12-16.

was the malevolent lurking supernatural entity terrorizing through the latest Stephen King novel instead of an ordinary yet essential part of tax equity financing. Simply put, the hedge is a fixed for floating price swap financial product for energy in the SPP market and a contract to purchase all REC volumes from each project.[153] A fixed price is set, and to the extent the wind project realizes prices for selling energy into SPP below that fixed price, Empire will pay the difference for a defined quantity.[154] To the extent that the wind project realizes higher prices in SPP than the fixed price, the wind project has to pay Empire.[155] As Mr. Mooney explained in his surrebuttal testimony,

> The Hedge will have no rate making implications because the overall cash flow position of Empire is identical with or without the Hedge. This is because Empire participates in these transactions in two ways. First, Empire is the counterparty to the Hedge and is exposed to cash flows resulting from the settlement of the Hedge (under the Hedge, Empire pays cash when the market price received by the Wind Project is lower than the fixed Hedge price, and receives cash when the market price is higher). As such, whatever Empires pays to (receives from) each Wind Project increases (decreases) the Wind Project's net cash flows. Second, as a Class B investor in each of the Wind Projects, Empire receives the net cash flows of each Wind Project as cash distributions (i.e. dividends). These two positions offset each other resulting in a situation where Empire, and Empire's customers, are indifferent to the settlement of the Hedge.[156]

This results in no rate impact to Empire's customers.[157] OPC seems to struggle with this concept, it is unclear if this misunderstanding stems from not understanding that Empire is also a member of the Wind Project(s), so payments to the Wind Project(s) are also payments to Empire, or if it is if it is a lack of understanding there are two halves of the hedge agreement, the plus side and the minus side. Mr. Mooney thoroughly explained

[153] Ex. 7HC, *Surrebuttal Testimony of Todd Mooney*, p. 2, l. 19-21.
[154] Tr. Vol. II, p. 246, l. 25- p. 247, l. 1-4.
[155] Tr. Vol. II, p. 247, l. 5-9.
[156] P. 6, l. 3-13.
[157] Tr. Vol. II, p. 255, l. 2-7.

how the hedge agreement worked via testimony in both the EO-2018-0092 and current cases, responses to discovery,[158] and again on the stand, as exemplified by the following exchange:

> **Q. I mean I'm really just curious.· So are we going to see the math in a rate case?· Will it be part of traditional rate-making or are we going to see this in FAC?· Or will we not see any of this at all and you're just telling us that it goes out to net zero?**
>
> A. Well, I believe I presented in my Surrebuttal Testimony an example.· I provided numerous data requests which I've included in the Surrebuttal Testimony as exhibits that demonstrates the functioning of the hedge.· When Empire proceeds to the rate case, there's -- there's no intention to try to include benefits for shareholders and not for customers.· There's no intention whatsoever other than to properly reflect the net impact of the hedging transaction, which is zero.[159]

Mr. Mooney, even after these numerous examples and explanations, is asked to simplify and explain the hedge.

> **Q. So would you -- would you say then that the hedge has no rate impact to customers?**
>
> A. The hedge should have no rate impact to customers.
>
> **Q. The rate -- no customer rate will go up a cent because of the hedge?**
>
> A. That is correct.
>
> **Q. And customers won't be paying for the hedge through the fuel adjustment clause?**
>
> A. If the appropriate rate-making treatment is implemented which accounts for both elements of the hedge, yes.[160]
>
> **Q. You've repeated -- you've repeated your assertion that the hedge just has -- has no rate-making impact.· Correct?**
>
> A. I have indicated that it has no rate-making impact.· And I've mentioned in responding to some of your questions earlier that it is important to look at both elements of the hedge, the element being the payments received by or paid by

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[158] See for example, Schedule TM-S-2A and TM-S-2B attached to Ex. 7HC, *Surrebuttal Testimony of Todd Mooney* and OPC Data Request 1318.
[159] Tr. Vol. II, p. 257, l. 12-21.
[160] Tr. Vol. II, p. 258, l. 2-13.

> Empire to the wind project as well as the cash distributions from the wind project that are paid to Empire. The cash flows around in a circle and nets to zero. ·And so if you look at this data request and focus only on one of the two legs, that is accurate for that half of the hedging transaction. But this data request, to my knowledge, does not address the other half of the rate-making treatment.
>
> **Q. So it is getting rate-making treatment though?· So when you say no rate-making impact, you're just saying that it's going to -- that you're looking at the end result zeroing out.· You're not looking at whether or not we'll all have to deal with the hedge in a fuel adjustment clause case or a future rate case or anything like that?**
>
> A. I'm indicating that the net impact of the hedge is zero.· And if you decompose zero into two separate items, one a plus, one a minus, the net impact is zero.· And, hence, you could interpret that as being -- you can exclude it entirely from consideration or you can include both elements that have a net impact of zero and achieve the same result. I'm not indicating a preference for one method or another.[161]

Because OPC persists in believing that the hedge is an absolute cost to customers, which is inaccurate, and this has the impact of vastly overstating the Wind Projects cost to customers,[162] OPC's workpapers and conclusions regarding the hedge are flawed, and can be given little weight.

OPC's calculations on the hedge agreement and the overall revenue impact of the Wind Projects on customers are erroneous and should be accorded little weight.

OPC attempts to present a bleak picture of triple digit rate impacts on customers due to the Wind Projects. Originally, OPC witness Mr. John Riley claimed ratepayers were expected to "foot the bill for" $128 to $187 million due to the Wind Projects.[163] However, this was lowered by $15 to $14 million to result in a range of $113 to $173 million for OPC's estimated impact on customers.[164] This correction was made as OPC's

[161] Tr. Vol. II, p. 259, l. 22 – p. 261, l. 3.
[162] Tr. Vol. II, p. 247, l. 14-23.
[163] *Rebuttal Testimony of John S. Riley*, p. 5, l. 16.
[164] EFIS Item No. 80, *Notice of Corrections to Rebuttal Testimony of John S. Riley*, p. 5, l.16.

witness admits that he did not include a 2% inflation factor, which was realized after reviewing the surrebuttal testimony of Mr. Mooney and the associated workpapers.[165] This number would be revised yet a third time on the stand.

> I had one change. However, eagle·eye Mr. Holmes pointed out I had a typo.· So that unfortunately caused several things to be changed. Starting on page 5, on line 16 the number 113 would be·112.[166]

As "Mr. Eagle Eye" Holmes himself explained on the stand, that typo flows through the entire calculation.

> **Q. I noticed on page 2, line 19 you are talking about Mr. Riley's analysis and you remarked that there's many differences and one typo.· Correct? You wrote that. Correct?**
>
> A. I did.
>
> **Q. Was there any reason why you fixated on that typo?**
>
> A. So I was asked, you know, do I agree with -- with the calculations for Mr. Riley's revenue requirement.· And so the typo does flow -- or what I perceived as a typo does flow through the revenue requirement calculations.· So it was just -- it was just a comment that there's a typo I noticed that could affect the revenue requirement.
>
> **Q. You were im-- were you -- so were you implying some type of credibility failing because he used a typo**?[167]
>
> A. I was saying that the numbers are wrong as a result of it.· It's minor in my opinion, but there's -- you know, it's in the year 2025 under PTCs. There are

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165 *Id.*

166 Tr. Vol. IV, p. 393, l. 20-24.

167 Mr. Holmes appeared to be simply noted that Mr. Riley confused positive and negative values, and it impacted the calculations. However, the Commission has made credibility determinations regarding Mr. Riley's calculations in the previous case, determining his work product was less reliable.

"With regard to mathematical modeling, the Commission finds Empire's witnesses to be more credible than OPC's witnesses based on differences in their professional experience and the greater consistency and clarity of the testimony of Empire's witnesses at the hearing. The testimony of OPC witness Riley and any exhibits that are based on that testimony are not reliable or credible because his testimony at the hearing demonstrated that his initial and revised analyses contain material errors." ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan,*** Case No. EO-2018-0092 (***Report and Order,*** issued July 11, 2018, p. 14, footnote 34.) Nor is that the only time the Commission has determined Mr. Riley's work product to have credibility issues. *See In the Matter of a Proceeding Under Section 393,137 (SB 564) to Adjust the Electric Rates of The Empire District Electric Company*, File No. ER-2018-0366. (**Report and Order,** issued August 15, 2018, p. 17)

> negative values everywhere in the schedule and then that one is a positive value.· So it's -- it's minor, but it just means that the number -- the math is just a little off.· That's all.[168]

Nor is that typo the only error identified in OPC's calculations. Mr. Holmes walked through the errors he discovered, both in his surrebuttal testimony and on the stand. In his view, although OPC claims the calculations are similar to what Empire presented in this case and the last, those similarities end at the column headings, and the numerical values contain material differences and errors.[169] The two largest errors relate to the expected revenue line item, and the hedging costs line item.[170]

As discussed above, OPC fundamentally misunderstands the hedging agreements, so it is not surprising to discover errors in calculations relating to the agreement. OPC's first error is to calculate the hedge cost as the hedge price minus the discounted merchant curve.[171] A large error is neglecting to take into account that the hedge is between the Wind Project Cos and Empire, which, as explained above, means that if there is a hedge cost at the Empire level there will be an offsetting hedge benefit at the Wind Project Co level. This cost and benefit are equal and opposite and will offset each other upon financial consolidation.[172] Mr. Holmes further explains how the hedge should be properly incorporated into Schedule JSR-R-2:

> WHAT HAVE YOU DONE TO CORRECT THE HEDGE COSTS?
>
> A. To assist in showing that the "add back hedging costs" in Schedule JSR-1 R-2 should not be included in the customer impact, I added additional detail to Schedule DH-S-1 to show how the hedge will settle ("Hedge Net Settlement" in Schedule DH-S-1) at both the Wind Project Co level and the Empire level. In this

[168] Tr. Vol. II, p. 214, l. 11 – p. 215, l. 9.
[169] Ex. 4HC, *Surrebuttal Testimony of David Holmes*, p. 2, l. 11-17.
[170] *Id.* at l. 19-22.
[171] *Id.* at p. 4, l. 15-16.
[172] *Id.*at l. 15-22.

way it becomes clear that the "Hedge Costs" that Mr. Riley refers to eliminates on consolidation.

Rows 95 through row 154 show the three Wind Projects. Using Neosho as an example, Schedule DH-S-1 calculates the revenue and expense items down to an EBITDA level. Row 99 shows the hedge quantity contemplated and the hedge rate is in row 100. Row 101 shows how the hedge settles, where the difference between the hedge price in row 100 and the SPP market price in row 104 are multiplied by the hedge quantity. This either results in a payment to the Wind Project Co. or a payment to Empire from the Wind Project Co. Rows 103 to 105 show the SPP wind revenue from the project's quantity multiplied by the forecasted market price based on the ABB 600 MW wind study modelling from the CSP. Note that all wind energy is sold into SPP and that the hedge is a financial transaction so there is not a double count on energy sold. This SPP market rate is the expected value without any discounting that was used for the purposes of sizing tax equity. Row 108 shows the fixed operations and maintenance costs; row 110 shows the EBITDA which is the project level revenue less the fixed costs. The EBITDA is the cash that is available for distribution to Empire and the tax equity providers.

In rows 80 through 92, I show the consolidation of the three Wind Projects at the Wind Hold Co. level. This shows the hedge and market revenues expected at the Wind Project Co. level; the fixed O&M fees from the projects less the consolidated O&M savings that arises from the efficiency from operating multiple projects in close proximity to each other. Row 88 shows Hold Co's distributable cash and row 92 shows 1 the amount of cash distribution that are owed to Tax equity.

Rows 57 to 67 roll up the Wind Projects to Empire level. At the Empire level we have in row 59, I have the costs that Empire pays to the Wind Project Co for the hedge. In row 61, I have the cash distribution from Wind Hold Co to Empire which is calculated from the distributable cash (row 88) in Wind Hold Co less the cash payments to tax equity in row 92. It is imperative to note, that if the hedge net settlement costs are to be included in a revenue requirement calculation you must have the hedge cost, the market costs and the cash distributions from Wind Project Co. This was not done correctly in Schedule JSR R-2. In row 65, are the Paygo contributions from Tax Equity to Empire. The net Empire cash position is shown in row 67 which is the sum of rows 56, 59, 61 and 65.

To show that the revenue requirement impact shown from rows 4 through 48 that excludes the hedge is correct, in row 68, I compare the cash items from these rows, namely rows 44 minus row 37 minus row 35 to row 67.[173]

Mr. Holmes completes this lengthy explanation and corrections to properly account for all of the variables, costs, revenues and moving parts; and concludes, "As can be seen,

[173] *Id.* at p. 4, l. 23 – p. 6, l. 14.

the values are the same. Mr. Riley should not be including the “add back in hedge costs” to his revenue requirement calculation.”[174]

And those corrections just related to the hedging confusion. Mr. Holmes also corrects the wind revenue requirement calculated, using the return on equity (row 21), interest expense (row 24), depreciation expense (rows 11 through 15), income tax expense (row 27), property tax expense (row 30) from the capital investments (rows 4 through 8) proposed by Empire then added in the fixed operations and maintenance expense (row 35), and the net payments to tax equity (row 37).[175] Then Mr. Holmes compares the wind revenue requirement to the expected market revenues (row 44) to calculate the net benefit from the Wind Projects (row 48).[176]

Mr. Holmes also corrects the SPP revenues OPC’s witness used, as he could not find data in Empire’s workpapers that supports the $62 million figure for 2021’s expected revenues.[177] Mr. Holmes surmises that OPC’s witness mistakenly used the LCOE revenue data, as there is not any other row on the Annual Proforma tab where OPC’s witness states he pulled the data from that discusses wind revenue.[178] However, the LCOE Revenue data gives a 2021 sum of $63.26 million dollars,[179] which appears to mean that even the wrong data was not calculated correctly, as OPC’s witness uses a figure of $62 million. Using the wrong SPP revenues dramatically understates the amount of SPP revenues generated by the Wind Projects.[180]

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[174] *Id.* at l. 14-16.
[175] *See Id.* p. 3, l. 3-11 and Schedule DH-S-1.
[176] *Id.*
[177] *Id.* at p. 3, l. 14-17.
[178] *Id.* at l. 16-22.
[179] *Id.* at l.19.
[180] Tr. Vol. II, p. 178, l. 3-7.

Some of the errors made in this case are the exact same errors OPC's witness made in the prior case. In particular, the incorrect SPP revenues and amounts relating to the tax equity partner, like the hedge agreement and the PayGo contributions were incorrectly calculated in the prior case, which had the same impact as in the this case of drastically overstating the revenue requirement of the Wind Projects.[181] Empire's witness Mr. Holmes walked through the errors in the calculations, and explained the mistakes and what should be done to correct them.[182] With the same mistakes made again, any testimony offered on the subject by OPC should be accorded little weight. Further, OPC's witness admitted at hearing that if the numbers in the revenue line were incorrect, it would impact all of the math that flows through his schedule.[183] He further agreed that if Empire's calculations are correct, that "we all go home" and the hedge would not be an issue.[184]

Conclusion

On the basis of all the foregoing, Staff prays that the Commission will resolve all contested issues, and impose such conditions, as recommended herein by Staff; and grant such other and further relief as the Commission deems just in the circumstances.

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[181] ***In the Matter of the Application of The Empire District Electric Company for Approval of Its Customer Savings Plan,*** Case No. EO-2018-0092, Tr. Vol. V, p. 571, l. 1-24.
[182] *Id.* at p. 565, l. 17- p. 571, l. 24.
[183] Tr. Vol. IV, p. 398, l. 13-16.
[184] Tr. Vol. IV, p. 401, l. 16 - p. 402, l. 12.

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served upon all of the parties of record or their counsel, pursuant to the Service List maintained by the Data Center of the Missouri Public Service Commission, on this 29th day of April, 2019.

/s/ Nicole Mers